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## **The problem of income inequality in the view of John Kenneth Galbraith and Milton Friedman**

### INTRODUCTION

Income inequalities have accompanied societies from the earliest times. Even in primitive community systems, a greater proportion of the goods belonged to the elders. Later economic systems exacerbated the problem, and it continues to pose a serious challenge today.

This paper aims to define the essence of income inequalities and their consequences in the works of two American economists: a neo-institutionalist – John Kenneth Galbraith, and a monetarist – Milton Friedman. Attention was drawn to the differences in the approaches to this problem of these important trends in 20th-century economic thought. Although both economists did not advocate excessive income inequalities, they presented different views on levelling out the inequalities. These differences resulted from their doctrinal assumptions. Galbraith, according to the doctrine of neo-institutionalism, presents a more pro-social attitude, seeing in the institution of the state an entity capable of mitigating the results of income differences, while Friedman, based on the principles of liberal economics, claims that the market alone can deal with the problem of inequality. A comparison of the contentions of both economists shows how doctrinal assumptions influence proposals for practical solutions. This paper uses comparative analysis and the desk research methods, based mainly on the publications of each economist.

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## SOURCES OF INCOME INEQUALITIES IN GALBRAITH'S VIEW

Institutional economics paid attention to income differences, both within societies and between them. Already Veblen wrote about the leisure class and condemned the lifestyle of the descendants of hard-working pioneers who gathered wealth that allowed their heirs to live off the interest payments. He was not too concerned about those who lived in poverty. Social inequalities were approached with much greater interest and empathy by Galbraith, the main representative of American neo-institutionalism. In his works, the problem of social (income) inequalities is mentioned frequently and, as the author points out, should be an important element of economists' considerations since it had yet to be solved<sup>2</sup>. Meanwhile, neoclassical economics overlooks this issue, trying to minimize it or at least not to recognise it. Galbraith, on the other hand, seeks the sources of inequality and the answer to the question whether it is possible to reduce the differences or move the majority of society to a higher, richer class than at present. He is concerned with income inequalities, both in relation to rich and poor countries.

Already in his first book *The Affluent Society*, published in 1958, he drew attention to the differences between the poor and the rich, considering American society. With a characteristic note of light irony, he writes: "*The poor man has always a precise view of his problem and its remedy; he hasn't enough and he needs more. The rich man can assume or imagine a much greater variety of ills and he will be correspondingly less certain of their remedy. Also, until he learns to live with his wealth, he will have a well-observed tendency to put it to the wrong purposes or otherwise to make himself look foolish*" (Galbraith, 1965, p. 13). This observation also applies to entire nations.

The source of income inequality in the US lies, according to Galbraith, in the division of the economy into two sectors: market and planning<sup>3</sup>. The former consists of small enterprises that find it difficult to employ modern but expensive investments, and which are exposed to high risk during periods of economic contraction. Their employees earn less, and additionally, their wages fall with every downturn, and they are more likely to be made redundant. The latter sector – planning – comprises large corporations that influence the market, prices and production volume, make expensive investments, employ well-paid specialists and feature high job stability. This sector is dominated by corporations that have freed themselves from state

<sup>2</sup> In nearly all of economic history most people have been poor and comparatively few have been very rich. Accordingly, there has been a compelling need to explain why this is so – and, alas, on frequent occasions, to say why it *should be* so. In modern times, with rising and increasingly general affluence, the terms of this subject have greatly changed. The distribution of income remains, however, the most sensitive business with which the economists deal (Galbraith, 1991, p. 17).

<sup>3</sup> For the bimodal economy from Galbraith's point of view, see P. Umiński (2013b, pp. 210–219; 2013a, pp. 135–147).



authority and have their own financial resources. The first sector is exposed to the effects of competition, the other is not. Corporations pay their managers generous remunerations approved by submissive supervisory boards. "*Legal self-enrichment in millions of dollars is a common feature of modern corporate government. This is not surprising; managers set their own compensation*", writes Galbraith (2005, p. 42). The corporate system is based on the unrestrained power of self-enrichment, sometimes with declining sales value and profits.

The uneven economic development of both sectors has negative consequences. The degradation of the natural environment is a side effect of the intense growth generated by the private sector in particular. The imbalance results from the disproportion between the wealth of the private sector producing goods and the poverty of the public investment sector and social benefits. Galbraith sees the balance in a broader context, as a social balance that is based on the uniform development of production, consumer goods and public services. As a result of producer manipulation, there is a common belief that a better life is associated with an increase in the number of modern goods, while the public sector inhibits this increase (Galbraith, 1973, p. 6). Galbraith describes this as a dependency effect that does not exist in the public sector. Consequently, there is an imbalance consisting of high production and consumption of high-quality consumer goods and a small number of poor quality public goods. At the same time, the desire to possess gave rise to the conviction that an increase in production would eliminate poverty and inequality. Meanwhile, as Galbraith points out, "*Increasing aggregate output leaves a self-perpetuating margin of poverty at the very base of the income pyramid*" (Galbraith, 1973, p. 84).

Already in his first work, to illustrate the gap between private wealth and public poverty, Galbraith uses the concept of "conventional wisdom". He gives an example of a family driving a luxurious, air-conditioned car through a city crammed with rubbish, with neglected buildings and pavements, for a picnic where they will have a meal in the vaporous air. But of course the book goes far beyond such descriptions. *The Affluent Society* contains a logical deconstruction of orthodox versions of the public choice theory. It is based on the observation that stable preferences cannot apply to non-existent goods: consumption depends on production, and not the other way around.

The economy of highly developed countries is characterised by saturation of material goods that exceed their rational use. This increases waste without reducing poverty. Hence the ultimate goal of social activity cannot be an increase in production. However, it can become a means to higher ends, such as eliminating social tensions or improving the quality of life. Only their implementation can lead to social balance.

Galbraith also analyses the issue of income inequality on the international level. He examines a situation which he calls the equilibrium of poverty, characteristic of underdeveloped countries. He does not agree with the reasons

provided for the poverty: poor soil, lack of well-educated management, excessive population growth, lack of natural resources, cultural backwardness, missteps of governing bodies, etc. These factors affect the social situation, but are not the most important. What he considers crucial is adaptation to a low standard of living and its acceptance (Galbraith, 1987, pp. 77–80). The equilibrium of poverty compared to the standards of living in rich countries, however, creates imbalances at the international level, which widen the gap between states.

Looking for an alternative to the society of inequality, he creates a vision of a good society that mitigates income gaps, protects the natural environment, and maintains proper relations with trade partners and good relations in international contacts. In such a society, each individual should feel valued by creating for them conditions for a satisfying job, promotion, and later a decent retirement. Citizens should feel safe, have sufficient resources to live in dignity, and be provided for by state welfare. The condition is also to ensure high economic growth (Galbraith, 1999, pp. 27–33).

Finally, Galbraith raises the issue of a good society's attitude towards poverty in the world. He considers that no country can feel comfortable and satisfied with its prosperity knowing that other countries are in extreme poverty. Moreover, he indicates that this cannot only be the case with former colonial powers (Galbraith, 1999, p. 107). Therefore, he suggests that the duty of the rich should be to increase the assistance to the poor. These are beautiful words although the implementation proves to be very difficult, because it requires the ridding of the egoism so characteristic for rich societies.

For example, the United States currently spends only 0.2% of its GDP on foreign aid annually, while after World War II, on the basis of the Marshall Plan, it spent 2%. Rich countries are reluctant to share with the poor. Galbraith's views make him a naive preacher of unpopular ideas, who believes in the possibility of repairing the world and in reversing dangerous trends in the development of the economy. In a sense, they are a collection of pious wishes that, perhaps, the author himself does not really believe.

#### FRIEDMAN'S ATTITUDE TO INCOME INEQUALITY

According to the assumptions of monetarism, which is located in the neoliberal trend of economics, Friedman, firstly, does not attach so much importance to the problem of income inequality, and secondly he postulates other solutions in order to alleviate excessive income inequalities. He believes that in every society, regardless of the system, there is always dissatisfaction with the distribution of income because public opinion inclines towards greater egalitarianism, while governments "repair" the market-generated disparities without achieving a satisfactory result (Friedman, 1996, p. 20). Friedman distinguishes income inequalities resulting from income

differentials and those that result from the inheritance of talents and assets. The former stir greater emotions. A market economy, in his opinion, is characterised by payment in accordance with the product, which is generally considered to be moral. It effectuates the allocation of resources without coercion, and it takes place impersonally, without resorting to authority (government). Due to inequalities, there are sponsors who finance experiments and the production of new products (Friedman, 1993a, p. 157). At the same time, Friedman ascertains that “*contrary to popular conception, capitalism leads to lesser inequality than alternative systems*” (Friedman, 1993a, p. 158). Progress and development have freed the masses from laborious effort and enabled the use of products and services previously available only to the rich.

He poses the question: Is (substantive) equality more important than freedom? – and answers it in the negative. He believes that a society that puts equality before freedom will neither achieve equality nor freedom. Freedom, on the other hand, liberates energy in society and the pursuit of its own goals, which translates into a greater equality that in a sense forms a kind of by-product of freedom (Friedman, 1996, p. 142). Moreover, although freedom does not prevent a few from reaching privileged positions, it does not allow the institutionalisation of these positions and ensures that those privileged are attacked constantly by other talented and ambitious people who also want to be at the top of the social ladder. Freedom gives everyone a chance for a fuller and richer life.

Countries which wanted to move towards greater egalitarianism in income and made a major redistribution of wealth did not reach the intended goal. The effect of such a policy was the creation of new privileged classes that replaced or supplemented the existing ones. This regards bureaucrats, trade union activists, and new millionaires dodging regulations so that they do not pay taxes. Thus, wealth and income were re-shuffled, but inequalities were not reduced. Friedman cites many examples of the negative effects of extending social welfare by governments in the form of social security, social assistance, housing subsidies, health care, etc. As it consists in spending other people’s money, the total expenditure increases. Moreover, such a policy leads to corruption and interception of some of the money by the administering bureaucrats, so not all the money benefits the needy (Friedman, 1996, pp. 110–114). Therefore, he is a strong opponent of the welfare state, which, by its very nature, threatens freedom because decisions regarding social and economic policy are imposed by the government (Friedman, 1997, p. 137).

He also traces back the sources of inequality to monopoly privileges granted by the government, customs, and legal solutions beneficial to specific groups – in short, to various forms of state intervention.

He believes that income inequality should be discussed in the short and long term. Short-term differences in income are attributable to a market economy characterised by high social mobility, equal opportunities and changes, as a result of which the position of individual families in the income hierarchy varies from

year to year. In turn, in countries with a lack of mobility and a rigid social structure, each family occupies the same position year by year. One kind of inequality results from the dynamics of change, the other from the lack of it.

*“Life is not fair. It is tempting to believe that government can rectify what nature has spawned”*, but he adds that at the same time, *“we benefit from the very unfairness we deplore”* (Friedman, 1996, p. 131). An equitable (even) distribution of income is impossible and harmful. If everyone had a similar income, they would not strive to work intensively. Nobody would like to do heavy physical work. In addition, the concept of justice is very blurred and difficult to define. Friedman rejects a widely held view that the free market exacerbates income inequalities.

In criticising various forms of social policy, he states that benefits should flow from the rich part of society to the poorer part, but in fact the opposite is true: children of poorer parents quickly take up employment and pay taxes that cover benefits. As a result, the middle class benefits the most. The general conclusion, then, is that the government spends too much money, which is also inadequately spent (Friedman, 1993b, p. 11).

Galbraith disputes this approach, resenting the liberals who defend inequality and argue that it is a capital accumulation factor. He argues that it is a misinterpretation that if income was shared among all, it would be spent in its entirety; if only a few (the rich) use it, they spend a part on investments. These, in turn, increase production, which benefits society as a whole (Galbraith, 1973, p. 66). Idleness is a privilege of affluent people and their families, it is morally harmful for the poor and condemned by them, and additionally it costs public and private money, says Galbraith (2005, pp. 34–35).

## WAYS OF COMBATTING INEQUALITIES ACCORDING TO NEO-INSTITUTIONALISM AND MONETARISM

### GALBRAITH’S SUGGESTIONS

Galbraith’s basic postulate is as follows: in order to achieve social balance in highly developed countries, such as the USA, public services should be activated and the proportion of investment should be changed in favour of the public sector. Investments in this sector are investments in people, their knowledge and qualifications, namely, expenditures that are decisive for the further development of society. He does not believe in a fair distribution of income through the market. Only a strong state, through taxes and appropriate investment policy, can develop the public sector. This will be a step towards poverty eradication (Galbraith, 1973, p. 344). What is needed is therefore a change in government policy aimed at reducing income inequalities by:

- extension of state control over weaker parts of the market system, e.g. housing, public transport, railways;
- state aid for market sector enterprises in such a way as to counterbalance the excessive power of the planning sector;
- nationalisation of the largest corporations;
- subordination of concerns to state plans and the possibility of direct government interference in decisions taken by these concerns;
- introduction of a law on minimum income and wages (Semkow, 1988, pp. 235–237).

These postulates assume the extension of the role of the state and constitute a rather naive belief in the possibility of their implementation, although Galbraith is aware of the close, frequently personal relations of the state with the planning sector.

Seeking the best solutions to eliminate excessive inequalities, he gives guidance within the framework of neo-institutional economics, though they closely resemble Keynesian solutions. Assuming that the more unequal the distribution of income is, the more dysfunctional it becomes, he postulates:

- creating an aid system for the poor;
- eliminating fraudulent transactions, dominant in the financial world, stimulating the mechanism of speculation;
- lowering the exorbitantly high income of corporate managers, which requires the activism of shareholders and broadly understood public opinion, the effectiveness of which is not really believed in by its proponent;
- introducing a progressive tax on income that reduces excessive disproportions;
- strengthening the role of labour unions;
- introducing sickness insurance, unemployment benefits and ensuring a socially adequate minimum wage (Galbraith, 1999, pp. 57–60).

In seeking another authority capable of restoring social balance, Galbraith emphasizes the role of intellectuals (calling them the scientific and educational estate), playing an increasingly important role in modern society. Already at the end of the 1950s, he recognised that it was capable of “humanising” American capitalism. The development of society through education allows advancement to a higher class, which is called the New Class. *“The New Class is not exclusive. While virtually no one leaves it, thousands join it every year. (...) The son of the factory worker who becomes an electrical engineer is on the lower edge; his son who does graduate work and becomes a university physicist moves to the higher echelons; but opportunity for education is, in either case, the open sesame. (...) in the last few decades, the New Class has increased enormously in size. (...) This being so, there is every reason to conclude that the further and rapid expansion of this class should be a major, and perhaps next to peaceful survival itself, the major social goal of the society. Since education is the operative factor in expanding the class, investment in education, assessed qualitatively as well*

*as quantitatively, becomes very close to being the basic index of social progress. It enables people to realize a dominant aspiration. It is an internally consistent course of development"* (Galbraith, 1965, pp. 276–277). This thought is present in many of his works. Education is a priority factor for economic development that also performs a political and social role. It allows people to move up the social ladder, guarantees political stability and promotes democracy (Galbraith, 1999, p. 62). Like Veblen, who recognised the emergence of science and technology as the leading forces of historical change in the 20th century (Heilbroner, 1993, p. 218), Galbraith, as a worthy successor to the creator of institutionalism, also put great emphasis on knowledge and the development of science to help reduce income inequalities.

#### FRIEDMAN'S APPROACH

Tax progression was a commonly used method of reducing income inequalities. Friedman, however, doubts its effectiveness in relation to the legal possibility of reducing tax rates. He proposes to expand the tax base and reduce rates to decrease inequality. As a liberal, he finds no justification in diversifying rates solely in order to redistribute income. The best method would be a single income tax rate for individuals (Friedman, 1997, pp. 73–79). In the field of fiscal policy, he also proposes:

- abolition of corporate income tax and assignment of corporate income to shareholders who would have to show it in tax returns;
- abolition of tax rebates on raw materials;
- taxation of interest on state and local securities;
- abolition of the favourable capital gains treatment;
- abolition of numerous tax allowances, reducing the tax base (Friedman, 1993a, p. 163).

To the question of what role fiscal policy plays in overall macroeconomic activities, Friedman briefly answers: none (Snowdon, Vane, 2003, pp. 190–191). He believes that the government cannot force people to act incompatibly with their personal interests in the name of public interest. Taking from some to give others brings the opposite effect to the intended one.

He states that in the area of tax policy, the government has done more harm than good in generating benefits from these solutions. In his opinion, the means of mitigating social inequalities could be the so-called negative income tax. Taxpayers with an income lower than the tax-free allowance plus permitted deductions would receive subsidies from the state budget. This system, unlike other forms of social assistance, such as unemployment benefits, would not weaken the motivation to look for ways to improve the material situation. An additional advantage of a negative tax would be that it does not require the expansion of administration and can be carried out jointly with the applicable



tax system. In addition, it would be strictly focused on the issue of poverty and of a general nature; the only criterion would be income earned (Friedman 1996, pp. 114–117; Friedman, 1993a, p. 183). Such a solution would be cheaper and more transparent, but would require acceptance from this part of society which, being richer, would finance the poorer. This tax would be combined with the liquidation of all welfare programs, including the pension scheme. The gradual abandonment of the social security system would activate society to take up employment, which would raise national income and personal income, and would leave employees free to pay or not to pay pension and disability contributions (Friedman, 1996, pp. 118–119). Many authors believe that such an approach does not mean a lack of empathy (Cole, 2008, p. 239). According to Cole, a negative income tax, “like it or not, is a policy of income redistribution – an effective one, to be sure – that involves taking from some, by force, in order to give to others”, but it really reduces social inequalities (Cole, 2008, p. 247). Friedman does not reject help for the poor completely. This concept stands in contrast to Friedman’s libertarianism, leading Rothbard to believe that he was not a liberal (Rothbard, 2002, p. 52), while Buchanan called him a “compassionate classical liberal” (Buchanan, 2005, p. 8).

As with many considerations, like Galbraith’s, Friedman considers education a method of bridging inequalities. Investments in human capital are a sure way to raise the standard of living, not only of specific people but also of entire societies. They contribute to economic growth, inventions, and technological progress (Friedman, 1996, p. 19).

Assuming that capitalism reduces inequalities in the distribution of income, he claims that the most effective form of aid for the poorest is and will be a free market, because it guarantees progress, releases initiative and creates incentives for innovation. This does not mean that he does not see market failures; there is a million of them, but there is no alternative. “*Market errors cause damage, but much smaller than government errors. A market error is also its opportunity*” – he stated in one of his last interviews (Ptak, 2006, p. 7).

## CONCLUSIONS

The approaches to income inequalities of the main representatives of neo-institutionalism and monetarism differ, which results both from doctrinal assumptions and perhaps also from the character traits of each economist. Galbraith seems more sensitive to the problem of excessive differences in income and seeks help in levelling them in state institutions. He considers income disparities, the source of which is not economically justified, to be a negative phenomenon. Friedman assumes the ineffectiveness of the state’s actions in economic policy and therefore refers to the market. On the other hand, he is not so naive as not to notice market failure. Moreover, he believes that all government actions under

economic and social policy have not yet brought the expected results. Therefore, he refers to the initiative of the individuals themselves, for whom the free market creates appropriate operating conditions. He trusts that individual freedom and the free market will contribute to overcoming excessive income disparities. If the state allowed the market to operate efficiently and did not use coercion in economic and social policy, the problem of excessive income differences would disappear by itself. Who is right? The answer depends on the economic doctrine of a person who answers it.

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### *Summary*

The paper presents the approach to income inequality of two great American economists: a representative of neo-institutionalism – John Kenneth Galbraith, and the creator of monetarism – Milton Friedman. Both of them dealt with this problem extensively.

The paper aims at revealing differences in both seeking the sources of inequalities and ways to combat them. Although both economists were against excessive inequalities, the methods of overcoming them were perceived differently by each of them. Galbraith advocated that the state should be activated. Therefore, he proposed the implementation of various aid programs, claiming that there should not be poor people in rich countries, even if not everyone honestly uses such assistance. Moreover, various forms of poverty alleviation should be introduced in poor countries. On the other hand, Friedman concluded that the best way to mitigate income inequalities is a non-intervention approach of the state and free market should be left to work freely. According to him, only the market can reduce income disparities. He considered all programs implemented to overcome them to be unsuccessful because they cause social indolence as the number of people using these forms of help increases. In addition, the state is not a charitable institution and it should not include such a form of activity that is only appropriate for bodies specially appointed for this purpose (charity).

The paper uses the source analysis method and the comparative method. The main works of both economists were examined in an attempt to highlight the specific nature of their approaches.

*Keywords:* income inequality, John Kenneth Galbraith, Milton Friedman.

## **Problem nierówności dochodowych w ujęciu Johna Kennetha Galbraitha i Milтона Friedmana**


### *Streszczenie*

Artykuł przedstawia podejście do nierówności dochodowych dwóch wielkich amerykańskich ekonomistów: przedstawiciela neoinstytucjonalizmu – Johna Kennetha Galbraitha oraz twórcy monetarizmu – Milтона Friedmana. Obaj sporo miejsca w swoich publikacjach poświęcili temu problemowi.

Celem artykułu jest wykazanie różnic zarówno w poszukiwaniu źródeł nierówności, jak i sposobów ich zwalczania. Wprawdzie obaj ekonomiści byli przeciwni nadmiernym nierównościom, ale każdy z nich inaczej widział sposoby ich przewycięzania. Galbraith uważał, że należy uaktywnić państwo. Proponował więc wdrożenie różnych programów pomocowych twierdząc, że w bogatych krajach nie powinno być ludzi biednych, nawet jeśli nie wszyscy uczciwie z takiej pomocy korzystają. Również w państwach ubogich należy wprowadzać różne formy niwelowania biedy. Natomiast Friedman uznał, że najlepszym sposobem łagodzenia różnic dochodowych jest brak interwencji ze strony państwa i pozostawienie swobody działania wolnemu rynkowi. Według niego tylko rynek potrafi zmniejszyć rozpiętości w dochodach. Wszelkie programy wdrażane w celu ich przewycięzania uważał za nietrafione, ponieważ rozleniwiwały społeczeństwo, bo rosła liczba osób korzystających z tych form pomocy. Ponadto państwo nie jest instytucją charytatywną i w jego gestii nie powinna się mieścić taka forma działania, która przystoi tylko organom specjalnie do tego powołanym (charytatywnym). W artykule zastosowano metodę analizy źródeł oraz metodę porównawczą. Wykorzystano przede wszystkim główne prace obu ekonomistów, starając się uwypuklić specyfikę ich podejścia.

*Słowa kluczowe:* nierówności dochodowe, John Kenneth Galbraith, Milton Friedman.

JEL: B20, B22, B25.

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## **Oniomania in the purchasing behaviour of young Polish consumers – an economic approach**

### INTRODUCTION

Consumption is not something bad in itself; each individual living today is a buyer of various types of material goods and services. The problem arises when consumption becomes the main life goal, with the concern for better living conditions as a key area of human activity. Individuals then take a one-sided view and adopt a deformed hierarchy of values. They assess other people's behaviours and personalities from the perspective of material values.

Distortions in the area of consumption may refer to excessive consumption of certain material goods, their accumulation beyond the actual needs, or the desire to own the latest products despite those now possessed being equally good (Zalega, 2019). The most evident manifestations of consumerist civilisation tendencies – namely, what lies on the surface and is most visible – include shopping (i.e. acquisition of goods and services as a fully-fledged and independent anthropological function) and oniomania as its socio-psychological consequence. Oniomania is a dysfunctional form of excessive and pervading buying. The consumer experiences an unstoppable, chronic, and repeated impulse to go shopping and spend money and he or she loses control of this activity. Compulsive buying involves a preoccupation with shopping or an urge to buy, which is experienced as intrusive and uncontrollable. Oniomania is an issue still insufficiently explored in the field of economics – it is definitely more often discussed in psychiatric, psychological or sociological sources. Excessive shopping is a serious problem of today and it is increasingly affecting younger and younger people who do not yet have a mature psyche and system of values. The effects of excessive involvement in shopping are similar to the consequences of workaholism, netholism or gambling. They can be considered in various areas,

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notably in the sphere of emotions, finance and relations with the close ones. A shopaholic behaves like any addict: buying becomes a necessity, a compulsive consumer behaviour. Therefore, economists should take more interest in the issue of oniomania. In this context, a major economic challenge is the identification of significant factors affecting compulsive shopping, such as: attitudes of young people to shopping, time spent shopping, and shopping frequency. Considerations of the gender of young consumers, the motives and feelings accompanying individuals while shopping and the most frequently purchased products are of importance in this context. There seems to be an urgent need to educate young people so that they can recognise whether their consumer behaviour is addictive or not. In order to counteract oniomania, an appropriate system of values should be developed among young people, alongside the breeding of a personality that is resilient to marketing messages and encompasses proper consumer attitudes.

## LITERATURE REVIEW

### THE CONCEPT AND ESSENCE OF ONIOMANIA – THEORETICAL BACKGROUND

The word oniomania (from Greek *ωνίος* “for sale”) was introduced in 1915 by Emil Kraepelin, a German psychiatrist, to describe a pathological addiction to the desire to purchase goods and services (the so-called compulsive buying) and to spend free time shopping, and in 1924 by Eugen Bleuler, a Swiss psychiatrist, to identify pathological reflexes of buying. In other words, oniomania (from Greek *onios* + *mania* = for sale + insanity) means an obsession with buying. Its colloquial synonym is shopaholism. Close, although not analogous, terms also include the French *chosisme* (from *chose* “thing”), which can be translated as thingism, and the Russian *вещизм* (from *вещь* “thing”), identical as to the meaning of the root. Both words contain the concept of thing as the prime element. Thus, what is involved is not merely the desire to shop but also something deeper – a preference for material values over all other values. The first scientific studies on oniomania appeared in the second half of the 1980s in the United States and Canada, followed by those in Western Europe (mainly the United Kingdom, Germany, France and Italy) in the mid-1990s.

There is no single definition of oniomania because of its complexity. It can be said that oniomania (shopaholism, compulsive buying)<sup>2</sup> is an addiction to shopping, a compulsion to buy various (often unnecessary) items/products, uncontrolled

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<sup>2</sup> Oniomania cannot be said to be the same as compensatory consumption. Compensatory consumption is not conscious; it is rather a form of unconscious self-help – one needs something from outside, something that will alleviate the pain of inner void and is present in the world of goods.

shopping that adversely affects the functioning of people. Oniomania, which is often a reaction to negative events or unacceptable emotional states, causes a decrease in mental tension and improvement of well-being shortly after the purchase. It can therefore be stated that oniomania is a form of diffusing internal tensions, reducing stress, frustration, problems, sorrows, feelings of inferiority. As argued by Monahan, Black and Gabel (1996), oniomania is characterised by an irresistible desire to buy and a sudden drop in tension after the purchase. They point out that buyers not only experience recurring acts of problematic shopping but also undesirable, repeated thoughts about buying, which indicates that they suffer from obsessive-compulsive disorders. Dittmar (2005) notes that oniomania (compulsive buying<sup>3</sup>) is maladaptive preoccupation with buying, characterised by impulses or behaviours that cause distress, require time, and entail financial, social and vocational problems. A similar definition was proposed by McElroy *et al.* (1994), who defined oniomania as a sense of strong compulsion to buy combined with a total or partial loss of control, causing much damage, including suffering, a strong feeling of guilt, financial and social problems. Oniomania is undoubtedly neurotic in nature, hence it is treated as a mental disorder that involves a strong, irrefutable inner compulsion to acquire numerous, even unnecessary, things, persistent thoughts about new purchases, spending large amounts of money to this end (often exceeding the financial capacities of the consumer and leading to debts), loss of control over the buying process and over the time spent shopping.

It should also be borne in mind that oniomania can involve just looking at various goods – the so-called window shopping. It is practised by people who cannot afford to actually shop and who satisfy the need to buy by watching and being surrounded by products.

Researchers are not of the same opinion about how to treat oniomania. Valence *et al.* (1988), D'Astous (1990) and Elliot (1994) note that the oniomaniac tendency should be regarded as a permanent feature and its intensity can be measured on a continuum. People who buy rationally are at one extreme, whereas those who buy compulsively are at the other. In this case, the addiction to consumption is not qualitatively different from the so-called “normal” consumption. This means

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Compensatory shopping behaviour may lead to oniomania. According to psychologists, oniomania involves compensatory consumer behaviour displaying typical features of addiction, meaning that actions are narrowed to specific objects, one cannot refrain from them, increases the dose and suffers from the abstinence syndrome in many cases. The transition between compensatory consumption and oniomania is gradual.

<sup>3</sup> Compulsive buying is often regarded as impulse buying. Impulse purchases are made suddenly and spontaneously, most often under the influence of an external stimulus (view of goods on a shelf). In the case of impulse buying, there is no element of reducing tension and coping with negative feelings or situations. Compulsive buying, on the other hand, is spread over time, primarily intended to deal with negative emotions (internal factor), requires much time and usually involves the purchase of unnecessary things. Compulsive buyers can also sometimes buy on impulse, but the main driver is the need to free themselves from tension and negative emotions, chiefly fear.

that some consumers exhibit dysfunctional behaviour while buying, and others' behaviours are normal, with the latter sometimes also succumbing to the shopping addiction. Clinicians, on the other hand, treat this type of disorder as dichotomous, understanding it as either present or not (Valence et al., 1988; Faber, O'Guinn, 1992; Maccarrone-Eaglen, Schofield, 2017).

Oniomania may be considered an aspect of an impulse control disorder, or an obsessive-compulsive disorder. Also referred to as compulsive shopping, shopping addiction, shopaholism or compulsive buying, oniomania, as is indicated by research, has become a significant concern in our society, right up there with addictions such as alcoholism, eating disorders or substance abuse (Claes et al., 2010; Müller et al., 2014). About 90% of those affected are female, with the age of onset starting in late teens or early twenties, and the condition is chronic. Some researchers report that there is a higher prevalence of compulsive shopping in women due to lower levels of serotonin. These women tend to shop compulsively, binge eat, or exhibit kleptomania. In addition, compulsive shoppers have been shown to have significantly higher rates of depression, anxiety, substance abuse, binge eating and impulse control disorders (Klein, 2013).

The most characteristic features of oniomania mentioned by researchers include:

- walking around shops without a specific purpose (this can be described as a spatial addiction, that is an addiction to a place – a supermarket, a shop, a market);
- viewing most products at a shop (this is connected with the fascination with abundance, visual fascination, and can be referred to as a kind of voyeurism);
- an irrational desire to buy an unnecessary item (this is a strict addiction to objects, linked with the lack of self-control and infantilism);
- constantly talking about the purchased product (a kind of fetishism, or exaggerated fascination with things that becomes madness);
- changed mental states when refraining from visiting shops (a state similar to the bipolar disorder, neurosis and anxiety).

It is worth noting, however, that oniomania, along with excessive consumerism, is a visible manifestation of the civilisational tendency that underlies today's consumer society.

Compulsive shoppers try to counteract feelings of depression, anger, loneliness or low self-esteem through the emotional "lift" and momentary euphoria provided by compulsive shopping. Purchases can sometimes act as a symbol for the person's ideal self. For example, a woman who is insecure about her looks may compulsively buy fashionable clothing or jewellery to feel more beautiful. When the compulsive shopper shops, endorphins are released and there is an adrenaline rush – shopping is exciting! The rush may often be followed by a sense of shame, disappointment and guilt (Williams, Grisham, 2012; Unger et al., 2014; Robbins, Clark, 2015; Spinella, Lester, 2015; Raudsepp, Parts, 2015; Shehzadi *et al.*, 2016). Naturally, you want to feel the rush again. This behaviour can spiral dramatically into an abyss of significant mental, financial, emotional, marital and

familial distress. This type of shopping is a behavioural addiction characterised by a reduced capacity for self-control and a lower resistance to external triggers. It causes serious psychological, social and financial consequences for sufferers and their families<sup>4</sup>.

On the basis of her research, McElroy *et al.* (1994) distinguished four groups of oniomania:

1. Bargain hunters. These are people who buy mainly at sales, at discount prices and at bargain online auctions. Such consumers are not interested in what happens to the products that they have bought, and they often fail to even unpack them. What matters to them is the very act of purchase, the “bargain” that once found, gives a sense of uniqueness and pride.
2. Shopaholics – collectors. Such people are interested in buying only selected products. They have appropriate competences to buy such things, which increases their self-esteem.
3. Innovators. These are people generally keeping up with novelties, meaning that they chiefly buy new, fashionable and most popular products.
4. Window shoppers. These are people who cannot afford to actually shop and who satisfy the need to buy by watching products in display windows and by being surrounded by products on the shelves.

Another typology of oniomania was developed by the American neurologist Sorrentino. He also divided compulsive buyers into four categories (Muroff *et al.*, 2009):

1. Promotion hunters buying all kinds of products at an “attractive” price.
2. Collectors interested only in a few selected items.
3. “Omnivores” buying anything that happens to be at hand.
4. Virtual buyers spending much time shopping online.

The consequences of compulsive buying behaviour can be just as severe as those of other types of addiction – such as alcoholism and problem gambling – with people falling into serious debt and their relationships falling apart. But unlike these addictions, there is no national charity dedicated to compulsive buying.

The percentage of young people suffering from oniomania is increasing. In addition, young people are very susceptible to marketing tricks and have little knowledge in the field of consumer education. Slogans such as “Feel the freedom, liberty, unleash your energy” have a strong impact on their minds and strengthen their belief that they are always satisfied after having done shopping. People with higher disposable incomes notice the negative consequences of excessive shopping with a certain delay, while those earning less from the very beginning struggle with such problems as: lying, stealing from relatives, loans, overdrafts,

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<sup>4</sup> In 2001, oniomania was classified under the category of impulse control disorders not otherwise specified. Oniomania is an addiction, like alcoholism, drug addiction, gambling, sexoholism or netoholism. It is driven by an unrestrained, irrevocable and irresistible need to perform a certain act. It differs from drug addiction or alcoholism only in that there is no physiological addiction.

credits, liquidity problems, loss of creditworthiness, debt, and in extreme cases – troubles with bailiffs and debt collectors, and the resultant family and marital crises.

#### KEY DETERMINANTS OF ONIOMANIA

Oniomania is an extremely complex and poorly understood disorder influenced by many determinants. It is supported by civilisational, social and cultural changes that have been taking place in recent years. Not only ontogenesis but also life experience is important in human development. External factors that are determined by the environment can lead to misconceptions and wrong decisions. In the developed countries of the world, where the quality of life is high, citizens have greater access to various types of consumer goods. By emphasising the value of objects and purchases, the media, especially television and the Internet, create and reinforce materialistic values, and thus consumerist attitudes, contributing to the increased risk of excessive shopping.

An important determinant of oniomania is the reference group. Wishing to belong to a specific group that values various material goods of frequently reputable brands sold only at selected shops of producers, young people, in order not to feel inferior to others, have to buy expensive fashionable clothes, cosmetics, gadgets, because “their” social group requires this. Suggestions and recommendations from others, usually peers, are treated as a reference point for the decisions made. A big role of friends’ influence may result from weakened family bonds characteristic of contemporary society. Polish research conducted among young people has confirmed that oniomaniac inclinations were associated with strong sensitivity of teenagers to their friends’ opinions (Niesiołowska, 2010).

Significant factors in oniomania include stress, ways of coping with it and resistance to it. A lack of satisfying relationships with the environment and personality traits of addicts make them exposed to an increased sense of stress which, in turn, is positively correlated with an addiction to compulsive buying (Harvanko et al., 2013). In the case of oniomania, people usually try to cope with stress by adopting ineffective strategies such as avoidance and social withdrawal, while less often trying to resort to efficient techniques such as: affirmation (the ability to accept yourself as you are), meditation (a method of dismissing intruding thoughts), coaching (support on the path out of addiction) and art therapy (a therapy based on evoking hidden emotions in a shopaholic, emotions that are difficult to verbalise or acknowledge).

An important determinant of oniomania is age. The relationship here is negative, meaning that younger people seem to be more likely to lose control of shopping. This tendency decreases with age. This correlation is confirmed by numerous studies. As claimed by Christenson *et al.* (1994), a strong oniomaniac tendency usually appears in young people around the age of 18 and decreases after the age of 35 (Christenson et al., 1994; Schlosser et al., 1994; Zhang et al., 2017;



Islam et al., 2018). Research conducted among young Scots aged 16–18 showed that almost 46% of teenagers exhibit early oniomanic tendencies (Dittmar, 2005). Research among young people in the USA and Mexico demonstrates that they display a stronger oniomanic tendency than representatives of the older generation surveyed in earlier years (Roberts, Manolis, 2000).

Gender is an important factor linked to oniomania. Women are far more frequently compulsive buyers than men. Based on the results of studies conducted so far, it is estimated that women can account for up to 94% of all addicts (Black et al., 1998). Moreover, women are thought to tend to cope with stress by focusing on emotions. Shopping frees them from tension and allows them to gain pleasure. It should be added, however, that some researchers argue that a group of compulsive male buyers could be more numerous than it would appear from the past research if they were not afraid to admit to such a weakness. The proportions of women and men suffering from such an addiction even out if e-commerce is taken into account. Research shows that the majority of people using such services are young men aged approximately 20 and women who are eager to pay for purchased goods by credit card (Guerreschi, 2005).

Another factor associated with the inclination to shop in excess is of neurobiological nature, related to genetics and heredity. Oniomanics more often than average have relatives with similar conditions, suffer from anxiety and depressive disorders, tend to develop other conditions such as eating disorders and, above all, overeating and bulimia, and are more often addicted to alcohol and other substances (Faber, O'Guinn, 1992). It should be noted that a common element of these disorders is the low level of serotonin, which is a chemical substance contributing to well-being and impulsive behaviour. That serotonin is important is also evidenced by reduced propensity to shop after taking drugs that increase its level (McElroy et al., 1994).

Also consumer behaviour patterns followed in the family are connected with oniomania. Compulsive shopping among young people may (although do not have to) be founded in behaviour patterns taken over from their parents. The development of oniomania in young people may also result from excessive saving and irrational spending by their parents. It appears that a similar role is played by rewarding children's behaviour with money. Engagement in shopping in adulthood may also ensue from mental needs unmet in childhood, including the need for love and acceptance. DeSarbo and Edwards (1996) argue that a significant percentage of oniomanics includes those who experienced psychological abuse in family as children.

The fact that oniomania is associated with young age of consumers is strongly correlated with the problems of adolescence and the beginnings of economic independence with first bank accounts and credit cards predisposing to compulsive buying.

Oniomania has an ally, namely payment cards used instead of real money (Jung, 2017; Zhang et al., 2017; Islam et al., 2018). One does not see the denomination of spent banknotes, and the transfer of financial resources becomes "unrealistic". The consumer's need is met by the purchase of a specific product or service, while the



payment itself is deferred. The consequences of the purchase are noticed only with a certain delay, such as for example credit card charges, overdue credit instalments, overdraft.

The structure of personality also contributes to oniomania. The inclination to buy compulsively may be an effect of a histrionic or antisocial personality. According to the analytical approach, shopaholism is a destructive defence reaction to inner tension. It can result from defence mechanisms or be a substitute for one's other unmet needs. In the second half of the 1980s, Malhotra (2009) conducted research on the meaning of the "self" structure in terms of addiction to shopping. On that basis, he stated that the inclination to shop is more related to the ideal than the real image of "self". This is mainly because advertisements referring to self-acceptance attempt to change consumer attitudes towards products by stimulating positive feelings about things and show how having a specific product can contribute to increased self-esteem. This is especially important to some young people who are unsure of their own worth, shy and who have different complexes. Polish research has partially confirmed the relationship between personality dimensions and uncontrolled shopping. There are positive correlations of extraversion and negative correlations of conscientiousness and agreeableness with the propensity to do unplanned shopping. In other studies covering female shopping centre customers, it was shown that out of five personality traits in the Big Five model, only two were significantly correlated with shopping behaviour: neuroticism correlated positively and conscientiousness correlated negatively (Ogińska-Bulik, 2010).

A review of research on the personality of shopaholics revealed that most of them are characterised by such traits as: dependence on others, impulsiveness, penchant for fantasising, anxiety and depression, the use of escape strategies to cope with stress, including denial, lack of impulse control, low self-esteem, search of acceptance from others, materialistic tendencies, and sensation seeking (DeSarbo, Edwards, 1996).

#### THE SCALE OF ONIOMANIA IN THE WORLD AND IN POLAND

Oniomania is particularly evident in Western societies, although the problem extends globally and affects 2–16% of the whole population. Shopping episodes happen 2–3 times a week, although there are shopaholics who go shopping several times a day. As research shows, material status is generally of little importance; both rich and low-income individuals buy. Data obtained in the late 1990s in the USA demonstrated that over 15 million Americans are oniomaniacs, and about 20% of their income is spent to cover credit card debt (Woronowicz, 2009). Data obtained from approximately 2.5 thousand adult respondents showed that 6% of surveyed women and 5.8% of men in the USA admitted being shopaholics (Koran et al., 2006). Faber and O'Guinn (1989) indicate that from 2 to 8% of

Illinois inhabitants suffer from a compulsive buying disorder. According to other research, almost 10% of the American population are oniomanics, and 15% of UK citizens admit being addicted to shopping. In Germany, the percentage of compulsive buyers is estimated at 6.9% (Müller et al., 2010; 2015). Oniomania also affects Italy, where between 1 and 8% of people are obsessed with shopping. 80–90% of compulsive buyers are women, mostly aged 30–40, although recent years have seen an increased share of men (Faber, O’Guinn, 1992; Lee, Workman, 2015). An even higher percentage of 92% of compulsive female buyers is noted by Dittmar (2005). Recent research indicates that compulsive buying behaviour affects almost 5% of the adult population in developed countries – particularly young women in low-income groups. And the condition is on the rise, with latest estimates indicating that around 14% of people have a mild form of the condition.

The excessive shopping index is steadily growing in Poland. It is difficult to accurately estimate the number of Poles who are oniomanics. Statistical data suggest that this condition affects approximately 2–5% of the population, notably those with middle incomes. Surveys conducted by the Public Opinion Research Centre (CBOS) in 2011–2012 ([www.kbpn.gov.pl](http://www.kbpn.gov.pl)) among over 4 thousand respondents, reveal that the percentage of shopping addicts in Poland is estimated at 3.5%, which is almost one million compulsive buyers, including 5% of women and 1.9% of men. Most addicts have completed secondary education and are single (Badora et al., 2012; Ogińska-Bulik, 2014). On the other hand, CBOS surveys of 2014 showed that the problem of oniomania may affect 4.1% of the population of Poles aged over 15. More than 80% of those addicted to excessive shopping are women (*Pracoholicy....*, 2015).

## RESEARCH METHODOLOGY

### RESEARCH CONCEPTUALISATION

The tool used to conduct the research was an original questionnaire comprising 50 closed-ended questions regarding alternative consumer trends<sup>5</sup>, including oniomania. The survey was carried out from 1st February to 1st May 2018. The difficulty lay in an appropriate definition of the study subject because the category

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<sup>5</sup> “Alternative” consumer trends are objective and long-term trends in general choices, behaviours and preferences of consumers that are a consequence of socio-political, legal, cultural, demographic and technological changes continuously taking place in the market environment. They are a rich source of incentives to develop new products (Zalega, 2015). The research analysed selected alternative consumer trends such as oniomania, consumer cosmopolitanism, cocooning collaborative consumption, sustainable consumption and prosumption. It should be noted that both research and analysis of consumer trends largely boil down to deductive reasoning based on a wide spectrum of observations that are difficult to generalise.

of “young consumer” is not clearly specified in the literature. Scholarly publications refer to various age ranges for the group of young consumers, for example 15–29 years (Szulce, 2009, p. 637), 15–34 years (Olejniczuk-Merta, 2001, p. 40), 18–25 years (Grønhoj, 2007, p. 243), 18–30 years (Kumar, Kapoor, 2017, p. 218), 18–35 years (Phillips, Stanton, 2004, p. 8; Ofosu et al., 2013, p. 288). In this article, those between 18 and 34 years of age are considered to be the population of young people. The upper age limit, that is 34 years, is regarded as the end of youth in the Polish literature. The participants were recruited via the “ankietka.pl” website and social media such as Facebook, Whatsapp, Messenger, and e-mail. In order to partake in the survey, those interested had to visit a specific website containing the questionnaire. It was also distributed across special forums as well as university and private school fanpages. In accordance with the research assumptions, the sample included persons aged 18–34, representatives of Generations Y and Z<sup>6</sup>, who took independent purchasing decisions in the market. In order to select the sample, the selective quota sampling procedure was used. The characteristics (quotas) covered by the research were: gender and age. During the data processing, information from respondents was eliminated if the questionnaires were incomplete or incorrect (17 instances). From among 606 initial questionnaires, 589 were considered eligible, representing 97.19% of the total sample. Further, they were coded, and the data set thus created was processed by a statistical package. For the statistical analysis of the data, the statistical package SPSS, version 25, was used.

Young consumers were chosen for the research in view of their growing importance and decision-making power in today’s households, and because they respond to the changing environment, globalisation and its impact on consumption, lifestyle and emerging new consumer trends more intensely than other market participants. Undoubtedly, understanding their reasons, behaviours and market attitudes can help enterprises not only to decide on appropriate innovative marketing strategies but also to determine the right development path, allowing companies to remain in the market and make their product (service) offer attractive to new customers, especially young ones, despite dynamic changes in consumption and ever faster development of mobile technologies and applications.

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<sup>6</sup> Consumers representing Generation Y (people born between 1978 and 1994) and Generation Z (those born after 1994) primarily communicate through social media such as Facebook or Twitter, and their purchasing decisions are determined by their peers’ opinions posted on online forums. What is characteristic of this group is impulse buying and a large share of online transactions. Generation Y consumers excel at modern technologies and feel good in virtual communities. They expect diverse products, competitive prices, new experiences and pleasure, and products and services tailored to their individual needs and preferences. Generation Z, on the other hand, is the youngest group of consumers in the market, with such characteristics as: connected, computerized, always clicking, community-oriented, and content-centric. Compared to Generation Y, they use new technologies even more. More in: Cohen (2009, pp. 57–59) and Williams and Page (2011, pp. 1–17).

Studies on the prevalence of oniomania among young people are relatively rare. Studies on cross-social phenomena in the population of young people are prognostic. Young people are a sensitive barometer of the state of and changes in the awareness of adults, even if they look for sense and authenticity in a slightly more sensitive way than the latter. Considering compulsive buying among young people, not only can theses be formulated but also various factors influencing the development of this phenomenon in the future can be analysed. Undoubtedly, such variables as age, gender or household income largely affect compulsive behaviour of young consumers. While the results obtained in different countries are principally convergent in the case of the first variable, the research conclusions are ambiguous for the other ones. Most results indicate that women suffer more from oniomania than men, yet there are also findings – especially of research carried out on large national samples – that do not confirm these relationships. The same holds true of the variable concerning the wealth of young people. On the one hand, studies show, in some countries, a greater propensity for compulsive buying among people with a lower income than among those with a higher income; on the other hand, they show the reverse relationship. When comparing research results from different countries, it should be remembered that individual studies differ in terms of methodological background, which can have a significant impact on the results obtained. These methodological differences relate to data acquisition techniques, sampling methods or the period in which the research was carried out. All this makes it difficult to compare results internationally.

The key aim of the study was to identify oniomania in consumer behaviour of young people and to prove that these behaviours are largely determined by demographic and social characteristics such as: gender, age, marital status, wealth, and place of residence. The study focused on the analysis of selected factors (attitudes to shopping, time spent shopping, shopping frequency, motives and feelings accompanying consumers when shopping, and most often bought products) that affect compulsive shopping among young consumers. With this in mind, three research hypotheses were put forward:

$H_1$ : Oniomania is visible among less affluent and less educated young consumers.

$H_2$ : Young women tend to buy in excess more often than young men.

$H_3$ : Oniomania is more common among single people who treat shopping as an opportunity to interact with others.

#### SELECTION AND CHARACTERISTICS OF THE RESEARCH SAMPLE

Studying consumer behaviours is an extremely intricate process. This is due to the complexity of consumption and consumer purchasing behaviours in the field of consumer decision-making. Such research encompasses an important step

to explain the phenomenon examined, namely adoption of specific indicators. This is essential because an indicator is used to define a certain characteristic of an object or phenomenon which is in such a relation with another characteristic that indicates the occurrence of the latter when it occurs itself. An indicator is a measurable, i.e. empirically available, variable. When consumer behaviours are investigated, indicators explaining the complexity of this phenomenon include demographic (gender, age, place of residence, household size) and socio-economic indicators (education, disposable income).

**Table 1. The structure of respondents**

Items	Number of respondents (N=589)	Percentage share
Age:		
18–23	228	38.7
24–29	175	29.7
30–34	186	31.6
Gender:		
Female	325	55.2
Male	264	44.8
Marital status:		
Single	236	40.1
In a cohabitation or LAT relationship	278	47.1
Married	72	12.3
Divorced	3	0.5
Education:		
Primary	15	2.5
Basic vocational	57	9.8
Secondary	180	30.6
Bachelor/engineer	226	38.3
Master	111	18.8
Income per capita (monthly, in PLN):		
Up to PLN 2000.00	75	12.7
PLN 2001.00–3000.00	214	36.3
PLN 3001.00–4000.00	166	28.2
More than PLN 4000.00	128	21.8
I have no income of my own	6	1.0
Place of residence:		
Rural area	29	4.9
City of up to 20 thousand inhabitants	39	6.6
City of 20–100 thousand inhabitants	53	9.0
City of 100–200 thousand inhabitants	71	12.1
City of 200–500 thousand inhabitants	109	18.5
City of over 500 thousand inhabitants	288	48.9

Source: own study.

589 people took part in the survey, including 325 women and 264 men. Nearly half of the respondents lived in cities of more than 500 thousand inhabitants. Every third participant had completed secondary education, less than 2/5 of the respondents held a bachelor's or engineering degree, and every fifth held a master's degree. The average age of the respondents is around 25 years. They were mostly students who combined studies with work, whereas the unemployed formed the smallest group. Almost half of the respondents lived in cohabitation or LAT (Living Apart Together) relationships. More than 2/5 of them were single and one in eight was married. As regards monthly disposable income per capita, the largest group earned from PLN 2001.00 to PLN 3000.00. However, an astonishingly great number (almost half of the respondents) assessed their current financial situation as good, and 5.9% as very good.

## FINDINGS AND DISCUSSION

The research examined the attitudes of young consumers that can be classified as compulsive buying. It essentially checked whether young people understood the concept of oniomania and whether their possible competences translated into practical behaviour. To this end, respondents were asked about their understanding of the term "oniomania". Based on the results, it was established that only every twentieth respondent not only knew the notion but also understood its essence. In turn, 15% of those surveyed had merely heard this term but could not explain its meaning correctly. Nearly 4/5 of young respondents did not know this concept at all or had heard it for the first time.

The research also concerned the attitudes of young people towards shopping. This is an extremely important element to consider when analysing shopping habits and preferences of young consumers (Table 2).

In the context of the findings, it can be concluded that over 4/5 of the respondents like shopping or like it very much. Only 6% of young people claim to be reluctant to shop, and every eighth respondent admits disliking shopping. A positive or negative attitude towards shopping is determined by the age, education level and wealth of those surveyed. Shopping is a big or very big pleasure for people aged 24–29, predominantly single women or women in cohabitation relationships, with secondary education or a bachelor's degree, earning a monthly income of up to PLN 3000.00 per capita and mostly living in cities of over 100 thousand inhabitants. The survey results reveal that young people with basic vocational or secondary education declared that they liked shopping more often than university graduates (Kendall's tau-b coefficient was 0.247 for  $p \leq 0.01$ ). The greatest reluctance to shop, on the other hand, was exhibited by consumers aged 30–34, mainly men (living in LAT relationships or divorced), holding a master's or engineering degree, earning a monthly income of above PLN 3000.00 per capita and living in large urban agglomerations.

**Table 2. Young consumers' attitudes towards shopping (%)**

Items	Attitude towards shopping			
	I like it very much	I like it	I do shopping because I have to	I don't like it
Total	59.4	21.9	6.2	12.5
Age:				
18–23	57.9	23.5	1.3	17.3
24–29	64.5	24.1	6.1	5.3
30–34	55.8	18.1	11.2	14.9
Gender:				
Female	63.2	20.9	4.1	11.8
Male	55.6	22.9	8.3	13.2
Marital status:				
Single	61.0	22.9	6.0	10.1
In a cohabitation or LAT relationship	61.2	22.3	3.2	13.3
Married	56.8	21.6	8.4	13.2
Divorced	58.6	20.8	7.2	13.4
Education:				
Primary	60.3	22.7	5.9	11.1
Basic vocational	55.7	22.4	9.7	12.2
Secondary	61.2	21.6	4.4	12.8
Bachelor/engineer	61.3	21.0	4.7	13.0
Master	58.5	21.8	6.3	13.4
Income per capita:				
Up to PLN 2000.00	58.3	23.7	5.6	12.4
PLN 2001.00–3000.00	59.6	22.6	5.4	12.4
PLN 3001.00–4000.00	58.7	20.5	7.2	13.6
More than PLN 4000.00	59.1	21.1	6.7	13.1
I have no income of my own	61.3	21.6	6.1	11.0
Place of residence:				
Rural area	58.2	22.2	6.7	12.9
City of up to 20 thousand inhabitants	59.9	20.8	6.5	12.8
City of 20–100 thousand inhabitants	63.2	22.5	3.9	10.4
City of 100–200 thousand inhabitants	57.6	22.8	6.5	13.1
City of 200–500 thousand inhabitants	59.0	22.0	6.4	12.6
City of over 500 thousand inhabitants	58.5	21.1	7.2	13.2

Source: own study.

The respondents' motivation to shop was an important issue. It should be noted that a significant percentage of purchases is conditional upon a relevant motive the effect of which is the achievement of the intended result. The psychological classification includes six different types of motivation, namely: hedonic, impulsive, compulsive, identity-related, compensatory, and socio-emotional

(Zawadzki et al., 2010). The study focused on the first four psychological aspects of shopping (Table 3).

**Table 3. Motivation of the young consumers surveyed to shop (%)**

Type of motivation	Gender	
	Female	Male
Hedonic	38.6	29.3
Impulsive	30.4	32.4
Compulsive	21.3	25.1
Identity-related	9.7	13.2

Source: own study.

The motivations of young consumers to shop are varied and depend on gender. The presented data show that the hedonic motivation, which involves buying those products that have a certain meaning to the consumer and carry their symbolism, e.g. jewellery, branded clothes, etc., is very important for almost 2/5 of women and for every third man. The purchase itself is perceived by consumers as a pleasant process that does not make them feel guilty. The impulsive motivation, closely associated with impulse control disorders and usually conditioned by weak willpower and a compulsion to shop, was indicated by 30.4% of women and 32.4% of men. Every fifth woman and every fourth man, when shopping, are driven by compulsive motivation, where internal factors including persistent thoughts and anxiety are significant. In turn, every tenth woman and every eighth man do shopping for identity-related reasons. This motive for shopping is directly related to the expression of one's "self" through the acquisition of specific items.

When analysing the issue of oniomania, the frequency of shopping done by young people is significant (Table 4).

**Table 4. Frequency of shopping done by the young consumers surveyed (%)**

Items	Gender	
	Female	Male
Less than once a month	0.0	1.7
Once a month	1.8	5.6
Once a week	6.7	3.5
A few times a week	91.5	89.2

Source: own study.

The analysis makes it possible to conclude that a vast majority of the respondents do shopping a few times a week. Only every fifteenth woman and fewer than every thirtieth man do shopping once a week, and almost 6% of men



shop once a month. The socialisation model adopted by society, where it is women who “should” do shopping, may to some extent explain the apparent differences in the shopping frequency between the sexes. The second possibility is that women and men have different reasons to shop.

The research also focused on the feelings experienced by respondents while shopping (Table 5).

**Table 5. Feelings experienced by the young consumers surveyed while shopping (%)**

Items	Gender	
	Female	Male
I don't feel any emotions when shopping	37.6	49.2
I feel great pleasure when shopping	12.5	5.1
I sometimes feel anxious before shopping	15.2	19.8
I try to do shopping quickly, sticking to a previously made shopping list	1.1	10.2
I feel relaxed when shopping	33.6	15.7

Source: own study.

The analysis shows that much more women than men tend not only to shop more frequently but also declare that they enjoy shopping (Kendall's tau-b coefficient was 0.342 for  $p \leq 0.01$ ). It can therefore be concluded that in the context of shopping addiction, gender is a risk factor: the probability that a problem of compulsive buying will arise is higher among women than among men. It should be noted here that all the research conducted so far both in Poland and abroad confirms the hypothesis that shopping addiction is more common in women than in men. While the percentage of people struggling with this disorder varies depending on the type of analysis, the results of such analyses are consistent as regards the distribution of this disorder by gender. The proportions of women and men suffering from this addiction even out if e-commerce is taken into account. Research shows that the majority of people using such services are young men aged 18–25 and women who are eager to pay for purchased goods by credit card (Guerreschi, 2005).

Almost half of young men and less than 2/5 of women do not feel any specific emotions when shopping. Every third woman and every sixth man feel relaxed, whereas every eighth woman and every twentieth man admit that shopping is sheer pleasure and feels great. In turn, every sixth female respondent and every fourth man surveyed feel some anxiety before shopping, and only every tenth young man admits feeling tense and sticking to a previously made list when shopping.

The survey shows that 12.5% of young consumers (74 respondents) buy compulsively. The respondents who indicated, in the survey questionnaire, that they were very pleased while shopping and that they shopped a few times

a week were asked questions about their motivation to shop frequently and often recklessly, as oniomaniacs do (Table 6).

**Table 6. Factors motivating young consumers to buy compulsively**

Items	Number of respondents (N=74)/Percentage share	Percentage share	
		Female	Male
Self-esteem	(40) 53.9	55.2	52.6
Weakened family ties	(14) 19.3	24.5	14.1
Loneliness and lack of self-acceptance	(29) 39.6	44.3	34.9
Sensitivity to opinions of friends and acquaintances, related to seeking acceptance from others	(18) 24.6	35.8	13.4
Stress caused by a lack of a satisfying relationship with the environment (avoidance of and withdrawal from social contacts)	(28) 38.5	41.7	35.3
Unmet mental needs in childhood (psychological abuse in the family)	(8) 10.2	9.2	11.2
Low self-esteem	(28) 37.9	46.3	29.5
Sensation seeking	(16) 21.6	20.7	22.5
Poor money management skills	(14) 18.9	21.6	16.2

N.B.: Respondents could choose several answers.

Source: own study.

The survey shows that the strongest motive for young consumers to buy compulsively is self-esteem (Pearson's correlation coefficient  $r = -0.321$ ,  $p < 0.01$ ). It can thus be concluded that the lower the self-esteem, the greater the inclination of young consumers to shop, hence the higher the risk of shopaholism. What motivates the respondents to do frequent and reckless shopping is also loneliness and lack of self-acceptance, stress caused by a lack of a satisfying relationship with the environment, and low self-esteem. All these reasons for shopping and purchasing unnecessary things frequently have a psychological basis and are strongly associated with the personality structure. Almost 2/5 of the respondents who bought compulsively indicated these answers, with women admitting that much more frequently than men. This means that the inclination to shop in excess is associated with a wish to increase the sense of self-esteem among the respondents (Pearson's correlation coefficient  $r = 0.197$ ,  $p < 0.01$ ), which is particularly significant among young consumers who are insecure, shy, and have various complexes. In the context of the survey results, oniomaniacs most commonly describe themselves as singles, belong to the 24–29 age group, have completed secondary education or hold a bachelor's/engineering degree, earn a monthly per capita income of below PLN 3000.00, and live in cities of up to 100 thousand inhabitants. On

the other hand, oniomania drivers that were less frequently mentioned by the respondents include unmet mental needs in childhood, weakened family ties and poor money management skills. These motives are polyetiological, with the personality of young consumers being of great importance among many reasons. It is formed under the influence of factors such as: family structure, interpersonal relationships between adults and children, lifestyle, and money management. The first two factors are related to young people’s sense of inferiority and inadequacy felt from their parents in childhood or adolescence, which they compensate by excessive shopping in order to experience calm, relief, acceptance and social recognition. Poor money management skills, in turn, are a consequence of unreasonable money management and a lack of saving abilities, weak assertiveness and resistance to various types of marketing gimmicks. These drivers were most frequently mentioned by the youngest respondents, mostly women aged 18–23, with secondary or basic vocational education, a per capita income not exceeding PLN 3000.00 and living in cities of up to 200 thousand inhabitants.

Another issue in the survey was to check how much time young consumers spend shopping (Table 7).

**Table 7. Time that respondents spend shopping (%)**

Items	Time spent shopping		
	Up to 1 hour	Up to 3 hours	More than 3 hours
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Total	52.4	26.6	21.0
Age:			
18–23	50.2	33.2	16.6
24–29	54.4	22.8	22.8
30–34	52.6	23.8	23.6
Gender:			
Female	45.3	25.1	29.6
Male	59.4	28.1	12.5
Marital status:			
Single	51.6	25.0	23.4
In a cohabitation or LAT relationship	53.9	27.1	19.0
Married	52.6	26.5	20.9
Divorced	51.5	27.8	20.7
Education:			
Primary	51.4	25.9	22.7
Basic vocational	51.9	25.6	22.5
Secondary	52.0	27.6	20.4
Bachelor/engineer	52.3	27.6	20.1
Master	54.4	26.3	19.3

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Income per capita:			
Up to PLN 2000.00	53.8	23.6	22.6
PLN 2001.00–3000.00	51.9	24.4	23.7
PLN 3001.00–4000.00	52.4	27.9	19.7
More than PLN 4000.00	52.1	28.8	19.1
I have no income of my own	51.8	28.3	19.9
Place of residence:			
Rural area	54.2	28.1	17.7
City of up to 20 thousand inhabitants	54.5	25.7	19.8
City of 20–100 thousand inhabitants	52.3	26.4	21.3
City of 100–200 thousand inhabitants	50.6	25.8	23.6
City of 200–500 thousand inhabitants	52.6	26.2	21.2
City of over 500 thousand inhabitants	50.2	27.4	22.4

Source: own study.

The greatest amount of time is spent shopping by respondents aged 30–34, chiefly single women who have completed basic or basic vocational education, earn a monthly per capita income not exceeding PLN 3000.00, and usually live in cities of up to 200 thousand inhabitants. The shortest time, on the other hand, is spent shopping by consumers aged 24–29, mainly men (living in LAT or cohabitation relationships), holding a master’s or engineering degree, earning a monthly income of above PLN 3000.00 per capita and living in small cities of up to 20 thousand inhabitants.

The findings concerning the attitudes of young respondents towards shopping, shopping frequency, time spent shopping and feelings experienced while shopping are very much in line with studies carried out in many countries around the world (Faber, O’Guinn, 1989; Fries et al., 2007; Müller et al., 2010; Klein, 2013; Lee, Workman, 2015; Islam et al., 2018). Virtually all studies confirm that the problem of oniomania is the most prevalent among young women between 30 and 40 years of age, although the age of onset of this disorder is estimated to be 18–20. If untreated or underestimated, it can become chronic and more severe over time. The hypothesis that shopping addiction affects women to a greater extent than men has its source in the analysis of cultural and civilisational realities in which shopping has always been considered a typically feminine and socially accepted activity. It should be added, however, that some researchers argue that a group of compulsive male buyers could be more numerous than it would appear from hitherto research if they were not afraid to admit to such a weakness. What should also be noted is that women and men have different reasons to shop. Research carried out by Badora *et al.* (2012). on the Polish population reveals that women do shopping rather on the basis of characteristics of the socio-emotional model, whereas men

value a certain element of competition associated with the purchase of an item and with properties emphasising its uniqueness. The proportions of women and men suffering from oniomania even out if e-commerce is taken into account. Research shows that the majority of people using such services are young men aged approximately 20–25 and women who are eager to pay for purchased goods or services by credit card (Guerreschi, 2005).

A very good or good financial situation of the young consumers surveyed did not motivate them to shop more often, nor did it make them say more frequently that they did not enjoy shopping and treated it as a necessity (Kendall's tau-b coefficient was 0.185 for  $p \leq 0.01$ ). Furthermore, some of them (mostly married women) claimed that they usually went shopping with their partner, parents (mainly mothers) or girlfriends. Oniomania is more visible in less affluent respondents who do uncontrolled shopping leading to financial difficulties, which then translates into deteriorated relationships with other people. A negative correlation between the level of disposable income and compulsive shopping among young consumers is confirmed by numerous research results (Faber, O'Guinn, 1989; Dittmar, 2005; Ogińska-Bulik, 2014; Unger et al., 2014; Zhang et al., 2015; Jung, 2017).

When analysing oniomania, the types of products most often purchased by young consumers are also important (Table 8).

**Table 8. Products most frequently purchased by the young consumers surveyed (%)**

Product group	Gender	
	Female	Male
Food	30.2	41.3
Clothing and footwear	42.4	26.2
Cosmetics	15.1	2.7
Jewellery and accessories	3.5	0.5
Sports equipment	2.4	12.2
Household electronics (TV sets, smartphones, laptops, etc.)	1.8	10.3
Household appliances	1.0	1.6
Books	1.3	1.4
CDs (music)	2.3	3.8

Source: own study.

More than 2/5 of women say that most frequently they spend money on clothing and footwear. In turn, over 41% of men admit that they spend most money on food. When analysing the types of products that are particularly popular among the surveyed young consumers, it can be stated that women prefer buying products that improve their appearance and attractiveness, including cosmetics and jewellery. The interest in this product category derives from the desire to

increase self-esteem by improving one's image, yet it should be stressed that the reasons behind the addiction are not limited to appearance only. The purchased items are unnecessary in all cases and buyers tend to give or throw them away or hide them somewhere at home where they cannot be found by other household members who are quite often completely unaware of the problem. Men, on the other hand, prefer electronic gadgets and sports equipment. These products are somehow related with prestige and power. According to Guerreschi (2005), men concentrate on things associated with power and progress, striving to show themselves as better than viewed by themselves or other people. It can therefore be concluded that women are more likely to shop along the lines of the socio-emotional model whereas men value a certain element of competition connected with the purchase of an item and with properties emphasising its uniqueness. Statistically significant differences have been found in the range of products most often purchased by women and men. These differences are visible for clothing and footwear (Pearson's correlation coefficient  $r = 0.098$ ,  $p \leq 0.01$ ), jewellery and accessories (Pearson's correlation coefficient  $r = 0.074$ ,  $p \leq 0.01$ ), cosmetics (Pearson's correlation coefficient  $r = 0.056$ ,  $p \leq 0.01$ ) and food products (Pearson's correlation coefficient  $r = 0.021$ ,  $p \leq 0.01$ ). It can thus be concluded that the "consumption of objects" may be a coping response to unpleasant emotions deriving from insecurity about individuals' selves and identities and disappointing self-evaluations. Some people may use shopping to improve their appearance, self-confidence, consideration by others, and social relationships (Donnelly et al., 2013). Material possessions respond illusorily to the inner security need to compensate feelings of low self-esteem and, at the same time, current consumer culture suggests that a sense of self-confidence and well-being can be purchased. Therefore, the "consumption of objects" may be both a symptom of insecurities and a "coping strategy" to offer relief from problems and to satisfy certain needs (Biolcati, 2017; Djudiyah, 2019).

With overall knowledge of the shopping frequency and time as well as feelings experienced by respondents while shopping, an attempt was made to identify consumer behaviours of young people that can be classified as oniomania. To this end, the Compulsive Buying Measurement Scale<sup>7</sup> (Valence et al., 1988) was used. The scale consists of 16 statements referring to three areas of shopping addiction,

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<sup>7</sup> In 1992, Faber and O'Guinn initially developed a Compulsive Buying Screening Scale containing 29 statements about the feeling of necessity or unrestrained need to act and failed attempts to control the behaviour. In the next version, 14 statements were retained. These allowed for differentiating between compulsive buying and normal shopping behaviour. The individual scale items concern, among others, self-esteem, materialistic attitude, the use of credit cards, but this scale is unidimensional. Surveys carried out by means of it showed that the percentage of shopping addicts was 5.9%. In recent years, the Richmond Compulsive Buying Scale has been developed with 9 items to be responded to by people surveyed using scores from 1 to 6 (Ridgway et al., 2008).

namely the tendency to spend money, reactive aspects (reaction to the compulsion to buy in terms of loss of control), and the feeling of guilt after shopping. The original version of the scale included four areas and concerned also the family environment of a compulsive buyer. Due to poor psychometric properties, the statements in this sub-scale were, however, removed. Another version of the tool thus comprised 13 items.

The research described in this article used a short version of the Compulsive Buying Measurement Scale containing 13 statements. While designing the scale, the following assumption proposed by many researchers was adopted: shopping behaviour should be considered on a continuum, with compulsive buying at one extreme and rational buying at the other. Measures were rated on a five-point Likert scale from 1 (almost never) to 5 (almost always). The surveys carried out by means of this scale confirmed its high reliability (Cronbach's alpha = 0.91). The results ranged from 12 to 55 points, although the maximum value is 65 points on this scale. The average result for the whole group was 32 points – the higher the value, the stronger the involvement in shopping, yet only 42 points and more indicate oniomania. The average result for the women surveyed was 34 points, for men the figure was 30 points. This means that young male respondents are less involved in shopping than the women surveyed. Taking into account marital status, the average score for singles was 36 points, and 24 points for married respondents. The results were also compared with account being taken of respondents' place of residence. Considering this criterion, the average result for respondents living in rural areas or smaller towns (up to 20 thousand inhabitants) was 31 points, whereas for respondents from larger cities (population of over 200 thousand), it stood at 27 points. The survey also shows that every eighth respondent scored 42 points and more. In this group, 68% were women and 32% men. They were mostly respondents aged 30–34, single or living in a cohabitation relationship, with secondary or basic vocational education, a monthly per capita income not exceeding PLN 3000.00, and usually living in cities of up to 100 thousand inhabitants. It may be concluded that the survey findings confirm all the research hypotheses put forward in this article. It appears that this is corroborated by results delivered by other researchers (Claes et al., 2010; Lange, 2012; Raudsepp, Parts, 2015; Maccarrone-Eaglen, Schofield, 2017; Islam et al., 2018).

Taking into account the presented survey results, some limitations ensuing from a small research sample should be borne in mind. Following the conclusions made, they should not be treated as representative of the population of young Polish consumers. They only provide some insight into the actual consumer behaviours of young oniomaniacs. It should also be highlighted that since shopaholism largely affects young people, it seems necessary to disseminate relevant popular-science information more broadly at schools, among students and in the media in order to prevent the oniomania addiction, identify the symptoms of this disorder



in early stages of its development, and provide adequate professional training in psychological, sociological and economic studies.

Oniomania in Poland has not been well described and is certainly worth further holistic research. Publications that address research on this topic are usually at the borderline of psychiatry and clinical psychology but there are few studies that analyse the issue of oniomania from an economic point of view. Undoubtedly, the survey that provided the basis for this article enriches the existing knowledge about shopaholism and the role of shopping in the lives of young Polish consumers. In addition, it confirmed that young oniomaniacs are most often single, usually women, and less affluent and less educated people. This publication should contribute to a broader discussion and exchange of views on oniomania, thereby encouraging other Polish scholars and researchers from various scientific and research centres to carry out extensive research in this area.

### CONCLUSIONS

Due to the insufficient number of studies, compulsive buying has not yet been classified in DSM-5 (Diagnostic and Statistical Manual of Mental Disorders) or ICD-10 (International Statistical Classification of Diseases and Related Health Problems) as an addiction. The literature often defines it as an addiction, an obsessive compulsive disorder or a mood disorder. The cause of oniomania is difficult to define unequivocally. According to psychologists, shopping addiction most often occurs in people who tend to develop depressive conditions as a compensation for negative emotions. Those who are addicted to compulsive buying are generally not interested in owning the products that they purchase. They buy for sheer buying and hardly ever use the purchased products. Shopping is often a mood booster as it is accompanied by euphoria and contentment. However, these quickly transform into remorse and sorrow. Thus, one falls into a vicious circle – in order to get out of depression, one feels a strong inner need to do more shopping.

A preliminary analysis of the empirical material obtained in the survey indicates that behaviours of young oniomaniacs are determined by demographic and social characteristics such as sex, age, wealth, and place of residence. 12.5% of young consumers participating in the survey suffer from oniomania. Compulsive shopping is most evident among the respondents aged 30–34, usually single, with basic vocational or secondary education, earning a monthly disposable income of up to PLN 3000.00 per capita, and mostly living in smaller towns (up to 20 thousand inhabitants). It should also be noted that young female respondents more frequently suffer from oniomania than men. Not only do they shop several times a week and feel relaxed then but also they spend more



than 3 hours shopping. Young women usually buy clothes, shoes, jewellery and perfumes, that is products that are associated with image. Young men buy phones, computers or sports equipment, i.e. lifestyle-related gadgets. In recent times, it has also been observed that more and more young people are suffering from this type of compulsive behaviour. This increase can be explained by the strategies of advertising companies whose campaigns ever more frequently refer to a change of mood after the purchase.

The empirical research confirmed a positive correlation between the sex of respondents (mainly women) and oniomania, and a negative one between compulsive buying on the one hand and the level of education and disposable income of young respondents on the other.

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### *Summary*

Oniomania (shopaholism) is not commonly perceived as an impulse control disorder, addiction to a specific activity, but rather as a trivial issue often taken lightly, more as a fad than a serious problem. The literature analyses oniomania in anthropological, socio-pedagogical, psychological, psychiatric and economic terms. This article focuses solely on the economic explanation of compulsive buying in the consumer behaviour of young people. Its aim is to identify oniomania in the consumer behaviour of young persons and to prove that such behaviour is determined by demographic and social characteristics such as: gender, age, marital status, wealth, and place of residence. The study focused on the analysis of selected factors (attitudes to shopping, time spent shopping, shopping frequency, motives and feelings accompanying consumers when shopping, and most often bought products) that affect compulsive shopping among young consumers.

The tool used to conduct the research was my original questionnaire comprising 50 closed-ended questions regarding alternative consumer trends, including oniomania. The survey was carried out from 1st February to 1st May 2018. The participants were recruited via the *ankietka.pl* website and social media such as Facebook, Whatsapp, Messenger, and e-mail. In order to partake in the survey, those interested had to visit a specific website containing the questionnaire. It was also distributed across special forums, university and private school fanpages. The survey covered people aged 18–34 belonging to the Y and Z generations.

The survey suggests that young females suffer from oniomania more frequently than men. Not only do they shop several times a week and feel relaxed as a result, but also they spend more than 3 hours shopping. Moreover, the survey has confirmed a positive correlation between the sex of respondents (mainly women) and oniomania, and a negative one between compulsive buying on the one hand and the level of education and disposable income of young respondents on the other.

*Keywords:* oniomania, excessive shopping, consumer society, young people.

## **Oniomania w zachowaniach nabywczych polskich młodych konsumentów – ujęcie ekonomiczne**

### *Streszczenie*

W artykule, w oparciu o krytyczną analizę literatury, podjęto się próby wyjaśnienia pojęcia i istoty oniomanii. W literaturze przedmiotu problem oniomanii analizowany jest w ujęciu: antropologicznym, socjopedagogicznym, psychologicznym, psychiatrycznym i ekonomicznym. Niniejsze opracowanie koncentruje się wyłącznie na ekonomicznym wyjaśnieniu kompulsywnych zakupów występujących w zachowaniach konsumenckich osób młodych. Jego celem jest uchwycenie oniomanii w postawach i zachowaniach konsumenckich osób młodych, i wykazanie, że zachowania te są determinowane cechami demograficzno-społecznymi, takimi jak: płeć, wiek, poziom zamożności i miejsce zamieszkania. W przeprowadzonym badaniu skoncentrowano się na analizie wybranych czynników (stosunek do robienia zakupów, ilość czasu spędzanego na zakupach, częstotliwość ich robienia, uczucia towarzyszące konsumentom w trakcie robienia zakupów oraz produkty najczęściej nabywane), które wpływają na kompulsywne zakupy młodych konsumentów.

Narzędziem wykorzystanym do przeprowadzenia badania był autorski kwestionariusz składający się z 50 pytań zamkniętych, dotyczący alternatywnych trendów konsumenckich, w tym oniomanii. Badania zostały przeprowadzone w okresie od 1 lutego do 1 maja 2018 roku. Uczestnicy byli rekrutowani poprzez stronę internetową „ankietka.pl”, a także poprzez kanały społecznościowe, takie jak Facebook, Whatsapp, Messenger oraz pocztę elektroniczną. Aby wziąć udział w badaniu,

zainteresowane osoby musiały wejść na konkretną stronę internetową, gdzie widniał przygotowany dla nich kwestionariusz. Był on także rozesłany na specjalne fora, fanpage uniwersytetów i uczelni prywatnych. W badaniu wzięły udział osoby w wieku 18–34 lata należące do pokolenia Y i Z.

Z przeprowadzonego badania wynika, że młode kobiety częściej cierpią z powodu oniomanii aniżeli mężczyźni. Nie tylko kilka razy w tygodniu chodzą na zakupy i są rozluźnione podczas ich robienia, to spędzają na nich powyżej 3 godzin. Ponadto potwierdzono w badaniu pozytywną korelację ale między płcią badanych (dotyczy to głównie kobiet) a oniomanią, oraz negatywną między kompulsywnymi zakupami a poziomem wykształcenia młodych respondentów i poziomem ich rozporządzalnych dochodów.

*Słowa kluczowe:* oniomania, nadmierne zakupy, społeczeństwo konsumpcyjne, osoby młode.

JEL: D12, M30.

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## **Network mechanisms for supporting entrepreneurially weak regions**

### INTRODUCTION

Over the past two decades, endogenous theories of regional development based on innovation and knowledge, entrepreneurship development and networks have been widely discussed (Porter, 2003; Braunerhjelm, 2010; Harris, 2011; Huggins, Johnston, 2009; Polverari, 2018). Recent models of regional development link the endogenous factors, integrating network dimensions with entrepreneurial- and innovation-related components (Huggins, Thompson, 2015). Therefore, entrepreneurial network creation can be considered one of the important factors of regional development.

In more entrepreneurial regions, network mechanisms are formed through the emerging evolutionary interdependency between entrepreneurs and other economic agents, but such mechanisms are less apparent in entrepreneurially weak regions (Huggins, Johnston, 2009). Given the overall importance of entrepreneurial networks for entrepreneurship development (Dodd, Keles, 2014), the actual problem is to develop a policy tool which can stimulate entrepreneurial networking initiatives in entrepreneurially weak regions.

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The purpose of the article is to propose and to justify network mechanisms for entrepreneurially weak regions. The research assesses the hypothesis that an ICT-based platform is a useful tool for enhancing inter-firm network collaboration in such regions and it may reduce barriers to entrepreneurs' cooperation.

The paper focuses on the problem of entrepreneurial network development in entrepreneurially weak regions, for example, the Vitebsk region of Belarus. The region has the lowest indicators of entrepreneurial activity (the number of entrepreneurs per 1000 residents) when compared to other regions of Belarus. The paper draws on quantifiable data from 400 respondents and qualitative data from 21 interviews with owner-managers from a study of small and medium enterprises (SMEs) in the Vitebsk region, to assess the nature of their networking activity.

The paper begins by examining the role of networking by owner-managers in regional economic growth, and in enhancing their business performance, on the basis of a literature review in the context of the research. This is followed by an outline of the context underlying our choice of the Vitebsk region as a case study. The methodology explains the means by which data was gathered and analysed based on a sample of knowledge-based SMEs in the region. The discussion of the methodology is followed by a presentation and discussion of the main results, which are used to indicate relevant policy implications prior to the conclusion. This paper concludes that regional authorities should use platforms based on information and communication technologies as a network mechanism for entrepreneurially weak regions.

#### NETWORK EFFECTS, ICT-BASED PLATFORMS AND REGIONAL ECONOMIC GROWTH: THEORETICAL BACKGROUND

Many theoretical approaches and concepts of regional economic growth recognize the importance of links between firms and organizations, including the concept of territorial industrial agglomeration (Marshall, 1920), regional clusters (Porter, 1990), innovative milieus and regional systems of innovation (Camagni, 1991), new industrial districts (Bellandi, De Propris, 2015), and entrepreneurial ecosystems (Moor, 1993). The entrepreneurial ecosystem concept has been dominant since 2016 (Malecki, 2018).

An entrepreneurial ecosystem is defined as “*a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory*” (Stam, Spigel, 2016, p. 1), “*a dynamic, self-regulating network of many different types of actors*” (Isenberg, 2014) or as “*a generic context aiming to foster entrepreneurship within a given territory. .... Therefore, it consists of a horizontal network (customers and providers) and a vertical network (competitors and complementors). .... It also includes organizations supporting entrepreneurs: public or private funding agencies (banks, business angels, venture capital, etc.);*”



*support entities (business incubators, consultants, etc.); research organizations (research centers, laboratories, etc.); and business consortia (active businesses, associations and trade unions, etc.)”* (Theodoraki et al., 2018, p. 56).

Entrepreneurship plays an important role in theories of regional economic growth (Fritsch, Wyrwich, 2017). But, as F.-W. Chen *et al.* (2018, p. 2) noted, the effect of entrepreneurship is significantly enhanced after introducing the joint effects of entrepreneurship and social networks. Social networks help reduce the cost of knowledge transfer, access and spillovers, thereby promoting the accumulation of entrepreneurship capital and accelerating the entrepreneurial spirit to play an economic role (Chen et al., 2018, p. 2). Entrepreneurship accelerates the commercialization of knowledge by spillover effects (Audretsch et al., 2006). Economic growth is the consequence of education (human capital formation) and can be the result of innovation introduced by a fraction of the population with higher education (Martins et al., 2009, p. 2212). The innovation performance of firms is significantly related to network capital investment in dynamically configured networks (Huggins, Thompson, 2015, p. 534).

Trust-creating initiatives are of utmost relevance to fostering successful business networks (Strobl et al., 2014). Trust is a crucial aspect of the organizational preparedness that is required to enhance chances of participating in networks of legally independent partners to smooth the sharing of resources, knowledge, and competence, and in turn facilitate organizational collaboration (Msanjila, Afsarmanesh, 2008). Trust can act as a substitute for governance mechanisms, which are currently time-consuming and costly activities (Gustafsson, Magnusson, 2016).

Due to trust, entrepreneurs can form various types of linkages to attain technological support and other financial benefits. These linkages include: collaborations with large organizations, forming SME networks of similar type of firms and linkages with universities and institutes (Gupta, Kumar, 2018).

The growing interest in business collaboration motivates today’s industries, especially SMEs, to establish business networks to respond to market opportunities with added business benefits. SMEs often lack sufficient resources and knowledge to deal with the rapidly changing environment in which they operate. Through networking they can obtain the knowledge and skills necessary to remain competitive. In addition, they can benefit from economies of scale without having the disadvantages of being large-scale (Schoonjans et al., 2013).

Communication behaviour is critical in achieving the benefits of cooperation between partners. There are three aspects of communication behaviour: communication quality, extent of information sharing between partners and participation in planning and goal setting (Nagy, 2007, p. 10).

We intend to show that a modern environment is increasingly permeated with digital technologies and the technologies are key elements of a modern entrepreneurial ecosystem. In such environments, an information and communication technology

(ICT)/ Web-based technology supports real-time information sharing between key business partners for the collaborative design and manufacturing of customized products. The combination of the ICT-based platform and collaborative innovation can facilitate the creative process and be a driver of operational synergies. The adoption of ICT-based platforms for collaborative innovations reduces transaction costs (Esposito De Falco et al., 2017). The design and development of ICT-based platforms contributes to the building of collaborative business networks and supports real-time process monitoring and management of collaborative processes. Such real time process monitoring systems enable partners to discover any process bottlenecks, and adopt necessary actions to eliminate or minimize them (Shamsuzzoha et al., 2016).

Systematization of network effects (see Figure 1) allows us to conclude that the main conditions for their occurrence are trust and ICT-based platforms.

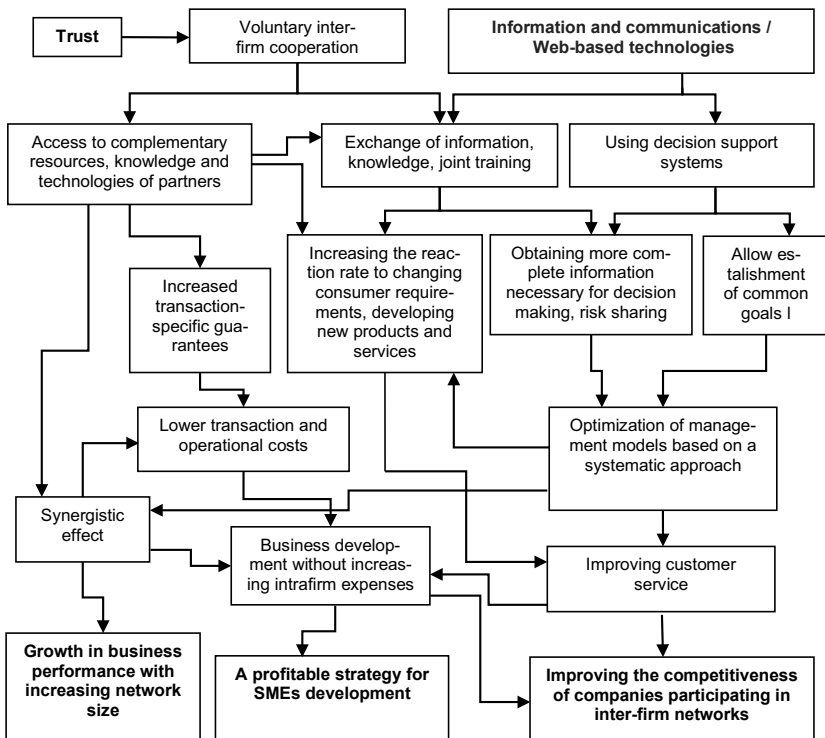


Figure 1. The network effects systematization

Source: own study based on National Statistical Committee of the Republic of Belarus data.

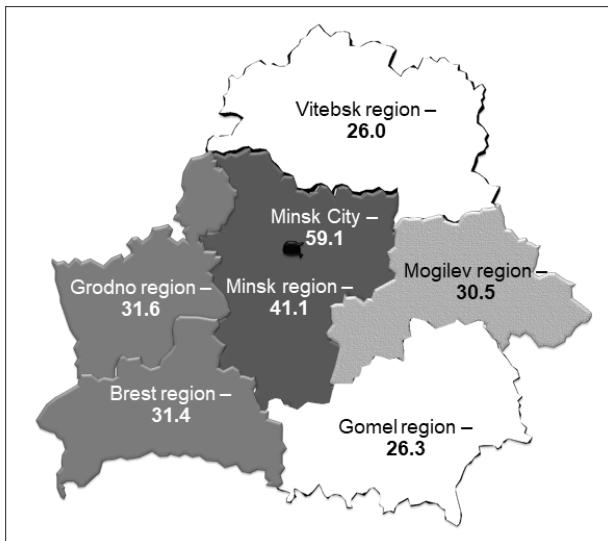
An inter-firm network has to go through cooperation, coordination and collaboration as subsequent stages. Coordination and collaboration aim at enforcing mutual understanding of the collaborating tasks, thus producing alignment as an outcome. Trust is a key component in enabling cooperation between firms and

facilitating the alignment of incentives between them, and ICT-based platforms play an important role at all the stages (Cremona et al., 2014).

In order to test our hypothesis on the possibility of using ICT-based platforms to enable cooperation between firms in an entrepreneurially weak region, we used the results of a survey of entrepreneurs in the Vitebsk region of the Republic of Belarus which is an example of such a region.

### VITEBSK REGION AS AN ENTREPRENEURIAALLY WEAK REGION

One of the main indicators of entrepreneurial activity in a population is the number of SMEs per 1000 residents. Figure 2 below represents Belarusian territorial distribution of the indicator as of 1 January 2019. As might be noticed from the figure, SMEs are unevenly distributed in the territory. Their main share (50.2 per cent) is concentrated in the capital city of Minsk and the Minsk region. The western regions of the Republic of Belarus, which border with the EU, are relatively stronger entrepreneurially compared to those in the eastern areas which border with Russia. The Vitebsk region is the only Belarusian region which borders both with the EU and with Russia. The number of SMEs per 1000 residents here was at an intermediate level before 2014. However, the value of this indicator has fallen rapidly in the past five years, and the Vitebsk region became entrepreneurially the weakest by the end of 2018 compared to other Belarusian regions.



**Figure 2. The number of entrepreneurs per 1000 residents by regions of the Republic of Belarus, as of 1 January 2019**

Source: own study based on National Statistical Committee of the Republic of Belarus data.

In the whole Republic of Belarus, for 2014–2018, the number of SMEs increased by 5.9%, in the Vitebsk region over the same period the number of SMEs decreased by 12.9%.

Since 2014, there has been a decrease in the number of workers employed in SMEs both in the Vitebsk region and in the Republic of Belarus as a whole. However, in the Vitebsk region this process is proceeding at a faster pace, and as a result, employment in SMEs in the Republic of Belarus for the years 2014–2018 decreased by 0.5%, and in the Vitebsk region over the same period – by 6.7%.

The Vitebsk region lags behind in almost all indicators characterizing the contribution of SMEs to the development of the territory from the national average, but its role in the region's economy is significant, primarily in ensuring employment. Thus, SMEs are an important component of the economy of Vitebsk region. Therefore, identifying barriers to its development and developing effective measures to overcome them is an urgent task for the region.

The Association of Employers and Entrepreneurs of the Vitebsk region (as a regional partner of the IPM Research Center) conducted a regional study of the opportunities and priority areas for SME development (Slonimska et al., 2019). One of the authors was a leader of the research. The study was carried out as part of the international technical assistance project “Development of the October Economic Forum”, registered in the database of international technical assistance projects and programs of the Ministry of Economy of the Republic of Belarus on July 20, 2016 under No 2/16/000810. The project goal was to increase the potential of Belarusian non-governmental organizations (NGOs) in promoting responsible economic policies at local and national levels. Some questions were included in the questionnaire about the role of networking and business-cooperation in SME activity.

## RESEARCH METHODOLOGY

The survey of SME leaders was conducted using the method of in-depth interviews (21 respondents) and the method of a structured questionnaire survey (400 respondents). The indicated sample size allowed us to obtain results with a reliability of 95% and an accuracy of no less than  $\pm 5\%$ . The in-depth interviews were conducted in July–August 2018, whereas the questionnaire survey was conducted in February–August 2019.

Respondents interviewed by in-depth interviews were leaders of SMEs located in six settlements of the Vitebsk region: twelve in the regional center, four in the cities of Polotsk and Novopolotsk, two in the village of Shumilino, and one in each of the cities of Orsha, Glubokoe and in the Vitebsk district. According to the type of activity, the respondents were distributed as follows: in the manufacturing sector there were thirteen of them (mechanical engineering, instrument making,

sewing and food), and in the services sector there were eight (ICT, logistics, service stations, medical and travel services, accommodation and food services). Eleven members of the Association of Employers and Entrepreneurs of the Vitebsk region and ten managers (business owners) who are not members of this organization were interviewed.

The selection of respondents for a structured questionnaire was carried out by random sampling from the list of enterprises located in the national business directory on goods and services “Business Belarus 2018”, stratified by the number of SMEs in districts and cities of the Vitebsk region. The planned sample structure was partially changed due to the refusal of individual respondents to participate in the survey.

According to the location of enterprises, the respondents were distributed as follows: 175 (43.8%) in Vitebsk city, 83 (20.8%) in the cities of Polotsk and Novopolotsk, 34 (8.5%) in Osha city, 108 (26.9%) in the countryside and small towns of the region. By type of activity, 89 wholesale and retail trade enterprises were represented (22.2%), 70 in production (17.5%), 49 in services to the population (12.3%), 42 in transport services (10.5%), 32 in hotel and restaurant services (8%), 31 in construction and design of facilities (7.8%), 27 in agriculture, forestry and fish farming (6.7%), 15 in information technology (3.7%), 8 in tourism and agritourism (2%), 6 in health care (1.5%), and 31 in other activities (7.8%).

Among the respondents, 308 (77%) were heads of micro-organizations (employing up to 15 people), 85 (21.2%) from small organizations (employing from 16 to 100 people inclusive) and 7 (1.8%) from medium-sized organizations (employing from 101 to 250 people). Respondents differed in their experience in the market of the Vitebsk region – 9 (2.3%) of them had worked for up to one year, 49 (12.3%) from one to three years, 73 (18.2%) from three to five years, 113 (28.2%) from five to ten years, 148 (37%) for more than ten years, 8 (2%) of the respondents did not indicate how many years their company had been operating on the market.

#### BARRIERS HINDERING THE DEVELOPMENT OF INTER-FIRM NETWORKS IN THE VITEBSK REGION

The survey did not identify any formal networks of SMEs in the form of consortia or temporary arrangements in the Vitebsk region. However, some of the respondents provided examples of interactions among the members of the Association of Employers and Entrepreneurs. For example, a head of a travel company may exchange information with a head of a hotel, jointly planning tourist accommodation; heads of dental companies may provide joint training for the staff, jointly renting a room and inviting experts from abroad.

According to the results of the survey, about half of the respondents believe that they need cooperation with partners, and it is important for them to develop various forms of cooperation. As one of the respondents noted during the interview: “We are losing millions due to the fact that we cooperate and communicate too little. There shouldn’t be any lack of information. We need to develop an ICT-based cooperation program”.

About 20% of the respondents do not consider it useful to use any kind of cooperation with other enterprises to develop their own businesses. They commented on their opinion as follows: “We ourselves manufacture components and, due to the specifics of our activities, for us, such forms of interaction are not relevant”; “For our business this is not acceptable. For other small businesses it may be suitable. For example, for a farmer who produces 20 liters of milk, it may be convenient to combine with others and order one tanker for 200 liters; or for those who produce identical goods, it should be possible to develop one brand. The collective farm is voluntary; we have already encountered this. We are individuals, we have our own approaches”; “Now in our field of activity, if something is not clear, then you can turn to the Internet and find everything”; “Cooperation for our company is extremely limited”.

About 30% of the respondents find it difficult to answer the question concerning the usefulness of projects to develop interaction between entrepreneurs: “It is important that cooperating small businesses behave correctly”. “When I work together with someone, there is a risk that my customers will be taken away. We do not have this culture. If there are people whom you can trust, then you can work with them”; “We thought about this in order to work in cooperation with several set-ups, but no one supported me. In addition, someone should be responsible for this”; “I believe that this is unrealistic. All this is great and all these points in the category of different spheres have the right to exist, but there is a problem with our mentality. All of these points “stumble” over a lack of trust. Our psychology is that nobody trusts anyone”.

The respondents were asked whether any particular form of inter-firm cooperation could be useful for their business development. As Figure 3 shows, the most useful type of collaboration for SMEs (according to the respondents) was collaborative logistics, and the least useful for them were collective trademarks. It should be noted that more than a third of the interviewed SME leaders find it difficult to answer this question, since they are not familiar with any forms of network cooperation among SMEs.

According to the respondents, the problems hindering the development of SME cooperation in the Vitebsk region are lack of information about potential partners (noted by 76.8% respondents), low level of trust between entrepreneurs (76%), lack of infrastructure and services for business community cooperation support (61%).



**Figure 3. Distribution of respondents according to the answers to the question: “Do you find the following types of cooperation useful for the development of your business?”**

Source: own study based on survey data.

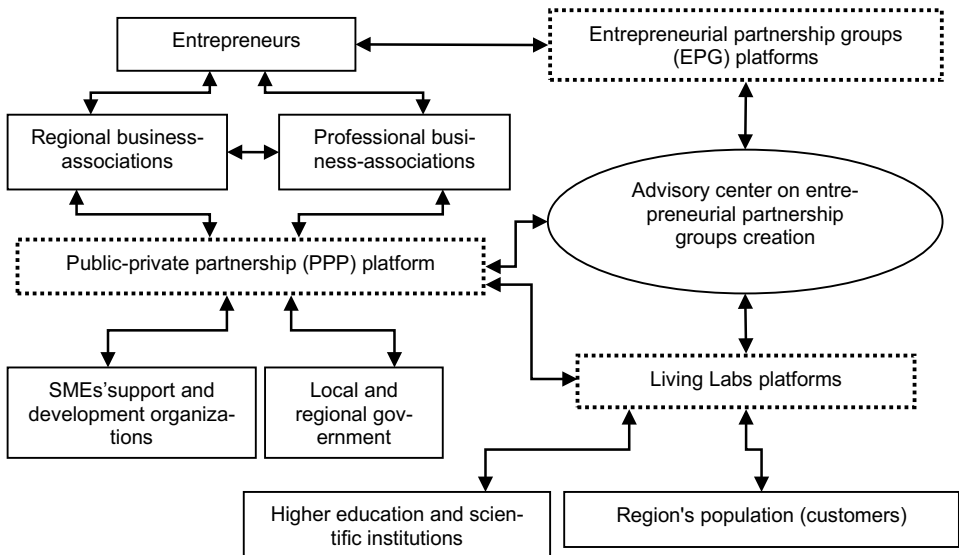
Thus, to facilitate participation of SMEs in networks Vitebsk regional government measures, first of all, should be directed to creating the conditions for regional SMEs, enabling them to share information and helping them to build trust. And, as we consider, the best way to achieve the goal is to develop a regional system for entrepreneurs networking development using ICT-based platforms. The structure of the system we are proposing is described below.

### A REGIONAL SYSTEM FOR ENTREPRENEURS NETWORKING DEVELOPMENT

A regional system for entrepreneurs networking development, we propose, includes three types of ICT-based platforms: a public-private partnership (PPP) platform, entrepreneurs’ partnership groups (EPG) platforms and Living Labs platform (see Figure 4). The system also includes an advisory center on the creation of entrepreneurial partnership groups.

Good communication is critical in ICT-based platforms, where a large number and diversity of stakeholders make communication potentially complicated or cumbersome. Building effective platforms requires the design of an appropriate and effective management structure to implement platform tasks and produce its stated outputs (Reid et al., 2014).





**Figure 4. A regional system for entrepreneurial networking development**

Source: own study.

It is assumed that a PPP-platform would operate as a space for engaging stakeholders and identifying partnerships. Every regional business must be registered and represented on the platform. This would address the issue of lack of information about potential partners. Communication between SME managers on the platform and discussion of common issues would enable the building of trust. It is proposed that SME managers will have an opportunity to communicate with representatives of regional authorities and other stakeholders on how to improve the business environment and how to develop the regional economy focusing on new ideas.

An “advisory center on entrepreneurial partnership groups creation” is composed of experts (legal professionals, marketers, IT professionals, psychologists et al.), who advise entrepreneurs on the organization of new SME networks. This would address the issue of lack of knowledge on the subject among SME managers.

EPG-platforms are sets of collaboration tools for virtual teams supporting SME network collaboration, through the Web and other digital technologies. There are many ready-made software solutions related to the subject. For example, A. Shamsuzzoha *et al.* (2016) propose an innovative ICT platform, supporting SME collaboration, which follows the Net-Challenge conceptual approach and methodological guidelines for SMEs to form and operate virtual organizations (VO) for the collaborative development and delivery of customized products. It is expected that IT professionals of the “advisory center on entrepreneurial partnership groups creation” would help SMEs to choose appropriate ready-made software solutions or to develop individual ones.



Living Labs are defined on the EU Smart specialization platform site (<https://s3platform.jrc.ec.europa.eu/living-labs>) as “user-centred, open innovation ecosystems based on a systematic user co-creation approach, integrating research and innovation processes in real life communities and settings. In practice, Living Labs place the citizen at the centre of innovation, and have thus shown the ability to better mould the opportunities offered by new ICT concepts and solutions to the specific needs and aspirations of local contexts, cultures, and creativity potentials”. Living labs platforms as collaborative development platforms should bring together all the relevant parties: developers, public sector agencies, exploiters, and users of new technologies and related products and services (Leminen et al., 2012). Universities have to act as brokers between researchers and local entrepreneurs (Hapenciuc et al., 2016, p. 5312) and to change the teaching processes based on knowledge transfer into developing students’ skills (Hapenciuc et al., 2016; Bejinaru, 2018). Living Labs allow these important roles to be performed. Therefore, the proposed policy measures for regional authorities are expected to be allowed to contribute to creating an effective entrepreneurial ecosystem.

The project on the creation of platforms needs, for secure funding at the outset of the initiative, to demonstrate the value of the platforms to its “clients” and partners. This might be provided by a combination of private and public sources. Any partnership projects need to be closely aligned with the needs of local actors, with local communities and organisations taking a leading role in such initiatives. Too great a dependence on external “top-down” funding can endanger the credibility and viability of the platform at national and local level (Reid et al., 2014). Nevertheless, there are some examples of successful external assistance for implementing similar projects. For example, the Family Business Initiative Association implemented the project: “Purchasing groups as an alternative source of financing, increasing the sustainability and competitiveness of Ukrainian small family businesses” co-financed under the Polish development cooperation program of the Ministry of Foreign Affairs of the Republic of Poland in 2015–2016<sup>3</sup>.

## CONCLUSION

Since entrepreneurial network creation can be considered as one of the important factors of regional economic growth and network mechanisms are less apparent in entrepreneurially weak regions, we have examined the hypothesis that ICT-based platform is a useful tool for enhancing inter firm network collaboration in such regions.

Literature analysis showed that ICT-based platforms play an important role at all stages of inter-firm network creation. The results of a survey of entrepreneurs in

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<sup>3</sup> <http://firmyrodzinne.pl/o-nas/projekty-i-inicjatywy/pomoc-dla-ukrainy/>

an entrepreneurially weak region (the Vitebsk region of the Republic of Belarus) allowed the identification of such barriers to entrepreneurs' cooperation there as lack of information about potential partners, low level of trust between entrepreneurs and lack of infrastructure and services for business community cooperation support. Therefore, ICT-based platforms may reduce barriers to entrepreneurs' cooperation and enable the conditions for network effects occurrence in an entrepreneurially weak region.

The research enables policy recommendations for regional authorities to develop entrepreneurial networks in entrepreneurially weak regions. We proposed a regional system for entrepreneurial networking development consisting of a public-private partnership platform, entrepreneur's partnership groups platforms, the Living Labs platform and an advisory center on the creation of entrepreneurial partnership groups. These would bring regional partners together, enable the building of trust among them and would be expected to allow them to contribute to creating an effective entrepreneurial ecosystem.

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### Summary

Entrepreneurial network creation can be considered one of the important factors of regional development. The paper focuses on the problem of entrepreneurial network development in entrepreneurially weak regions. It shows that digital technologies are key elements of a modern entrepreneurial ecosystem. Systematization of network effects allowed for the conclusion that the main conditions for their occurrence are trust and ICT-based platforms. The paper draws on quantitative and qualitative data from interviews with owner-managers from a study of SMEs in an entrepreneurially weak region of Belarus to assess the nature of their networking activity. The survey did not identify any formal networks of SMEs in the form of consortia or temporary arrangements in the Vitebsk region, and showed that the problems hindering the development of SME cooperation in the Vitebsk region are lack of information about potential partners, a low level of trust between entrepreneurs, lack of infrastructure and services for business community cooperation support. This article offers a regional system for entrepreneurs networking development using three types of ICT-based platforms: a public-private partnership (PPP) platform, entrepreneur's partnership groups (EPG) platforms and Living Labs platform. The proposed policy measures for regional authorities would be expected to allow them to contribute to creating an effective entrepreneurial ecosystem in entrepreneurially weak regions.

**Keywords:** entrepreneurial network, regional development, digital technologies, ICT-based platforms.

## **Mechanizmy sieciowe wsparciem dla rozwoju regionów o niskiej przedsiębiorczości**

### *Streszczenie*

Tworzenie sieci przedsiębiorczości można uznać za jeden z ważnych czynników rozwoju regionalnego. Artykuł koncentruje się na problemie rozwoju sieci przedsiębiorczości w regionach słabych pod względem przedsiębiorczości. Pokazuje, że technologie cyfrowe są kluczowymi elementami nowoczesnego ekosystemu przedsiębiorczości. Systematyzacja efektów sieciowych pozwoliła stwierdzić, że głównymi warunkami ich występowania są zaufanie i platformy oparte na ICT. W artykule wykorzystano dane ilościowe i jakościowe z wywiadów z właścicielami – menedżerami z badania MŚP w słabo rozwiniętym pod względem przedsiębiorczości regionie Białorusi w celu oceny charakteru ich działalności sieciowej. Badanie nie zidentyfikowało żadnych formalnych sieci MŚP w formie konsorcjów lub tymczasowych porozumień w regionie witebskim i wykazało, że problemami utrudniającymi rozwój współpracy MŚP w regionie witebskim są brak informacji o potencjalnych partnerach, niski poziom zaufania między przedsiębiorcami, brak infrastruktury i usług do wspierania współpracy środowisk biznesowych. W artykule przedstawiono regionalny system rozwoju sieci przedsiębiorców za pomocą trzech rodzajów platform opartych na ICT: platformy partnerstwa publiczno-prywatnego (PPP), platformy grup partnerstwa przedsiębiorców (EPG) i platformy Living Labs. Oczekuje się, że proponowane narzędzia mogą przyczynić się do stworzenia skutecznego ekosystemu przedsiębiorczości w regionach słabych pod względem przedsiębiorczości.

*Słowa kluczowe:* sieć przedsiębiorczości, rozwój regionalny, technologie cyfrowe, platformy oparte na ICT.

JEL: L26, L14.

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## **Globalization in highly developed countries and reasons for differentiation**

### INTRODUCTION

Globalization is certainly one of the major socio-economic processes of recent decades. It undoubtedly influences the changes taking place around us, the nature of economics of the modern world, and is one of the most pervasive phenomena today (Villaverde, Maza, 2011). According to Bauman, globalization is the inevitable fate of the world, an irreversible process that affects us all (Bauman, 2000). Globalization is a very broad and complex process relating to the economic, social and political spheres, the three main dimensions of globalization.

The process of globalization encompasses almost all countries. We all live in a globalizing world. In principle, there is no country that would not be affected by it. However, the level of globalization of individual countries is diverse. We can say that some are more globalized than others. In this respect, what is the situation in highly developed countries? How do these countries compare to the other countries of the world? What changes are taking place in this group of countries? Do these countries follow the same path? Are there any differences between them? If so, what causes their differentiation? All of the above are discussed in this study.

The main goal of this paper is to show the reasons for the differentiation in the level of globalization in highly developed countries. Therefore, the globalization level and the changes that have occurred in recent years are presented first. The advanced hypothesis states that a convergence process is taking place in the sphere of globalization.

The study covers 21 highly developed countries, namely (in alphabetical order): Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany,

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Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom (UK) and the United States of America (USA). These countries are classified by the World Bank as “high-income economies”. The study did not cover all the countries which belong to this group, as there are 80 such economies (World Bank Database). The investigation did not include countries that have achieved high levels of GDP per capita in recent decades, e.g. oil producing countries or newly industrialised countries. GDP per capita was not the only selection criterion as the criteria of socio-economic development and historical development were also taken into account. Only countries that were the first to enter the path of industrialisation and accelerated socio-economic development were selected. Hence the list includes 14 countries of Western Europe (small states such as Andorra, Iceland, Liechtenstein, Monaco and San Marino were omitted) and 5 non-European countries (the USA, Canada, Japan, Australia and New Zealand)<sup>2</sup>.

#### LITERATURE REVIEW

There is no agreement in the literature on the concept of globalization. “*It means different things to different people*” (Martens et al., 2010). According to Scholte, globalization can be understood as: internationalization, liberalization, universalization and westernization, but it is not equivalent to any of these older concepts and trends (Scholte, 2008). Although globalization was originally treated as something new, it was eventually recognized as a higher, more advanced and complex stage in the process of economic internationalization, and hence the continuation of what had already happened. Globalization is only – as most economists think – accelerating the long-standing internationalization of the economic process (Budnikowski, 2000; Liberska, 2002; Zorska, 1998). Some add that this is the exceedance of a certain threshold. If internationalization meant the development of economic relations between independent national economies, then globalization would mean such an intensification of relations that all global national economies would become more or less interdependent (Flejterski, Wahl, 2003). For some authors, however, it is something more. Globalization is a structural shift in the nature of global capitalism and gives relations between countries a new qualitative dimension (Liberska, 2002). This view is in line with Dicken’s approach to globalization (Dicken, 1998). Globalization is also often referred to as the growing integration of national economies (through international trade and foreign direct investment). Markets and production become increasingly interdependent.

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<sup>2</sup> The same group of countries was the subject of research by the author on the impact of globalization on economic growth in highly developed countries. For this reason, an identical paragraph can be found in this study (Swadzba, 2020).



It is a global integration (Zorska, 1998). Globalization can also be defined as the process of ever closer integration of national economies (Budnikowski, 2000). This is so because it is a process of eliminating border barriers to market functioning. The consequence of this is the process of integrating the world economy (Szymański, 2004).

At the end of the discussion on globalization, we can present its definition according to KOF, a Swiss institute, whose globalization indices will be analysed later in this paper: “*Globalization describes the process of creating a network of connections among actors at intra- or multi-continental distances, mediated throughout a variety of flows between entities including people, information and ideas, capital and goods. Globalization is a process that erodes national boundaries, integrates national economies, cultures, technologies and governance, and produces complex relations of mutual interdependence*” (Gygli et al., 2019).

Globalization is a subject of interest for representatives of many scientific disciplines. They are interested in the essence of globalization, its characteristics, causes, consequences, beneficiaries and losers, etc. Over time, they have become interested in its measurement, which is now one of the main aspects of globalization studies. If we say that some countries are less and others more globalized, then we need to know how we measure globalization.

Numerous measures of globalization have emerged in the literature. The first was the globalization index developed by Kearney and “Foreign Policy” in 2001. It was not published until 2006. A small number of countries were surveyed. The authors of the above index identified 12 indicators that have become a basis for measuring globalization (*Measuring...*, 2001). In 2002, the Globalization Index was developed by the Centre for the Study of Globalization and Regionalization (CSGR) at the University of Warwick in the United Kingdom. It was published between 2002 and 2004. The authors of this index adopted slightly more (16) indicators (Lockwood, 2004; Lockwood, Redoano, 2005). In 2008, one based on 11 indicators was released, the Maastricht Globalization Index – MGI (Figge, Martens, 2014), two years later followed by one built on 21 indicators, the New Globalization Index (NGI) by P. Vujakovic (2010). In recent years, other indices of globalization have also been developed (Martens et al., 2015).

There is another important measure of globalization that we have not mentioned yet – the KOF Globalization Index, developed in 2002. Its name derives from the name of the research institute (Konjunkturforschungsstelle) where it was devised. It was introduced by Dreher in 2006, updated in 2008 (Dreher et al., 2008) and then again in 2018. The new revisited KOF Globalization Index was improved in many ways over the previous version. It now distinguishes between *de facto* and *de jure* measures along the different dimensions of globalization. As far as the economic dimension is concerned, it also discriminates between trade and financial globalization. The new index is based on more variables and uses time-varying weighting of these variables (Gygli et al., 2019).



## METHODOLOGY

The following research methods were used: historical, literature, descriptive analysis and statistical.

The statistical data used in this paper are adopted from the KOF Globalization Index which is updated annually and which covers a much higher number of indicators. Its advantage is that it measures globalization for every country in the world from 1970, unlike the other mentioned globalization indices. The KOF Globalization Index has become the most often used globalization index. It successfully measures globalization and evaluates its consequences (Potrafke, 2015). The KOF index has been used in many studies. It is the most reliable (Villaverde, Maza, 2011) and most highly rated (Casseli, 2008; Gozgor, 2018) measure of globalization.

To describe the current level of globalization, the 2018 KOF Globalization Index (rankings for the year 2016) was adopted, and the previous indices were used to show the level of globalization and its changes in the years 1990–2018. The KOF index has three globalization dimensions, namely: economic, social and political. As a result, in addition to the global index of globalization, 3 sub-indices were created. All were calculated on the basis of several indicators with a specific weighting. The details of the methodology are presented on the KOF website (KOF).

The data used in this paper were obtained also from the World Bank Database (information about population, area and number of people per square kilometre of individual countries). The time range of the study is 1990–2018.

## LEVEL OF GLOBALIZATION<sup>3</sup>

The latest KOF index (2018) and sub-indices for highly developed countries and their positioning in the world ranking are given in Table 1.

The level of globalization of highly developed countries is very high, and the first 12 positions in the world ranking are occupied by these countries. Sixteen of the countries are in the top twenty. Switzerland is the most globalized country according to KOF (2018), followed by the Netherlands and Belgium, each with more than 90 points (0–100). The next 16 countries have 80 to 90 points, with the top three (Sweden, United Kingdom and Denmark) with almost 90 points and next 6 countries with over 85 points. The final 2 countries (Japan and New Zealand) have less than 80 points. In the lowest positions in this group are 4 non-European

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<sup>3</sup> A large part of this and the next point – due to sharing the same study group and time range – is identical to the corresponding points included in the study “Globalization and economic growth in highly developed countries” (Swadźba, 2020).

countries, with only Canada ranked higher (16<sup>th</sup> position). The difference between the most and the least globalized country is not very large – about 13 points.

**Table 1. 2018 KOF Globalization Index**

Globalization Index	Economic Globalization	Social Globalization	Political Globalization
1.Switzerland 91.17	2.Netherlands 89.01	1.Luxembourg 92.11	1.Italy 98.25
2.Netherlands 90.97	3.Belgium 88.56	2.Norway 91.12	2.France 98.16
3.Belgium 90.50	4.Luxembourg 88.34	4.Switzerland 90.64	3.Germany 97.56
4.Sweden 89.88	6.Ireland 87.86	5.Canada 90.12	4.Netherlands 97.46
5.UK 89.35	8.Switzerland 86.70	6.UK 90.11	5.Spain 97.45
6.Denmark 89.14	11.Denmark 83.77	7.Denmark 89.87	6.UK 97.38
7.Austria 88.95	14.Sweden 82.52	8.Sweden 89.82	7.Sweden 97.31
8.Germany 88.17	17.Austria 82.03	9.Ireland 89.26	8.Switzerland 96.17
9.France 87.20	18.Finland 81.70	10.Austria 88.74	9.Belgium 96.12
10.Finland 86.99	22.UK 80.56	13.Germany 87.57	10.Austria 96.08
11.Norway 86.40	24.Germany 79.39	14.Australia 87.33	11.Denmark 93.77
12.Spain 85.30	25.Portugal 79.19	15.Belgium 86.69	12.USA 93.72
15.Ireland 84.64	28.France 77.18	18.Netherlands 86.44	13.Finland 93.55
16.Canada 84.38	30.Norway 77.13	19.NewZealand 86.32	16.Canada 92.80
17.Luxembourg 83.73	36.Spain 75.32	20.France 86.25	20.Portugal 91.86
19.Portugal 83.52	48.Canada 70.21	22.Finland 85.62	26.Norway 90.93
22.Italy 82.59	49.NewZealand 70.21	23.USA 85.45	29.Australia 89.88
23.USA 82.10	53.Italy 68.75	31.Spain 83.14	31.Japan 89.22
24.Australia 81.58	62.Australia 67.54	45.Japan 80.82	65.NewZealand 77.66
36.Japan 78.37	65.USA 67.12	46.Italy 80.78	67.Ireland 76.79
39.NewZealand 77.91	74.Japan 65.08	50.Portugal 79.51	86.Luxembourg 71.17

Source: KOF.

The Netherlands is ranked first in the economic globalization index, Belgium second and Luxembourg third (the Benelux countries). Together with the next 7 countries they each have more than 80 points. Of the countries with fewer points: 7 have between 70 and 80, with 4 less than 70. Non-European countries and Italy fill the final 6 positions. The difference between the most and the least globalized countries in the economic globalization ranking is similar to the overall ranking. However, it is worth noting that only 5 countries are also in the overall top ten and 9 in the top twenty. The last 4 countries are in the lower half of the top hundred, with Japan in 74<sup>th</sup> place. Almost all the countries have lower positions than in the overall ranking.

In the ranking of social globalization, Luxembourg is in first place and together with Norway, Switzerland, Canada and the United Kingdom have more

than 90 points each. Only Portugal has less than 80 points, lying in 50<sup>th</sup> position in the world ranking. There are 9 countries in the top ten and 15 countries in the top twenty. The analysed group of countries have better positions than in the previous ranking, which is true especially of non-European countries (Canada ranks 5<sup>th</sup>). The difference between the most and the least globalized countries is almost the same as in the previous rankings.

The situation is more diverse compared to the previous sub-indices in the ranking of political globalization. Italy is the most globalized country (98.35), but the next 6 countries have almost the same number of points. Sixteen countries have over 90 points, with as many as 15 countries in the top twenty and 10 in the top ten! Many countries are positioned high in this ranking, while low positions are occupied by New Zealand, Ireland and Luxembourg. The last in this group, Luxembourg, is in 86<sup>th</sup> position with about 70 points, 27 points less than Italy (the largest difference).

It is also worth mentioning the *de facto* and *de jure* indices. For the analysed group of countries, the *de jure* globalization index is 19 times higher than the *de facto* globalization index. The biggest difference is for Luxembourg (19 points), the USA and Japan (12 points), Portugal and Spain (10 points). Switzerland and Ireland are exceptions. The former has a rather small difference, while the latter is much higher with as many as 7.5 points. The situation is similar for economic globalization, where the *de jure* index is higher in 18 countries. The differences are even greater in the USA and Japan, at 30 points, and in Australia and Canada, at about 20 points. Diversity also occurs in the case of social and political globalization.

#### CHANGES IN THE LEVEL OF GLOBALIZATION

The KOF provides information that allows us to identify the changes which have taken place in the level of globalization in highly developed countries since the 1990s. See Table 2.

The increase in the level of globalization took place in all the countries. In the 1990–2018 period, the index increased most in Portugal, Spain and Japan (by over 20 points), which means in less globalized countries. This increase is higher than achieved for the world (17.75%) and for high income countries (about 15%). The changes are noticeably larger in terms of percentage points, e.g. over 30% (the highest in Japan – 36.6%). They are similar to the changes for the world (40%) and higher than in high income countries (27%). The lowest increases in the level of globalization (less than by 10 points) occur in the results for Luxembourg, Belgium, Norway, Denmark and the United Kingdom. These changes are similar in terms of percentage points, at about 11–12%.

**Table 2. KOF Globalization Index 1990–2018**

Country	1990	1995	2000	2005	2010	2018
Switzerland	79.00	83.40	88.71	88.64	89.23	91.17
Netherlands	80.25	84.06	87.62	87.99	88.96	90.97
Belgium	81.11	85.73	87.88	88.54	90.02	90.50
Sweden	78.24	84.16	88.23	89.03	90.02	89.88
UK	79.49	83.46	87.11	88.23	88.32	89.35
Denmark	79.38	83.64	87.32	88.35	88.17	89.14
Austria	75.80	82.53	87.23	88.27	88.04	88.95
Germany	73.11	79.14	85.29	86.91	86.90	88.17
France	75.66	79.66	84.20	84.83	86.30	87.20
Finland	72.41	80.16	85.14	85.05	85.69	86.99
Norway	76.75	81.45	84.75	84.30	85.60	86.40
Spain	64.38	74.83	80.94	81.98	82.95	85.30
Ireland	73.74	79.42	82.91	83.63	84.68	84.64
Canada	71.56	78.29	83.18	82.32	83.04	84.38
Luxembourg	74.58	78.58	81.82	83.40	87.37	83.73
Portugal	61.28	73.55	79.49	80.42	81.93	83.52
Italy	69.44	73.84	80.90	79.78	80.87	82.59
USA	70.59	75.01	78.19	79.48	80.18	82.10
Australia	68.35	74.59	78.60	79.55	81.51	81.58
Japan	57.51	60.05	68.68	71.73	74.51	78.37
New Zealand	67.21	72.95	78.03	76.85	78.54	77.91
World	43.94	48.40	52.86	56.78	60.11	61.69
High income	57.39	62.34	67.07	70.05	72.54	72.75

Source: KOF.

The largest increase was recorded by countries with low or average levels of globalization in the base year. The smallest change was recorded by countries with rather high levels of globalization in 1990. As a result, the differences between them decreased. The difference between the most and the least globalized is 23.6 points for 1990, with a decrease to 13.3 points for 2018. Hence, convergence in the level of globalization is apparent in highly developed countries.

The increases in the level of globalization are differentiated. The highest occur in the last decade of the 20<sup>th</sup> century, rather low in the first decade of the 21<sup>st</sup> century (even a decrease in New Zealand) and the lowest in the second decade of the 21<sup>st</sup> century (a large decrease in Luxembourg and a rather small decrease in New Zealand, Italy, Sweden and the USA).

The positions of individual countries in the globalization ranking in selected years are shown in Table 3.

**Table 3. Ranking of highly developed countries**

1990	1995	2000	2005	2010	2018
Belgium	Belgium	Switzerland	Sweden	Belgium	Switzerland
Netherlands	Sweden	Sweden	Switzerland	Switzerland	Netherlands
UK	Netherlands	Belgium	Belgium	Sweden	Belgium
Denmark	Denmark	Netherlands	Denmark	Netherlands	Sweden
Switzerland	UK	Denmark	Austria	UK	UK
Sweden	Switzerland	Austria	UK	Denmark	Denmark
Norway	Austria	UK	Netherlands	Austria	Austria
Austria	Norway	Germany	Germany	Luxembourg	Germany
France	Finland	Finland	Finland	Germany	France
Luxembourg	France	Norway	France	France	Finland
Ireland	Ireland	France	Norway	Finland	Norway
Germany	Germany	Canada	Ireland	Norway	Spain
Finland	Luxembourg	Ireland	Luxembourg	Ireland	Ireland
Canada	Canada	Luxembourg	Canada	Canada	Canada
USA	USA	Spain	Spain	Spain	Luxembourg
Italy	Spain	Italy	Portugal	Portugal	Portugal
Australia	Australia	Portugal	Italy	Australia	Italy
New Zealand	Italy	Australia	Australia	Italy	USA
Spain	Portugal	USA	USA	USA	Australia
Portugal	New Zealand	New Zealand	New Zealand	New Zealand	Japan
Japan	Japan	Japan	Japan	Japan	New Zealand

Source: KOF.

We can see that there were no major changes, either up or down. The leading places are most often occupied by: Belgium, Netherlands, Switzerland, Sweden and Denmark. Japan, New Zealand, USA and Australia, i.e. non-European countries, are at the bottom of the table, while Canada is always a little higher. Spain, Portugal, Germany, Switzerland and Finland have improved their position significantly in the 2018 ranking in comparison to the 1990 ranking. Spain has even moved up by 7 places. Luxembourg, Norway, New Zealand and the USA have moved down (by 3–4 places).

### REASONS FOR DIFFERENTIATION IN GLOBALIZATION LEVEL

The KOF globalization indices for highly developed countries and their positions in the world ranking show that medium-sized countries achieve a higher level of globalization than large countries. This is why the influence of such factors as land area (square kilometres), population number and population density (people

per square kilometre) for each country were examined in terms of diversification of globalization. They were analysed by regressing the KOF Index of Globalization (2018) as a dependent variable against each of the above mentioned factors as independent variables. Regression functions ( $y$ ) and the coefficient of determination ( $R^2$ ) for these relationships in 2018, both for the general globalization index and the economic globalization index, are shown in Table 4.

**Table 4. Regression functions ( $y$ ) and coefficient of determination ( $R^2$ )**

Globalization factors	Regression functions	Coeff. of determination ( $R^2$ )
Land area and general globalization index	$y = -0.0004x + 86.469$	$R^2 = 0.1119$
Land area and economic globalization index	$y = -0.0014x + 80.567$	$R^2 = 0.3233$
Population number and general globalization index	$y = -0.0172x + 86.614$	$R^2 = 0.1017$
Population number and economic globalization index	$y = -0.0526x + 80.834$	$R^2 = 0.2414$
Population density and general globalization index	$y = 0.0091x + 84.478$	$R^2 = 0.1058$
People density and economic globalization index	$y = 0,0212x + 75.279$	$R^2 = 0.1475$

Source: own study based on KOF and World Bank Database.

The above results show that there is a negative correlation between the land area and the population of a country and the level of globalization, as well as a positive correlation between the population density and the level of globalization. In general, the relationship between the factors examined is greater for the economic globalization index than for the general globalization index. The relationship between these factors is in line with expectations, however it is rather low. This means that small and medium-sized countries do not have to be more open and globalized in comparison with large ones, and we can find several examples of this among the analysed highly developed countries. There are many more factors that affect globalization.

The KOF globalization indices also show that highly developed European countries are more globalized than non-European countries (especially in the economic dimension of globalization). This means that the distance between the analysed groups of countries is a very important factor, which would seem to be obvious. The distance between countries affects transport costs, and thus it affects the profitability of economic cooperation between them. This means that it can develop more easily between neighbouring countries.

Globalization is certainly one of the major socio-economic processes of recent decades, but for European countries there is one more: international economic integration. Economic integration has strengthened and intensified globalization. The process has undoubtedly contributed to increased flows of goods, services, capital and people (“four economic freedoms”). The common market has played an important role here. The economic aspect of globalization has been increased, as well as the

social (through personal contacts) one and political (the position of these countries in the world) one. The relationship between integration and globalization seems to be evident (Swadźba, 2007). The European countries which have started the process of international economic integration are the most globalized. The level of globalization in the countries that remained outside this process was initially much lower, but following integration with the European Union, the globalization process has accelerated. The integration process has contributed to increasing the levels of their globalization indices. The countries that remain outside this process are characterised by the lowest levels of globalization, which can be seen by analysing the KOF data (Swadźba, 2018). Hence we can say that international economic integration is also a factor affecting the higher level of globalization of European countries.

## CONCLUSIONS

Studies on the globalization of highly developed countries allow us to draw the following conclusions:

There is no doubt that highly developed countries are the most globalized countries in the world. It does not mean that the level of globalization in individual countries is the same. This level varies, but the differences between the countries are not large. The medium-sized European countries are the most globalized, while non-European countries are the least globalized. Their position is diverse as far as the economic, social and political dimensions of globalization are concerned.

The level of globalization of these countries has increased significantly, although the changes in the rankings varied. The highest increase was in the less globalized countries, the lowest in the most globalized ones. As a result, the differences between them have significantly decreased. Thus we can see convergence in the level of globalization in the group of countries analysed. Therefore, the hypothesis was verified positively.

The differences in the level of globalization of individual highly developed countries result from area, population number (negative correlation) and population density (positive correlation). Another reason for such differences is the geographical location (distance from other highly developed countries) and participation in the integration process (countries that take part in it are noticeably more globalized).

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### Summary

The main goal of this paper is to show the level of globalization, its changes and the reasons of differentiation in highly developed countries. The advanced hypothesis states that a convergence process is taking place in the sphere of globalization. The research methods used were the following: historical, literature, descriptive analysis and statistical methods. Statistical data used in this paper come from KOF Globalization Index, and the World Bank Database. The research covered 16 countries of Western Europe, the USA, Canada, Japan, Australia and New Zealand. The time range of the research is 1990–2018. The conclusions of the study are as follows: highly developed countries are the most globalized. The level of globalization in individual countries varies, but the differences are not considerable. Medium-sized European countries are the most globalized, while non-European countries are the least globalized. The index of *de jure* globalization is much higher than the index of *de facto* globalization, especially in non-European countries. Starting from the 1990s, the level of globalization has increased significantly, although it has varied considerably. The highest increase was in the less globalized countries, the lowest in the most globalized ones. As a result, the differences between them have significantly decreased. Thus we can see the convergence in the sphere of globalization in highly developed countries. Differences in the level of globalization relate to land area, population number, population density, geographical location (distance from other highly developed countries) and participation in the integration process (countries that take part in it are virtually more globalized).

*Keywords:* globalization, changes in the level of globalization, highly developed countries.

## Globalizacja w krajach wysoko rozwiniętych i przyczyny jej zróżnicowania

### Streszczenie

Głównym celem artykułu jest pokazanie zmian w poziomie globalizacji krajów wysoko rozwiniętych oraz przyczyn jego zróżnicowania. Postawiono hipotezę, że w krajach tych ma miejsce proces konwergencji w sferze globalizacji. Wykorzystano następujące metody badawcze: analiza historyczna, literatury, opisowa oraz metody statystyczne. Dane statystyczne wykorzystane w artykule pochodzą z KOF Globalization Index oraz World Bank Database. Badaniami objęto 16 krajów Europy Zachodniej oraz USA, Kanadę, Japonię, Australię i Nową Zelandię. Zakres czasowy badań to lata 1990–2018. Wnioski wynikające z badań są następujące: kraje wysoko rozwinięte są najbardziej zglobalizowane. Stopień globalizacji poszczególnych krajów jest zróżnicowany, ale różnice te nie są duże. Najbardziej zglobalizowane są kraje europejskie średniej wielkości, najmniej kraje pozaeuropejskie. Indeks globalizacji *de jure* jest znacznie wyższy w porównaniu z indeksem *de facto*, zwłaszcza w krajach pozaeuropejskich. W latach 1990–2018 poziom globalizacji zwiększył się znacznie, chociaż wzrost ten był zróżnicowany. Największy wzrost miał miejsce w krajach naj-


mniej zglobalizowanych, a najmniejszy w krajach najbardziej zglobalizowanych. W efekcie różnice między nimi znacznie się zmniejszyły. Dlatego możemy mówić o procesie konwergencji w sferze globalizacji w krajach wysoko rozwiniętych. Na różnice w poziomie globalizacji poszczególnych krajów wpływają takie czynniki, jak: obszar kraju, liczba ludności, gęstość zaludnienia, położenie geograficzne (odległość od innych krajów wysoko rozwiniętych) oraz uczestnictwo w procesie integracyjnym (kraje, które uczestniczą w nim, są zdecydowanie bardziej zglobalizowane).

*Słowa kluczowe:* globalizacja, zmiany w poziomie globalizacji, kraje wysoko rozwinięte.

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## **Three-Seas Initiative countries and their competitiveness in Europe**

### INTRODUCTION

The Three-Seas Initiative was launched in 2015 at the initiative of the presidents of Poland and Croatia in order to establish cooperation in the fields of energy, transport, digital communications and economy. The boundaries of the region are designated primarily by the coastlines of the three seas: the Adriatic (in the south-west), the Baltic (in the north) and the Black Sea (in the south-east). The range of the region is determined not only by geographical boundaries, but also by shared historical experience and similar economic and geopolitical conditions of the countries in this area.

The region includes 12 Central European countries (112 million people). The declaration of these countries of 23 August 2016, signed in Dubrovnik, facilitates cooperation in the field of supra-regional projects, as well as cross-border cooperation between countries. Twelve countries constitute a large endogenous potential, used to a limited extent in shaping the socio-economic development of the region. The analysis of the literature on the subject indicates the links between the increase in

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the level of intellectual capital and the economic growth of individual countries. Economic growth is usually measured by changes in gross domestic product, while intellectual capital is determined by many factors, the selection of which (in the research aspect) depends on the type and direction of the analysis.

The main aim of the paper is to assess the regional specifics of the Three-Seas area in terms of defining competitive advantage of the whole region and its countries through development of relationships and changing their approach to a competitive paradigm for this area. The scientific discussion undertaken in this paper is related to such internal resources as ICT and human resources development (and its involvement in science and technology – measured by Human resources for science and technology) as well as innovativeness.

The paper is based on secondary research using literature studies. After literature analysis, the major indicators of development were chosen, considered beneficial in terms of decreasing historical economic developmental inequalities. Then, taking the abovementioned factors into consideration, the discrepancies between the Three-Seas countries in the period of 2006–2018 were analysed with the use of secondary data from Eurostat and other available sources. Apart from this, some other measures as well as recommendations for the countries in the region were included.

#### THE EVOLUTION OF ECONOMIC PROCESSES – FROM THE INDUSTRIAL ECONOMY TO THE NEW ECONOMY AND THE KNOWLEDGE-BASED ECONOMY IN TERMS OF DEFINING REGIONAL COMPETITIVE ADVANTAGE

Economy is primarily a material, technological, political, legal-organizational and socio-civilization category. It consists of both the real sphere and the sphere of regulation, covering a variety of phenomena and processes related to economic activity.

The growth of economy is referred to the real sphere of economy, which includes the material base of production along with natural resources, population and changes in its structure as well as manufactured production and consumption of goods. However, the term “economic growth” includes only an increase in the volume of production and consumption of goods and services, i.e. certain production factors and means of meeting needs. The development of capitalism has shifted research over “the nature and causes of the wealth of nations” from a family household to a capitalist company appearing in the form of various types of enterprises, thereby shifting emphasis on the driving forces of multiplying entrepreneur profits and domestic production – the wealth of nations, i.e. a long-term economic growth, as one should capture it in the modern economic language.

The research on the growth of economy breaks down the emphasis on the micro and macroeconomic determinants of growth, which can also refer to various scales of economic processes, such as a country or its individual regions,

the state and society. When using the term economic growth, we usually refer it to the national economy. Economic growth may also refer to a group of countries distinguished by various criteria, such as the European Union or even the entire global economy (Woźniak, 2004, pp. 9–10).

The development and foundation of the knowledge-based economy is directly related to the growing importance and dissemination of new information and communication technologies (which could be used to manage mass society using software and computers (Bell, 1973, p. 344), services and the building of an information society, as well as the approach to acquiring knowledge of the necessary competing processes (Lozano-Platonoff et al., 2004, p. 87). Information technologies are very close to creativity (Mitchell et al., 2003, pp. 27–28).

However, economic changes such as innovations related to the absorption of technological solutions (diffusion of innovations) would not be possible, or their spread would be unsatisfactory, if it was not for the quality of human capital. The microeconomic approach to the knowledge-based economy considers knowledge as a factor of competitive advantage (Kołodko, 2002, p. 155). The discussion of the character of competitiveness should be carried out by defining the phenomenon leading to the creation of the enterprise and its development capabilities, as a competing entity in a volatile environment (Kozmiński, Latusek-Jurczak, 2011, p. 29). Global changes in the flow of information and the approach to running a business have influenced the competitiveness of knowledge-based economies, in which increasingly frequently virtual solutions, mainly related to information (and its management), are created instead of conventional ones. Generally, it can be concluded that computers and electronic communication have enabled the emergence of virtual organizations and virtual chains (Franke, 2002, p. 94).

#### DEVELOPMENT OF INFORMATION TECHNOLOGIES AND INTELLECTUAL CAPITAL IN THE IMPROVEMENT OF COMPETITIVENESS

The development of information and communication technologies (ICT) has an impact on the growth of Gross Domestic Product (GDP). Studies on this issue, initiated in the second half of the 1990s, emphasized the increase in labour productivity (as well as highlighted the importance of ICT in industry and on the macro- and micro-scale. The subject of research was also the contribution of ICT to the convergence of developing and highly developed countries. With the development of technology, labour performance (productivity) increases, which in turn increases the efficiency of management processes, measured by productivity. Many studies characterize the positive impact of ICT on strong profit growth and the economic development of highly developed countries (Piatkowski, 2006, pp. 39–40; Oliner, Sichel, 2002). On the other hand, transition economies are characterized by a significantly lower return on invested capital in ICT solutions (Dewan, Kraemer,

2000, p. 552; Pohjola, 2001). Adequate knowledge resources accumulated through improving the efficiency of information processes play a special role in the process of adapting to changes in a competitive environment. They increase the company's possibilities in terms of adaptability and innovativeness of companies as conditions for survival in the market and achieving a competitive advantage.

However, it should be emphasized that ICT is not something that started 30 years ago. The development of ICT was initiated in the 19th century, beginning with the reproduction and collection of documentation, aided by the development of the typewriter, for example. The appearance of calculators and data processing methods (1883 – Charles Babbage's work on the differential machine "calculator of the time", 1887 – an American, Herman Hollerith, patented a calculating machine using punched cards as a data storage medium). Also, the revolutionary invention of the telegraph, which enabled sending information over long distances, caused a reduction in "distance" and a rapid increase, for the time, in the flow of information. The introduction of these innovative technical solutions had a significant impact on the way businesses operated. The 20th century was characterized by a very turbulent development of technology, in which we can distinguish four very different periods:

- 1880–1941 – development of modern administration: (introduction of typewriters).
- 1914–1957 – mechanization of offices, associated with the introduction of mechanization to offices, special attention being paid to work distribution and improvement of work efficiency. The scientific approach to management was emphasized.
- 1957–1980 – increasing importance of computers: in the period after the end of World War II, departments of central administration were transformed into computer centres.
- 1980–2000 – computer revolution: characterized by the development of personal computers and a broad access to the Internet. At that time, the importance of people and organizations and the integration of many different systems could be observed. ICT blurs the boundaries between organizations, groups or individuals (Bouwman et al., 2005, p. 29).

#### IMPORTANCE OF INNOVATION PROCESSES

According to Rogers (1983, p. 363), innovations in business organizations arise in the process of initiation and implementation. Initiation is information collection, conceptualization and planning of innovation adoption, and consists in designing the stages of agenda setting, which are an attempt to define organizational problems justifying the need to implement innovation, as well as to identify relevant innovations available in the environment at this stage. Matching is a link between the problem created with innovation and that between the plan and the project. The

second stage is implementation (these are all activities related to the implementation of innovation), re-definition/restructuring, when innovation is adapted to a specific problem situation and, in connection with the implementation, the organizational structure of the company is adapted.

However, it should be remembered that a change in the structure, strategy and technology must be related to solutions in the area of human resource management (Czubasiewicz, 2007, p. 135). Clarification is the right relationship between an innovation and an organization, where innovation should be introduced in a full and correct way. The last element is routinization, where innovation ultimately loses its separateness and becomes an element in the current operations of the organization.

In analysing this phenomenon from the perspective of the essence and importance of ICT in an economic organization, as an innovative approach to the management process, it can be seen that the process of diffusion of innovation associated with the introduction of ICT is becoming increasingly important in this context. The organization is developing the last three phases (adaptation, introduction and implementation), which are an extension of the approach (Cozijnsen, Vrakking, 2003) characterized by research, development, diffusion, adaptation, introduction and implementation of new solutions.

It should be noted that there are many factors that affect the above-mentioned processes regarding the implementation of ICT solutions in the organization and its proper use by the employees. These are mainly (Bouwman et al., 2005, p. 15):

- organizational factors – all factors related to the nature of organization and business environment in which the company operates,
- technological – all elements of activity related to information and communication technology (software, devices, networks or standards),
- economic – cost factors as well as profit factors relevant to the decision-making process in the field of ICT and having direct impact on them,
- end user perspective – variables characterizing employees in an organization using technology, their position, tasks as well as the psychological determinants associated with making decisions in the field of ICT in the context of using these solutions in the company.

The techno-economic paradigm has changed the current understanding of economics by introducing new rules and vocabulary, an example being the “new economy”, with its many interpretations. However, the general understanding of this concept refers to a change in the understanding of economics in the context of changes in information technology. These changes are particularly significant from the perspective of the hitherto prevailing understanding of the economy of mass production in the 1980s (Kudyba, Diwan, 2002, p. 6). The concept of economic evolution, described earlier by Thorstein Veblen, is based on constantly changing institutions (technological institutions and ceremonial institutions) and it describes a dichotomous set of institutions that confronts the unchanging human nature (Ekelund, Hébert, 1997, p. 415).



This process is inseparable from education; you can look at it as an investment in people who are “carriers” of human capital, capable of adapting knowledge from the outside world (Nelson, Phelps, 1966, p. 75). Accumulation of the appropriate quality of human capital is a guarantee of development and a proper use of technological achievements that create the opportunity to improve the quality of life. Some channels related to technological diffusion are directly related to international trade and foreign direct investments (FDI) (Keller, 2004, pp. 752–753). Diffusion of knowledge is of global importance, as well as locally in relation to regions and cities, and may also lead to the formation of geographically limited economic clusters in a particular area.

In the wider, global scope, the spread of technology and knowledge through foreign trade, the development of telecommunications and the Internet all provide access to the same scope of knowledge (Keller, 2002, pp. 120–121).

## RESEARCH METHODS

In this study, three categories were used as measures of intellectual capital potential creating the ability to build competitive advantage and the competitiveness of countries (Szajt, 2013, pp. 144–145).

One is the number of employees working in Knowledge-Intensive Services (KIS), which is directly related to the creation of business innovations based on technological changes in the areas of new service concepts, new client interfaces and new service delivery systems (Hertog, 2000, p. 495), as well as the importance of knowledge intensity in the development of the knowledge based economy.

Human resources for science and technology (HRST) is of great importance in raising the competitiveness of countries, and it is synonymous with the survival and development of economies, and therefore it is important from the perspective of the country’s characteristics and its ability to build competitiveness (Chou et al., 2008).

On the other hand, the innovative activity of a society inhabiting a given area (country) is usually measured by the number of patents submitted by residents registered by the European Patent Office – the third category of interest to the author.

## INTELLECTUAL CAPITAL AS A FACTOR OF CAPABILITY FOR ACHIEVING COMPETITIVE ADVANTAGE IN THE THREE-SEAS AREA

The area of the Three-Seas located in the central part of Europe is crucial not only for the countries between the three seas. It is justifiable to emphasize the fact that this area becomes a link between the east and the west, which is conditioned

by the developed competitive potential of individual countries implementing the Three-Seas Initiative. The area simultaneously brings northern Europe closer with the south, through jointly implemented infrastructure investments that integrate this project and which also forms an element increasing the competitiveness of the entire area as well as of individual countries, something that is becoming ever more important.

It should be noted that knowledge, which is inextricably linked to human capital, is only a part of a wider phenomenon known as intellectual capital, defined as the wealth of the organization. Intellectual capital is perceived as the main element active in the process of globalization of economies. It has changed the essence of understanding the concept of an organization's wealth – both in terms of its use and creation (Jarugowa, Fijałkowska, 2002, p. 7). The intellectual capital of an organization can be divided into the unconscious part, which includes organizational and social capital, and the conscious part, i.e. human capital (Żemigala, 2009, p. 169). Table 1 presents the percentage of employees in high-tech industries among the countries of the Three-Seas region.

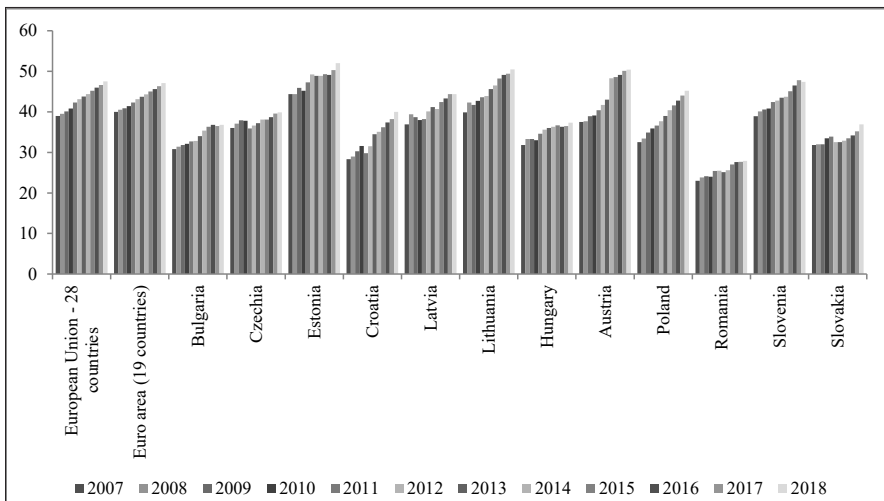
**Table 1. Human resources in science and technology (HRST)  
– Three-Seas countries 2007–2018**

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union – 28 countries	39	39.5	40.1	40.8	42.3	43.1	43.8	44.4	45.2	46	46.6	47.5
Euro area (19 countries)	40	40.5	40.9	41.4	42.3	43.1	43.7	44.3	45	45.6	46.3	47.1
Bulgaria	30.8	31.4	31.8	32.1	32.7	32.8	34	35.4	36.3	36.8	36.5	36.8
Czechia	36	37.1	37.9	37.8	35.9	36.6	37.2	38.1	38.1	38.7	39.6	39.9
Estonia	44.4	44.4	45.9	45.2	47.3	49.2	48.9	48.9	49.3	49.1	50.3	52
Croatia	28.3	29	30.3	31.6	29.8	31.5	34.5	35.1	36.2	37.4	38.2	40
Latvia	36.9	39.4	38.7	38	38.2	40.1	41.2	40.7	42.4	43.3	44.4	44.4
Lithuania	39.9	42.3	41.7	42.7	43.6	43.9	45.6	46.5	48.2	49.1	49.4	50.5
Hungary	31.8	33.3	33.3	33	34.6	35.6	36	36.3	36.7	36.3	36.5	37.3
Austria	37.5	37.7	38.9	39.1	40.4	41.7	43	48.3	48.6	49.1	50.1	50.4
Poland	32.5	33.4	34.9	35.9	36.6	37.7	39	40.4	41.6	42.8	44	45.2
Romania	23	23.8	24.1	24	25.4	25.5	25.1	25.6	27	27.6	27.7	27.9
Slovenia	38.9	40.1	40.6	40.8	42.4	42.8	43.5	43.7	45.1	46.5	47.8	47.4
Slovakia	31.8	32	32	33.5	33.9	32.5	32.5	32.9	33.5	34.2	35.2	36.9

Source: Eurostat (Percentage of active population, people with tertiary education (ISCED) and/or employed in science and technology – aged 25 to 64 years) <https://ec.europa.eu/eurostat/databrowser/view/TSC00025/default/table> (2019.05.23).

In analysing Table 1, it should be emphasized that in 2018 six countries belonging to the Three-Seas region reached a state where employment in the field of science and technology was similar to that occurring in the European Union, but with Lithuania, Estonia and Austria hiring more workers in this area, which shows that they are becoming leaders in this field of the knowledge-based economy.

Figure 1 shows the employment growth rate in the technology sectors in 2007–2018, where it can be seen that the increase in employment from the science and technology sector is similar to the dynamics observed in the entire European Union.



**Figure 1. Growth dynamics in Human Resources in Science and Technology (HRST) – Three-Seas countries 2007–2018**

Source: Eurostat (*Percentage of active population, people with tertiary education (ISCED) and/or employed in science and technology – aged 25 to 64 years*). <https://ec.europa.eu/eurostat/databrowser/view/TSC00025/default/table> (2019.05.23).

However, it should be noted that Romania and Slovakia cannot maintain the pace of employment, which in the long run may cause problems in growth and competitiveness for these countries. Another very important indicator (Table 2) is the percentage of employees in the medium-high technology manufacturing sectors and knowledge-intensive service sectors (KIS), which characterizes the structure of employees in the service sector based on high technology and knowledge.

According to Table 2, in 2018 countries such as Slovakia, Slovenia, Czechia and Hungary are leaders in this area. These countries are leading in the field of services based on high technologies and knowledge, which is the basis for building their competitive position. Characterizing the employment structure in the high technology and knowledge sectors in the Three-Seas area, the visible effect of this employment structure is the number of patents submitted to the EPO in individual countries (Table 3).

**Table 2. Employment in high- and medium-high technology manufacturing sectors and knowledge-intensive service sectors – Three-Sea Countries 2007–2018**

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union – 28 countries	5.9	5.6	5.5	5.6	5.6	5.6	5.7	5.7	5.8	5.8	5.8
Euro area (19 countries)	6.2	6.1	5.9	6	6	6	6	6.1	6.1	6.1	6.1
Bulgaria	4.2	3.6	3.3	3.4	3.6	3.9	3.7	3.9	4	3.8	4
Czechia	10.2	9.5	9.5	9.9	10.6	10.5	11.2	11.2	11.5	11.4	11.3
Estonia	4	4.1	3.5	4.4	4.2	4.1	3.5	3.6	4	3.8	4.1
Croatia	3.8	3.3	3.1	3.8	3.8	3.6	3.3	3.2	3.4	3.7	3.5
Latvia	1.9	1.4	1.3	1.3	1.5	1.8	1.6	1.6	1.8	1.7	1.6
Lithuania	2.1	2.1	1.8	1.7	1.8	1.8	1.9	2.1	2.1	2.2	2.2
Hungary	8.6	7.8	8.2	8.7	8.4	8.5	8.9	9.1	9.5	9.8	9.9
Austria	5	5	5.1	5.5	5.8	5.8	5.9	6.2	6	5.9	6.3
Poland	5.4	4.8	4.6	4.8	4.9	5	5.2	5.3	5.7	5.9	5.9
Romania	5	4.6	4.4	4.7	4.5	4.8	5.3	5.6	5.8	5.9	6.4
Slovenia	9.1	8.5	8.6	8.2	7.8	8.3	8.6	9.4	9.6	9.8	10.2
Slovakia	10.2	8.6	8.6	9.7	10.2	9.8	9.4	10.6	10.8	11.2	11.3

Source: Eurostat (*The definition of high- and medium-high technology manufacturing sectors and of knowledge-intensive services is based on a selection of relevant items of NACE Rev. 2 on 2-digit level and is oriented on the ratio of highly qualified working in these areas*) <https://ec.europa.eu/eurostat/databrowser/view/TSC00011/default/table> (2019.05.23).

Table 3. Patent applications to the European Patent Office (EPO) by priority year  
– Three-Seas Countries 2006–2017

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
European Union – 28 countries	58 408	58 578	57 050	56 815	56 770	57 446	56 772	56 757	56 753	57 237	55 984	54 649
Euro area (19 countries)	48 433	48 319	47 068	46 994	46 672	47 004	46 163	45 886	45 624	46 036	44 870	43 571
Bulgaria	27.1	12.2	18.7	15.8	17.0	26.4	33.8	39.8	47.4	31.9	31.1	29.3
Czechia	152.9	189.3	209.6	176.1	192.6	222.8	232.0	250.6	269.9	295.4	318.7	357.4
Estonia	21.2	28.2	35.3	45.0	38.9	27.9	23.7	27.9	24.2	38.3	33.0	36.3
Croatia	35.5	31.2	28.9	22.0	30.3	17.0	19.4	18.5	14.6	17.9	21.1	19.9
Latvia	16.4	15.7	22.8	18.7	15.8	17.9	27.1	67.2	:	26.2	21.6	22.3
Lithuania	9.7	9.8	16.9	8.3	15.9	18.9	32.6	40.6	48.9	24.5	19.2	21.6
Hungary	165.0	191.1	181.2	184.4	195.5	221.6	207.8	215.6	222.3	205.2	201.3	196.8
Austria	1750.3	1722.0	1626.2	1711.3	1770.5	1800.3	1863.0	1913.5	1961.2	2001.6	2025.2	2029.6
Poland	140.3	201.8	233.7	291.6	361.4	384.8	483.3	547.2	609.2	578.4	627.3	686.6
Romania	20.2	32.6	33.5	31.1	34.6	60.4	71.6	85.1	101.9	93.5	98.9	99.6
Slovenia	100.4	120.1	138.9	123.3	106.3	112.1	126.7	127.9	135.1	119.1	112.4	114.3
Slovakia	40.4	38.9	36.9	28.9	46.5	54.8	44.5	49.8	:	41.9	54.2	55.1

Source: Eurostat (The data shows the total number of applications per country. If one application has more than one inventor, the application is divided equally among all of them and subsequently among their countries of residence, thus avoiding double counting). [https://ec.europa.eu/eurostat/databrowser/view/TSC00009/default/table\(2019.05.23\)](https://ec.europa.eu/eurostat/databrowser/view/TSC00009/default/table(2019.05.23)).

The best in this context is Austria which takes full advantage of the accumulated competitive potential in the high technology sectors. This translates into a record number of innovative patents submitted to the EPO. Poland occupies the second position in the ranking, nevertheless it is not a satisfactory position because the country has a significant base in high technology and science.

In some areas, the Three-Seas countries already show superior performance. When comparing research and development expenses (in EUR per person) in 2006 and 2016, it can be seen that the average R&D expenditure by the Three-Seas area increased by 72.9%. At the same time, the amount for the entire EU increased by 36.2%. The largest increases were noted in Bulgaria (230.2%), Slovakia (193.1%) and Poland (173.5%) (Konkel, 2018, p. 26).

The analysis shows that the Three-Seas countries have a significant competitive potential, which in the near future can be fostered by intensifying and integrating the actions of governments of the countries forming the entire structure. An important trend in the activities of companies from these countries is the dynamics of increase in the number of employees in the field of science and technology, which indicate the direction of development for individual countries. It should also be emphasized that this region is characterized by a significant high level of entrepreneurship and innovation (which is reflected in the number of patents filed in patent offices). This is a good predictor of growth and development for the entire region. In this context, an important element in building the competitive position of the countries belonging to the Three-Seas is a significant increase in employment in the technology manufacturing sectors and knowledge-intensive service sectors, especially among small and medium enterprises, which in this case will generate innovative solutions in the field of IT services and others related to them.

Thanks to the concept of cooperation in the Three-Seas area and initial infrastructure investments, the countries of Central and Eastern Europe can achieve prosperity and economic resilience. The effect of cooperation in the first phase of activities, focused on infrastructure activities, i.e. the construction of roads and railways, can be translated into further activities focused on digital innovation. After catching up with Western Europe, in terms of infrastructure, the countries of the region can, thanks to agreements, create conditions for developing specializations in the field of high-technology innovations. Accelerated programs and the construction of regional technology centres can contribute to increasing the importance of the knowledge-based sector. This should allow a break with low growth industry based on cheap labour. It is possible with the assumption of a strong cooperation and achieving synergistic effects as a result. Investments on the basis of PPP projects and appropriate harmonization of projects should be on the list of priorities if this initiative is to be more than just a political manifesto without measurable actions. Another potential impulse could be the Belt and Road initiative, which, thanks to the involvement of China, can accelerate infrastructure projects and help in an earlier implementation of innovation assumptions in the

field of modern technologies. Ultimately, the Three-Seas countries should be able to gain a competitive advantage in many areas.

## CONCLUSIONS

In order to facilitate innovation, foster research and development, create more patents as well as develop knowledge-based companies, cooperation across the entire region is needed. Thanks to the proper financing in the mentioned fields, university cooperation with research and technological development centres, and the construction of innovation centres, there are opportunities to compensate for differences in development. IT education and access to teaching are of crucial importance, along with incentives for students and teachers in terms of education in the use of ICT, which is fundamental in creating business strategies that will increase the competitive advantage of the whole region. There is a need for equal financing of investments in the Three-Seas area, as well as substantive increases in initiatives in the field of public-private partnerships. According to the McKinsey report (Novak et al., 2018), it is recommended that intensified digitization could benefit from regional cooperation over a wide range of regional infrastructural projects, such as 5G networks.

The indicators shown earlier specify the strength and potential of Central and Eastern European countries. Strengthening this potential through properly targeted education and investments could lead to rapid economic development. The Three-Seas Initiative can strengthen the idea of European Union cohesion and reduce the development inequalities.

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### Summary

The paper shows the regional characteristics of the Three-Seas area in terms of defining the competitive advantage of the whole region and its countries through the development of relationships and changes in their approaches to the competitive paradigm in this area. The scientific discussion undertaken in this paper is related to internal resources in terms of ICT and human resources development (and its involvement in science and technology – measured by Human Resources for science and technology) as well as innovativeness. The authors have chosen indicators of development that could be beneficial in terms of decreasing historical economic developmental inequalities, with some differences between the Three-Seas countries being analysed for the period of 2006–2018. The secondary data was taken from Eurostat and other available sources. The regional strategy should focus on the knowledge-based economy, and the possibilities for rapid development in this area. This gives opportunities to make rapid progress in a region centrally located in Europe to generate great potential to strengthen accumulated resources and, in the nearest future, to create the possibility of becoming a hub connecting eastern and western Europe.

*Keywords:* regional development, regional competitiveness, evolution of economics processes.

## Kraje inicjatywy Trójmorza i ich konkurencyjność w Europie

### Streszczenie

W pracy przedstawiono regionalną charakterystykę obszaru Trójmorza pod względem określania przewagi konkurencyjnej całego regionu i jego krajów poprzez rozwój relacji i zmianę podejścia do konkurencyjnego paradygmatu tego obszaru. Dyskusja naukowa podjęta w tym artykule odnosi się do zasobów wewnętrznych związanych z rozwojem ICT i potencjału ludzkiego (i jego wpływu na naukę i technologię – mierzoną przez HRSC, czyli *Human resources for science and technology*), a także z innowacyjnością. Autorzy wybrali wskaźniki rozwoju, które mogą być korzystne pod względem zmniejszania historycznych nierówności rozwojowych pod względem gospodarczym, a różnice między krajami Trójmorza zostały przeanalizowane dla lat 2006–2018. Dane wtórne pochodzą z Eurostatu i innych dostępnych źródeł. Strategia regionalna powinna koncentrować się na gospodarce opartej na wiedzy, dającej możliwości rozwoju tego obszaru. Daje to możliwość szybkiego rozwoju regionu o centralnej lokalizacji w Europie, co stwarza doskonałą okazję do wzmocnienia zakumulowanych zasobów, a w najbliższej przyszłości daje szansę na stanie się łącznikiem między wschodem a zachodem w Europie.

*Słowa kluczowe:* rozwój regionalny, konkurencyjność regionów, ewolucja procesów ekonomicznych.

JEL: F23, O11, O19.

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## **The relationship between socio-economic development and labour market flexibility in EU countries**

### INTRODUCTION

Labour market flexibility refers to the presence of legal conditions that allow for the use of diverse forms of labour organization, employment and worktime. Such conditions have an impact on employee and entrepreneur capability to adapt to changing market realities by increasing labour market competitiveness (Boni, 2006, pp. 9–10). Employers operating in a flexible market adjust the size and structure of employment to their current and future business needs by aligning wages with labour efficiency. Employees in turn have no difficulty changing jobs or finding work, while employment agencies easily find occupation for the unemployed (Siek, 2012, p. 116).

Good labour market flexibility allows for a more rational utilization of the workforce and a reduction of per-unit labour costs, thereby improving the economic situation and creating new jobs. Better labour market flexibility drives economic transformations that occur as the workforce relocates and labour demand and supply are aligned with each other. Higher levels of labour market

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flexibility translate into better competitiveness and lower costs of interference with the operation of that market. Opponents of labour market flexicurity believe that it strengthens the employer's position on the labour market and at the same time limits employee rights. It also weakens the position of trade unions and destabilizes employment, reducing the sense of job security (Kwiatkowski, 2009, pp. 285, 293–299; read more: Michie, 2003).

At the end of the 20th century, it was shown that there is a correlation in the American economy between greater flexibility of the labour market and lower unemployment (Kwiatkowski, 2009). This led to calls for the European labour market to become more flexible in order to drive down unemployment. The relationship between labour market flexibility and unemployment has been corroborated by extensive empirical research. There is some evidence that labour market institutions and regulations (e.g., employment laws, collective bargaining laws, and social security laws) influence the unemployment level: for example Botero, Djankov, LaPorta, López-de-Silanes and Shleifer (2004) for a panel of 85 countries, Feldmann (2010) – 52 economies, Feldmann (2006) – 19 economies or Bernal-Verdugo, Furceri and Guillaume (2012) – 97 countries (Botero et al., 2004; Feldmann, 2010; Bernal-Verdugo et al., 2012). The results indicate that GDP in many countries could grow by 10–15% if unemployment was eliminated<sup>3</sup>. Nevertheless, the unemployment rate is severely affected by labour taxes and unemployment benefits, known as institutional factors of the labour market (Bernal-Verdugo et al., 2012, pp. 251–273).

The process by which employment arrangements became more flexible in the European economy started in 1980s, reaching its peak in the second half of the 1990s. This coincided with a downturn in economic growth and in employment figures, leading to a rise in unemployment. Enterprises operating in EU countries introduced internal regulations to allow for their alignment with economic changes and labour market transformations. Trade and sector negotiations moved down to the company level. Wage negotiations covered by collective bargains started to be held at the company level. Various forms of employment and work-time organization came into being at the time. As part of labour market deregulation, Great Britain undertook a reform of employment arrangements, economic overhaul, privatisation of state-owned enterprises, as well as measures to reduce labour taxation and curtail trade union rights. France introduced a 35-hour working week. Belgium followed by introducing a 38-hour working week, allowing a year-long holiday for qualification-improving purposes and worktime reductions for those over 50 years of age. Germany and the Netherlands, in turn, allowed their employees to choose the length of worktime (Jerzak, 2004, pp. 7, 9).

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<sup>3</sup> Exemplified by a survey of close to 100 countries, in which data for the period from 1985 to 2008 was scrutinized to show that part-time work also known as flexible working hours reduces unemployment considerably.

The growing importance of labour market flexibility for economy has resulted in a proliferation of research and publications on the subject. In order to evaluate labour markets in EU member states, this paper presents statistical data concerning selected indicators of labour market flexibility in the EU. The aim of the article is to compare labour market flexibility in EU countries on the basis of several of the many available flexibility indicators. We are aware that the available measurement indicators are not perfect, and the availability of data and the nature of the phenomenon do not facilitate analysis at the level of international comparisons.

Moreover, the aim of the article is to relate the level of flexibility of the labour market in the European Union to the level of socio-economic development and to indicate whether there is a characteristic pattern of dependence between these indicators. To better understand the relationship between HDI and labour market flexibility, correlation coefficients were examined.

#### A THEORETICAL PERSPECTIVE ON LABOUR MARKET FLEXIBILITY

The literature distinguishes two concepts of labour market flexibility, i.e. micro-economic and macro-economic (Wiśniewski, 1999, p. 42). The macro-economic concept relates to real labour cost flexibility at the economy-wide level. It requires both full and immediate adjustments of real-product wages and related non-wage labour costs to changing productivity levels or terms of trade (Klau, Mittelstadt, 1986, p. 10). It is interpreted as a method to achieve stability in the labour market exposed to fluctuations due to supply/demand and structural shocks (Kwiatkowski, 2009, p. 285). Labour market imbalance on a macro-economic scale occurs because of structural problems leading to high unemployment or a long-term shortage of employees with specific qualifications (Wiśniewski, 1999, p. 42). In that sense, labour market flexibility is determined by both a high rate of employment and a low rate of structural unemployment. An enabling factor for labour market flexibility in a macro-economic view is legislative changes in wages, working time and employee protection. The micro-economic concept of labour market flexibility envisions a quick alignment of employers and employees with on-going economic changes that impact the labour market. In that sense, labour market flexibility is driven by relatively quick changes in the size and structure of employment across the economy, industries, professions and regions. It focuses on the way in which labour market entities respond to periodic imbalances, as reflected both by wage adjustments and job supply/demand (Maniak, 2007, p. 61).

The importance of labour market flexibility has been appreciated by various theories of the labour market. Classical economics drew attention to the flexibility of labour supply/demand relative to wages. It was assumed that where a gap existed between labour demand and supply, a change in wages would occur to align the market's supply and demand sides. In neo-classical economics, Pigou showed

that the tendency towards full employment appears in the economy if the labour market is perfectly competitive and operating on free-market principles (Pigou, 1941). A misalignment between supply and demand leads to wage fluctuations, workforce relocation and a change in labour demand and supply. Both classical and neo-classical economics underscored the importance of wage flexibility and labour supply/demand flexibility for the process of balancing the labour market. Keynes, on the other hand, questioned the classical ideas by claiming that the labour market is unreliable, with flexible wages insufficient to eliminate unemployment. His theory held that employment adjusts itself to production levels, meaning that employment is flexible with respect to production (Keynes, 2010). In the neoclassical synthesis theory put forward by Modigliani, Haberler and Samuelson, the idea was that tendencies towards full employment accompany flexible wages and prices. According to the NAIRU (Non-Accelerating Inflation Rate of Unemployment) idea proposed by Friedman (Friedman, 1968), unemployment depends on factors relating to labour market flexibility, such as labour protection, trade union power, unemployment benefit arrangements, and the degree of structural misalignment of labour supply versus labour demand. In the natural unemployment rate theory, Friedman noted that a contemporary economy is characterized by market imperfections, flawed labour market institutions, misinformation on vacancies and insufficient workforce mobility, leading to the rise of the so-called natural unemployment. Both NAIRU and natural unemployment rate theories stress that greater flexibility of the labour market reduces equilibrium unemployment (Kwiatkowski, Włodarczyk, 2014, pp. 24–28).

In recent years, much attention in academic and political discourse has been focused on the concept of flexicurity. This strategy involves increasing, on one hand, labour market flexibility and, on the other, job and social security. The literature distinguishes two types of flexicurity: Danish and Dutch (Bredgaard et al., 2008, p. 305).

The term “flexicurity” was invented by a sociologist who was an aide to Poul Nyrup Rasmussen, the Danish minister of labour in 1990 (Barbier et al., 2009, p. 4). The Danish variety, known as “the golden triangle”, is based on three pillars: flexible labour market, active labour market policies and generous unemployment benefits (Madsen, 2004, pp. 243–265). It is characterized by a systematic division of responsibility among the state (labour market policy), the employer and the employee. Employers are free to hire and fire as they choose. The burden of responsibility for dismissal rests on the state and on the dismissed person him/herself as he/she is offered a range of job activation opportunities. The employer is not limited by severance pay regulations or legal restrictions against the freedom of dismissal (Boni, 2006, pp. 17–19).

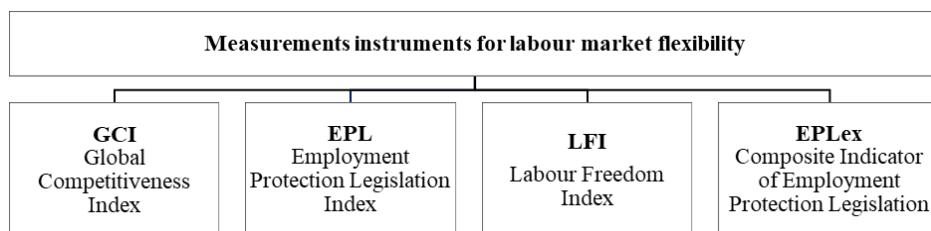
The term “flexicurity” within its Dutch meaning involves improvement in relations between labour market flexibility, employees and trade organizations, as well as in job and income security on the labour market and beyond. Special emphasis is placed on the need for improving the situation of disadvantaged

employees and facilitating their access to better job opportunities (Kucharski, 2012, pp. 38–39). The flexicurity strategy has been recommended in the labour market policy by the European Commission. EU member states have been encouraged to increase labour market flexibility while maintaining security (Heyes, 2011, p. 642). In current EU level documents, flexicurity is seen as a guidance for structural reforms (Bekker, Mailand, 2019, p. 142).

The development of the idea of labour market flexibility and interest in the subject in academic and political discourse confirm that the problem is, indeed, complex and needs further research.

#### MEASUREMENT INSTRUMENTS FOR LABOUR MARKET FLEXIBILITY

Labour market flexibility is a multi-faceted issue determined by factors which are qualitative in nature and therefore difficult to measure (Ertman, 2011, p. 48). International comparisons can be made using different indicators. For the purpose of this study, four indicators have been taken into account (Figure 1). All of these measurement tools are discussed below based on 2018 data.



**Figure 1. Basic instruments for measuring labour market flexibility**

Source: (ILO, 2019; OECD, 2019; The Heritage Foundation, 2018; World Economic Forum, 2019).

Labour market flexibility as measured by the Global Competitiveness Index (GCI) is published by the World Economic Forum (World Economic Forum, 2019). In the 2017–2018 edition, an index-based ranking was drawn up, featuring 12 pillars<sup>4</sup> for 137 economies around the world, including 28 EU countries. Pillar No. 7 relates directly to: “Labour Market Efficiency – Flexibility”. The pillar includes the following components: cooperation in labour-employer relations, flexibility of wage determination, hiring and firing practices, redundancy costs, effect of taxation on incentives to work. The ranking adopts a 0 to 7 grading scale where 0 stands for low flexibility and 7 means high flexibility.

<sup>4</sup> 12 pillars: 1. Institutions, 2. Infrastructure, 3. Macroeconomic environment, 4. Health and primary education, 5. Higher education and training, 6. Goods market efficiency, 7. Labour market efficiency, 8. Financial market development, 9. Technological readiness, 10. Market size, 11. Business sophistication, 12. Innovation.



The EPL index calculated by OECD in its last available year of publication presents 2013 data covering 41 economies in the world, including a mere 13 EU countries (OECD, 2019). The current version (version 3) of EPL structure distinguishes four principal sub-indexes: Employment protection for individual and collective dismissals, regular contracts (EPRC), Employment protection for individual dismissals, regular contracts (EPR), Employment protection for collective dismissals, regular contracts (EPC), Employment protection for temporary contracts (EPT). According to the latest survey methods, the OECD no longer states a single summary value for EPL but the results are given for each group separately. The index value ranges from 0 to 6, where 0 stands for high flexibility and 6 for low flexibility (OECD, 2019).

The LFI index is calculated by The Heritage Foundation based on World Bank data. According to information available for 2018, the index includes data for 186 economies, including 28 EU countries. This represents a quantitative measure taking into account various legal and regulatory aspects of a given country's labour market framework, including regulations on minimum wages, dismissal restrictions, severance pay requirements as well as legal constraints relating to employment and working hours. The index consists of seven quantitative factors such as the ratio of minimum wage to the average value added per worker, hindrance to hiring additional workers, rigidity of hours, difficulty of firing redundant employees, legally mandated notice period, mandatory severance pay, and labour force participation rate. The synthetic value of the index ranges from 0 (low flexibility) to 100 (high flexibility) (The Heritage Foundation, 2018).

The EPLex index is calculated by the International Labour Organisation (ILO). According to data available for the latest year of publication (2013), the index covers 45 countries, including 13 from the EU. The method of calculation is based on a set of quantitative indicators relating to employment protection regulations for indeterminate-term contracts and individual dismissals. The information presented is broken down into 50 variables (ILO, 2019). In 2015, ILO set out eight new EPLex indicators including such categories as: valid grounds for dismissals, prohibited grounds for dismissals, probationary period, procedural notification requirements for dismissals, notice periods, severance pay, redundancy pay, avenues for redress, and summary EPLex indicator. Indicator values range from 0 (high flexibility) to 1 (low flexibility) (ILO, 2015, pp. 2, 6).

An analysis of the discussed indicators for measuring labour market flexibility (Table 1) shows that the measures differ from one another in terms of methodology as well as territorial coverage and time span of the data. This means that the indicators should not be treated as being interchangeable. For example, only the GCI indicator refers directly to labour market flexibility, while the remaining indicators focus on the legal protection of employment which is often equated with labour market flexibility.

**Table 1. A comparison of instruments for measuring labour market flexibility<sup>5</sup>**

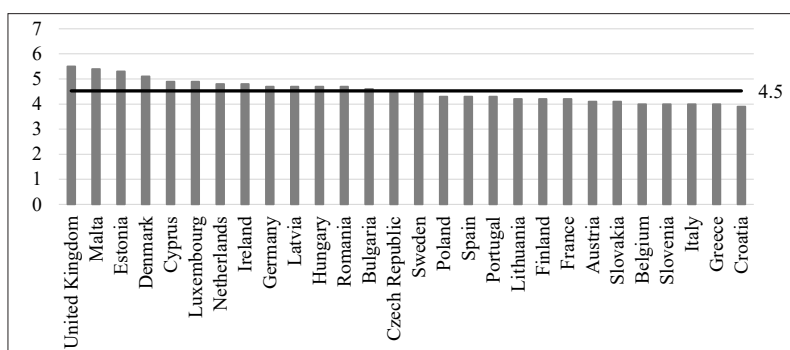
Indicator	Publishing institution	Time span	Spatial coverage
GCI Flexibility	World Economic Forum	2017–2018	137 countries globally (28 EU countries)
EPL	OECD	2013	41 countries globally (21 EU countries)
LFI	Heritage Foundation	2018	186 countries globally (28 EU countries)
EPLex	International Labour Organization	2012	45 countries globally (13 EU countries)

Source: (ILO, 2018; OECD, 2019; The Heritage Foundation, 2018; World Economic Forum, 2018).

### LABOUR MARKET FLEXIBILITY ASSESSMENT FOR EU COUNTRIES<sup>6</sup>

Taking into account the four indicators discussed above, the recent ranking results have been reviewed in order to compare how the labour market flexibility in the European Union countries is assessed according to slightly different criteria.

Figure 2 presents a flexibility ranking for EU-28 according to the global competitiveness report published by World Economic Forum. Top positions for labour market flexibility are held by the UK, Malta and Estonia, while the lowest ratings in the category were received by Croatia, Greece and Italy. All of the ten member states with the highest flexibility ratings also appeared on the list of the 50 most flexible labour markets globally. The mean value of EU-28 stood at approximately 4.5.



**Figure 2. Labour market flexibility indicator according to GCI 2017–2018 in EU-28**

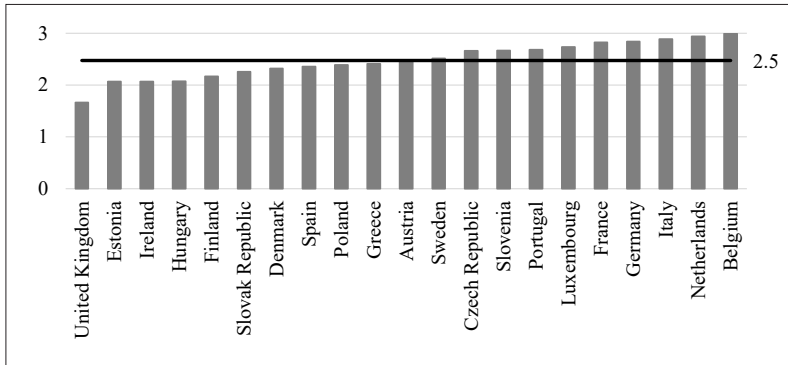
Source: (World Economic Forum, 2018).

<sup>5</sup> The territorial coverage and time span are presented according to the data in the last year of publication, available in 2018.

<sup>6</sup> All the graphs in this chapter follow the order of flexibility, with countries with the most flexible labour markets on the left-hand side and those with the lowest flexibility rating on the right-hand side. The graphs calculate and show the arithmetic mean of data reported for the countries in question.

Labour market flexibility as measured by the EPL index according to the last-published data from OECD (year 2013, 21 EU countries<sup>7</sup>) is presented in Figures 3–6.

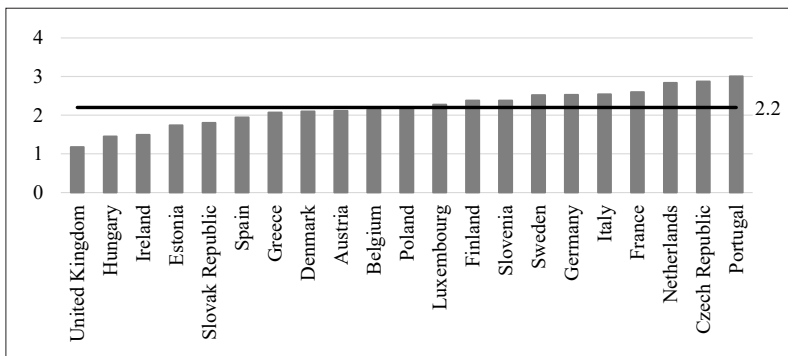
The EPL index relating to protecting regular employees from individual and collective dismissals in 21 EU countries (in 2013) is shown in Figure 3. The best flexibility was noted in the UK, Estonia, Ireland and the lowest in Belgium, the Netherlands and Italy. The mean index value was approximately 2.5.



**Figure 3. EPL index – Individual and collective dismissals – regular workers (EPRC) in EU-21 in 2013**

Source: (OECD, 2019).

Figure 4, in turn, presents the EPL index relating to protecting regular employees from individual and collective dismissal in EU-21 in 2013. The best flexibility was noted for the UK, Hungary and Ireland, while the lowest was recorded for Portugal, the Czech Republic and the Netherlands. The mean index value was above 2.



**Figure 4. EPL index – Individual dismissals – regular workers (EPR) in EU-21 in 2013**

Source: (OECD, 2019).

<sup>7</sup> No data for seven EU countries: Bulgaria, Croatia, Cyprus, Lithuania, Latvia, Malta and Romania. This is why the analysis covers only 21 EU countries.

The EPL index relating to collective dismissal regulations in 21 EU countries in 2013 (Figure 5) shows that the least restrictive regulations on collective dismissals appear in Finland, Portugal, the Czech Republic while the most restrictive are found in Belgium, Luxembourg and Italy. The mean index value was above 3.

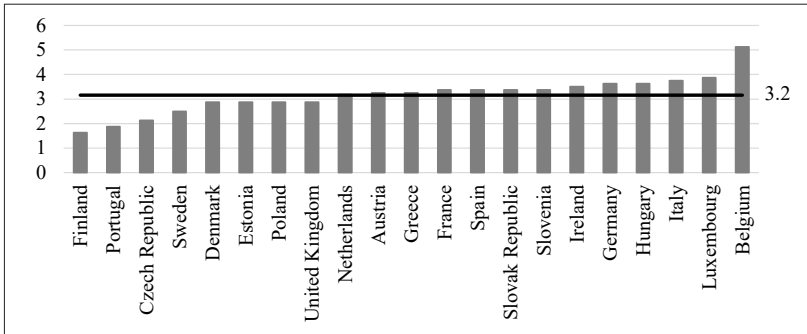


Figure 5. EPL index – Additional provisions for collective dismissals (EPC) in EU-21 in 2013

Source: (OECD, 2019).

Referring to the index relating to temporary employment regulations in 21 EU countries, it is interesting to note that the most flexible labour market was found in the UK, the Netherlands and Sweden and the least flexible in Luxembourg, France and Spain (Figure 6). The mean index value was above 2.

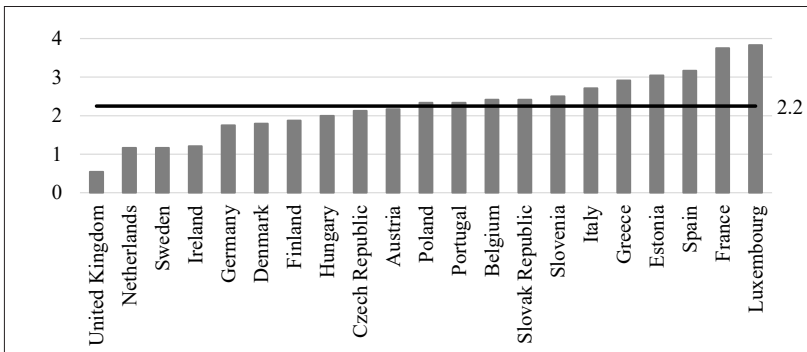


Figure 6. EPL index –Temporary contracts (EPT) in EU-21 in 2013

Source: (OECD, 2019).

On the other hand, with regard to LFI 2018 (Figure 7), the most flexible labour markets in EU-28 were shown to exist in Denmark, the Czech Republic and Ireland. The lowest degree of freedom of employment, and thereby also the highest degree of state interference, was reported for Croatia, Portugal and France. The mean LFI index value for EU-28 was above 60.

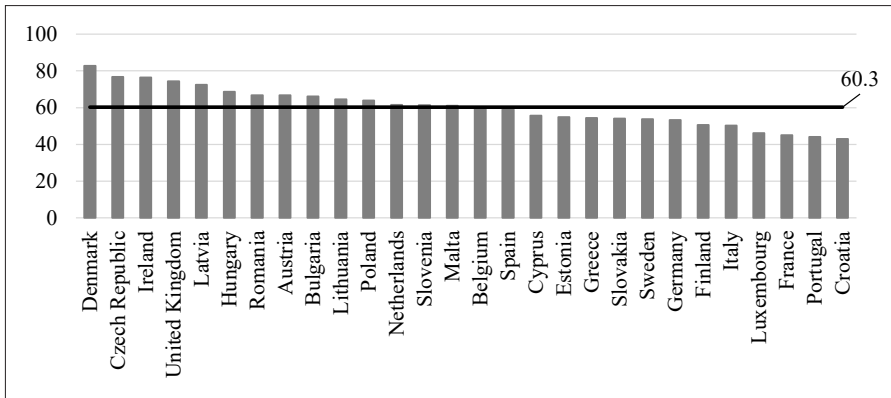


Figure 7. LFI indicator 2018 in EU-28

Source: (The Heritage Foundation, 2018).

It should also be pointed out that, as regards the EPLex index (Figure 8) according to the last-published data (year 2012, 13 EU countries<sup>8</sup>), the best flexibility rating was earned by Cyprus, the UK and Bulgaria, while the lowest went to Slovakia, the Netherlands and Germany.

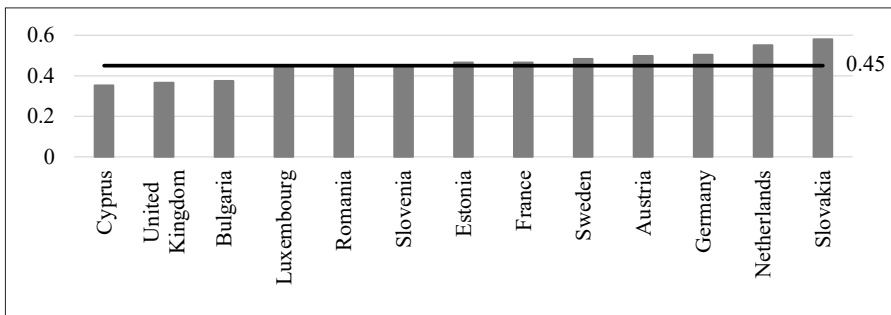


Figure 8. EPLex index in EU-13 in 2012

Source: (ILO, 2018).

An analysis of labour market flexibility ratings of EU countries (Table 2) based on the last-published data shows that the lead is held by the UK (four times top of the chart), Finland, Denmark and Cyprus. The lowest ratings were awarded to Belgium and Croatia (ranking last in two instances), Portugal, Luxembourg and Slovakia. A comparison of data shown below proves that the only indicators to present valid data for all member countries are GCI (flexibility) and LFI, while

<sup>8</sup> No data for 15 EU countries: Belgium, Croatia, Czech Republic, Denmark, Finland, Greece, Spain, Ireland, Lithuania, Latvia, Malta, Poland, Portugal, Hungary and Italy.

EPL and EPLex are not updated, apply to a remote time-period (years 2012 and 2013) and cover selected countries.

**Table 2. Summary ranking of labour market flexibility ratings in EU countries<sup>9</sup>**

Indicator	Time span	Territorial coverage	Ranked first in EU-28	Ranked last in EU-28
GCI Flexibility	2017–2018	EU-28	UK	Croatia
EPL	2013	EU-21	UK (3x), Finland	Belgium (2x), Portugal, Luxembourg
LFI	2018	EU-28	Denmark	Croatia
EPLex	2012	EU-13	Cyprus	Slovakia

Source: (World Economic Forum, 2018; OECD, 2019; The Heritage Foundation, 2018; ILO, 2018).

### THE CONVERGENCE OF LABOUR MARKET FLEXIBILITY AND THE HUMAN DEVELOPMENT INDEX (HDI) IN EU-28

An interesting research issue is whether the countries with the greatest flexibility are at the same time countries with a high level of socio-economic development and vice versa, whether the least developed countries tend to have a low flexibility rate. This provides an initial indication of whether there is a convergence between labour market flexibility and the level of economic development. Therefore, the assessment of labour market flexibility in EU countries based on available data for labour market flexibility indicators has become an inspiration to extend research and compare results of rankings between flexibility of the labour market and the Human Development Index.

The HDI (Human Development Index) published by the United Nations Development Programme is a synthetic measure presenting changes in the socio-economic development of countries. It is calculated based on three key dimensions of human development: a long and healthy life (life expectancy), education (access to knowledge) and a decent standard of living (United Nations Development Programme, 2016 Human Development Index (HDI) | Human Development Reports). The synthetic value of the index ranges from 0 (low level of social development) to 100 (high level of social development). According to last available data, HDI 2017 covers 187 countries, including EU-28.

Figure 9 presents HDI 2017 in EU-28. The highest human development was noted in Ireland, Germany and Sweden and the lowest in Romania, Bulgaria and Croatia.

<sup>9</sup> The country which came first was ranked as having the most flexible labour market. The country which came last was ranked as having the least flexible labour market.

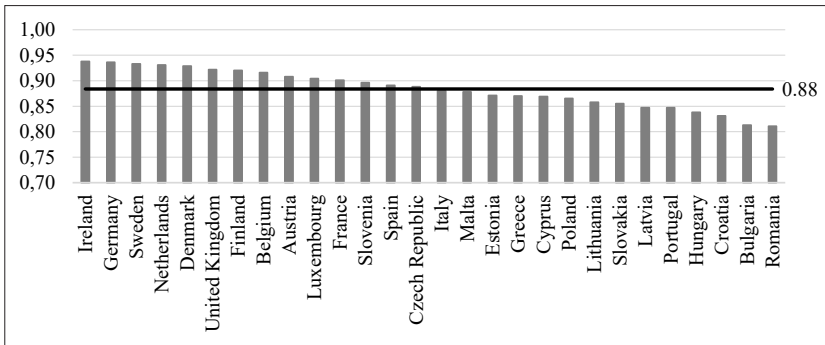


Figure 9. HDI 2017 in EU-28<sup>10</sup>

Source: (United Nations Development Programme, 2018).

The results of rankings for indicators in the area of labour market flexibility are compared with the Human Development Index (HDI) by the United Nations Development Programme (UNDP) in order to estimate the convergence between the high flexibility of labour market and the high quality of life in EU-28. A comparison table contains the results for HDI 2017, GCI 2017–2018 (flexibility) and LFI 2018 (Table 3). The key criteria for selecting indicators were access to data for all member states and timeliness of data.

Table 3. Rankings for HDI 2017, GCI 2017–2018 (flexibility) and LFI 2018<sup>11</sup>

Rank	HDI 2017	GCI 2017–2018 (flexibility)	LFI 2018
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1.	Ireland	United Kingdom	Denmark
2.	Germany	Malta	Czech Republic
3.	Sweden	Estonia	Ireland
4.	Netherlands	Denmark	United Kingdom
5.	Denmark	Cyprus	Latvia
6.	United Kingdom	Luxembourg	Hungary
7.	Finland	Netherlands	Romania
8.	Belgium	Ireland	Austria
9.	Austria	Germany	Bulgaria
10.	Luxembourg	Latvia	Lithuania
11.	France	Hungary	Poland
12.	Slovenia	Romania	Netherlands

<sup>10</sup> The graph follows the order of Human Development Index, with countries with high human development on the left-hand side and those with low human development on the right-hand side. The graph calculates and shows the arithmetic mean of data reported for the countries in question.

<sup>11</sup> The country which came first was ranked the highest in the presented indices in EU-28.



1	2	3	4
13.	Spain	Bulgaria	Slovenia
14.	Czech Republic	Czech Republic	Malta
15.	Italy	Sweden	Belgium
16.	Malta	Poland	Spain
17.	Estonia	Spain	Cyprus
18.	Greece	Portugal	Estonia
19.	Cyprus	Lithuania	Greece
20.	Poland	Finland	Slovakia
21.	Lithuania	France	Sweden
22.	Slovakia	Austria	Germany
23.	Latvia	Slovakia	Finland
24.	Portugal	Belgium	Italy
25.	Hungary	Slovenia	Luxembourg
26.	Croatia	Italy	France
27.	Bulgaria	Greece	Portugal
28.	Romania	Croatia	Croatia

Source: (The Heritage Foundation, 2018; United Nations Development Programme, 2018; World Economic Forum, 2018).

Our results show that there is no simple convergence common for all countries. But interestingly, high level of HDI goes hand in hand with high flexibility only in the case of Ireland, the UK and Denmark. Germany and Sweden as representatives of welfare state models have different characteristics. With a high level of HDI, the elasticity ratios are at a low level. For other Western European countries (the so-called old EU member states), positions in HDI rankings are high though labour markets do not show a high degree of flexibility. Exactly the opposite dependence occurs in the so-called new member states (except Slovenia and Croatia), where relatively high flexibility of labour markets is visible, with relatively low positions in terms of the level of social and economic development.

In order to better understand the relationship between HDI and labour market flexibility, we have examined correlation coefficients. The following two types of selected correlations were taken into account: the Pearson linear correlation coefficient and the Spearman rank coefficient. The Pearson linear coefficient is the most commonly used method to assess correlations. Its advantage is an easy interpretation and its simplicity in calculating statistical tests for significance. It allows for an assessment if the correlation is significant or insignificant. A drawback is an assumption of linearity which has to be met. In case of nonlinear relations, the Pearson correlation does not give expected results. This is the reason why the second coefficient, the Spearman correlation coefficient was used. This coefficient also handles nonlinear relations. As

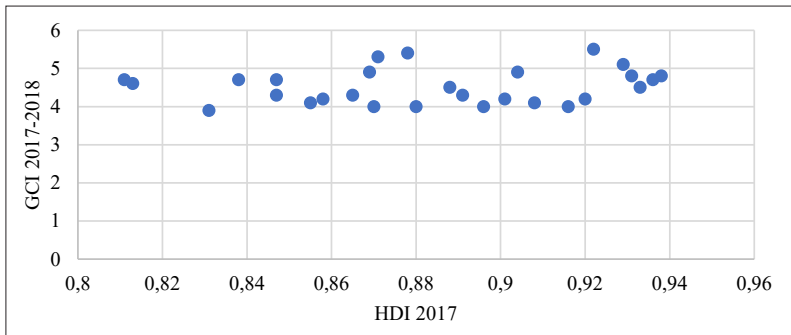
it is based on ranks, it is able to detect a wider spectrum of relations. Its drawback is a lack of significance test and in general a lower power (Rahman, 1968).

The coefficients were calculated for HDI 2017 and two measures of flexibility: GCI 2017–2018 and LFI 2018 (Table 4 and Charts 1 and 2).

**Table 4. The correlation coefficients between HDI 2017 and two measures of flexibility: GCI 2017–2018 and LFI 2018**

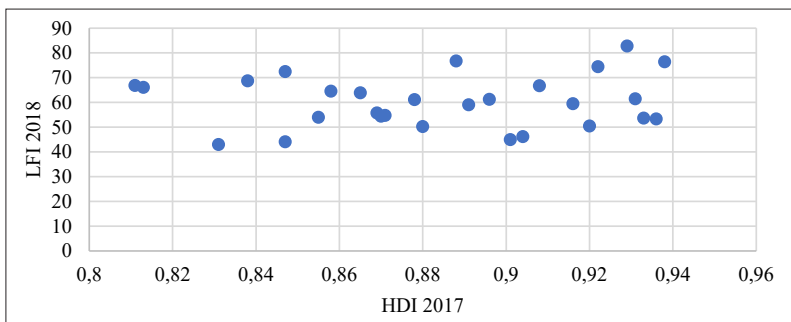
Measure	GCI 2017–2018 (flexibility)	LFI 2018
Pearson correlation	0.17	0.11
t-Stat	0.86	0.55
Df	26.00	26.00
p-value	0.40	0.59
Spearman correlation	0.20	0.04

Source: own study.



**Chart 1. HDI 2017 vs GCI 2017–2018 – the graphical representation of the data**

Source: own study based on (The Heritage Foundation, 2018; United Nations Development Programme, 2018; World Economic Forum, 2018).



**Chart 2. HDI 2017 vs LFI 2018 – the graphical representation of the data**

Source: own study based on (The Heritage Foundation, 2018; United Nations Development Programme, 2018; World Economic Forum, 2018).

The first look at the charts suggests there is no strong relation between the analyzed variables. The points form a chaotic group parallel to the X axis, which means there is no relation. There are also no signs of a nonlinear relation.

Firstly, we have examined the relationship between HDI 2017 and GCI 2017–2018. We have obtained the correlation coefficients of 0.17 (Pearson) and 0.2 (Spearman). The results suggest a very weak relation between the two variables. In the significance test of the Pearson coefficient we have obtained the *p-value* of 0.4, much larger than the critical value of 0.05. This proves the relationship is statistically insignificant.

Secondly, we have examined the relation between HDI 2017 and LFI 2018. We have obtained the correlation coefficients of 0.11 (Pearson) and 0.04 (Spearman). The results suggest an even weaker relation between the two variables. In the significance test of the Pearson coefficient we have obtained the *p-value* of 0.59 – far larger than the critical value of 0.05. This proves the relation is statistically insignificant.

The examination of the relation between HDI and labour market flexibility correlation coefficients proved there is no significant empirical evidence of relation.

The results of our research show there is no simple correlation between the flexibility of the labour market and the level of social and economic development. This may serve as a starting point for further in-depth studies on the correlation between labour market flexibility and levels of economic development. This requires the availability of detailed and multi-country data, as well as a long-time horizon to analyse such dependency well.

## CONCLUSIONS

A flexible labour market is of prime importance to the economy. Flexibility in labour demand/supply and wage flexibility are both essential to the process of achieving a labour market equilibrium. Superior labour market flexibility achieved thanks to workforce relocation and structural alignment of labour supply/demand accelerates economic transformations. The labour market becomes more competitive thanks to better flexibility, reducing costs related to disturbances in labour market operation. The proven relationship between labour market flexibility and human development (HDI) confirms tendencies towards making labour markets more flexible, as witnessed by numerous European economies.

Despite the unquestionable importance of labour market flexibility for the economy, there appears to be no single objective and universal measurement tool among the repertoire of instruments for measuring labour market flexibility available in 2018. A survey of measurement tools for labour market flexibility, such as GCI (flexibility), EPL, LFI and EPLex according to the last published data has shown that the indicators differ from each other in terms of their methodological approaches as well as spatial and temporal scope of data. As a result, the rankings report different

results, preventing a consistent evaluation of flexibility in EU member state labour markets. This paper is intended to provide a stimulus to make an effort to harmonize international measurement tools to make a conclusive comparison and evaluation of labour market flexibility in various countries.

As it has been shown in the article, there is no simple correlation between the flexibility of the labour market and the level of social and economic development. On the other hand, three pre-defined patterns are worth noticing. Firstly, the group of highly developed countries characterised by high flexibility of the labour market (the UK, Ireland, Denmark). Secondly, the group of the so-called welfare state models with a high level of development but moderate flexibility of the labour market (Germany, Sweden), and thirdly, the group of post-socialist countries undergoing economic transformation characterised by a relatively high flexibility of the labour market with an average but constantly improving level of social and economic development. The examination of a relationship between HDI and labour market flexibility based on the Pearson linear correlation coefficient and the Spearman rank coefficient proved there is no significant empirical evidence of any relationship between variables. Our results may be used as a starting point for further quantitative research aiming to ascertain cause-and-effect relations between labour market flexibility and other areas of the economy.

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### *Summary*

Labour market flexibility refers to legal conditions that facilitate adjustment on labour markets and allow using diverse forms of labour organization, employment and work time. Good labour market flexibility can contribute to the creation of new jobs and to the improvement of social and economic condition of the country. This paper, drawing on many existing international studies, rankings and statistics, seeks to compare the level of socio-economic development of the EU-28 countries with the level of labour market flexibility based on selected indicators such as: Global Competitiveness Index – Flexibility (GCI) by the World Economic Forum, Employment Protection Legislation Index (EPL) by OECD, Labour Freedom Index (LFI) by the Heritage Foundation and Composite Indicator of Employment Protection Legislation (EPLex) by the International Labour Organisation (ILO).

The results of rankings for indicators in the area of labour market flexibility are compared with the Human Development Index (HDI) by the United Nations Development Programme (UNDP) in order to estimate the convergence between the high flexibility of labour market and the high quality of life in the EU-28. Our results show that there is no simple convergence common for all countries. High level of HDI goes hand in hand with high flexibility only in the case of Ireland, UK and Denmark. Germany and Sweden, as representatives of welfare state models, have different characteristics. With a high level of HDI, the elasticity ratios are at a low level. For other Western European countries (the so-called old EU member states), positions in HDI rankings are high although labour markets do not show a high degree of flexibility. Exactly the opposite dependence occurs in the so-called new member states (except Slovenia and Croatia), where relatively high flexibility of labour markets is visible, with relatively low positions in terms of the level of social and economic development. The research on relation between variables (HDI 2017, GCI 2017–2018, LFI 2018) based on the Pearson linear correlation coefficient and the Spearman rank coefficient proved there is no significant empirical evidence for the relation between socio-economic development and labour market flexibility.

*Keywords:* labour market flexibility, unemployment, socio-economic development, Human Development Index (HDI), Labour Freedom Index (LFI).

## **Zależność między rozwojem społeczno-gospodarczym a elastycznością rynku pracy w krajach UE**

### *Streszczenie*

Elastyczność rynku pracy odnosi się do warunków prawnych, które ułatwiają dostosowanie się rynków pracy i umożliwiają stosowanie różnych form organizacji pracy, zatrudnienia i czasu pracy. Dobra elastyczność rynku pracy może przyczynić się do tworzenia nowych miejsc pracy i poprawy

sytuacji społecznej i gospodarczej kraju. Niniejszy artykuł, w oparciu o wiele międzynarodowych badań, rankingów i statystyk, ma na celu porównanie poziomu rozwoju społeczno-gospodarczego krajów UE-28 z poziomem elastyczności rynku pracy na podstawie takich wskaźników jak: Global Competitiveness Index – Flexibility (GCI) – Światowego Forum Ekonomicznego, Employment Protection Legislation Index (EPL) – OECD, Labour Freedom Index (LFI) – Heritage Foundation i Composite Indicator of Employment Protection Legislation (EPLex) – Międzynarodowej Organizacji Pracy (ILO).

Wyniki rankingów wskaźników w obszarze elastyczności rynku pracy zostały porównywane ze wskaźnikiem rozwoju społecznego (HDI) opracowanym przez Program Narodów Zjednoczonych ds. Rozwoju (UNDP) w celu oszacowania zależności między wysoką elastycznością rynku pracy a wysoką jakością życia w UE-28. Nasze wyniki wskazują, że nie ma prostej zależności wspólnej dla wszystkich krajów. Wysoki poziom HDI koresponduje z wysoką elastycznością rynku pracy tylko w przypadku Irlandii, Wielkiej Brytanii i Danii. Niemcy i Szwecja, jako przedstawiciele państw opiekuńczych, odnotowują zależność ujemną. Przy wysokim poziomie HDI wskaźniki elastyczności są na niskim poziomie. Ponadto odnotowuje się wysokie pozycje krajów Europy Zachodniej (krajów tzw. Starej Unii) w rankingach HDI, pomimo tego że rynki pracy nie wykazują wysokiego stopnia elastyczności. Odwrotna zależność występuje w państwach tzw. Nowej Unii (z wyjątkiem Słowenii i Chorwacji), gdzie stosunkowo wysoka elastyczność rynków pracy jest widoczna przy odpowiednio niskich wynikach pod względem poziomu rozwoju społecznego i gospodarczego. Przeprowadzone badania zależności między zmiennymi (HDI 2017, GCI 2017–2018, LFI 2018), na przykładzie współczynnika korelacji liniowej Pearsona i współczynnika korelacji rang Spearmana wykazały, że nie ma empirycznych, istotnych dowodów na związek między wskaźnikiem rozwoju społeczno-gospodarczego a elastycznością rynku pracy.

*Słowa kluczowe:* elastyczność rynku pracy, bezrobocie, rozwój społeczno-gospodarczy, wskaźnik rozwoju społecznego (HDI), wskaźnik Labour Freedom Index (LFI).

JEL: E24, O47.



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## **Labour efficiency in Belarus within the framework of achieving sustainable development goals**

### INTRODUCTION

The labour market occupies an important place in the development of the economic system of a country; in the conditions of determining labour force and working conditions, the interests of workers and employers interact, and the socio-economic phenomena that occur in society are reflected. In recent years, the problem of the functioning of the labour market in the Republic of Belarus has not only been connected with a reduction in the number of people employed in the economy, but also with a decrease in the share of the employed population in the manufacturing sector, with a simultaneous increase in the number of people employed in the services sector.

The formation of a rational structure of the personnel is one of the possible directions for increasing the effectiveness of an enterprise. In addition, the efficiency of the economy is ensured by a high level of qualification within the workforce, which is an important competitive advantage of the country within the framework of achieving sustainable development goals (Goal 8: Decent Work and Economic Growth).

The object of the study is a statistical analysis of the efficiency of labour use, which includes a description of the state and dynamics of the labour market (employed, unemployed), the rationality of the distribution of labour potential, and the movement of the number and composition of employees of organizations.

The main goal of the study is to investigate the influence of selected factors on labour market indicators in the Republic of Belarus in 2013–2018. The indicators under research characterise the standard of living, unemployment, the rationality of

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personnel policy, employment efficiency, labour productivity and others. Thus, it is possible to assess the efficiency of labour potential management in the framework of achieving sustainable development goals (SDG).

#### THEORETICAL AND METHODOLOGICAL APPROACHES TO RESEARCH

The study conducted by the author is based on methodological approaches to measure the status of a person and his/her labour activity, whereby evaluating the rationality of personnel policy. It is also based on studying the effectiveness of managing labour potential and the optimal structure of the enterprise's personnel, forming optimal organizational management structures reflected in the works of Drucker (2007; 1986), Keren and Levhari (1979), Kreitz *et al.* (2008), O'Shonnese (1979), Simon (1957) as well as in accordance with the standards and recommendations of the International Labour Organization and the legislative and regulatory documents of the Republic of Belarus in the employment sector.

Currently, ILO member countries are moving from the concept of "economically active of the population" to the concept of "labour active" in accordance with the standards adopted at the 19th International Conference of Labour Statisticians on the problems of statistics on labour activity, employment and underutilization of labour (*Recommendations on the application...*, 2015).

In this regard, the methodological approaches to measuring the status of a person and his/her labour activity have been fundamentally changed. This is due to the increasing importance of various forms of labour (except employment). Labour activity is interpreted in the broad sense of the word as any type of productive activity.

At the same time, unemployment is becoming an integral part of the concept of underutilization of labour, as it is supplemented by such categories as potential labour force and persons working in part-time employment.

To achieve the goal set in the study, it is necessary to solve the following tasks: to reveal the essence and economic content of indicators of employment and unemployment in accordance with the recommendations of the ILO; to analyse the dynamics and structure of the employed and the unemployed populations in the Republic of Belarus: by region, type of economic activity, form of ownership, age and education; and finally, to identify factors that influence the labour market indicators in the Republic of Belarus.

As a research tool, statistical methods were used, including the method of comparisons, the construction of multivariate index models, correlation and regression analysis. Using correlation and regression analysis, the influence of per capita GDP growth on the decrease in the number of unemployed in the country

was determined. Using the construction of multiplicative index models, factors were identified that influence the dynamics of employment indicators in the Republic of Belarus.

### EMPLOYMENT ANALYSIS

The specific feature of the labour market of the Republic of Belarus in recent years has been the reduction in the number of people employed in the economy. This is typical for both urban and rural populations. Moreover, the problem of reducing the labour potential is more acute in villages due to the migration of young people from rural areas to cities. In June 2018, 4,328,100 people were employed in the economy of the Republic of Belarus, which is 0.4% less than in June 2017.

In addition, in Belarus, as in many countries of the world (including EU countries, the CIS and other developed countries), there is a tendency towards the aging of the population as a whole, as well as an increase in the share of the older generation among people of the working age.

The proportion of people aged 15–64 years in the total population has decreased from 71.3 to 68.2% over the past eight years in Belarus – a similar trend exists in Poland, which has seen a decrease from 71.3 to 68.4%. The proportion of people aged 65 and over in the total population in Belarus increased from 13.8% to 15%, and in Poland from 13.5% to 16.8%. The record-breakers in this indicator are as follows: in Japan there was an increase of up to 27%, in Italy up to 23%, in Germany and Portugal up to 21.5%, in Finland up to 21.2% (*Belarus and the countries...*, 2018, pp. 28–31).

The level of employment (as a percentage of the labour force) in Belarus in 2017 was 67.2% and it was much higher than in other CIS countries (Russia – 65.5%; Ukraine – 56.1%; Armenia – 50.1%; Moldova – 40.5%), as well as the EU countries (Poland – 53.7%; Italy – 44.2%; Spain – 48.1%; France – 50.5%; Germany – 58.9%; Great Britain – 60.2%). However, among developed countries there are some states with a higher level of employment – these are Sweden (67.8%) or China (67.9%) (*Belarus and the countries...*, 2018, pp. 62–63).

The total number of unemployed in the Republic of Belarus, who are classified according to the ILO criteria, is much higher than the official number of unemployed. According to a sample survey of households in order to study the problems of employment, the number of unemployed, in accordance with the ILO criteria, in 2017 amounted to 293.4 thousand people (in 2016 – 301.8 thousand people). In 2018, according to the Ministry of Labour and Social Protection, 230.6 thousand people needed employment. The actual unemployment rate in the republic in 2017 amounted to 5.6%, (in 2016 – 5.8%). In 2018, the level amounted to 4.7% of the labour force, and this is the lowest indicator for almost 20 years (*Labour and employment...*, 2018).

The problem of hidden unemployment is associated with a number of factors, including: mandatory participation in public works, low salaries for vacancies on the labour exchange, low unemployment benefits, and others.

The average age of the registered unemployed in the Republic of Belarus increased from 35.7 years in 2011 to 41.1 years in 2018, this once again underlining the trend of increasing unemployment towards older ages. According to age groups, men from 40 to 49 years of age prevailed (15% of the total number of unemployed), women aged 45–49 (5.5%) and 35–39 (4.6%) prevailed. A positive point is the reduction of youth unemployment. So, at the beginning of 2018, the share of unemployed people aged 16–19 was 3.0% compared to 7.0% at the beginning of 2011, and the share of unemployed people aged 20–29 was 17.9% against 31.1% (*Labour and employment...*, 2018).

The current situation can be characterised in two ways: either employers are currently paying more attention to the knowledge of young people than the experience of the older generation, or young people are less likely than older people to apply to employment agencies.

A study of the sectoral structure of employment in 2011–2018 revealed a tendency to reduce the share of people employed in industry (from 25.5% to 23.5%), in agriculture, forestry and fisheries (from 10.1% to 9.3%), construction (from 8.7% to 6.3%). At the same time, the share of people employed in the services sector increased: in wholesale and retail trade, car and motorcycle repair, it increased from 13.2% to 14.4%, which was primarily due to an increase in the solvent demand of the population. In 2017, 60.5% of the total employed population worked in the services sector of Belarus, similarly in Poland – 58.1%. Differences in the structure of the employed population by type of economic activity, according to structural change indices, amount to about 7–9% for the period under study.

The trend of growth in the share of the service sector is characteristic of many CIS countries: Russia (67.2%), Kazakhstan (64.8%), Ukraine (63.2%). Among developed countries, the highest rates were noted in the UK (80.5%), Sweden (80%), the USA (79.4%), Israel (81.6%), Canada (78.4%), Luxembourg (87.1%) (*Belarus and the countries...*, 2018, pp. 64–65). Many post-socialist states, such as Bulgaria, Hungary, Slovakia, Slovenia, Croatia, Estonia, have a similar tendency to increase the share of the service sector by the number of employees.

When studying the processes of movement of labour between business entities of various forms of ownership, an increase was noted in the share of employees in private ownership organizations from 40.1% in 1995 to 56.0% in 2017, foreign – from 0.1% to 3.9% respectively.

According to the Ministry of Labour, at the beginning of 2019, employers announced the availability of 77,600 free jobs, which is 26.5% of the number of unemployed according to the ILO methodology or 1.35% of the labour force.

There is a tendency towards an increase in the number of free jobs: compared with last year, it has increased by 42.9% (54.3 thousand). Demand for workers in working professions is increasing – they amounted to 62.7% of the total number of vacancies against 58% in 2018 (<http://www.mintrud.gov.by>).

The employee replacement ratio (the ratio of the number of employees to the number of those laid off) in June 2018 amounted to 0.96 (in June 2017 – 0.932).

The coefficient of tension in the labour market of Belarus at the beginning of 2019 amounted to 0.2 unemployed per vacancy. It halved compared to the level of the indicator in 2018.

There are regional differences in Belarus' labour resources. The indicator of tension in the Brest, Vitebsk and Mogilev regions was slightly higher and amounted to 0.3 unemployed for the vacancy; in the Gomel and Grodno regions – 0.2; and in the city of Minsk and the Minsk region – 0.1 unemployed for vacancies.

Moreover, labour markets in a number of districts and small cities are more tense than regional ones. 38.5% of the workforce is located in the central part of the country (Minsk and the Minsk region), while their smallest share is to be found in the Grodno (10.6%) and Mogilev (10.8%) regions. More than two thirds of the country's labour resources are concentrated in urban areas.

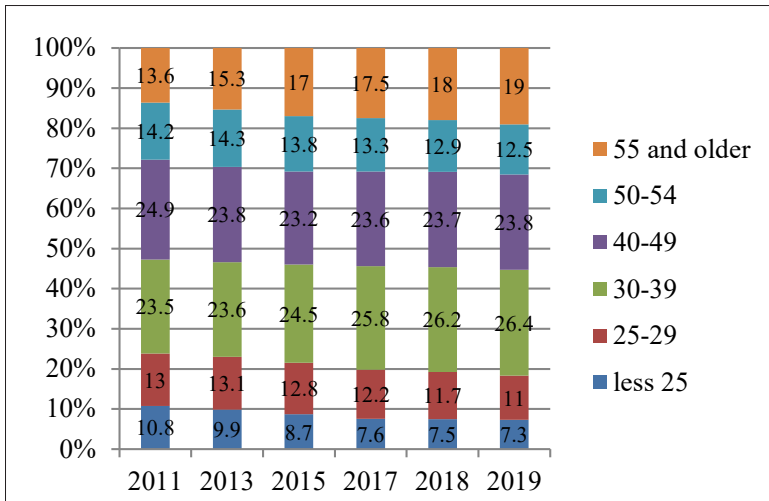
#### ANALYSIS OF PERSONNEL STRUCTURE EFFICIENCY

The role of effective personnel management has been growing in modern conditions. It is aimed at meeting the personnel needs of the company, the rational placement of the personnel, and the effective use of labour potential. It is not possible to achieve these goals without a rational staff structure.

Managers of organizations ensure that for their companies the problem of employees' average age being too advanced is non-existent, as this may adversely affect the image of the enterprise: on the efficiency of functioning, on a decrease in labour productivity, on the production and sale of products.

With a competent personnel policy, a stable structure is observed, with the ratio between individual age groups in favour of workers whose age is in the range of 30–50 years, i.e. the most productive age. Moreover, in 2019, the average age of the employed population of Belarus was 42 years. The most productive age of workers corresponds to a higher level of employment of the population of Belarus, ranging from 90.3% to 91.1%.

Analysing the diagram presented in Figure 1, it can be noted that the largest share of workers in the Republic of Belarus in 2011–2019 was at the age of 30–39 years and 40–49 years. At the same time, at the beginning of 2011, these age groups accounted for 48.4% of the total number of workers in the country, and at the beginning of 2019 – 50.2%.



**Figure 1. Distribution of workers in the Republic of Belarus in 2011–2018 by age groups (at the beginning of the year), as a percentage of the total**

Source: own study based on (*Statistical Yearbook...*, 2019, p. 81).

The number of employees at pre-retirement and retirement age is also increasing: for 2011–2019 the proportion of workers over 55 years old increased from 13.6% to 19.0%. This can be explained by the ongoing process of aging of the population of the Republic of Belarus.

However, attention is drawn to the reduction in the number of employees under the age of 29: at the beginning of 2011, this group of workers accounted for 23.8% of all employees, at the beginning of 2019 their share decreased to 18.3%. This phenomenon is a consequence of the low birth rate in the 1990s.

A study of the population by the level of education showed that for 2011–2019 the proportion of employees with higher education increased from 25.4% to 33.7%. The proportion of workers with secondary specialised education for the study period remained virtually unchanged (approximately 22%), at the same time, the share of workers with a common basic, general secondary and vocational education decreased to 44.1%. Thus, in recent years, the educational level of workers in the Republic of Belarus has increased. In addition, employees with higher education have the highest level of employment, followed by those with vocational education and specialised secondary education. This characterises the personnel policy as aimed at rational personnel management.

The effectiveness of personnel policy can be assessed using indicators of the ratio of headcounts. The ratio of headcounts is the regulated value of the headcount ratios of various categories and officials of management personnel in specific organizational and technical conditions. One of the indicators of the ratio of headcounts is an indicator of the effective personnel structure:

$$K_{Ef.pers.str.} = \frac{Specialists}{Workers} + \frac{Managers}{Workers} \quad (1)$$

In essence, the indicator is a relative amount of coordination, which is used to characterise the relationship between the individual parts of the statistical population. It shows how many times the compared part is larger or smaller than the part taken as the basis or base of comparison.

An analysis of the dynamics of the indicators allows us to draw the following conclusions:

- the growth of indicators of the effective staff structure (the ratio of headcounts) occurred during the analysed period, both in the economy of the Republic of Belarus as a whole and in industry, by 14.1% and 8.4%, respectively;
- the level of the indicator of the effective personnel structure in the economy in 2018 is 2.14 times higher than the value of the same indicator among industrial workers (against 2.03 times higher in 2013). This indicates a more than double excess of the number of employees per worker employed in the economy compared with those employed in industry;
- first differences in the coefficient of the structure of personnel employed in the economy for the period from 2013 to 2018 amounted to 10.3 percentage points, and the contribution to this increase in the ratio of specialists and the number of workers amounted to 8.2 percentage points, whereas the contribution of the share of managers amounted to 1.1 percentage points;
- the coefficient of the effective personnel structure in industry in 2018 compared with 2013 increased by 3 percentage points, due to an increase in the ratio of the number of specialists to the number of workers by 1.9 percentage points, and due to an increase in the ratio of the number of managers to the number of workers by 1.1 percentage points.

**Table 1. The significance of factors in the increase in the coefficient of the effective personnel structure of the Republic of Belarus for 2013–2018**

Indicators	The significance of factors in the overall growth over the years (%)		
	2013–2015	2015–2018	2013–2018
Economy			
Indicator of the effective personnel structure	100	100	100
The ratio of the number of specialists to the number of workers	79.7	80.3	79.7
The ratio of the number of managers to the number of workers	20.3	0.19	0.20
Industry			
Indicator of the effective personnel structure	100	100	100
The ratio of the number of specialists to the number of workers	65.1	61.3	63.5
The ratio of the number of managers to the number of workers	34.9	38.7	36.5

Source: own study.



The solution of the additive model of changing the coefficient of the effective structure of personnel (by changing the specific gravity of specialists and the specific gravity of managers to the number of workers), allowed us to draw the following conclusions (Table 1):

- the greatest influence on the studied indicator in the economy is exerted by the ratio of the number of specialists to the number of workers, which in 2013–2015 determined a change in the structure efficiency coefficient to the total of 79.7%, in 2015–2018 – to the total of 80.3%, and in 2013–2018 it determined the change in the coefficient of efficiency of the personnel structure equaling 79.7%;
- the greatest influence (63.5%) on the change in the coefficient of the effective structure of personnel in industry is exerted by a change in the ratio of the number of specialists to the number of workers, and the significance of the ratio of the number of managers to the number of workers is 36.5%.

Thus, throughout the entire period of 2013–2018, a positive dynamic was noted both in the coefficient of the effective structure of personnel and its factors, however, the strength of the influence of the factors changed somewhat: the importance of coordinating the number of specialists decreased from 65.1% in 2013–2015 to 63.5% in 2015–2018, respectively, the influence of the ratio of the number of managers increased from 34.9% to 36.5%.

Another indicator of the ratio of headcounts is the manageability rate – this is the regulated number of employees (or units) subordinate to one manager in specific organizational and technical conditions. In general, the indicator can be calculated as follows:

$$R_{\text{manageability}} = \frac{\text{Specialists}}{\text{Managers}} + \frac{\text{Workers}}{\text{Manager}} \quad (2)$$

It is obvious that the capabilities of the heads of organizations in their work with the staff are limited and they vary depending on the emerging management situations in the organization. When optimizing managerial work, it is necessary to remember the rate of controllability, how many subordinates can come directly under one leader. This is due to the fact that the number of questions that the human brain can simultaneously pay attention to in the process of its activity has a limited scope. In addition, the worktime of the head is limited.

The calculated manageability rate (Table 2) comprises averaged indicators for the economy and industry. They are individual for different fields of activity, different types of organizational structure, types of administrative apparatus of management, and different for small and large enterprises. Manageability standards depend on the ability and talent of managers (management skill), the level of labour motivation and qualifications of workers, the level of standardisation, the degree of automation of technological processes, and the nature of work.

**Table 2. Indicators of the manageability rate in the Republic of Belarus in 2013–2018**

Indicators	Years		First differences
	2013	2018	
Economy			
Manageability rate	8.799	8.285	-0.514
– ratio of specialists to managers	3.127	3.213	0.086
– ratio of workers to managers	5.671	5.072	-0.599
Industry			
Manageability rate	8.525	8.034	-0.491
– ratio of specialists to managers	1.511	1.527	0.016
– ratio of workers to managers	7.014	6.507	-0.507

Source: own study based on (*Statistical Yearbook...*, 2018; *Labour and employment...*, 2018).

The average manageability rate of the employed population in the Belarusian economy has reduced from 8.799 employees per manager in 2013 to 8.285 in 2018, or by 0.514. This is due to a decrease in the ratio of the number of workers and managers by 0.599, and it is slightly offset by an increase in the share of specialists by 0.086.

The significance of these factors in the overall decrease is (-) 116.5% and (+) 16.5%, respectively.

The average manageability rate of industrial personnel decreases from 8.525 to 8.034 people per manager. The significance of the factors in the decrease is as follows: due to a decrease in the share of workers, the manageability rate decreased by 0.507 (the contribution of the factor (-) 103.3%), due to an increase in the share of specialists, the norm increased by 0.016 (the contribution of the factor (+) 3.3%).

Levels of manageability in industry are slightly higher than in the economy as a whole. As in the previous indicator, this indicates that among the workers in industry the proportion of workers is more than four times the proportion of specialists. In economics, the excess of the share of workers over the share of specialists amounts to approximately 1.5 times.

This indicates an increase in the effectiveness of personnel policy, which is aimed to ensure sustainable development.

#### STATISTICAL ASSESSMENT OF THE INFLUENCE OF SELECTED FACTORS ON LABOUR MARKET INDICATORS IN THE REPUBLIC OF BELARUS

To assess the influence of factors on labour market indicators, we have analysed a multiplicative model of the effect on the employed population (E) on the annual resident population (S), the share of labour resources in the annual resident population (LR/S), the proportion of the able-bodied population of working age in the labour

resources (AB/LR), the ratio of the employed population of working age to the number of the able-bodied population of working age (E/AB). In general, the model can be represented as follows:

$$E = S \times \frac{LR}{S} \times \frac{AB}{LR} \times \frac{E}{AB}. \quad (3)$$

An assessment of the influence of the factors of model (3) on the absolute and relative increase in the number of employed people in the Republic of Belarus in 2018 compared to 2011 is presented in Table 3.

**Table 3. The impact of factors on the dynamics of the number of employed in the Republic of Belarus in 2011–2018**

Indicator	Index, %	Change in the number of employees due to factors	
		in absolute terms (thousand people)	in relative terms (%)
Average annual population	100.1	5.1	0.1
The proportion of labour resources in the total population	94.9	-239.5	-5.1
The proportion of the able-bodied population of working age in the number of labour resources	99.2	-37.4	-0.8
The ratio of the employed population to the able-bodied population of working age	98.1	-83.9	-1.8
The number of employed population	92.4	-355.7	-7.6

Source: own study based on (*Labour and employment....*, 2018).

An analysis of Table 3 showed that the number of employed people in the Republic of Belarus in 2018 decreased by 355,700 people, or 7.6% compared to 2011. This happened due to the influence of the following factors:

- a decrease in the share of labour resources in the population of the country caused a decrease in the number of employees by 5.1%, which in absolute terms is 239,500 people,
- a decrease in the ratio of the employed population to the able-bodied population of working age led to a decrease in the employed by 1.8%, or 83,900 people,
- a decrease in the share of the able-bodied population of working age in the number of labour resources led to a decrease in the employed by 0.8%, or by 37,400 people,
- the combined influence of the three factors led to a decrease in the employed population by 360,800 people,
- a slight increase in the population had a positive effect on the growth of the employed population (0.1%, or 5,100 people).

The unemployment rate is one of the indicators of the labour market. It depends on the quality of life of the population. Characteristics for the formation of a high standard of living, which include such personal qualities as innovation, mobility, professional orientation, motivation, are a source of income for both personnel, in particular, and society as a whole. The formation of characteristics of a high standard of living can significantly reduce the risk of such workers falling into the number of unemployed. Therefore, an increase in the level and quality of life of the population can be a factor in reducing unemployment in the country. When constructing a regression model, the per capita GDP indicator is taken as an indicator of the standard of living of the population. This is due to the fact that a high level of GDP per capita in the country positively affects the standard of living in the country as a whole. The results of constructing a regression model of the dependence of the number of registered unemployed on GDP per capita can be represented as a model:

$$Y = 425.9 - 12.04 X, \quad (4)$$

which indicates that with an increase in per capita GDP of 1000 Belarusian rubles, the number of registered unemployed decreases by an average of 12 people. A correlation coefficient of 0.905 indicates a close relationship between the result and the attribute. The calculated determination coefficient means that 82.0% of the variation in the number of unemployed is explained by the variation in GDP per capita and other factors, not taken into account in the model, affect only 18.0%.

## CONCLUSIONS

A study of the sectoral structure of employment revealed that there is a decrease in the share of the employed population in the production of goods, in agriculture and construction, with a simultaneous increase in services (in trade, information and communication, education, health, etc.). Many post-socialist states, such as Poland, Bulgaria, Hungary, Slovakia, Slovenia, Croatia, Estonia, have a similar tendency towards increasing the share of the service sector in terms of employment. The decrease in the employed population was due to the combined influence of three factors characterising the structure of labour resources, but a slight increase in the resident population had a small positive effect on an increase in the employed population.

Creating a rational structure of personnel at an enterprise is one of the ways to increase the effectiveness of its activities. This includes such areas as professional and qualification level, level of education, age, the ratio of categories of workers (staff structure), labour motivation, and the creation of a favorable psychological climate in the team.

Among those employed in the economy and industry of Belarus, each leader has an ever-smaller number of subordinates, including a decrease in the number of workers. It is necessary to ensure that a decrease in the manageability rate leads to positive results: increasing the time for making managerial decisions and reducing the workload of managerial employees. On the one hand, this will help to reduce the damage associated with making wrong decisions due to overloading managers, and on the other hand, it will help to improve the quality of managerial work and increase the 'throughput' of managers. Ultimately, this will allow managers to make timely, more effective management decisions, and to ensure rational personnel management.

Using the correlation and regression analysis, it was found that an increase in the level and quality of life of the population can become a factor in reducing unemployment in the country.

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#### Summary

The labour market in the Republic of Belarus has been recently developing the conditions which have witnessed a constant decrease in the number of people employed in the economy due to the transformation of the population structure. Among the factors that impede the effective

development of the regions, uneven territorial distribution of labour potential was revealed. It leads to labour redundancy in some regions and a shortage of personnel in others.

The main goal of the study is to investigate the influence of selected factors on labour market indicators in the Republic of Belarus in 2013–2018. The indicators under research characterise standard of living, unemployment, rationality of personnel policy, employment efficiency, labour productivity and others. Thus, it is possible to assess the efficiency of labour potential management in the framework of achieving sustainable development goals. As a research tool, statistical methods were used, including the method of comparisons, the multivariate index models, correlation and regression analysis.

The solution to the problem of territorial inequality in the labour market can be found through a number of measures that are aimed at: stimulating labour mobility of citizens; creation of new attractive jobs in labour-intensive areas; assistance in employment and housing; organization of training for the unemployed in professions that are in demand on the regional labour market; simplification of starting business procedures, etc.

To ensure sustainable development in the face of a decrease in the number of employees, as well as a decrease in the share of workers, this tendency must be correlated with the processes of improving labour methods and techniques, modernizing production, introducing new equipment and resource-saving technologies, automating production processes to ensure increased labour productivity and reduced excess employment.

*Keywords:* economically active, labour force, unemployed, personnel structure efficiency, manageability rate, sustainable development goals.

## **Wydajność pracy na Białorusi w kontekście osiągnięcia celów zrównoważonego rozwoju**

### *Streszczenie*

W ostatnich latach rynek pracy na Białorusi funkcjonuje w warunkach stałego spadku liczby osób zatrudnionych w gospodarce w wyniku zmiany struktury demograficznej ludności. Dodatkowym problemem jest nierównomierny rozkład potencjału siły roboczej między regionami, co prowadzi do zwolnień siły roboczej w niektórych regionach i niedoboru siły roboczej w innych.

Głównym celem opracowania jest określenie wpływu wybranych czynników na wskaźniki rynku pracy na Białorusi w latach 2013–2018. Badane wskaźniki charakteryzują poziom życia, bezrobocie, racjonalność polityki personalnej, efektywność zatrudnienia, wydajność pracy i inne. Pozwoliło to na ocenę efektywności zarządzania potencjałem pracy w ramach osiągnięcia celów zrównoważonego rozwoju. Jako narzędzie badawcze zastosowano metody statystyczne, w tym metodę porównań oraz analizę korelacji i regresji.

Rozwiązanie problemu nierówności terytorialnych na rynku pracy można osiągnąć za pomocą wielu środków mających na celu: stymulowanie mobilności siły roboczej obywateli; pomoc w zakresie zatrudnienia i zakwaterowania; tworzenie nowych atrakcyjnych miejsc pracy na obszarach bogatych w zasoby pracy; organizację szkoleń dla bezrobotnych w zawodach poszukiwanych na regionalnym rynku pracy; uproszczenia zakładania własnej działalności gospodarczej itp.

Aby zapewnić zrównoważony rozwój, w obliczu zmniejszających się zasobów pracy, tendencję tę należy skorelować z procesami doskonalenia metod i technik pracy, modernizacji produkcji, w tym wprowadzania technologii automatyzujących procesy produkcyjne w celu zwiększenia wydajności pracy i zmniejszenia nadwyżki zatrudnienia.

*Słowa kluczowe:* aktywność ekonomiczna, siła robocza, bezrobotni, efektywność struktury zatrudnienia, wskaźnik zarządzania, cele zrównoważonego rozwoju.

JEL: J21, J60.

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## **The economic effects of emigration: a literature review<sup>2</sup>**

### INTRODUCTION

Migration flows affect the economic, social and cultural situation both in the sending and receiving countries. It should be no wonder then that population mobility has always been a focus for economists and policymakers. This paper presents a semi-systematic literature review of theoretical and empirical studies on the economic impacts of migration movements.

Although there is a vast economic literature on migration, most of the papers have so far focused on the impacts of immigration, trying to explain how the movement of people affects the economic situation of the countries that receive the migrants (see: Borjas, 1994; Dustmann et al., 2016; Kerr, Kerr, 2011 or Okkerse, 2008 for immigration literature surveys). The economic impacts of labour mobility are not, however, limited to the destination economies. Equally important is that migration flows have sizeable implications for the countries of origin, such as by influencing their demographics, labour market, inequalities, public finance, welfare or long-term growth prospects. Nevertheless, the studies on the effects of migrants for the sending economies, probably partly due to the lack of the high quality, detailed data on emigration flows, are somewhat neglected.

The goal of this paper is to summarize this under-researched part of migration literature. As the number of papers focusing on the consequences of outward migration movements is rather limited, it is not possible to conduct a full meta-analysis of this part of the migration literature. Hence, this paper overviews the most

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significant studies investigating the topic, discussing different research methods, the main findings and the limitations, thus ultimately identifying existing gaps and directions for future research.

In this paper we focus on five of the most frequently discussed in the literature dimensions of the economic impacts of emigration. First, since in many countries the migration movements are heavily skewed towards educated individuals, we overview the consequences of a “brain drain”, i.e. the disproportionately high departure of skilled professionals. Second, changes in the migration patterns can significantly affect the labour market outcomes of those who remain behind. Consequently, we focus on the wage adjustments in the countries of origin. Third, as the increasing number of international emigrants is often accompanied by a rise in money transfers sent to the home countries, we next explain the role of remittance inflows. Afterwards, we move to the existing evidence on how migration affects the fiscal situation of the sending economy. After all, migrants are generally young and well-educated, so their tax contributions are usually higher than the received benefits. As mentioned above, migration impacts the economies via multiple channels, both positively and negatively. Thus, a large body of migration literature attempts to evaluate the welfare effects of population movements. The findings from these studies are reviewed in the fifth section of the study. The sixth part of the paper discusses how the areas mentioned in the previous sections were affected by the large emigration wave following the 2004 EU enlargement. The last section offers conclusions.

#### ECONOMIC ADJUSTMENTS IN THE SENDING COUNTRIES “BRAIN DRAIN”

In most sending economies, the skill distribution of emigrants is heavily biased towards workers with a strong educational background, i.e. the share of highly skilled workers among emigrants is much higher than the share of highly skilled workers in the total population (see: Arslan et al., 2015 or Biavaschi et al., 2020 for calculations based on DIOC data). The consequences of this disproportionately high outflow of highly skilled labour for the sending economies, often referred to as a “brain drain”, has long been a focus for economists, beginning with the papers by Grubel and Scott (1966), Johnson (1972), Bhagwati and Hamada (1974) and Bhagwati and Rodriguez (1975). These early theoretical studies showed that brain drain depletes the human capital accumulated in the country and diminishes the fiscal revenues and hence results in potentially large costs for the sending economies. As suggested by Lucas (1988), those economies with lower levels of human capital also use other production factors less efficiently. Hence, the loss of the highly skilled can have detrimental effects both on the potential output and the actual growth rate of GDP.

More recently, however, both theoretical and empirical studies started to emphasize the countervailing positive effects of highly skilled emigration.

First, Mountford (1997), Stark *et al.* (1997) and Beine *et al.* (2001) show that the option to emigrate incentivizes people to invest in their education (“brain gain”). Not everyone encouraged to invest in fact leaves the country, which means that the possibility of emigration can raise the stock of human capital in the home economy. These theoretical considerations were later confirmed empirically by Batista *et al.* (2012) for Cape Verde, Shrestha (2017) for Nepal and Dinkelman and Mariotti (2016) for Malawi.

Second, the analyses of the international mobility of workers often emphasize the important role of return migration. Around 30% of migrants return to their home countries within twenty years (Karin, Giovanni, 2009). When they return, they bring with them the skills they have acquired abroad. These skills raise the level of human capital accumulated in the country and hence increase economic growth. Work experience gained abroad is usually highly valued at the home locations, and greatly enhances the earnings of the return migrants (Dustmann *et al.*, 2011). Moreover, return migrants often bring assets they accumulated in the richer destination countries and invest them in the home country, thereby boosting the local economy.

Other channels through which skilled emigration can positively affect the source economy include the “brain bank”, i.e. emigration of highly skilled individuals helps the remaining innovators gain access to valuable knowledge accumulated abroad, increases diasporic network effects, i.e. migration facilitates business cooperation between home and foreign economies, and has a positive impact on trade as emigrants are usually more willing than foreign citizens to purchase goods produced in their home economy.

## WAGE EFFECTS

A large body of migration literature analyses the labour market effects of migration, and in particular the impacts on the wages of non-migrants. According to the standard law of supply and demand, a reduction in labour supply resulting from emigration should lead to an increase in wages on the local labour market. The empirical investigation of this theory is, however, far from easy since, as pointed out by Dustmann *et al.* (2015), information on emigrants is difficult to obtain. To overcome this obstacle, Aydemir and Borjas (2007) and Mishra (2007) exploit the fact that most Mexican emigrants move to the US, and use the US census data to measure the size and composition of the Mexican emigrant population. In the next step, the authors use the Mexican censuses to obtain data on wages and calculate the correlations between the wages of different age-skill groups of the Mexican population and the proportions of emigrants from the same groups. Both studies find a significant positive correlation between the level of wages in Mexico and emigration rates. Additionally, Aydemir and Borjas (2007) point out that emigration plays a significant role in the evolution of the Mexican

wage structure, leading to a rise in relative wages in the middle of the Mexican wage distribution and to a drop at the extremes. A similar empirical strategy was employed by Elsner (2013a) to investigate emigration from Lithuania. To describe the population of Lithuanian emigrants, he uses data from Ireland and the UK. This approach has obvious limitations, as it does not account for the migrants living in other destination locations. The analysis of Elsner (2013a) confirms the positive impact of population outflows on the level of average wages and a greater rise in wages in groups of workers with higher emigration rates. In earlier studies, a positive link between the emigration and home wages in Sweden and Ireland was found by Karlstrom (1985) and O'Rourke (1995), respectively.

Other studies on the effect of emigration on local labour markets include, for example, Hanson (2007) who uses Mexican microdata from 1990 and 2000 to show that the strongest wage increases were observed in the Mexican states with the highest emigration rates, Elsner (2013b) who uses Lithuanian data to calibrate the structural model of labour demand and finds a significant effect of population outflows on the wage distribution between young and old workers, and Docquier *et al.* (2014) who calibrate the aggregate model of labour demand and supply using the data on bilateral emigrants stocks for 195 countries in 1990 and 2000, and find that emigration negatively affects the wages of less educated non-migrants and increases inequalities within the country.

### INCOME EFFECTS

The negative consequences of large population outflows can be limited by the inflow of remittances, which are an important source of income in many developing countries (Rapoport, Docquier, 2005). Mandelman and Zlate (2012) and di Giovanni *et al.* (2015) analyse the insurance role of remittances and conclude that remittances not only raise household income but also allow consumption smoothing and serve as a buffer against negative income shocks, and hence are welfare improving.

As noted in the literature, remittances are important not only from the perspective of the individual household, but also for the economic aggregates of the remittance-receiving economies. Moreover, there is a series of papers focusing on the labour market impact of remittances, highlighting their role in the evolution of labour supply and wages. Many studies find that households receiving money transfers from abroad limit their labour market participation (see e.g. Grigorian, Melkonyan, 2011 or Kim, 2007). Additionally, through their impact on labour supply, remittances can indirectly exert a positive pressure on the aggregate level of wages. A contradicting view on the role of remittances for labour participation was presented by Posso (2012). This author uses the aggregate level data on a panel of 66 developing economies and shows a positive relationship between remittances and aggregate labour supply. A possible explanation of this result is that neighbouring households notice the benefits of remittances and

hence increase their labour supply in order to cover migration-related costs and help their family members emigrate. Remittances, similarly to other non-market income transfers, also have significant impacts on reservation wages, occupational choice and investment opportunities, including those concerning education and training (Chami et al., 2018).

### FISCAL EFFECTS

By affecting labour supply and changing the composition of society, emigration can potentially affect the fiscal situation of the sending country. Emigrants, who are usually at their most productive ages and positively selected in terms of educational attainment, tend to contribute more in taxes than they receive in benefits and therefore their absence might create a great burden for the public purse of the source country.

A series of papers have analysed different possible taxation schemes that could offset the losses incurred by the sending countries, with the prominent example being a “Bhagwati tax” (Bhagwati, Wilson, 1989)<sup>3</sup>. The empirical evidence on the fiscal implications of emigration is, however, very scarce. Johansson (2008) uses a dynamic accounting framework developed by Storesletten (2003) to identify the relations between the fiscal costs of emigrants in Sweden and their personal characteristics. The identified costs appear to be quite high in the aggregate, but very heterogeneous across workers. It is more costly for the government if the emigrant is a middle-aged man with a university degree. This paper, however, does not account for the general equilibrium effects, which seems to be crucial as changes in factor prices caused by migration affect government revenues from taxation. Desai *et al.* (2009) analyse how skilled emigration to the US affects fiscal accounts in India. The authors use the Mincer wage regressions to estimate the counterfactual wage series that the Indian emigrants would have earned in India if they had not decided to leave the country, and then integrate these calculations with the model of the Indian fiscal system. Their results suggest that in 2000 Indian emigration to the US cost India net tax contributions equal to 2.5% of the total fiscal revenues. It was also pointed out that these losses were partially offset by an increase in remittances transferred to the country.

Many countries experience increasing demographic strains. Rising longevity and declining fertility create large burdens for the unfunded pensions systems, in which the benefits of current retirees are financed by the contributions of current workers. As migrants are usually young, they are sometimes seen as a remedy for these problems (Han, 2013). The idea that immigration can alleviate the pension burdens is not new

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<sup>3</sup> A “Bhagwati tax”, also known as a “tax on brains”, should be collected on the earnings of skilled emigrants, received abroad and redistributed within the home country.

and goes back at least to Razin and Sadka (1998). Intuitively, the outward migration should have adverse effects and thus threaten pension system sustainability. To the best of our knowledge, this topic is, however, still relatively unexplored.

### WELFARE EFFECTS

As described above, migration impacts economies in myriads of ways. Consequently, a number of papers seek to capture the complex interactions between different economic mechanisms and estimate the global welfare effects of migration by using large multi-country macroeconomic models.

Parts of these papers try to evaluate the impact of migration on global welfare by comparing the world with the observed levels of migration with the autarky, in which no migration movements are possible. Aubry *et al.* (2016) use a multi-country structural model of the OECD economy that accounts for the interactions between the labour market, fiscal, and market size effects of migration, and find that recent migration has been beneficial for around 69% of the non-migrant OECD population (mostly residing in the immigration countries) and most of this gain comes from the market size effect, i.e. increasing the variety of goods that are available to consumers. Di Giovanni *et al.* (2015) calibrate the multi-sector model of the world economy with cross-country differences in labour productivity, international trade, remittances and heterogeneous workforce. According to their estimates, cross-border mobility generates around 5 to 10% welfare gains for the main receiving countries. In the group of sending countries, the welfare gains are only observed for those with high levels of received remittances.

Other papers calculate the welfare effects of migration by comparing the world with the currently observed level of migration to the counterfactual scenario where the number and/or composition of migrants is changed. For example, Klein and Ventura (2009) use a two-region life-cycle model with endogenous migration and cross-country TFP differences, and observe large gains in output, capital accumulation and welfare from removing barriers to labour mobility; Marchiori *et al.* (2013) develop a multi-region general equilibrium model of the world economy characterized by overlapping generation dynamics and argue that prevalent high-skilled emigration and brain drain can be very harmful for the sending countries; Biavaschi *et al.* (2020) use a multi-country model with trade, remittances and human capital externalities to compare the current world with the counterfactual, where the skill structure of migrants is changed, i.e. all migrants are neutrally selected from their home countries, and find that migration is beneficial for most receiving economies and for the sending economies where migration externalities such as remittances, brain gain and the network effect in trade are strong.

The above studies focus mainly on the welfare of non-migrants. The biggest gains are, however, captured by migrants themselves (Clemens, 2011). Although migrants

can benefit greatly by moving to higher-wage economies, a number of papers highlight the significant differences in the labour market performance of migrants and indigenous workers. These differences are only to a small extent explained by economic discrimination. More importantly, they result, at least initially, from imperfect substitutability between immigrants and natives (Dustmann, Preston, 2012; Scharfbillig, Weissler, 2019). After all, migrants may differ in work experience and often face language barriers. When migrants arrive in the host countries, they gradually acquire knowledge of the language (Lessem, Sanders, 2020), country-specific skills, customs and become familiar with the nature of the local labour markets, and these factors tend to raise their earnings (Chiswick, 1978). As a result, the economic situation of immigrants improves with the duration of stay in the destination country (Büchel, Frick, 2005; Busch et al., 2020) and the gap between native and foreign-born workers declines over time (Lehmer, Ludsteck, 2015).

#### EU POST-ENLARGEMENT EMIGRATION

This part of the article discusses how the areas mentioned in the previous sections were affected by the large emigration wave from eight Central and Eastern European countries (EU8) after their entry to the EU in 2004.

The freedom of movement of workers is one of the four fundamental freedoms guaranteed by EU law. It entitles EU nationals not only to freely travel across the EU but also to work in other member states. Following these regulations, the old member states had to open their labour markets for the new entrants<sup>4</sup>. Consequently, the new EU8 countries experienced large migration outflows to richer old member states. As reported by Baas *et al.* (2010), the number of EU8 citizens living abroad more than doubled between the end of 2003 and the end of 2007. An outflow on such a massive scale had never been experienced before by these countries.

Post-accession migration received a lot of attention in the economic debate. A large number of studies focus exclusively on the characteristics and consequences of migration for one particular country (e.g. Elsner, 2013b or Dustmann et al., 2015), whereas the others analyse migration from the perspective of the European Union as a whole (e.g. Caliendo et al., 2017). The latter group include mainly studies based on theoretical frameworks and aggregate migration data. For example, Baas *et al.* (2010) use two different general equilibrium models, i.e. a structural model with a nested production function and wage rigidities and a CGE model, to argue that EU integration led to sizable increases in aggregate output but had only moderate impact on the labour markets of the integrated area. According

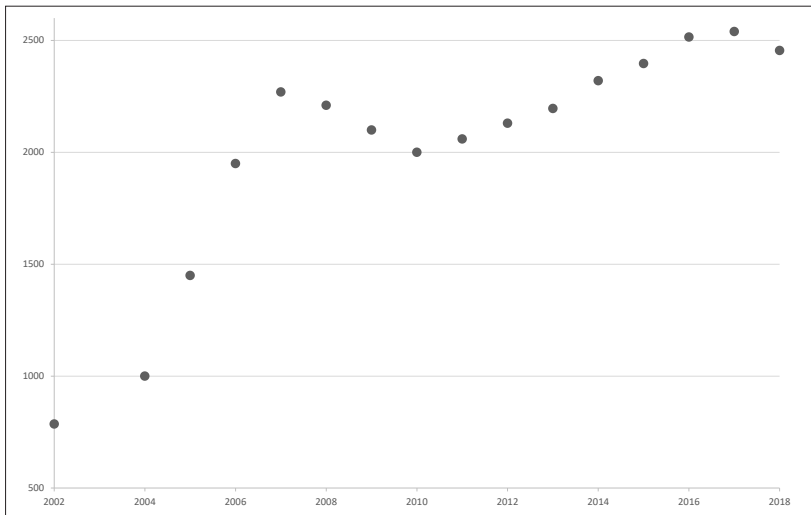
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<sup>4</sup> According to the Accession Treaty of 2003, the old member states could take advantage of the transitional agreements and postpone access to their labour markets. The first countries which opened their borders in 2004 were the UK, Ireland and Sweden.

to the authors' calculations, in the short-run the wages in the new member states might increase by 0.3% and the unemployment rate might drop by 0.4 pp., but in the long-run, due to adjustments in capital stocks, migration seems to be neutral for wages and unemployment in these economies.

Country studies are usually empirical, analyse almost exclusively the implications for the labour market, and focus mainly on the Baltic states, in which emigrant to population ratios are the highest (e.g. Thaut, 2009; Hazans, Philips, 2011 or Anniste et al., 2012) or Poland, i.e. the country with the highest absolute number of emigrants.

Poland was the largest economy entering the EU in 2004. Joining the EU significantly increased Poles' mobility and resulted in large migration outflows from the country. Figure 1 presents the evolution of the number of Poles living abroad based on the estimates of the Polish CSO. The Figure clearly shows that in the post-accession period, the stock of Polish emigrants rose rapidly and significantly. Between 2002 and 2008, it nearly tripled. The small decline observed in the later years resulted from cyclical factors related to a global financial crisis rather than from a change in long-term tendencies. More recently, we again observed a moderate, upward trend in the stock of Polish emigrants.



**Figure 1. Number of Poles living abroad (in thousands)**

Source: Polish CSO, the data corresponds to the number of Poles living abroad for more than two months (before 2006) or more than three months (since 2006). Differences in the duration of stay abroad before and after 2006 result from the change in the data reporting introduced by Polish CSO.

The analysis performed by Kaczmarczyk and Okólski (2008) suggests that the migration outflows from Poland after the EU enlargement were very different from previous emigration waves. More and more migrants were young, well-educated



and, at the same time, living in small, economically backward regions with limited employment opportunities. Similar conclusions regarding the selectivity of Polish post-accession emigration were drawn by Barslund *et al.* (2014), Fihel *et al.* (2006) and Kaczmarczyk *et al.* (2010). These papers emphasized that the impact of the increased population outflow on the Polish labour market was rather moderate and did not contribute to a significant reduction in the unemployment rate or increase in wage pressure<sup>5</sup>. According to these studies, the decline in unemployment rates and the growth in wages in this period resulted from favourable business cycle factors and restructuring effects. Changes in the wages of stayers were also analysed in more theoretical frameworks. For example, Budnik (2008) used a model with search and matching factors and migration flows, and confirmed the mediocre response of wages to emigration.

Although the identified impact of emigration on Poland's wages was only slightly positive, changes in the skill composition of Poland's population resulting from emigration could potentially affect the discrepancies between the earnings of different skill groups. This presumption was confirmed by Dustmann *et al.* (2015) who used the LFS data on the individuals who were absent from the households at the time of the survey and had been living abroad for more than three months, to show that the change in the level of income differed among the skill groups and mirrored changes in the relative labour supplies.

As far as the remittances are concerned, their role, both in Poland and other CEE new member states, has increased since the EU-accession: according to the World Bank data, the remittances received to GDP ratio in Poland increased from 0.8% in 2002 to 1.2% in 2018, with a peak at 2.5% in 2006. After EU-entry, remittances have significantly contributed to the growth of disposable income, in particular for the residents of small towns and rural areas (Kindler, 2018) and boosted the aggregate consumption (Barbone *et al.*, 2012).

As discussed in previous sections, emigration might potentially have important implications for fiscal revenue and expenditure. However, as argued by Atoyan *et al.* (2016), the impact of emigration on the overall fiscal position in the CEE region has been small and short-lived.

## CONCLUSIONS

Despite its great economic relevance, the consequences of emigration for non-migrants remain relatively under-researched (Zaiceva, 2014). The existing empirical studies lack a general equilibrium dimension and hence are not very helpful in assessing all important long-term macroeconomic consequences.

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<sup>5</sup> These findings are in contrast to the conclusions drawn by the studies on the Baltic states, according to which emerging labour shortages led in these countries to strong wage growth and reduction in unemployment.

The other obvious limitations of these studies are the limited availability and the poor quality of the data on emigration. As pointed out by Clemens (2011), the detailed statistics are either not collected or are confidential. On the other hand, the publicly available data is often incomparable over time and between countries, and is frequently released with significant delay. These shortcomings are mitigated by the existing general equilibrium models for labour mobility. However, these theoretical frameworks are usually highly aggregative and hence silent about many important redistribution effects, and they offer little help in designing and targeting social and economic policies. Considering the above, the migration research still faces many challenges and much work is needed to fill the existing gaps. The interesting directions for future studies include the so far rather neglected fiscal effects of emigration and, in particular, its implications for pension system sustainability. Moreover, the developed theoretical models should include more dimensions of the agents' heterogeneity, thanks to which they would be able to give a broader view on the impact on economic inequalities and redistribution, and to identify the winners and losers of population movements.

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### Summary

Despite great policy, social and economic relevance, the consequences of international population movements for the sending countries remain relatively under-researched. Migration economics has so far focused mostly on the impact of immigration, trying to explain how the movement of people affects the economic situation of the countries that receive migrants. Studies on the source economies are mostly empirical and analyse the effects of outward population movements on local labour markets, and in particular the wages of those who stay behind, as well as the consequences of brain drain. This paper conducts a review of the literature on the economic impacts of migration movements. It presents the current state of knowledge and main findings from existing empirical and theoretical studies, focusing on five areas: consequences of brain drain, implications for wages of non-migrants, role of the remittances sent by emigrants to the home countries, fiscal effects and welfare consequences. We describe different approaches used so far in the literature to evaluate the effects of emigrants on non-migrants, focusing both on the methodology, findings and limitations. The article also tries to identify gaps in the existing literature, as well as the potential directions for future research. Finally, we place special emphasis on the consequences of population movements following the 2004 EU enlargement, and particularly, on the emigration from Poland as the largest economy entering the EU in 2004.

*Keywords:* emigration, labour market, economics of migration.

### Ekonomiczne skutki emigracji: przegląd literatury

#### Streszczenie

Choć międzynarodowe przyipywy ludności mają znaczący wpływ na wiele płaszczyzn życia politycznego, społecznego i ekonomicznego, to wciąż relatywnie niewiele wiadomo o ich konsekwencjach dla krajów wysyłających migrantów. Zdecydowana większość pozycji literatury ekonomicznej poświęconych ruchom migracyjnym skupia się na konsekwencjach imigracji i próbuje wyjaśnić, jak




mobilność ludności wpływa na sytuację ekonomiczną panującą w kraju przyjmującym migrantów. Mniej liczne badania o krajach wysyłających, to w głównej mierze prace empiryczne, które mają na celu analizę skutków odpływu ludności dla lokalnego rynku pracy, a w szczególności płace w krajach wysyłających emigrantów, oraz konsekwencje „drenażu mózgów”. Niniejszy artykuł dokonuje syntetycznego przeglądu literatury emigracyjnej. Podsumowuje on obecny stan wiedzy oraz wnioski z istniejących teoretycznych i empirycznych badań nad konsekwencjami emigracji, skupiając się na pięciu obszarach: konsekwencjach drenażu mózgów, implikacjach dla poziomu płac niemigrantów, skutkach napływu przekazów pieniężnych, efektach fiskalnych oraz efektach dobrobytowych. Opracowanie przybliży różne podejścia wykorzystywane w literaturze ekonomicznej do analizy konsekwencji migracji dla krajów wysyłających, koncentrując się przy tym zarówno na zastosowanych narzędziach, otrzymanych wynikach, jak i ograniczeniach wykorzystanych podejść, a także stara się naświetlić istniejące w literaturze luki i możliwe kierunki dalszych badań. W pracy dużą uwagę poświęcono także tematyce przepływów ludności po rozszerzeniu Unii Europejskiej w 2004 r., a w szczególności emigracji z Polski, czyli największej gospodarki wstępującej w tym roku do wspólnoty.

*Słowa kluczowe:* emigracja, rynek pracy, ekonomia migracji.

JEL: F22, J31, J61.



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## **The process of successful aging in rural areas – an analysis of the phenomenon in south-eastern Poland**

### INTRODUCTION

In Poland, the aging process of the population is noticeably slower than in other European countries (Bogusz, Ostrowska, 2016, pp. 82–90). Although the data related to the aging of Polish society includes rural areas, the rate of aging in these areas varies slightly from that occurring in large urban areas. Both the demographic and the socio-economic situation of the elderly in rural areas also differs in many aspects from the situation of the elderly in urban areas, particularly large cities. It is also worth noting that, although the aging process of the population will continue to take place simultaneously in both of these environments, it is forecast that the countryside will remain “younger” than the city.

Therefore, the question arises: how is aging in Polish rural areas proceeding at present? Does the situation of the elderly in rural areas fit the concepts of successful aging? Is this concept actually a reaction to the social exclusion of older people? The aim of the present paper is an attempt to answer questions of this type. The analysis of the situation of elderly people in the rural areas of south-eastern Poland will take account of subjective factors, such as assessing the perceived

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attitude of the environment towards elderly people, the vocational situation of the respondents, satisfaction with their material status, health condition, relations with individual family members, level of self-sufficiency, and the market of services and products aimed at them. Elements of this type are consistent with the concept of successful aging within the group of definitions from the area of “life satisfaction”, “mental resources” and “biomedical theories”.

It should be mentioned that the term “successful aging”, which is discussed in more detail later in this paper, should refer to elderly people who live longer than the average life span for their demographic group, and whose level of life quality is clearly higher than average. Furthermore, as described by Zadworna-Cieślak and Finogenow (2012, p. 122), “*such people lead a lifestyle stimulating good aging. They experience happiness, fulfillment and good health in old age as a result of positive choices concerning their lifestyle and good behaviours*”.

#### AGING THEORIES

The aging process of organisms, in the solely biological perspective, is treated as a natural phase of development and as a “multi-layer and multi-dimensional process, dependent on many concurrent factors, internal and external (genotype and phenotype – namely the impact of the environment), characteristic of the entire living world – all living organisms” (Szarota, 2013, p. 12). This mainly consists in the declining possibilities for the structure to regenerate as well as for self-regeneration capabilities of tissues and it is a situation in which “involution processes dominate over the evolution processes”. In the case of humans, aging may progress variously, depending on individual differences. This is associated mainly with lifestyle, habits and genetic factors.

A better understanding of the problem of how individuals and society age can be achieved thanks to psychosocial concepts of old age. It is worth focusing on several of these. On the grounds of sociology, we can refer to the **activity theory**, compliant with the structural and functional concepts of Havighurst, Albrecht and Cavan, assuming that an individual perceives himself/herself from the point of view of the performed social roles (Osiecka-Chojnacka, 2012, p. 103). The process of aging results in changes within the previously performed roles, although it may also create an opportunity for their continuation. It is important to note that for old age to be satisfying, it must go hand in hand with activity, preferably long-term and of various types. This obviously depends strongly upon the health condition of the elderly people, and also applies to those who were active previously. On the other hand, the limitation of activity can lead to marginalization and social exclusion on various levels.

The **disengagement theory** of Cumming and Henry is immediately related to changes in performed social roles. Disengagement from performing certain roles

may result in the weakening of emotional bonds with the environment (Osiecka-Chojnacka, 2012, p. 103). A measurable assumption of this theory is the belief that the exclusion of elderly people may generate benefits, both for them as well as for society, such as those connected with the labour market. This is associated with two issues: an elderly person does not feel the pressure to “be productive” and, at the same time, vacates a job position for a younger person (Kowalska, Niedziółka, 2016, pp. 45–55).

The *aged subculture theory* of Rose is to some extent connected with the previous ones and should be associated with the interactionist trend. According to this concept, elderly people form the “third age” subculture, included in the group of “disengagement subcultures” (Niezabitowski, 2007, p. 99). This is associated with the exclusion of elderly people from the performance of middle age roles, as well as from contacts with other age groups. The formation of subcultures may be fostered by nursing homes, day care centers, clubs for elderly people and various kinds of associations (Klimczuk, 2012, p. 25).

Another concept connected with the functioning of elderly people in society is the *social breakdown theory* (also known as the labeling theory or the competence theory) of Kuypers and Bengtson. According to this theory, an individual perceives himself/herself the way the environment reacts to them, which, in turn, is reflected in this individual behaving according to the expectations of the environment in which they live. Such a situation may result in the development of a dependence on the labels they are assigned, e.g. useless people (Szopa, Ślęzak, 2013, pp. 282–283).

On the other hand, the *modernization theory* of Cowgill and Holmes describes the historical factors defining attitudes towards the problem of old age on the macro scale. This concept is based on the opinion that the process of transfer from pre-industrial to modern societies modified the social roles performed by elderly people, and, which is particularly important, reduced their status. They gradually lose their advisory role and cease to be authorities for younger generations (Klimczuk, 2012, p. 28). This is associated with socio-economic transformations, which in the opinion of Cowgill are related to four aspects: development of medicine, technological progress, process of urbanization, and popularization of education (Jurek, 2012, p. 29). These changes have an adverse impact on the way old age is perceived, as well as on the determination of the place and role of elderly people in society.

It is also worth drawing attention to the *exchange theory*, which is based on the assumption “of the transactional nature of the social whole, meaning the commonness of phenomena consisting in giving and taking, except for activities taken under compulsion and altruistic activities” (Żurek, 2002, p. 27). The process of aging is in this context defined as a period when the value of the resources of an individual – both health and material related – decreases with age. From the point of view of the effectiveness of exchange, this means its limitation, and hence a decrease in participation in social life (Osiecka-Chojnacka, 2012, p. 104). The

exchange process is intergenerational and refers not only to the economic sphere but also to the psychological or social spheres (Szopa, Ślęzak, 2013, p. 280).

Finally, it is also worth mentioning the *age stratification theory* according to White-Riley, Johnson and Fonner. In their opinion, age is similar to a social class or layer, and hence may constitute the basis for discrimination of groups of people. Society is divided into age groups, and being affiliated with a certain group determines the roles that the individual performs, as well as the individual's social status or position. Furthermore, age may affect the level of respect an individual receives, although this has to be placed in a strictly cultural context (appointing the place of elderly people in society) (Szopa, Ślęzak, 2013, p. 282).

Another category of the concept of aging covers the economic sphere, although remaining strictly related to the psychosocial aspects. The main and most frequent strategy characterized in the subject literature is the “*silver economy*” *strategy*. In the opinion of Wunsch, the aging process of the population, apart from the obvious drawbacks, may have a positive impact on the economy. This is associated especially with new products being aimed specifically towards elderly people. They are treated here as an “active, productive and socially useful group” (Szarota, Kijak, 2013, p. 30), since they contribute to the development of new segments of the services market, including the tourist and leisure segments (free time market), facilitating everyday life, or related to care, rehabilitation and financial services adjusted to age (mainly within the scope of consulting and training, covering management of the possessed funds (Szukalski, 2012, p. 4).

Another concept of an economic nature is the *theory of the political economy of aging*, as specified by Estes, Walker and Guillemard, among others. This refers to the theory of conflict and political economy of Marx (Klimczuk, 2012, pp. 4–5). It is associated with the functioning of economic and social differences in society and remains strictly related to the phenomenon of *ageism*, namely age-conditioned discrimination. The starting point for this theory lays in the interrelations between elderly people and society, e.g. through limitation of income or access to goods (Klimczuk, 2012, pp. 25–26).

A separate group consists of the *concepts of successful aging* of the individual, which, as an issue tackled in this paper, will be discussed in the next chapter.

#### THE CONCEPT OF SUCCESSFUL AGING – A REVIEW OF DEFINITIONS

The term “successful aging” is believed to have been created by Havighurst and Albrecht, who first used it in 1953 (Halicki, 2008, p. 13), while Rowe and Kahn popularized this term (Zadworna-Cieślak, Finogenow, 2012, p. 122). The simplest way to define this notion is as a “well-progressing process leading to the subsequent stage of life, namely old age” (Mamak-Zdanecka, 2015, p. 19).

The starting point for the concept of the successful aging of an individual is the distinction of aging into normal, pathological and successful aging. Normal aging, otherwise known as physiological aging, is a process that assumes changes related to the passage of time as it affects the body, but which progresses gradually. On the other hand, pathological or abnormal aging progresses rapidly and is usually associated with disease processes. Finally, successful or optimal aging is not only gradual (similar to the normal process) but is also accompanied by certain positive phenomena. Characteristic features of this form of aging process include long life, social competences, mental and physical health, control over one's own life (according to Baltes and Baltes (1990)), good health and satisfaction with life (according to the concept of Palmore), good health condition, activity and mental acuity (according to Bromley) (Zajac-Lamparska, 2012, p. 91).

Prior to discussing the definitions construed by various authors, it is worth referring to the division proposed by Bowling. She split the definitions into five groups, each with a dominant category: area of social functioning, life satisfaction, mental resources, biomedical perspective, and the common perception of successful aging (Halicki, 2008, p. 13). Definitions from the area of social functioning refer mainly to such issues as social commitment, participation, activity and social contacts, and social roles. Successful aging understood in this way should be associated with good health and fitness, both mental and physical. In turn, definitions related to the area of life satisfaction should be associated with defining the quality of life of elderly people. The feeling of satisfaction in many aspects, well-being in the psychological and social meanings, and the sense of control over one's own life are all factors that need to be considered in this perspective (Bałandynowicz-Panfil, 2010, p. 114).

On the other hand, the perspectives of successful aging being part of the area of mental resources should be associated with creativity and personal development, the independence and autonomy of an individual, and the sense of self-esteem and having a purpose in life. The next group of definitions of successful aging consists of biomedical theories, which describe this process as the "optimization of the expected life span while minimizing the physical and mental losses" (Halicki, 2008, p. 13). In other words, when determining successful aging, additional factors are taken into account, which constitute the basis for a satisfactory life "in the medical perspective, in the form of mental and physical health, including the functionality of a given person" (Bałandynowicz-Panfil, 2010, p. 114). Factors taken into account with these definitions include: longevity, active life, lack of disability or other disorders, high level of cognitive and mental functions, etc.

The last group of definitions covers the common perspectives, where the criteria are determined by elderly people themselves. This type of approach is often used in empirical studies and allows models devised by researchers to be compared with subjective assessments presented by elderly people (Prus, 2010, pp.

39–40). Sometimes clear discrepancies appear, as elderly people may believe that they are aging successfully, even though this is not confirmed by the biomedical classification (Halicki, 2008, p. 13).

One of the most popular approaches to the issue of successful aging is presented by Ryff (1982, pp. 209–2014), defining it as “positive or ideal functioning related to developmental work over the life course”. It is defined slightly differently by Palmore, who pays attention to the fact that it is a “combination of optimal survival capability, good health and the feeling of life satisfaction” (Zadworna-Cieślak, Finogenow, 2012, p. 122). According to the concept of Freysinger (1990), “a variety of factors have been examined as predictors of these states, such as age, socio-economic status, health, activity and social interaction, marital status, race, employment and residence”.

One variety of the concept of successful aging is “optimal aging”, which according to Robert D. Hill (Zadworna-Cieślak, Finogenow, 2012, p. 122) is a form of aging “based on inborn biological or genetic predispositions fostering longevity”, or “positive aging”, namely “a person’s use of the available resources for the purpose of optimization of the experience of aging” (Konieczna-Woźniak, 2013, p. 191). According to this approach, there are some resources that may be used to age in a positive way. These include specific inborn predispositions (mental), individual characteristics such as personality, exhibited attitudes or beliefs, and environmental conditions associated with medical procedures and access to medical and care services, as well as housing conditions, type of work performed, etc. (Konieczna-Woźniak, 2013, p. 191).

Finally, it is also worth noting that the shaping of the relations between elderly people and their environment and mental comfort is influenced by many psychosocial factors. A. Pierzchalska and P. Klag (2008, pp. 3–4) deemed the following factors to be the most important:

- Sudden change in living conditions and the environment, especially that related to retirement. It may be accompanied by a decrease in prestige, the breaking of social relations and a change in place of residence.
- Solitude resulting from loss of friends and relatives.
- Social isolation, being the cause of difficulties in adapting to a new environment or related to specific personality traits.
- Decrease in wealth, especially when it takes a form threatening the fulfillment of basic life needs and the sense of safety.
- Excess of free time and lack of possibility to use it in a satisfactory manner. This is often associated with a lack of specific interests.
- Monotony, boredom and emptiness often leading to affective disorders, e.g. depression.

Furthermore, the authors also indicate “incorrect attitudes towards aging displayed by the elderly people themselves, as well as towards them by their environment” (Pierzchalska, Klag, 2008, pp. 3–4).



## THE PROCESS OF SUCCESSFUL AGING IN THE RURAL AREAS OF SOUTH-EASTERN POLAND – RESULTS OF EMPIRICAL RESEARCH

As mentioned above, the basis of this paper is an attempt to compare the situation of elderly people living in rural areas of south-eastern Poland with the concept of successful aging. The starting point is the attempt to answer the question of whether the situation of elderly people in rural areas is compatible with the concept of successful aging. The analysis was conducted with the use of subjective factors, such as the attitude of the environment towards elderly people in the opinions of the respondents, their professional situation, satisfaction with their material status, health condition or relations with family members, whether they are self-sufficient and their assessment of the market of services and products aimed at elderly people.

The main source of information comprises the results of surveys conducted on elderly people from the districts of Nowy Targ and Myślenice, both located in the Małopolskie province. These districts were selected based on specified variables, providing information on the phenomena studied. The database for the statistical calculations was the GUS 2016 study. A correlation coefficient was used to verify the relationship between variables. Variables with a correlation above 0.7 were omitted. To examine the relationships that may occur between the studied traits in the general population, the  $\chi^2$  independence test was used. The study was conducted in 2017 on a sample of 150 people aged 60 and over, using a questionnaire designed specifically for the age group and taking into account its specificity.

The group of definitions for successful aging related to the social functioning of elderly people referred to how elderly people are perceived by the environment and what role they play in society. It is also worth drawing attention to what Kędra (2011, p. 201) refers to as “the characteristic feature of contemporary civilization”, namely the exclusion of elderly people from performing social roles. However, the results of the study conducted in the districts of Nowy Targ and Myślenice seem to contradict the above. Nearly two-thirds of the people aged 60+ deemed that the oldest generation is necessary for society, while only a few people stated that it is more of a burden. Additionally, a vast majority of the respondents stated that the attitude of the environment towards elderly people is positive.

Undertaking a professional activity at a late age is very important. It usually has a positive impact not only on improving (or maintaining at the previous level) of the financial situation of the elderly person and their family, but, equally importantly, it may perform a therapeutic function. This function may consist of an increase in self-esteem or the feeling of being needed, and may help alleviate the effects of sudden retirement. Unfortunately, elderly people in Poland relatively rarely decide to undertake professional work after reaching the retirement age. In the case of rural areas, those who are farmers are more likely to continue with such an activity, and rather than giving up the farm, they prefer to continue farming (Wojewodzic et al., 2015). Although there are many reasons for



such a situation, the most important are the relatively limited labour market for the elderly, individual choices of a life model and the society's attitude towards working retirees. Sometimes the attitude is negative, and the elderly people may be perceived as "taking jobs away" from people at a productive age. All these factors (and many others) mean that people relatively rarely work after retiring.

It is important to note that this situation will probably change over time. This is associated with the shaping of the retirement system, directly dependent on the demographic situation of the country, but also with the gradual arrival of people from younger age groups to retirement age, who quite commonly declare the will to remain active on the labour market after reaching the retirement age. However, it is assumed that the realization of these plans may be hampered by the relatively low educational activity of the future retirees as well as by the level of unemployment, mainly long-term, which is particularly problematic as it may lead to labour exclusion (Urbaniak, 2013, pp. 181–183).

Since the undertaking of professional work by elderly people involves many positive effects, it appears that it is worth examining the situation in the case of the surveyed people aged 60+.

**Table 1. Structure of respondents by education and professional activity**

Education	Respondents		Total
	Professionally active	Professionally inactive	
	%	%	%
Primary	3.6	28.6	32.2
Basic vocational	7.0	30.1	37.1
Secondary	9.2	7.6	16.8
Post-secondary	5.0	0.3	5.3
Higher	8.1	0.5	8.6
Total	32.9	67.1	100.0

Source: own study.

Only one-third of this group of respondents declared a professional activity, both in the form of supporting themselves through work and making extra money to supplement their pension. The lowest level of professional activity was demonstrated by elderly people having finished or unfinished primary education (approx. 4% of the group), while a slightly greater amount of activity was declared by graduates of basic vocational schools (almost 7%). It is important to note that few people with higher education did not work. Thus, we may see a clear relation – the occupational activity of elderly people grows alongside with the growth in the level of education (Table 1).

The level of satisfaction achieved in various aspects undoubtedly impacts both the quality of life of elderly people and the way they perceive the period of old age. As part of the study covered by this paper, people aged 60+ were asked

to identify their degree of satisfaction with regard to three areas of life, namely: individual family relations, health condition and housing condition. Assessments of this type seem to be important and directly influence identification of the subjective life quality of elderly people (Table 2).

**Table 2. Respondents' degree of satisfaction with regard to relations with family members, health condition and housing situation, by gender (%)**

Areas of life	Degree of satisfaction	Relations with family members	Health condition	Housing situation
Respondents	high	79.6	17.0	22.5
	average	18.1	59.6	62.1
	low	2.3	23.4	15.4
Total		100.0	100.0	100.0

Source: own study.

The respondents gave the highest ratings to relations with family members, with almost 80% of them defining the degree of satisfaction as “high”, and only a few people defining it to be “low” (2%). For the assessment of their own housing condition, “average” (62%) ratings were dominant, although “low” ratings were also significant (15%). For the assessment of health condition, there were fewer ratings of “average” and noticeably more of “low” (their share grew along with age). In this case, it is worth emphasizing the gender-dependent differences: nearly one-fifth of women and almost one-fourth of men were not satisfied with their health condition.

At this point, it is also worth mentioning another issue which affects the subjective assessment of the quality of life by elderly people, namely the savings they possess that may be used for their own purposes. In the case of the surveyed people aged 60+, the main intended purpose was to supply the household budget (almost half of the respondents spent their savings on daily living), followed by the purchase of their medications.

One problem remains directly connected to their satisfaction with their health condition, one particularly important for people at advanced age, namely that related to the ability to perform the activities of daily living. These possibilities enable or limit the activities of elderly people in almost every area of life. Half of the surveyed people aged 60+ had occasional difficulties with independently performing various kinds of daily routines. However, it is important to note that few of the people in the entire sample had continuous difficulties in this respect. When asked to indicate to what specifically their restrictions apply, they claimed that they had the greatest problem with cleaning their homes and with handling various matters away from home. Furthermore, for some (mainly men) it was sometimes difficult to prepare meals independently and to do the daily shopping. On the other hand, independent washing of their bodies or dressing was a problem for few elderly people.

In the case of those elderly people declaring difficulties getting around in their everyday life, the most numerous group used the assistance of family members (almost half of all answers) and neighbours. On the other hand, it was exceptionally rare to find answers relating to support of this type being provided by representatives of charity organizations (e.g. Caritas) or by social workers or health visitors. It is also worth mentioning that the respondents used the assistance of third parties relatively rarely, approximately once a month or less frequently. There were a few elderly people who declared the need for more frequent support, e.g. more often than once a week.

It is worth adding that the respondents, when indicating their concerns pertaining to further life, especially until late old age, mostly mentioned health concerns. The greatest fears among the elderly were: illness, infirmness, loss of memory, and other concerns to some extent related to health condition, namely pain, dependence on others and being a burden.

Despite problems with performing the activities of daily living and, in some cases, the need for assistance of third parties, the elderly would like to live in nursing homes in the future only to a small degree. The optimal situation would, in their opinion, be to remain in their own places of residence but with the possibility to use the emergency assistance of family members, friends and neighbours.

One of the economic concepts of aging, i.e. the *silver economy theory*, assumes that aging societies can be treated as an opportunity for the economy, rather than only as a threat. However, a condition that needs to be fulfilled is cooperation between elderly people, entrepreneurs and other business partners, as well as local administration and non-governmental organizations. Stimulation of the economy should also include the development of production and services intended specifically for the elderly.

This is why it was decided in the course of the study to check the needs and expectations of elderly people, and which services and products are missing from the Polish market, in their opinion (Table 3).

**Table 3. Services and products for the elderly which are missing from the Polish market, according to the respondents (%)**

Services missing from the Polish market, according to the respondents	%
Activities for elderly people in the local community	20.4
Discounts, season passes for elderly people to cinemas, theatres, museums	14.4
Radio and television programmes	12.3
Care services	10.2
Employment agencies for the elderly	9.1
Household appliances adapted to elderly people	8.9
Sport activities for elderly people	4.9
Educational offer for elderly people	4.2
Tourist services adapted to a specific lifestyle	4.1
Others	5.2

Source: own study based on: (CBOS, 2009, pp. 15–16).

The respondents' opinions clearly indicate that what they missed the most were activities in the local environment prepared specially for people of advanced age (a problem for one-fifth of all the elderly people), as well as discounts and subscription cards to cinemas, theatres, museums (constituting more than 14% of the answers in the entire sample). Subsequent places in the ranking were taken by radio and television broadcasts (approx. 12%) and shortages with regard to care services (significant for this group, and indicated by one-tenth of the respondents). A distant place in the ranking was occupied by tourist services adjusted to a specific lifestyle (approx. 4%) and by sports activities for elderly people (less than 5%) or educational classes (approx. 4%). It is questionable whether the relatively small percentage of answers indicating this type of shortage was associated with the broad offer addressed specifically to elderly people within the examined counties, or the more likely scenario of the low interest taken in such forms of activity.

In the case of shortages in availability for the elderly, it is worth emphasizing the differences depending on the gender and education of the respondents. Women more often than men missed access to discounts and subscription cards for elderly people, activities in the local environment, and household appliances adapted to the elderly. On the other hand, men would like to have more sports activities intended specifically for the elderly. The level of education of the respondents affected the way they answered questions on access to care services (a lack thereof was indicated mainly by the elderly people with finished and unfinished primary education), as well as employment agency services for elderly people (especially for people with vocational education).

## CONCLUSIONS

The process of successful aging may be discussed from many perspectives and cover many areas of elderly people's life. It may have biological, psychological and social dimensions. This concept can also be a method of combatting the social exclusion of older people. A broad approach to this matter was applied to a group of people aged 60+ from south-eastern Poland. The results of this study indicate that the subjective quality of life of elderly people in villages of the Małopolskie province was at an average level, which affects the possibility of drawing conclusions on the moderate course of the process of successful aging in this environment. The respondents perceived themselves as necessary for society, and they defined the attitude of the environment towards them as clearly positive. At the same time, they exhibited a rather moderate activity in the professional sphere (only one-third of them worked professionally, with people with higher education working the most frequently) and were rather satisfied with their life in the three main aspects: individual family relations, health condition and housing condition. They were relatively the least satisfied with their health situation,

which was undoubtedly associated with certain restrictions with regard to their ability to perform the activities of daily living, as well as with their concerns about the future based on their health. In the event of problems with getting around in everyday life, the respondents used mostly the assistance of their families and neighbours. Additionally, the respondents noticed large shortages in the services and products offered on the Polish market aimed specifically towards elderly people, which, in their opinion, were necessary for their efficient functioning in the local environment and for raising their quality of life.

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### Summary

In Poland, the aging process of the population is noticeably slower than in other European countries. The aging of Polish society concerns both municipal and rural areas. However, this process varies between these environments, both in terms of the pace and the scale of the problem. However, it is particularly significant that the forecasts indicate that rural areas will remain “younger” than urban areas in the future. The aim of the present paper was to attempt to answer

the question whether the situation of elderly people from the rural areas of south-eastern Poland fit the concepts of successful aging. The paper is based on the results of a study conducted in 2017 among a group of 150 people aged 60+, living in the districts of Myślenice and Nowy Targ. On this basis, it is possible to state that the respondents are rather happy with their contacts with the environment, and express a moderately high degree of satisfaction with their health condition, are not very professionally active, and notice high shortages on the Polish market in terms of services and products aimed especially at elderly people. Thus we may assume that the subjective quality of the life of the respondents in the villages of the Małopolskie province is at an average level and that it creates the possibility of drawing conclusions on the moderate course of the process of successful aging in this environment.

*Keywords:* aging theories, successful aging, rural areas, elderly people.

### **Proces pomyślnego starzenia się na wsi – analiza zjawiska na obszarze Polski południowo-wschodniej**

#### *Streszczenie*

W Polsce proces starzenia się ludności przebiega zdecydowanie wolniej niż w innych krajach europejskich. Fakt ten może cieszyć. Ale jednocześnie nie należy zapominać, że systematyczny wzrost udziału osób starszych w społeczeństwie to aktualnie jeden z najpoważniejszych problemów demograficznych, społecznych i gospodarczych w naszym kraju. Starzenie się polskiego społeczeństwa dotyczy zarówno terenów miejskich, jak i wiejskich. Jednakże proces ten przebiega w odmienny sposób w obu tych środowiskach, zarówno pod względem tempa, jak i skali problemu. Jednakże, co szczególnie ważne, w przyszłości według prognoz wieś pozostanie „młodsza” od miasta. Celem prezentowanego opracowania była próba odpowiedzi na pytanie o to, czy sytuacja seniorów z obszarów wiejskich Polski południowo-wschodniej wpisuje się w koncepcje pomyślnego starzenia się. Podstawę stanowią tu wyniki badań przeprowadzonych w 2017 roku na grupie 150 osób w wieku 60+ z terenu powiatów myślenickiego i nowotarskiego. Na ich podstawie można stwierdzić, iż respondenci prezentują się jako osoby raczej zadowolone z kontaktów z otoczeniem, o umiarkowanie wysokim stopniu satysfakcji w odniesieniu do swojego stanu zdrowia, niezbyt aktywne zawodowo i dostrzegające duże braki na polskim rynku w zakresie oferty usług i produktów kierowanych specjalnie do seniorów. Można więc uznać, że subiektywna jakość życia badanych seniorów z małopolskiej wsi jest na średnim poziomie, a to przekłada się na możliwość wnioskowania o umiarkowanym przebiegu procesu pomyślnego starzenia się w tym środowisku.

*Słowa kluczowe:* teorie starzenia się, pomyślnie starzenie się, obszary wiejskie, osoby starsze.

JEL: J14, R11, Z13.



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## **Green economy indicators as a method of monitoring development in the economic, social and environmental dimensions<sup>2</sup>**

### INTRODUCTION

In 2008, the world was confronted with multiple crises – fuel, food and financial. The result of these crises was the worst global economic recession since the Great Depression of the 1930s (Barbier, 2009). The green economy, which uses assumptions based on the idea of sustainable development, is a relatively new path for changes in modern economies and has become an answer to such crises.

Growing discussions and gradual implementation of the green economy into international and national policymaking have highlighted the need to measure the progress of the green economy. The first set of indicators to measure the transformation towards greening the economy were published in 2011 by OECD (Green Growth Indicators) and in 2012 by UNEP (Green Economy Indicators). These indicators, frequently updated and supplemented, establish the most important sources of knowledge in green economy research and are used by researchers from various fields of science. Over time, attempts have been made to create one universal measure – a synthetic indicator for simple international comparison of progress made in the green economy. The most problematic issue is the selection of indicators. Although the criteria for selecting indicators are common in different conceptual approaches, the classification of indicators, their values or significance, always triggers discussions and raises some doubts. It is generally agreed, at least for now, that it is impossible to create a single “one-size-fits-all” measure that could exhaust the theme.

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Against this background, the aim of the paper is a comparative assessment of selected sets of indicators used to measure the transformation towards the green economy in terms of four dimensions: economic, social, environmental and political. The sets of indicators proposed by OECD and UNEP, as well as such composite indicators as the Global Green Economy Index and Green Economy Progress, were all taken into account. Moreover, research on measuring the green economy in Poland were included: the Green Economy Index created by Bożena Ryszawska and the Green Economy Indicators in Poland, published in 2017 by Central Statistical Office in Poland.

#### EXPLORING THE DEFINITIONS: SUSTAINABILITY DEVELOPMENT, THE GREEN ECONOMY AND GREEN GROWTH

A policy of sustainable development first aims at achieving an optimal scale for the economy relative to the ecosystem (Daly, 2007). The idea of sustainable development was initiated in 1987 with the Brundtland Commission report “Our common future”, which indicated how essential it was to strive for the integration and cooperation of the three main elements: economy, society and environment. The document defined sustainable development as “one that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 16). The aspects of interdependence between the economic, social and environmental orders are by default part of the classic concept of sustainable development. The generalness of the proposed definition contributes to formulating new explanations of its essence from various points of view. However, most definitions of this phenomenon assume the equivalent importance of the economic, environmental and social aspects.

The green economy focuses on the relationship between the economy and ecosystems, providing the basis for the operationalization of sustainable development. Most definitions distinguish sustainable development from the green economy by describing the second as a tool that aims to achieve the goals set by sustainable development. The very concept of the green economy appeared for the first time in the report “Blueprint for a Green Economy” in 1989, where it occupied a leading position in the experts’ considerations on improving the economic situation of European countries. Then the priority was to care for the natural environment and improve the quality of life of societies. When attempting to define the concept of the green economy, it should be emphasized that there is no single, common definition that can be adopted by all existing organizations and institutions, both state and European. Selected definitions of the green economy or green growth are included in Table 1.

**Table 1. Selected definitions of the green economy**

Organisation	Definition
UNEP (2011)	The green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.
UNCTAD (2011)	The green economy is an enabling component of the overarching goal of sustainable development. It is defined as an economy that results in improved human well-being and reduced inequalities, while not exposing future generations to significant environmental risks and ecological scarcities.
EEA (2013)	The green economy is one in which environmental, economic and social policies and innovations enable society to use resources efficiently – enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us.

Source: own study based on: (United Nations Environment Programme, 2011; United Nations Conference on Trade and Development, 2011; European Environment Agency, 2013).

The Organization for Economic Cooperation and Development introduces another concept closely related to the green economy, but not identical – green growth. It should be noted that the concepts of the green economy and green growth are not the same: green growth is recognized as a path to the green economy. Examples of other definitions of green growth can be found in Table 2.

**Table 2. Selected definitions of the green growth**

Organisation	Definition
OECD (2011)	Green growth is about fostering economic growth and development while ensuring that the natural assets continue to provide the resources and environmental services on which our well-being relies. To do this is must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities.
World Bank (2012)	Growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters.
United Nations ESCAP	Green growth (...) is a strategy of sustaining economic growth and the job creation necessary to reduce poverty in the face of worsening resource constraints and climate crisis.

Source: own study based on: (OECD, 2011; World Bank, 2012; United Nations Economic and Social Commission for Asia and the Pacific, [http](http://)).

The concept of the green economy is quite new and it was not until the last few years that interest in it has grown. There is a need for further exploration of the subject, especially since the concept is considered by many experts as the only proper way to pursue socio-economic development, with particular emphasis on ecological matters. So far, no other justified and sensible vision has been created within the EU political strategies to match that of the green economy.

## DESIRABLE INDICATOR FEATURES AND MEASUREMENT TYPES

An indicator is a tool that is used to characterize a given condition. Indicators provide information on the past and current state of a given system. Indicators are used to enable the identification of certain trends that are important in determining the causal relations among the elements composing the system. The information from a given indicator may be quantitative or qualitative, depending on the problem being analysed, as well as on the availability and quality of data. Quantitative indicators, due to their measurable nature, enable a more consistent and universal comparison of given phenomena. Therefore, qualitative indicators are often expressed in a quantitative manner, e.g. ranks or percentages. Often there is a need to combine various indicators, especially while analysing complex phenomena. In those cases where a given phenomenon cannot be measured directly, it is necessary to use proxy indicators in order to describe this phenomenon as reliably as possible. Before use, the indicators should be assessed in many ways, including their basis features such as (UNEP, 2014):

- **Policy relevance** where the indicator must address issues that are of public interest relevant to policymaking,
- **Analytical soundness** requires the indicator to be based on the best available scientific knowledge to ensure indicator reliability,
- **Measurability of the indicator** is related to the need to reflect a given reality in a timely and adequate manner, with the indicators comparable between countries or regions and across time.

Monitoring progress towards the green economy requires collecting measurements from various fields and sectors. Environmental, economic and social information can be combined in many different ways. The literature suggests the following four approaches, which are directly adopted from the classification by Stiglitz, Sen and Fitoussi (2010):

- **dashboards** form a set of indicators representing information from various areas related to the green economy. Dashboards may contain different types of indicators expressed in a variety of units and include indicators from other classifications;
- **composite indices** aggregate various indicators into one by assessing and weighing the underlying indicators. A single indicator allows easy comparisons of progress made in the green economy between different countries and over different periods of time;
- **footprints** show whether current production or consumption patterns are in line with the planet's limits. They can measure single phenomena relevant to various sectors or environmental fields, or allow the combination of various economic and environmental issues into one indicator;
- **adjusted or extended economic measures of GDP, savings and wealth** correct conventional economic variables by taking into account the environmental dimension.

There is no “one-size-fits-all” route to monitoring green growth or the green economy, so each country must individually choose different measurement approaches and indicators, depending on its needs. Despite the development of different measurement frameworks with a strong focus on regional socio-economic conditions and environmental elements, it has been generally acknowledged that the final choice of indicators should be adapted to the specific context of the country (Green Growth Knowledge Platform, 2016).

## SELECTED MEASURES OF THE GREEN ECONOMY

### GREEN GROWTH INDICATORS BY ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT

The measurement framework by OECD identifies 26 indicators to capture the main characteristic of green growth and monitor progress towards green growth. The latest, updated and extended set of green growth indicators proposed by OECD, was published in 2017. As in previous editions, OECD segregates indicators into four inter-related groups (OECD, 2017):

- **Environmental and resource productivity of the economy** – indicators that reflect the efficiency with which various forms of economic activity use energy and other environmental resources (e.g. carbon productivity);
- **Natural asset base** – indicators that control the use of natural capital within sustainable limits (e.g. the availability of renewable natural resource stocks);
- **Environmental dimension of quality of life** – indicators that describe how environmental conditions and threats affect the well-being of society (e.g. natural disasters);
- **Economic opportunities and policy responses** – indicators that verify the economic opportunities related to green growth (e.g. innovation policy).

The authors of this classification pay attention to the fact that indicators must be interpreted in a social context specific to a given country. The fifth set of indicators supplements the basic information related to the socio-economic situation of the state and creates a context for proper interpretations.

The OECD rejected the idea of creating one composite indicator, arguing that although it would make communication easier, it would, at the same time, create more problems with aggregating the data components. Therefore, it was decided to define a representative set of headline indicators to track a few significant elements of green growth. Six headline indicators were distinguished and space for further indicators related to group “economic opportunities and policy responses” was included. It was also noted that the list was not closed and could be modified and supplemented over time, as presented in Table 3.

**Table 3. Headline indicators by OECD**

Area	Theme	Headline indicator
Environmental and resource productivity	Carbon and Energy productivity	1. CO <sub>2</sub> productivity
	Resource productivity	2. Non-energy material productivity
	Multifactor productivity	3. Environmentally adjusted multifactor productivity
Natural asset base	Renewable and non-renewable stocks	4. Natural resource index
	Biodiversity and ecosystems	5. Changes in land cover
Environmental quality of life	Environmental health and risks	6. Population exposure to air pollution (PM <sub>2.5</sub> )
Economic opportunities and policy responses	Technology and innovation Environmental goods and services Prices and transfers Regulations and management approaches	Placeholder: no indicator specified

Source: (OECD, 2017).

The list of indicators adopted by the OECD includes the main indicators and their components or supplements, and proxy indicators if the main indicators are not currently measurable. In the table below, the main indicators are numbered and in bold, their components or supplements are numbered and proxy indicators are bulleted (as shown in Table 4).

**Table 4. Review of green growth indicators by OECD**

The socio-economic context and characteristics of growth	
Economic growth, productivity and competitiveness	Economic growth and structure <ul style="list-style-type: none"> <li>• GDP growth and structure</li> <li>• Net disposable income</li> </ul>
	Productivity and trade <ul style="list-style-type: none"> <li>• Labour productivity</li> <li>• Multi-factor productivity</li> </ul> Trade weighted unit labour costs <ul style="list-style-type: none"> <li>• Relative importance of trade: (exports + imports)/GDP</li> </ul>
	Inflation and commodity prices <ul style="list-style-type: none"> <li>• Consumer Price Index</li> <li>• Prices of food; crude oil; minerals, ores and metals</li> </ul>
	Labour markets <ul style="list-style-type: none"> <li>• Labour force participation</li> <li>• Unemployment rates</li> </ul>
Labour markets, education and income	Socio-demographic patterns <ul style="list-style-type: none"> <li>• Population growth, structure &amp; density</li> <li>• Life expectancy: years of healthy life at birth</li> <li>• Income inequality: GINI coefficient</li> <li>• Educational attainment: Level of and access to education</li> </ul>
Group/theme	Proposed indicators

Environmental and resource productivity of the economy	
Carbon & energy productivity	1. CO <sub>2</sub> productivity <ul style="list-style-type: none"> <li>1.1. Production-based CO<sub>2</sub> productivity GDP per unit of energy-related CO<sub>2</sub> emitted</li> <li>1.2. Demand-based CO<sub>2</sub> productivity Real income per unit of energy-related CO<sub>2</sub> emitted</li> </ul>
	2. Energy productivity <ul style="list-style-type: none"> <li>2.1. Energy productivity (GDP per TPES unit)</li> <li>2.2. Energy intensity by sector (manufacturing transport, households, services)</li> <li>2.3. Share of renewable energy In TPES, in electricity production</li> </ul>
Resource productivity	3. Material productivity (non-energy) <ul style="list-style-type: none"> <li>3.1. Demand based material productivity (comprehensive measure; original units in physical terms) Real income per unit of materials embodied in final demand, materials mix</li> <li>3.2. Production-based (domestic) material productivity GDP per unit of materials consumed, materials mix               <ul style="list-style-type: none"> <li>• Biotic materials (food, other biomass)</li> <li>• Abiotic materials (metallic minerals, industrial minerals)</li> </ul> </li> <li>3.3. Waste generation intensities and recovery ratios By sector, per unit of GDP or value added, per capita</li> <li>3.4. Nutrient flows and balances (N, P)               <ul style="list-style-type: none"> <li>• Nutrient balances in agriculture (N, P) Per agricultural land area and change in agricultural output</li> </ul> </li> </ul>
	4. Water productivity Value added per unit of water consumed, by sector (for agriculture: irrigation water per hectare irrigated)
Multifactor productivity	5. Environmentally adjusted multifactor productivity (comprehensive measure; original units in monetary terms)
Natural asset base	
Natural resources stock	6. Index of natural resources Comprehensive measure expressed in monetary terms
Renewable stocks	7. Freshwater resources Available renewable resources (groundwater, surface water) and related abstraction rates (national, territorial)
	8. Forest resources Area and volume of forests; stock changes over time
Non-renewable stocks	9. Fish resources Proportion of fish stocks within safe biological limits (global)
	10. Mineral resources Available (global) stocks or reserves of selected minerals (tbd): metallic minerals, industrial minerals, fossil fuels, critical raw materials; and related extraction rates
Biodiversity and ecosystems	11. Land resources Land cover conversions and cover changes from natural state to artificial state <ul style="list-style-type: none"> <li>• Land use: state and changes</li> </ul>



Biodiversity and ecosystems	12. Soil resources Degree of topsoil losses on agricultural land, on other land • Agricultural land area affected by water erosion, by class of erosion
	13. Wildlife resources (to be further refined) • Trends in farmland, forest bird populations or breeding bird populations • Species threat status, in percentage of species assessed or known • Trends in species abundance
The environmental dimension of quality of life	
Environmental health and risk	14. Environmentally induced health problems and related costs (e.g. years of healthy life lost as a result of degraded environmental conditions) • Population exposure to air, and the related health risks and costs
	15. Exposure to natural or industrial risks and related economic losses
Environmental services and amenities	16. Access to sewage treatment and drinking water
	16.1. Population connected to sewage treatment (at least secondary, in relation to optimal connection rate)
	16.2. Population with sustainable access to safe drinking water
Economic opportunities and policy responses	
Technology and innovation	17. Research and development expenditure of importance to green growth • Renewable energy sources (% of energy-related R&D) • Environmental technology (% of total R&D, by type) • All-purpose business R&D (% of total R&D)
	18. Patents of importance to green growth (% of a country's patent families worldwide) • Environmental-related and total patents • Structure of environment-related patents
	19. Environment-related innovation in all sectors
Environmental goods and services	20. Production of environmental goods and services (EGS) • Gross value added in the EGS sector (% of GDP) • Employment in the EGS sector (% of total employment) • To be complemented with: Environmentally related expenditure (level and structure)
International financial flows	21. International financial flows of importance to green growth % of total flows and % of GNI 21.1 Official development assistance 21.2 Carbon market financing 21.3 Foreign direct investment
Prices and transfers	22. Environmentally related taxation subsidies • Level of environmentally related tax revenue (% of GDP, % of total tax revenues; in relation to labour-related taxes) • Structure of environmentally related taxes (by type of tax base) • Level of environmentally subsidies
	23. Energy pricing (share of taxes in end-use prices)
	24. Water pricing and cost recovery (tbd)
Regulations and management approaches	25. Indicators to be developed
Training and skill development	26. Indicators to be developed

Source: (OECD, 2017).

The list of indicators has been kept flexible so that all countries can adapt it to their own contexts. The set proposed by the OECD is neither exhaustive nor final, and may be modified in the future as new data become available and as the discussion evolves (OECD, 2017).

#### GREEN ECONOMY INDICATORS BY UNEP

The United Nations Environment Programme (UNEP) is another organization to have proposed a set of indicators to measure the green economy. The UNEP approach is to concentrate on using indicators of the green economy to adopt an integrated method for policymaking. Also UNEP emphasizes the need to introduce changes in national economic policies based on, for example, clean technology investments, strengthening ecosystem services and environmental protection. UNEP underlines that although some problems are global, attempts to solve them must start at the national level. As each country faces issues that are significantly influenced by local factors, the way that investments should be made and stimulated needs to be adapted to the local political, economic and institutional circumstances. The same applies to the development of policies affecting social well-being and equity, which should also be shaped in accordance with the local socio-economic and environmental contexts (UNEP, 2012). Indicators monitoring the development of policies based on the principles of the green economy require the development of a certain framework for their application, as shown in the table below (Table 5).

**Table 5. Review of green economy indicators by UNEP**

Environmental	
Climate change	Carbon emissions (ton/year)
	Renewable energy (share of power supply) (%)
	Energy consumption per capita (Btu/person)
Ecosystem management	Forestland (ha)
	Water stress (%)
	Land and marine conservation area (ha)
Resource efficiency	Energy productivity (Btu/USD)
	Material productivity (ton/USD)
	Water productivity (m <sup>3</sup> /USD)
	CO <sub>2</sub> productivity (ton/USD)
Chemicals and waste management	Waste collection (%)
	Waste recycling and reuse (%)
	Waste generation (ton/year) or landfill area (ha)
Policy	
Green investment	R&D investment (% of GDP)
	EGSS investment (USD/year)
Green fiscal reform	Fossil fuel, water and fishery subsidies (USD or %)
	Fossil fuel taxation (USD or %)
	Renewable energy incentive (USD or %)

Pricing externalities and valuing ecosystem service	Carbon price (USD/ton) Value of ecosystem services (e.g. water provision)
Green procurement	Expenditure in sustainable procurement (USD/year and %) CO <sub>2</sub> and material productivity of government operations (ton/USD)
Green job skill training	Training expenditure (USD/year and % of GDP) Number of people trained (person/year)
Well-being and equity	
Employment	Construction (person, %) Operation and management (person, %) Income generated (USD/year) Gini coefficient
EGSS performance	Value added (USD/year) Employment (jobs)
Natural and human capital	Value of natural resource stocks (USD) Net annual value addition/removal (USD/year) Literacy rate (%)
Access to resources	Access to modern energy (%) Access to water (%) Access to sanitation (%) Access to health care (%)
Health	Level of harmful chemicals in drinking water (g/litre) Number of people hospitalized due to air pollution (person) Road traffic fatalities per 100,000 inhabitants (transport related)

Source: (United Nations Environment Programme, 2012).

In 2014 UNEP published the document “Using indicators for green economy policymaking” with four proposed groups of green economy indicators: for issue identification, for policy formulation, for policy assessment and for policy monitoring and evaluation. However, this classification is not specific to the green economy (Cervera-Ferri, Luz Ureña, 2017). The set of indicators from 2012 is still most often used by researchers.

#### GREEN ECONOMY INDICATORS IN POLAND

An attempt to create a set of indicators to measure the green economy was created by the Polish public statistics office, Statistics Poland, which in 2017 published the document “Green economy indicators in Poland, 2017”. Statistics Poland outlines three key objectives closely related to each of the three components of the green economy, namely:

- increasing the resource efficiency in the economy sector;
- improving human welfare and social justice;
- reducing pressure on the environment.

The elements of the green economy (environment, economy and society) are interrelated and these relations have enabled Statistics Poland, similarly

to OECD, to establish four areas to monitor the state of the green economy in Poland. Indicators of the green economy have been introduced and categorized in the following four groups (CSO, 2017):

- **natural asset base** – describing the state of the natural environment (18 indicators);
- **environmental and resource productivity of the economy** – depicting the relations between the natural environment and the economy (19 indicators);
- **environmental quality of life** – monitoring relations between the natural environment and society (16 indicators);
- **economic opportunities and policy responses** – characterizing instruments affecting the economy and society, creating desired trends in development aimed at the greening of the economy (19 indicators).

The above indicators are interpreted in relation to contextual indicators. Context indicators (i.e. population density, employment) constitute the background and are a source of basic information about the socio-economic development in Poland, as presented in Table 6.

**Table 6. Green economy indicators in Poland by CSO**

Indicators of socio-economic context	
Topic	Indicator group / name
Population	<ol style="list-style-type: none"> <li>1. Population density.</li> <li>2. Natural increase.</li> <li>3. Economic dependency ratio.</li> <li>4. Life expectancy.</li> </ol>
Labour market	<ol style="list-style-type: none"> <li>1. Employed persons.</li> <li>2. Registered unemployment rate.</li> </ol>
Education	<ol style="list-style-type: none"> <li>1. Early school leavers.</li> <li>2. Lifelong learning.</li> <li>3. Spending on Human Resources (public expenditures on education) in relation to GDP.</li> </ol>
Living conditions of population	<ol style="list-style-type: none"> <li>1. Total gross real disposable income of household sector.</li> <li>2. At-risk-of-poverty rate after social transfers.</li> </ol>
Information society	<ol style="list-style-type: none"> <li>1. Households equipped with access to internet.</li> <li>2. Enterprises equipped with access to internet.</li> </ol>
Investments	<ol style="list-style-type: none"> <li>1. Investment outlays.</li> </ol>
National accounts	<ol style="list-style-type: none"> <li>1. Gross domestic product per capita.</li> <li>2. Gross value added.</li> </ol>
Natural asset base	
Biodiversity	<ol style="list-style-type: none"> <li>1. Share of legally protected area in total country area.</li> <li>2. Farmland Bird index.</li> <li>3. Forest Bird index.</li> <li>4. Share of endangered species in total number of species.</li> </ol>
Land use	<ol style="list-style-type: none"> <li>1. Agricultural land designated for non-agricultural purposes and forest land designated for non-forest purposes.</li> <li>2. Degree of reclamation and management of devastated and degraded land.</li> </ol>

Forest resources	<ol style="list-style-type: none"> <li>1. Forest cover.</li> <li>2. Forest growing stock.</li> <li>3. Timber removal.</li> <li>4. Share of damaged forest stands area in total forest area.</li> </ol>
Freshwater resources	<ol style="list-style-type: none"> <li>1. Indicator of surface waters availability per capita.</li> <li>2. Exploitable underground water resources.</li> <li>3. Water exploitation index.</li> </ol>
Mineral resources	<ol style="list-style-type: none"> <li>1. Share of extraction in hard coal resources.</li> <li>2. Share of extraction in lignite resources.</li> <li>3. Share of extraction in natural gas resources.</li> </ol>
Environmental and resource productivity of the economy	
Water productivity	<ol style="list-style-type: none"> <li>1. Consumption of water for needs of the national economy and population per capita .</li> <li>2. Water productivity.</li> <li>3. Water intensity of industry.</li> <li>4. Water intensity of households.</li> </ol>
Domestic material consumption	<ol style="list-style-type: none"> <li>1. Resource productivity (GDP/DMC).</li> <li>2. Domestic material consumption per capita.</li> </ol>
Waste management	<ol style="list-style-type: none"> <li>1. Share of waste recovered in waste generated.</li> <li>2. Share of waste disposed in waste generated.</li> <li>3. Municipal waste generated per capita.</li> <li>4. Municipal waste collected separately in relation to total waste.</li> <li>5. Recycling of packaging waste.</li> </ol>
Nitrogen and phosphorus balances	<ol style="list-style-type: none"> <li>1. Gross nitrogen balance.</li> <li>2. Gross phosphorus balance.</li> </ol>
Energy productivity	<ol style="list-style-type: none"> <li>1. Primary energy productivity.</li> <li>2. Final energy intensity of the economy.</li> </ol>
Renewable energy	<ol style="list-style-type: none"> <li>1. Share of renewable energy in gross final energy consumption.</li> </ol>
Greenhouse gas emissions	<ol style="list-style-type: none"> <li>1. Greenhouse gas emissions.</li> <li>2. Greenhouse gas emissions by emission source.</li> <li>3. Greenhouse gas emissions in non-ETS sectors.</li> </ol>
Environmental quality of life	
Gaseous air pollutants	<ol style="list-style-type: none"> <li>1. Average number of days with exceeded value of 120 <math>\mu\text{g}/\text{m}^3</math> by 8-hour ozone concentration.</li> <li>2. Urban population exposure to air pollution by ozone (SOMO35).</li> <li>3. Premature deaths attributable to ozone exposure.</li> </ol>
Particulate air pollutants	<ol style="list-style-type: none"> <li>1. Emissions of <math>\text{PM}_{10}</math> and <math>\text{PM}_{2.5}</math> per capita.</li> <li>2. Urban population exposure to air pollution by <math>\text{PM}_{10}</math>.</li> <li>3. Urban population exposure to air pollution by <math>\text{PM}_{2.5}</math>.</li> <li>4. Premature deaths attributable to <math>\text{PM}_{2.5}</math> exposure.</li> </ol>
Noise	<ol style="list-style-type: none"> <li>1. Percentage of plants exceeding industrial noise limits.</li> <li>2. Percentage of population exposed to road traffic noise in agglomerations of over 100 thousand inhabitants.</li> <li>3. Percentage of households exposed to excessive noise.</li> </ol>
Access to drinking water	<ol style="list-style-type: none"> <li>1. Access to drinking water.</li> </ol>

Municipal sewage treatment	<ol style="list-style-type: none"> <li>1. Percentage of population using sewage network.</li> <li>2. Wastewater treatment facilities per 1000 population not using the sewage network.</li> </ol>
Green areas	<ol style="list-style-type: none"> <li>1. Green areas in cities per capita.</li> <li>2. Green areas in cities as % of total area of cities.</li> </ol>
Economic opportunities and policy responses	
Organic farms	<ol style="list-style-type: none"> <li>1. Organic agricultural area as % of total agricultural area.</li> <li>2. Payments for organic farming as % of total payments for agriculture under the agri-environmental programme.</li> </ol>
Outlays on environmental protection	<ol style="list-style-type: none"> <li>1. Outlays on fixed assets for environmental protection in relation to GDP.</li> <li>2. Share of outlays on fixed assets for environmental protection in investment outlays of the national economy.</li> <li>3. Household expenditures on environmental protection per capita.</li> </ol>
Environmental taxes	<ol style="list-style-type: none"> <li>1. Share of environmental tax revenues in GDP.</li> <li>2. Share of environmental tax revenues in total revenues from taxes and social contributions.</li> </ol>
Research and development (R&D) intensity	<ol style="list-style-type: none"> <li>1. Research and development (R&amp;D) intensity.</li> <li>2. Research and development (R&amp;D) expenditure per capita.</li> <li>3. Outlays on fixed assets for environmental protection in research and development activity in % of total outlays on fixed assets for environmental protection. Inventions and patents.</li> </ol>
Inventions and patents	<ol style="list-style-type: none"> <li>1. Patent applications in environment-related technologies as % of total patent applications filed at the European Patent Office.</li> <li>2. Patents in environment-related technologies granted as % of total patents granted by the European Patent Office.</li> <li>3. Patent applications in environmental technologies as % of total patent applications filed at the Patent Office of the Republic of Poland.</li> <li>4. Patents in environmental technologies granted as % of total patents granted by the Patent Office of the Republic of Poland.</li> </ol>
Eco-innovation	<ol style="list-style-type: none"> <li>1. Eco-innovation index.</li> </ol>
Green technology	<ol style="list-style-type: none"> <li>1. Participants of GreenEvo.</li> </ol>
Eco-Management and Audit Scheme (EMAS)	<ol style="list-style-type: none"> <li>1. Organisations with Eco-Management and Audit Scheme (EMAS) registration.</li> <li>2. Sites of organisations with Eco-Management and Audit Scheme (EMAS) registration.</li> </ol>
Green public procurement	<ol style="list-style-type: none"> <li>1. Green public procurement in % of total public procurement.</li> </ol>

Source: (Central Statistical Office, 2017).

This publication makes use of OECD suggestions as well as proposals by other countries, such as the Netherlands, the Czech Republic, Slovakia, Germany, etc. In addition, measures not yet used in other countries and which evaluate the Polish conditions are being developed. The authors indicate that the developed set of indicators is not complete and exhaustive. The CSO used both its data sets and other national and international statistics.

## GLOBAL GREEN ECONOMY INDEX

The Global Green Economy Index was published in 2010 by a private consulting company, Dual Citizen, from the USA. This index uses quantitative and qualitative indicators to measure the performance of the green economy in four main areas: **leadership and climate change, efficiency sectors, markets and investment and the environment**. GGEO primarily uses data that fulfil two criteria: quality and coverage. At the same time, the indicators have a very different nature, as shown in Table 7.

Table 7. Review of indicators of the Global Green Economy Index

Dimension	Area	Example of indicator/data source
Leadership & Climate Change	Climate Change Performance	Emissions per capita (data from International Energy Agency – IEA)
	International Climate Forums	Country behaviour during international forums (analysis of ECO reports)
	Head of State	Analyses the Google search results with name of head of state + keyword “green economy” (analysis of actions towards the development of the national green economy)
	Media Coverage	Analyses the Google search results with name of the country + keyword “green economy” (analysis of actions towards the development of the national green economy)
Efficiency Sectors	Buildings	Extent of sustainable buildings in the countries (data obtained from Leadership in Energy and Environmental Design LEED)
	Transport	CO <sub>2</sub> transport emissions data published by The International Energy Agency – IEA
	Tourism	Qualitative analysis of national tourism website (assessment in promoting sustainable tourism)
	Energy	Data on national renewable electricity outputs as a percentage of total electricity output (statistics from IEA and World Bank)
	Resource Efficiency	Recycling rate (access from WASTE ATLAS)
Markets & Investment	Renewable Energy Investment	Attractiveness of national markets for renewable energy investment measure (data access from IRENA)
	Cleantech Innovation	Number of companies located listed on the Cleantech Group’s annual Cleantech 100 list and measure of clean energy patents reported by the Clean Energy Patent Growth Index CEPGI
Markets & Investment	Corporate Sustainability	Identification of the top 3 companies in each country in terms of market capitalization and assessment of the effort to improve the sustainability of their business by Carbon Disclosure Project (CDP) and Science Based Targets (SBT)
	Green Investment Promotion and Facilitation	Assessment of national investment websites



Environment	Agriculture	Performance scores based on the Environmental Performance Index (EPI)
	Air quality	
	Water resources	
	Water and sanitation	
	Biodiversity and habitat	
	Fisheries	
	Forests	

Source: (Dual Citizen LLC, 2018).

The Global Green Economy Index is utilized by international organizations, policymakers, civil society and the private sector. The GGEL is used to communicate areas that need improvement, benchmark performance and show diverse stakeholders how they too can promote progress.

#### GREEN ECONOMY PROGRESS BY PAGE

One of the tools to measure progress towards the green economy is GEP – a composite indicator that was developed by PAGE. It is related to the concept of the Inclusive Green Economy, which is associated with a “wealth of opportunities, both for people to improve their living environments and have decent jobs, and for businesses to increase benefits through more efficient production practices that generate savings” (The EU Switch to Green Flagship Initiative, 2019).

The GEP Measurement Framework has the four following aims (PAGE, 2017a):

- support for assessing progress towards achieving the selection of SDGs within the 2030 Sustainable Development Agenda and determining direct links with them;
- helping countries to monitor progress in achieving national targets in priority areas;
- introducing more transparency in policymaking and providing tools necessary to develop policies supporting the transition to an Inclusive Green Economy;
- measuring and comparing efforts to implement the green economy across countries.

The GEP Measurement Framework aims to establish to what extent Inclusive Green Economy solves three global challenges: persistent poverty, overstepped planetary boundaries and inequitable sharing of growing prosperity. The GEP Measurement Framework is composed of two components: the **GEP Index** and the companion **Dashboard of Sustainability of Indicators**. The GEP Index consists of thirteen indicators and is intended to measure progress in improving well-being in the economic, social and environmental dimensions. The construction of the GEP Index allows the assessment of progress achieved by a given country towards the green economy. The Dashboard of Sustainability includes six indicators that monitor the sustainability of the progress achieved for future generations. The individual components of the GEP can be considered individually or analysed

in any combination, which allows progress to be compared in selected countries (GEP+ ranking).

The indicators used to create the GEP index are presented in Table 8, along with their brief description.

**Table 8. Review of indicators of the GEP Index**

Indicator	Description
Green trade	Export of environmental goods according to OECD and APEC (% of total export).
Environmental patents	As a measure of green technology innovation, patent publication in environmental technology by filing office (% of total patents).
Renewable energy sources	Share of renewable energy supply (of total energy supply).
Energy use	Energy use (kg of oil equivalent) per USD 1,000 GDP (constant 2011 PPP).
Palma ratio	Ratio of the richest 10% of the population's share of income divided by the share of the poorest 40%.
Access to basic services	This is a composite measure created by the average access to three basic services with key social and environmental implications: Access to improved water sources (% of total population), Access to electricity (% of total population), Access to sanitation facilities (% of total population).
Air pollution	PM <sub>2.5</sub> pollution mean annual exposure (micrograms per cubic meters).
Material footprint	Raw material consumption of used biotic and abiotic materials (tons/person).
Marine and terrestrial protected areas	Sum of terrestrial protected area (% of total land area) and marine protected area (% of territorial waters).
Gender inequality index	A composite reflecting inequality in achievements between men and women across three dimensions: (a) reproductive health; (b) empowerment; and (c) the labour market.
Pension coverage	Share of population above statutory pensionable age receiving an old age pension, by contribution and sex.
Education (Mean years of schooling)	Average number of years of education received by people aged 25 and older, converted from education attainment levels using official durations of each level.
Life expectancy	Life expectancy at birth indicates the number of years a new-born infant would live if prevailing patterns of mortality at the time of its birth were to remain stable throughout its life.

Source: (PAGE, 2017b).

The Dashboard of Sustainability includes such indicators as: freshwater withdrawal, greenhouse gas emissions, excluding land-use change and forestry, nitrogen emissions, land use, Ecological Footprint and Inclusive Wealth Index. In addition, PAGE classifies indicators in two categories: “goods” and “bads”. When the amount of “goods” increases (e.g. green trade, education), society is making

progress towards IGE, but when the amount of “bads” increases (e.g. energy use, gender inequality), society is moving further away from IGE (PAGE, 2017b).

#### THE GREEN ECONOMY INDEX BY BOŻENA RYSZAWSKA

An attempt to create a synthetic indicator for the green economy was also made by a Polish researcher, Bożena Ryszawska from the Wrocław University of Economics. Her Green Economy Index is designed to rank countries in relation to the requirements and objectives of the green economy. The Green Economy Index measures progress in the transformation towards the green economy and monitors the progress over time. The starting point for choosing the indicators was a set of sustainable development indicators published by Eurostat, the UN, the OECD and Statistics Poland, as well as indicators measuring the green economy jointly proposed by international organizations. The index consists of 21 indicators in seven areas (**Ecosystems, biodiversity and natural capital; Emissions, pollution and waste; Consumption of resources; Poverty and social inequalities; Economy; Environmental policy and strategies; Green economy sectors**), which are presented in the table below Table 9.

**Table 9. Green Economy Index by Bożena Ryszawska**

Area	Indicator
I. Ecosystems, biodiversity and natural capital	1. Changes within forests and other woodlands 2. Common bird occurrence
II. Emissions, pollution and waste	1. Greenhouse gas emissions per capita 2. Amount of hazardous waste generated per capita 3. Sulphur oxides (SO <sub>2</sub> ) per capita
III. Consumption of resources	1. Primary energy use per capita 2. Resource productivity
IV. Poverty and social inequalities	1. People at risk of poverty or social exclusion 2. Gini coefficient of equivalent disposable income 3. Subjective well-being
V. Economy	1. Unemployment rate 2. Gross Domestic Product 3. Competitiveness
VI. Environmental policy and strategies	1. Share of environmental taxes in total tax income 2. Green public procurement 3. Public expenditure on environmental research and development 4. Surface of protected areas
VII. Green economy sectors	1. Ecological/sustainable agriculture 2. Renewable energy production 3. Recycling 4. Green patents per capita

Source: (Ryszawska, 2013).

It is worth noting that the measure proposed by Bożena Ryszawska was the first attempt to create such an indicator in Poland.

### COMPARISON OF INDICATORS

Table 10 compares the presented indicators in terms of four dimensions: economic, social, environmental and political. The political dimension rarely appears in definitions, but a significant proportion of the indicators refer to it. Therefore, the comparison also includes political issues that undoubtedly have an impact on the development of the green economy.

**Table 10. Comparison of selected measures of the green economy**

Indicator/ year	Economic dimension	Social dimension	Environmental dimension	Policy dimension
Green growth indicators (2017)	Economic opportunities related to the environment e.g. technology, innovation, international financial flows.	Environmental influences on the quality of life, access to environmental services.	Environmental and resource productivity, renewable and non-renewable sources use, ecosystems protection.	Mainly indicators for future development e.g. regulations and management approaches.
Green economy indicators (2012)		Aspects of well-being and society equity, e.g. employment or total wealth.	Environmental issues and targets, e.g. ecosystem management.	Policy impact on well-being and equity, and elements of policy interventions.
Green economy indicators in Poland (2017)	Technology and innovation, management and public procurement.	Impact of environmental degradation on human well-being.	Environmental protection and use of natural capital, environmental and resource productivity.	Several elements of policymaking e.g. environmental taxes.
Global Green Economy Index (since 2010)	Markets, innovations in clean technologies, investments (e.g. in renewable energy).		Elements related to climate change, different elements of environment condition.	Role of leadership, media, government actions during international climate forums.
Green Economy Progress Index (2017)	Green trade, environmental patents, clean technology.	Gender inequality, education, pension coverage and life expectancy.	Different elements of environment condition (e.g. air pollution).	
Green Economy Index (2013)	Selected aspects of the economy: unemployment, GDP and competitiveness.	Mainly problems related to poverty and social inequalities.	Different elements of environment condition (e.g. natural capital).	Environmental policy and strategies (e.g. environmental taxes).

Source: own study.

The presented indicators have many common but also varying features. The most important special features are listed in Table 11.

**Table 11. Special features of the presented indicators measuring the green economy**

Indicator/ year	Special features
Green growth indicators (2017)	<ul style="list-style-type: none"> <li>• extended and flexible approach (open list of indicators);</li> <li>• a high number of indicators;</li> <li>• emphasis on socio-economic context;</li> <li>• contains unmeasurable or hard to measure indicators due to a lack of data;</li> <li>• indicators are updated (a few editions of publications);</li> <li>• the set was the basis for already created national indicators in many countries.</li> </ul>
Green economy indicators (2012)	<ul style="list-style-type: none"> <li>• emphasis on environmental issues and “green” changes, e.g. green investments, green job skill training;</li> <li>• emphasis on social issues;</li> <li>• resignation from the economic dimension in favour of the political dimension;</li> <li>• paying attention to the need for changes from the local level;</li> <li>• the database is not updated, but current indicators are still frequently used in various studies.</li> </ul>
Green economy indicators in Poland (2017)	<ul style="list-style-type: none"> <li>• based on green growth indicators proposed by OECD;</li> <li>• a high number of indicators;</li> <li>• importance of socio-economic context specific to Poland;</li> <li>• attempt to propose indicators specific only for Polish conditions (e.g. EMAS).</li> </ul>
Global Green Economy Index (since 2010)	<ul style="list-style-type: none"> <li>• very large variation in the measurement of indicators (raw data, composite indicators, qualitative analyses, reports, Google searches);</li> <li>• annual data update;</li> <li>• easy access to the GGEI for all users (public website);</li> <li>• draws attention to the correlations between indicators.</li> </ul>
Green Economy Progress (2017)	<ul style="list-style-type: none"> <li>• great emphasis on the social dimension (Inclusive Green Economy);</li> <li>• possibility of using two components (Index GEP or dashboard);</li> <li>• one of the latest international measures (2017).</li> </ul>
Green Economy Index	<ul style="list-style-type: none"> <li>• emphasis on environmental issues;</li> <li>• indicator sector related strictly to the green economy (Green economy sectors);</li> <li>• broad but specific approach (including all four dimensions).</li> </ul>

Source: own study.

A very interesting program for creating the green economy has been proposed by P. Szyja, who describes three stages for this process. The first stage is a **low-carbon economy**, primarily associated with the reduction of greenhouse gas emissions. The second stage is **greening the economy**, not only by reducing harmful gases, but also by sustainable production and consumption as well as environmentally friendly transport. The third stage is the **green economy**, characterized by the independence of energy resources and domination by ecological sectors, products and services. Development activities towards

the green economy in the area of these three different groups of entities, i.e. countries, enterprises and society, were formulated by Szyja and are presented in Table 12.

**Table 12. Stages of transformation towards the green economy**

Entity Stage	Countries	Enterprises	Society
Low-carbon economy	<ul style="list-style-type: none"> <li>• achieving the emission targets;</li> <li>• defining the emission standards for machines and devices;</li> <li>• Emission Trading System introduction.</li> </ul>	<ul style="list-style-type: none"> <li>• low-carbon technology implementations;</li> <li>• purchase of low-carbon machines and vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>• low-carbon vehicle investments;</li> <li>• increasing the share of public transport and bicycles users.</li> </ul>
Greening the economy	<ul style="list-style-type: none"> <li>• thermal upgrading of public buildings;</li> <li>• renewable energy sources development;</li> <li>• supporting ecological investments through financial instruments;</li> <li>• subsidizing green vehicles;</li> <li>• green public procurement.</li> </ul>	<ul style="list-style-type: none"> <li>• production plant modernization;</li> <li>• environmental management system introduction;</li> <li>• enriching the range of ecological products;</li> <li>• creating green jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• thermal upgrading of residential buildings;</li> <li>• purchase of ecological goods and services.</li> </ul>
Green economy	<ul style="list-style-type: none"> <li>• green tax reform;</li> <li>• raising the share of renewables in energy consumption;</li> <li>• ecological transport development;</li> <li>• industrial policy focused on green sectors;</li> <li>• restrictions and controls in waste generation.</li> </ul>	<ul style="list-style-type: none"> <li>• zero emission production;</li> <li>• dominant share of ecological products and services;</li> <li>• green jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• green houses;</li> <li>• microelectric power plants;</li> <li>• solar panels.</li> </ul>

Source: (Szyja, 2015, p. 30).

Accordingly, Szyja suggests measuring the green economy with elements that distinguish the green economy from the traditional one. The research includes:

- a) green products and services – products and services which have a low environmental impact throughout the entire life cycle;
- b) green investments are, for example, related to the construction of self-sufficient buildings in terms of energy;
- c) green sectors of the economy are related to renewable energy and the production of environmental friendly technologies;
- d) green public procurement is a policy which advocates that public entities incorporate ecological requirements into the purchasing process;
- e) green jobs are those which reduce greenhouse gases emission, for example, and foster the protection of ecosystems (Szyja, 2016).

Szyja indicates that measuring the state of the green economy is difficult due to the ongoing transformation process. In addition, she emphasizes that many elements of the green economy are difficult to measure due to incomplete data and difficulties with international comparisons. Some types of information are also difficult to access, especially those regarding transformations in traditional enterprises, related to the creation of green solutions in production or services (Szyja, 2015). Defining a universal set of indicators for the green economy is still an open topic and a challenge for present-day research.

## CONCLUSIONS

The world was wedded to an at-all-costs paradigm of economic development and the need for change was diminished or neglected. It was only in 1992, at the Rio de Janeiro conference, that it was noticed that a transformation was required of national economies towards sustainable development. Nowadays, we have a global agreement on climate change and a universal approach to sustainable development. Furthermore, we have “an awareness and acceptance that solutions to these challenges must integrate the social, economic and environmental dimensions in tandem” (UNEP, 2016, p. 7). The growing interest in the issue of the green economy has created a need to monitor its implementation.

All the measures presented here are primarily linked by one common element – a strong emphasis on environmental issues, in accordance with principles of sustainable development. The environmental dimension is the most important area that affects the economy as well as social well-being and equality. The presented indicators show the mutual correlations between these three dimensions and emphasize the importance of changes in economic and social policies. Nowadays, there is no doubt that environmental protection is a priority.

Choosing the right indicator or index is just the beginning of a complex research path to obtain reliable results and draw the right conclusions. In addition to attempts to measure the green economy, intensive work should also be carried out to improve the institutional environment of the green economy, formulate new development goals, create and implement appropriate strategies, strictly control the achievement of targets and impose certain restrictions on producers and consumers. Also, taking suitable steps at the lowest territorial levels would appear to be crucial for the transformation process towards the green economy.

The development of the green economy research and developing discussions on this concept show the need to monitor the implementation of the green economy in all countries. The choice of indicators and types of their measurement, which should be as close to the facts as possible, will always trigger debates. There will always be concerns about the validity of any selection of variables due to individual and very different conditions specific to each country. Nevertheless,



managing the “greening” of the economy across countries seems to be obvious, necessary and capable of bringing many benefits. The numerous suggestions for indicators under different approaches suggest that the theme of the green economy will continue to develop with the effects of the activities carried out in the spirit of the green economy being perceptible and leading to the introduction of beneficial changes in all three dimensions.

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### Summary

The economic crisis of 2008 became a turning point in international debates during which the issue related to the need to transform the current economic model was raised and discussed. The idea of the green economy, based on the concept of sustainable development, became the focal point of the new strategy. One of the issues related to the development of the green economy was how it could be monitored at both the local and international levels. The aim of the article is a comparative assessment of selected sets of indicators for measuring the transformations towards the green economy in terms of four dimensions: economic, social, environmental and political. The research method is a critical analysis of selected research describing how to measure the green economy. The article presents international sets of indicators proposed by such organizations as the OECD and UNEP, as well as composite indicators such as the Global Green Economy Index and the Green Economy Progress. The article also highlights the results of Polish researchers and research institutions, which include the Green Economy Index constructed by Bożena Ryszawska and the Green Economy Indicators proposed by Central Statistical Office in Poland. Selected indicators were also analysed and compared in the economic, social, environmental and political dimensions.

An attempt was made to formulate their synthetic characteristics. This study is primarily the result of exploring foreign literature complemented with Author's thoughts and conclusions. Discussions on the theme of the green economy are centred around the effects of implementing it. This is why there is a need to conduct research into how to determine progress in greening current economies across countries in a manner as close to the current situation as possible.

*Keywords:* green economy, green economy indicators, green economy measurement.

### **Wskaźniki zielonej gospodarki jako sposób monitorowania rozwoju w wymiarze ekonomicznym, społecznym i środowiskowym**

#### *Streszczenie*

Kryzys gospodarczy z 2008 r. stał się punktem zwrotnym w międzynarodowych debatach, w których poruszono i omówiono kwestię konieczności transformacji obecnego modelu gospodarczego. Idea zielonej gospodarki, oparta na koncepcji zrównoważonego rozwoju, stała się centralnym punktem nowej strategii. Jeden z obszarów problematycznych związanych z rozwojem zielonej gospodarki to sposób jej monitorowania, zarówno na poziomie lokalnym, jak i międzynarodowym. Celem artykułu jest porównanie wybranych zestawów wskaźników do mierzenia transformacji w stronę zielonej gospodarki. Metoda badawcza to krytyczna analiza wybranych badań opisujących sposoby mierzenia zielonej gospodarki. W artykule przedstawione zostały zarówno międzynarodowe zestawy wskaźników zaproponowane przez takie organizacje, jak OECD i UNEP, jak również wskaźniki złożone takie jak Global Green Economy Index oraz Green Economy Progress. Oprócz przeglądu zestawów międzynarodowych, w artykule wyróżniono rezultaty wysiłków polskich badaczy i instytucji badawczych, do których należy Indeks Zielonej Gospodarki skonstruowany przez Bożenę Ryszawską oraz Wskaźniki Zielonej Gospodarki zaproponowane przez GUS. Dokonano również analizy wybranych wskaźników i porównano je ze względu na wymiar ekonomiczny, społeczny, środowiskowy oraz polityczny, a także podjęto próbę syntetycznego sformułowania ich cech charakterystycznych. Badanie jest efektem przede wszystkim eksploracji zagranicznej literatury, uzupełnione o własne przemyślenia i wnioski. Dyskusje nad tematyką zielonej gospodarki toczą się wokół efektów, które niesie ze sobą jej konsekwentne wdrażanie. Stąd też rośnie konieczność prowadzenia badań nad tym, aby w sposób jak najbardziej zbliżony do stanu faktycznego móc określić progres zazieleniania się obecnych gospodarek wśród wszystkich państw.

*Słowa kluczowe:* zielona gospodarka, wskaźniki zielonej gospodarki, pomiar zielonej gospodarki.

JEL: Q10, Q50, Q56.

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## **What will be the possible impact of sharing platforms on the labour market?<sup>2</sup>**

### INTRODUCTION

As of 2016, there were over 170 platform companies valued at US\$1 billion or more. The creation and usage of digital platforms is increasing not only in the private sector, but also in the public sector. In the year 2000 there were only a handful of large firms that could be described as platform companies. The platform economy is economic and social activity facilitated by platforms. Such platforms are typically online matchmakers or technology frameworks. By far the most common type are “transaction platforms”, also known as “digital match-makers”. From the technical perspective there are numerous variations of platform types utilising divergent technology, however, this aspect remains beyond the scope of the present paper. In this work, the author concentrates on the revolutionary impact of sharing platforms on society, labour market and its structure, as well as emphasis is placed on legal norms that call for comprehensive revision in order to maintain welfare in the changing environment. As this paper remains fairly conceptual, the author attempts to indicate major trends which are likely to emerge in society, and contests the idea of unharnessed development of sharing platforms, based on systematic review of literature supplemented with deductive and abductive reasoning.

“Platform economy” is one of a number of terms aiming to capture subsets of the overall economy which are now mediated by digital technology. Some commentators use various terms to delineate different parts of the wider digital economy. From that perspective, the term “platform economy” can be viewed as narrower in scope than “digital economy”, but wider in scope than terms like “on demand economy”, “sharing

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economy” or “gig economy”. Also, some scholars have argued that the platform economy is the preferable term for discussing several aspects of emergent digital phenomena in the early 21st century. Other commentators use the terms “platform economy”, “sharing economy”, or even “access economy” in such a broad sense that they effectively mean the same thing. As previously indicated, the aim of this paper is rather conceptual than definitional as the author adopts the overlapping understanding of the terms.

### THE GROWTH AND CRITIQUE OF SHARING PLATFORMS

Forerunners of contemporary digital economic platforms can be found throughout history, especially in the second half of the 20th century. Yet it was only in the year 2000 that the “platform” metaphor started to be widely used to describe digital matchmakers and innovation platforms. Especially after the financial crises of 2008, companies operating with the new “platform business model” swiftly came to control an increasing share of the world’s overall economic activity, sometimes by disrupting traditional business (*Platform economy*, 2019). The sharing economy has generated controversy for its effects on distribution of income and wealth, organisation of society and business, as well as its integrity. To some extent this is because many of the platforms were launched with a rhetoric of *common-good* claims. As companies grew, observers assessed these claims and found that many of the platforms were coming up short (Schor, 2014). It has even been argued that platform-based exchanges crowd out genuine sharing and that for-profit companies are “sharewashing”, i.e., using the positive associations of sharing to hide their self-interested activities (Kalamar, 2013). To some, the sharing economy is even seen as an ultra-free market which is resulting in a race to the bottom – what Robert Reich termed a “*share the scraps*” economy (Reich, 2015). Also, the contestation of the actual sharing practices appears in literature with regard to access-based, collaborative and sharing economy phenomena, as many scholars consider them to be pseudo sharing practices (Belk, 2014, p. 7). Belk asserts that the presence of profit motives, the absence of feelings of community, and expectations of reciprocity make such practices pseudo sharing. In his opinion, true sharing is about voluntary lending, pooling and allocation of resources, and authorised use of public property, but not contractual renting, leasing, or unauthorised use of property by theft or trespass (Belk, 2007, p. 127). Moreover, sharing is not market-mediated and non-compensated, and it does not involve transfer of ownership (Belk, 2010, pp. 715–734). The pure prototype of sharing practices is mothering and the pooling and allocation of resources within a family. This is in line with anthropological literature, where sharing practices are associated with generalized reciprocity and are defined as an economic behaviour with a heavily weighted social dimension (Price, 1975, pp. 3–27).

While some question whether productivity and growth will be accelerated and others contest the pure nature of sharing offered by means of platforms, a more profound question may be posed, namely whether economic and social life will be transformed and whether the outcome will lead to a very different distribution of wealth and power in global society (Kenny, Zysman, 2015, pp. 1–23). Following Kenny's and Zysman's work, one may pose a question about the impact of sharing platforms on employment, entrepreneurship, income, and inequality.

#### THE CONSEQUENCES OF PLATFORM ECONOMY TO CONSUMPTION, WORK, ENTREPRENEURSHIP, INCOME, AND DISTRIBUTION OF WEALTH

The sharing phenomenon based on internet platforms reveals diverse practices departing from commonly understood consumption (Guyader, 2018, pp. 692–714). One can trace a rise of anti-consumption practices such as food-sharing and swapping, driven by ideals of reciprocity (e.g. Albinsson, Perera, 2012, pp. 303–315; Gollnhofer et al., 2016, pp. 226–245). Also, the paradigm shift from ownership to access-based consumption is observed as service firms offer the temporary use of commercial goods to customers mostly driven by utilitarianism and self-interest (Hazée et al., 2017, pp. 441–456). Moreover, collaborative consumption is virtually always facilitated by internet platforms that enable a peer-to-peer exchange of under-utilized goods with no employees involved. Apparently, we are amid the reorganization of our economy in which platform owners are seemingly developing power that may be even more formidable than that of the factory owners in the early industrial revolution was. The proliferation of platform economy labels is a reflection of the fact that platforms are already having powerful consequences for society, markets, and firms, and that we are unclear about their dynamics and directions. Large American firms that developed the Cloud paradigms and then cloud systems for their own internal use remain the major providers of cloud services. The consequence is a radical reduction in the cost of computing resources. Users can rent resources in units rather than having to own or build out entire computing systems. Computing systems and the applications are available as an operating expense rather than a capital expense (Kenny, Zysman, 2015, pp. 1–23). In this new era, firms such as Amazon, Ebay, Google, Facebook and Uber, create online structures that enable users to connect and exchange services or goods for a variable or fixed price on the basis of rating systems. They open up new ways of integrating the so-called outsiders into the labour market, and greatly challenge the idea of how value and work is created. The increasing digitalisation of the labour market through platforms is expected to boost global GDP by \$ 2.7 tn by 2025, according to the McKinsey Global Institute. Also, a recent study by the University of Hertfordshire shows that nearly 5 million clickworkers in the UK have found employment via such platforms. Almost a quarter of them claim that

they receive more than half of their income from work on platforms, with 81 per cent of these being the breadwinners in their households. On the other hand, there are sceptical accounts that do not directly support the notion of a rapidly growing share of platform workers but do recognise shifts in patterns of self-employed work. These changes are not likely to result in “workerless” society, but rather we risk a society within which the preponderance of work and value creation is more dispersed than ever before, even as a platform owners centralise the transactions and capture value from activities on their platforms. Importantly, we can only speculate on the balance and character of firms and jobs destroyed, created, and transformed and on the character of work and organizations generated (Kenny, Zysman, 2015, pp. 1–23). There are now millions of digital platform workers that live all over the world, doing work that is outsourced via platforms or apps in the gig economy. Lacking the ability to collectively bargain, platform workers have little ability to negotiate wages and working conditions with their employers who are often on the other side of the world. No wonder then that the rise of sharing platforms has been met by a mixed response from some scholars, entrepreneurs and politicians, to name some of the critics.

On the other hand, many have been enthusiastic, arguing that platforms can improve productivity, reduce costs, reduce inefficiencies in the existing markets, help create entirely new markets, provide flexibility and accessibility for workers, and be especially helpful for less developed countries. Arguments against platforms include opinions that they may worsen technological unemployment, that they contribute to the replacement of traditional jobs with precarious forms of employment that have much less labour protection, that they can worsen declining tax revenues, and that excessive use of platforms can be psychologically damaging and corrosive to communities. Since the early 2010s, the platform economy has been the subject of many reviews by academic groups and NGOs, by national governments and by trans-national organisations like the EU. Incipient reviews were generally against the imposition of heavy regulation on the platform economy.

The optimistic version of the emerging techno-economic system suggests that society can be reconstituted with producers becoming proto-entrepreneurs able to work on flexible schedules and benefit from these platforms, which certainly will be the case for many. The utopians argue that platforms, such as the car-sharing services Uber and Lyft, can unlock the commercial value in underused personal assets; other platforms, such as Airbnb, promote the notion that vacant rooms in one’s house or apartment can become sources of income whether technically hotel rooms or not. Advocates believe that all of this can occur for the greater social good without negative consequences. But can we really foresee all the repercussions of these new economic arrangements? For example, platform businesses matching workers and tasks may make labour markets more efficient, but if they become pervasive and organize a significant portion of the work, they are at the same time likely to generate fragmented work



schedules and increasing levels of part-time work without the employment-related benefits that previously were linked with much of the employer-based full-time work (*The Rise of the Platform Economy...*, 2019). For now, it is not perfectly clear whether these digital platforms are simply introducing digital intermediaries or actually increasing the extent of gig or contract work. However, the author leans to the latter suggestion of growing precariat. Airbnb and Uber were founded in 2008 and 2009, respectively, and it is widely believed that their success is due in part to the high unemployment, indebtedness and difficult economic situation that young people found themselves in at that time (Schor, 2017, p. 269). A 2016 study of the rise of alternative work arrangements (Katz, Krueger, 2016) found that between 2005 and 2015 the fraction of the labour force in non-standard work rose from 10.1% to 15.8%, and that non-standard work accounted for the entire net gain in employment over this period. Online intermediaries such as Uber and TaskRabbit accounted for 0.5% of employment in 2015. In his study of platform workers in New York City, A. Ravanelle (2017, pp. 279–293) supports the idea that they work under precarious conditions.

#### THE SURGE OF INTERVENTIONISM IN A SHARING PLATFORM ECONOMY

Although the early reviews opposed the imposition of heavy regulation on the platform economy, some jurisdictions have been taking a more interventionist approach since 2016 (*Platform economy*, 2019). Some thought-leading organisations have produced a series of reports that centre on platform workers. These reports do not see the end of salaried work but stick to the view that an increasing number of people will work as independent or platform workers, at least during part of their careers. These new working configurations make it necessary to assert authority over the legal grey zone in which platforms currently operate. At the moment digital business models may benefit from unlawful competition in labour where they can set lower prices than those of their competitors', often at the expense of workers' rights or of society as a whole if social security insurances are in place.

Within the sharing sector, there has been an attention to the large fortunes being made by founders and venture capitalists (Schneider, 2014), which raises the question of whether the sharing economy is contributing to the increase in the conditions of extreme inequality. Many platforms by their very nature prove to be winner-take-all models, in which only one or two platforms survive and the platform owner is able to appropriate a portion of the entire value created by all the users on the platform. The power is centralised in the hands of the platform owner who after winning the initial competition becomes a monopolist that can make decisions to maximize their own welfare. At the same time, the monopolist platform owner reduces the platform community – the drivers on Uber, the content providers, the consigners – who are instrumental in producing the value in the first

place (Kenny, Zysman, 2015, pp. 1–23). So, at the end of the day one should pose a question whether we are creating a new source of productivity or a new form of putting people out of work, and whether we are creating a stable employment or vulnerable gig workers? As a consequence of the above, in Scandinavia the innovative and disruptive nature of the ride-hailing company Uber has brought about debate on work in the platform economy to the forefront of politics. In contrast to the US and the UK, the ride-hailing company Uber had a bumpy start in Scandinavia. In Sweden and Finland, Uber drivers have been sentenced for violating the existing taxi regulations, having been ordered to pay fines of up to 12,000 euros. As a result, the company suspended the operations of its famous UberPop platform in Sweden and Finland and is awaiting further developments (*Work and the “platform economy”...*, 2019).

Similarly, central to the French Strategic report is the quest to solve the regulatory challenge of platforms acting as labour market intermediaries. It highlights three options. The first option is an *ad hoc* adaptation of the existing statuses whereby platform workers would move up towards an employee status. This option would reinforce platform worker social protections, but it might also threaten the platform business model by increasing its social responsibility. A second option would be to create a new, hybrid status half way between the employee and the independent worker; and finally, the creation of the single worker status for all. The latter, by far the most radical option, would mean that all workers have access to the same rights and training opportunities regardless of their status. Centre-left politicians and reformist trade unions have expressed sympathy for the idea of simpler and universal rights, which have the potential of smoothing individual’s careers in an ever-increasing flexible work environment. However, it is too early to predict whether this vision will play a major role in the national policy to come.

The debate on platform workers in France might provide other progressive parties across Europe with a solid starting point. As people feel increasingly insecure about their future at work, there is a great need for democratic discourse and control related to sociotechnical changes. While conservatives and right-wing populists offer easy solutions to complex scenarios, either protecting vested interests or deregulating industries, the centre left must claim thought leadership on providing individuals with strong safety nets and empowering tools in a new work environment.

## CONCLUDING REMARKS

Apart from France and Scandinavia, policies and laws for the platform economy are already being written, not through deliberate social choices, but by the big players of the digital economy. This facet of global society in current

times is evocative of the place that platforms occupy in informational capitalism, which makes them sites of extraordinary manipulability, creating new risks to the human project of democratic, inclusive, sustainable coexistence (Cohen, 2017). The impact on employment and the character of work is certainly one element in assessing whether we are facing a utopia or dystopia. As a society, we will have to make further choices about how to deploy new technologies, choices that will be critical in shaping the ultimate impact. The questions are in fact: What balance will there be among jobs created as the digital wave flows through our economy and society, and which workers will be displaced?

These days it appears feasible to catalogue the existing work, particularly work that is routine, as likely to be replaced or reconfigured by digital tools, and perhaps, as some have tried, to estimate the number of such existing jobs that will be digitized away. By contrast, the new kinds of work that are now being created and the existing jobs that will be redefined and reorganized in the future are more difficult to forecast, so we can only speculate. Algorithms and databases are automating some kinds of work, but even as this occurs, other value-creating opportunities are appearing. There will be new products and services as well as new production and service processes, which are likely to be design and creativity intensive, as well as algorithm-enabled. Some of the early indicators of the new or transformed work can be enumerated, but certainly not exhaustively counted. The debate over jobs created or destroyed is useful and worth continuing, but it should be clear that it has no end, and there will be no definitive answer. For now, there are only indicators and traces to suggest an outcome. And that outcome will be shaped by choices about technology deployment that turn on entrepreneurial initiative, corporate strategies, and public policies. The exact nature of that change will be determined by the social, political, and business choices we make.

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### Summary

The creation and usage of digital platforms is not only increasing in the private sector but also in the public one. There is much contention about the impact of digitalization on employment, social structures, public policies, as well as on entrepreneurial initiative and business. Although some early reviews opposed the imposition of heavy regulation on the platform economy, these days some jurisdictions take a more interventionist approach to stem the tide of digitalization which appears to

thrive in legal vacuum giving rise to unequal competition. The findings suggest that platforms exert much influence on the employment structures, giving rise to cohorts of precariat and gig workers, resulting in unequal distribution of wealth. In this work the author concentrates on the revolutionary impact of sharing platforms on society, labour market and its structure, as well as legal norms that call for comprehensive revision in order to maintain welfare in the changing environment. As this paper remains fairly conceptual, the author attempts at an indication of major trends which are likely to emerge in society, and a contest of the idea of unharnessed development of sharing platforms.

*Keywords:* industry 4.0, platform economy, sharing platforms, gig workers.

## **Prawdopodobny wpływ platformizacji gospodarki na rynek pracy**

### *Streszczenie*

Tworzenie i wykorzystanie platform cyfrowych wykazuje tendencję wzrostową nie tylko w sektorze prywatnym, ale także publicznym. W literaturze przedmiotu można napotkać ożywioną dyskusję dotyczącą wpływu cyfryzacji na zatrudnienie, struktury społeczne, zarządzanie sektorem publicznym, a także na inicjatywy przedsiębiorcze i biznes. Chociaż niektóre wczesne przeglądy sprzeciwiły się narzuceniu surowych regulacji dla gospodarki platformowej, obecnie niektóre jurysdykcje przyjmują bardziej interwencjonistyczne podejście, chcąc powstrzymać falę cyfryzacji, która wydaje się kwitnąć w próżni prawnej, wywołując nieuczciwą konkurencję. Dotychczasowe badania sugerują, że platformy wywierają duży wpływ na strukturę zatrudnienia, co powoduje powstawanie rzesz pracowników tymczasowych tworzących precariat, czego konsekwencją jest nierówny podział bogactwa w społeczeństwie. W niniejszym opracowaniu autor koncentruje się na rewolucyjnym wpływie cyfrowych platform na społeczeństwo, rynek pracy i jego strukturę, a także porusza tematykę unormowań prawnych, które wymagają kompleksowej rewizji w celu utrzymania dobrobytu w zmieniającym się otoczeniu. Niniejszy artykuł ma charakter koncepcyjny – autor próbuje wskazać główne trendy, które prawdopodobnie pojawią się w społeczeństwie jako efekt rewolucji informacyjnej i towarzyszącemu jej rozwojowi przemysłu 4.0 oraz kwestionuje ideę nieograniczonego rozwoju ekonomii współdzielenia opartej o platformy cyfrowe.

*Słowa kluczowe:* przemysł 4.0, gospodarka platformowa, gospodarka współdzielenia, praca czasowa, precariat.

JEL: M20, L98, L88, O10, O17, O18.

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## **Modeling the anti-crisis management of territories under the conditions of decentralisation. A case study of Ukraine**

### INTRODUCTION

Under the conditions of uncertainty and processes of crisis that have been taking place in Ukraine since 1991, the government changed the direction of the country's development and launched new reforms in 2014. The emphasis in the reforms was laid on decentralisation of power as a component of the anti-crisis management. In this regard, the participation of citizens in the development and implementation of an effective model of business decision-making has become extremely important.

Decentralisation in Ukraine (in the legislative aspect) began in 1997 (Law of Ukraine "On Local Self-Government in Ukraine", 1997). However, this process has only begun to intensify in the past few years (Law of Ukraine On Cooperation of Territorial Communities, 2014).

Under the conditions of decentralisation, there are improvements visible on the level of management due to the transfer of rights and powers from central to local authorities. At the same time, the decentralisation reform determines the development prospects based on the use of available resources and identification of local needs. These actions are aimed at the withdrawal of the country from crisis by the activation

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of the populations in the regions. Decentralisation is a process of redistributing functions, powers, people or things between the governing bodies. The reform should ensure the stable and non-destructive activity of economic actors in the State (Stepaniuk, 2017).

There are numerous works by Ukrainian and foreign scholars, including economists, devoted to the theoretical and methodological aspects of anti-crisis management. They investigate the problems of crisis/anti-crisis management in the context of national security (Molek et al., 2011; Piwowarski, Rozwadowski, 2016; Wyligala, 2010). Others emphasise the management of organisations under crisis conditions (Averianov, 2002; Huczek, 2015; Lihonenko, 2004; Strzemecki, 2015; Walecka, Zakrzewska-Bielawska, 2009). Some in particular introduce definitions of anti-crisis management and also anticipate the dangers of crisis (Averianov, 2002; Lihonenko, 2004). They analyse the symptoms of crisis and the measures taken to reduce its negative effects. Some scholars concentrate their attention on the prompt identification of signs marking a crisis situation and the creation of appropriate prerequisites for its timely overcoming (Malyi et al., 2017; Pokataieva et al., 2017). The definitions and approaches are more specific with regard to the level of enterprises, while the territorial aspect remains unnoticed. There are numerous analogues of anti-crisis management in the world; however, the specificity of conditions prevailing in Ukraine make these approaches ineffective.

A special condition for resolving a crisis and the democratisation of state power and society is decentralised governance. An important argument for decentralising reforms is improvements in the efficiency of both central and local government. Such actions create favourable conditions for economic and social development. Tiebout (1956), an American researcher, emphasised the idea that the decentralised organization of production, work and services meet the needs of citizens in a more effective way than centralised planning does. Most modern scholars have tried to substantiate the effectiveness of decentralisation for the development of a country from the economic point of view. They concluded that decentralisation has a positive effect on the State's macroeconomic stability. In particular, Yifmaz (1999) hypothesised in 1999 that decentralisation has a positive impact on increasing the economic growth of any state: either federal or unitary. However, this hypothesis is not always ideal for countries in transition, where the impact of decentralisation is less significant. Attempts have been made to explain this situation (Brueckner, 2000; Zhang, 1998). Working independently, the authors suggest that all the positive effects of the decentralisation processes are offset by phenomena typical for states of this type, such as corruption and tax evasion (Izha, 2013).

The present-day features of anti-crisis management of the economy and related complications make it necessary to study the approaches to forecasting its consequences, taking the decentralisation reform into account. In this case, enhancing the effectiveness of anti-crisis management will be possible through the development of better models and forecasts.



Calculations related to the implementation of decentralisation processes in the regions show how important it is to generate local community budgets for territorial development. Simultaneously, it significantly influences the stabilisation of the socio-economic situation of the territories and reduces the likelihood of crisis manifestations.

#### OBJECT, AIM AND RESEARCH METHODS

The object was to investigate the process of modelling anti-crisis economy management. Anti-crisis economy management of territorial entities under the conditions of decentralisation gives the opportunity (under an increasing crisis) to restore effective operation to each territorial entity of the microeconomic system. The basis for such restoration is the mechanism of self-organisation and support for a stable internal condition and dynamic external environment.

A number of weakly formalised tasks that arise in the process of implementing anti-crisis management necessitate the use of model support for the decision-making processes in the development of programs and the implementation of mechanisms and measures for the anti-crisis strategy.

In the current conditions of a protracted crisis, only a reform of the national economy can lead to success. In its turn, decentralisation (i.e., the division of the country into united territorial communities) is the most important component of the reform. Today, this process in Ukraine is at its initial stage. One of the most significant problems is the fact that the country lacks relevant experience, and therefore it is worth creating models that enable forecasts for different scenarios.

The aim of the study was to develop a method for modelling the anti-crisis management of territories under the conditions of decentralisation. To achieve this goal, the following tasks were set: to develop an algorithm for grouping objects according to the level of improvement of anti-crisis management in a decentralised environment; and to justify the cluster ranking methodology based on a taxonomic index.

In order to implement the tasks set out in the article, the methods of economic analysis, forecasting and development of anti-crisis programs were applied.

#### RESEARCH RESULTS

Decentralisation is a complex process that for Ukraine began a long time ago at the legislative level, while practical steps have been taken only in the last few years. Accordingly, crisis phenomena are observed in all regions of Ukraine. The differences are evident only in terms of the intensity of the manifestations.

Decentralisation of public authorities is the aim of the constitutional and administrative reforms in Ukraine.

The main principles for the financial empowerment of local authorities are laid down in Article 9 of the European Charter of Local Self-Government, which states that “local self-government bodies have the right, within the framework of national economic policy, to apply their own adequate financial resources, which they can freely dispose of within their powers” (European Charter of Local Self-Government, 2012). The financial resources from local governments are formed partly on the basis of local taxes and fees, the amount of which they have the authority to establish within the law. The Law of Ukraine stipulates that the independence of local budgets is guaranteed by their own fixed income as well as national income, fixed on a stable basis by law, along with the right to determine the direction of using the funds from the local budget independently, in accordance with the law “On Local Self-Government in Ukraine” (1997). One of the first legislative acts aimed at implementing decentralisation was the law “On Cooperation of Territorial Communities” (2014), which was followed by the development and adoption of a number of other legislative acts aimed at other areas. This included one of the most important for our research: “On Amendments to the Tax Code of Ukraine and Certain Legislative Acts on Tax Reform” (2014). This set of legislative acts made it possible to implement the first stage of decentralisation – the formation of cost-effective and sustainable territorial communities.

Decentralisation is defined as a system that incorporates mechanisms, approaches, tools and processes, formed, implemented and realized in the course of government operation. That is why decentralisation of local governance implies: principles, ways and methods of management; forms of power organisation; functions related to division of powers and realization of rights; elements of the organisational structure of management.

Decentralisation is accompanied by the redistribution of functions between different levels of government for the benefit of regional and local governments. As a consequence, there are competent, financially self-sufficient, population-controlled centres of government and decision-making at the local level. Thus responsibility is dispersed, and risks arising from large-scale centralised decisions and actions are reduced.

The main functions of management are to implement the budget and regulate its distribution in accordance with the defined goals of socio-economic development. These functions are interrelated, since the future formation of the budget depends on the efficiency of allocating financial resources and using effective levers to stimulate certain areas of action. Budget decentralisation can lead to economic growth only by applying the mechanism of promoting self-sufficiency, the formation of financial and economic potential of sustainable development, the positive image of regions and territories, and the improvement of labour potential. In turn, the government

should only supplement (if needed) the financial resources of the region depending on the climatic conditions, resource potential, environmental problems, development prospects, etc.

Decentralisation is a factor in establishing fruitful relations between the central government and governmental bodies at the local level. The motivation for widespread decentralisation of power covers two aspects: political and economic. The first is a reaction to the central regulation of the activities that local authorities implement, while the second is a consequence of excessive central distribution of activities and the need for more efficient use of available resources.

The task of anti-crisis management is to identify and take into account the external and internal constraints that can be solved naturally or indirectly. Groups of restrictions remain in a certain ratio, which changes dynamically. This determines the change and probability of crisis phenomena emergence. The essence of crisis management is manifest in finding those approaches to the restrictions that can be regulated. For example, internal constraints can be alleviated by changing the managerial apparatus, its rotation, training, or by improving motivational approaches. It is possible to reduce the effect of external constraints by making appropriate changes to the regulatory and enforcement provisions.

The introduction of anti-crisis measures for economic management should be based on a certain complex of processes, techniques and methods. This is a matter of methods applied to study phenomena (objects, subjects), division of the object into its constituent parts; studying the data obtained from different parties; and identifying and analysing relationships between factors and outcomes. It is important to emphasize that the analysis should be carried out for both macro- and meso-level objects. Its goal is to determine the current situation and further research directions. The most common method of analysis is to identify the factors that affect the achievement of the goals set in the problem.

For example, let us consider a crisis situation at the level of the territorial community and search for ways to resolve it. First, it is necessary to identify those factors that may affect the final result (availability of development strategy, appropriate resource base, budgetary potential, qualified management capacity, etc.). Having modelled the dynamics of change in these indicators, one can determine the stage of development of the territory and suggest strategies to overcome the crisis.

Effective planning of the economic development of the territory requires a forecasting method, which should contain the accumulated management experience in terms of the national economy and current assumptions regarding the subsequent appearance of this object. As a result, the predicted model of the future can be used as a basis for further development and identification of the planning components. Predictions in management are based on the models of development of a managed object, which influence the effectiveness of the economic, social and environmental processes.

Note that in recent years, the forecasting methodology has been replenished with a number of effective methods of strategic analysis, new information technologies and programs, as well as technological products. These include two groups of methods (Bobrovska, 2011):

- methods and models used at the stage of creating the information-analytical base for analysis and diagnostics of the state of predicted objects and processes;
- methods and models of multidimensional estimates and multi-factor forecasting based on the data of interrelated dynamic series.

These methods supplement the possibilities of state planning and management. Today, forecasting the development of territorial communities and entities, where they are located, under the conditions of decentralised environment, is relatively new for Ukraine. That is why the scientific approach to state planning and management is a guarantee of effectiveness. The introduction of the modelled situations is planned to increase the socio-economic well-being of the population in the country.

Modern national and regional economies in Ukraine are developing under the influence of a large number of internal and external factors. At the same time, the manifestations of galloping inflation, military actions, changes in commodity pricing in domestic and foreign markets, and the instability of the national currency – all this deprives forecasts of their significance and increases uncertainty. As a result, forecasting economic development has lost its normative content. Therefore, the authorities, both national and regional, have begun to develop preliminary rather than regulatory forecasts. However, the lack of regulatory forecasting leads to a chaotic economic information policy in Ukraine.

Forecasts of economic, social and environmental development are a means of justifying the choice (by legislative and executive authorities as well as local governments) of a certain strategy and taking specific decisions on the regulation of the socio-economic processes in the regions. Along with this, in the context of establishing the forecasting of anti-crisis management under the conditions of decentralisation reforms, it is important to take into account specific features of all regions of the country. At the next stage, it is necessary to conduct analyses of the obtained results when applying scientific methods.

To study, analyse and develop proposals in terms of anti-crisis management, we suggest applying a cluster approach. To this end, the selected set of territorial entities can be divided into clusters through the selection of the most similar elements. Cluster analysis is a multidimensional statistical procedure which, based on the collection of information on the sampling of objects, allows them to be organized in relatively homogeneous groups using several characteristics simultaneously. This method is fully suitable for modelling the anti-crisis management of territories under the conditions of decentralisation, which simultaneously takes into account disparate indicators. For this purpose, relevant indicators that characterise a degree of similarity for all classification parameters are used (Nakonechnyi et al., 2009).

Methods of cluster analysis are divided into two groups: hierarchical and non-hierarchical (Katrenko, 2003). To solve the problems under consideration in this study, we suggest the use of the following methods of multidimensional classification: hierarchical agglomerative methods of cautering and the *k-means* method.

Hierarchical methods of clustering include two categories of algorithm. The first is known as agglomerative and starts with a single-element cluster, which combines two clusters to build a hierarchy of clusters “from the bottom up” (Yakymets, 2016). The second group (Divisive methods) is determined by the method of separation of a large macrocluster, which contains all the elements and is divided into two groups, with each of these also divided into two, etc. Thus the cluster hierarchy is generated from top to bottom. Hierarchical algorithms build a system of nested partitions, which means that a cluster tree is created at the output of the algorithm, complete with a root (all sample) and leaves (the smallest clusters). For comparison, non-hierarchical algorithms build only one breakdown of the objects into clusters.

The *k-means* method implies the implementation of grouping in the data. In *k*-sectioning the following sequence occurs:

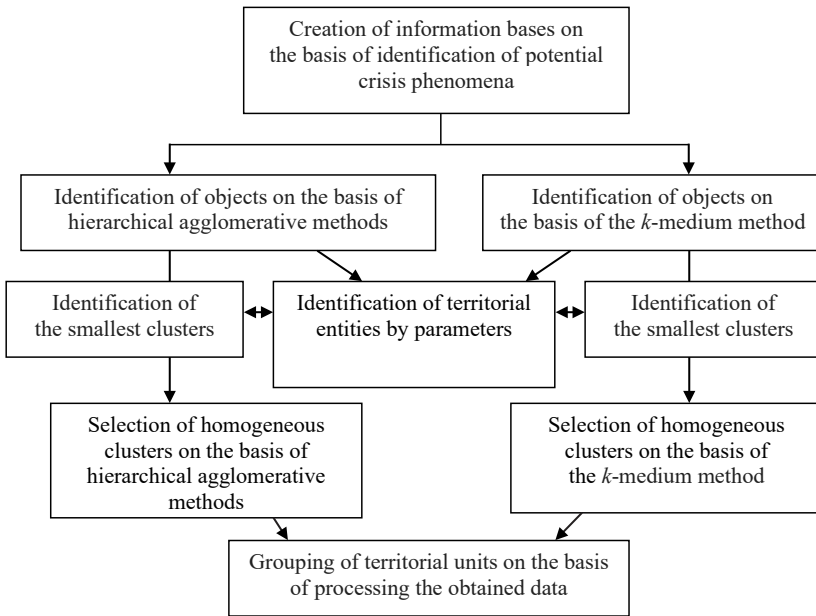
1. Each cluster is represented as the centre of a cluster.
2. Based on the *k*-array of data, centroids are selected.
3. Until the convergence criterion is achieved, the following steps are taken in the cycle (Yakymets, 2016):
  - allocation of *k*-clusters by assigning each point to the closest centroid;
  - redefining of the centroids;
  - the suggested algorithm can use different measures of distance, such as Manhattan and Euclidian distances.

The characteristics of the method are as follows:

- computational complexity takes into account the number of objects, the number of clusters and the number of iterations. The method is effective since the calculations produce a single result;
- clustering can be completed at the local optimum, so a high-quality result requires first initialisation;
- it is necessary to set the number of clusters in advance;
- sensitivity to “noisy” data and values that vary greatly;
- possibility of sole application to numerical data;
- there is no possibility to build clusters of a non-convex form.

Graphically, the algorithm for grouping territorial entities according to the level of improvement of anti-crisis management of the national economy of Ukraine under the conditions of decentralisation is given in Figure 1.

For conducting and approbation of the suggested method of cluster analysis, data from the State Statistics Service of Ukraine for 2017 were used.



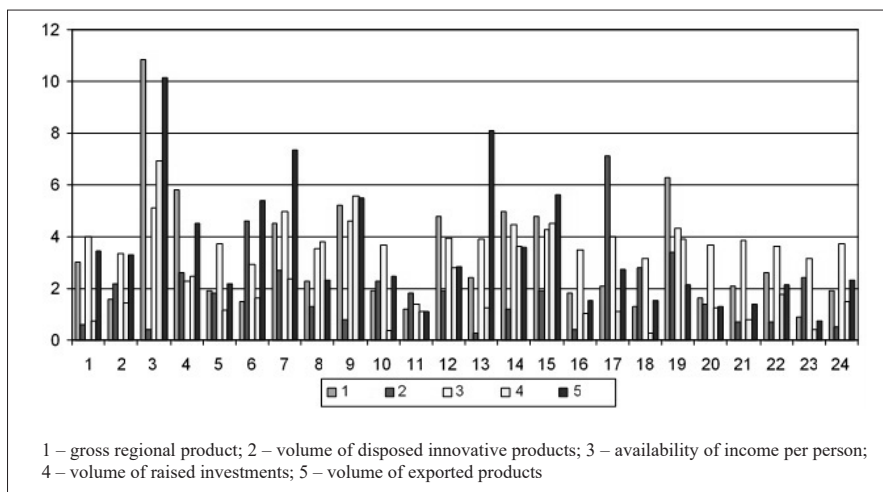
**Figure 1. Algorithm for grouping objects according to the level of improvement of anti-crisis management in the national economy of Ukraine under the conditions of decentralisation**

Source: own study.

The method involves choosing parameters for three components of the model: economic, social, and environmental.

The leading parameters of the economic component were selected (as a percentage of the total indicator in the regions of the country): gross regional product (Row 1); volume of disposed innovative products (Row 2); availability of income per person (Row 3); volume of raised investments (Row 4); volume of exported products (Row 5). Their values (along the ordinate axis) for the individual regions are given in Figure 2. Moreover, in the Figures 2, 3, and 4 for regions (without the Autonomous Republic of Crimea) the following numbers were assigned (axis of abscissas): 1. Vinnitsa, 2. Volyn, 3. Dnipropetrovsk, 4. Donetsk, 5. Zhytomyr, 6. Zakarpattia, 7. Zaporizhia, 8. Ivano-Frankivsk, 9. Kyiv, 10. Kirovograd, 11. Luhansk, 12. Lviv, 13. Mykolaiv, 14. Odesa, 15. Poltava, 16. Rivne, 17. Sumy, 18. Ternopil, 19. Kharkiv, 20. Kherson, 21. Khmelnytsky, 22. Cherkasy, 23. Chernivtsi, 24. Chernihiv.

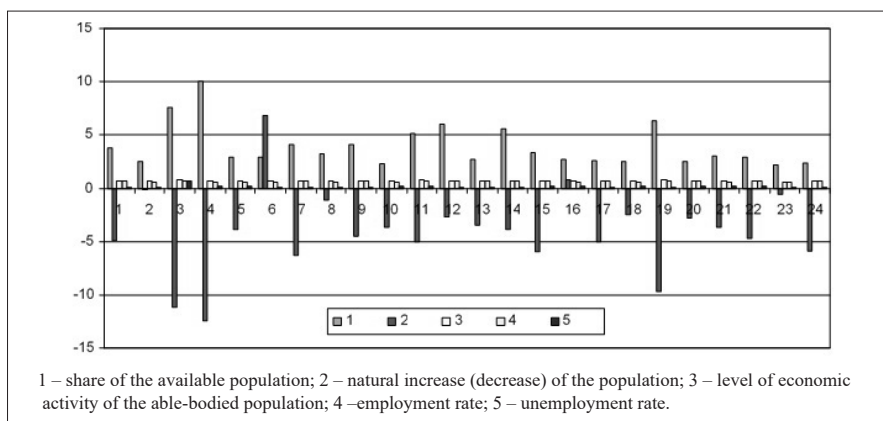
The results of the parameter analysis indicate the availability of a general tendency to increase the value of most indicators in the industrialized regions (Dnipropetrovsk, Donetsk, Zaporizhia, Kyiv, Lviv, Mykolaiv, Kharkiv). The lowest economic indicators were recorded in the Luhansk, Rivne and Ternopil regions. This tendency is also observed in the territorial communities of the investigated areas. The main reasons for such a situation are economic crisis, inflation and military actions in eastern Ukraine.



**Figure 2. Selection of economic parameters for model construction**

Source: own study based on (State Statistics Committee, 2018).

The leading parameters of the social component (as a percentage of the total indicator in the regions of the country) are: share of the available population (Row 1), natural increase (decrease) of the population (Row 2), level of economic activity of the able-bodied population (Row 3), employment rate (Row 4) and unemployment rate (Row 5). The analysis was carried out in all regions of Ukraine. The results of the parameters analysis indicate a general stability of the last three parameters in all regions, while natural growth is observed only in two regions (Zakarpatia, Rivne) (Figure 3).



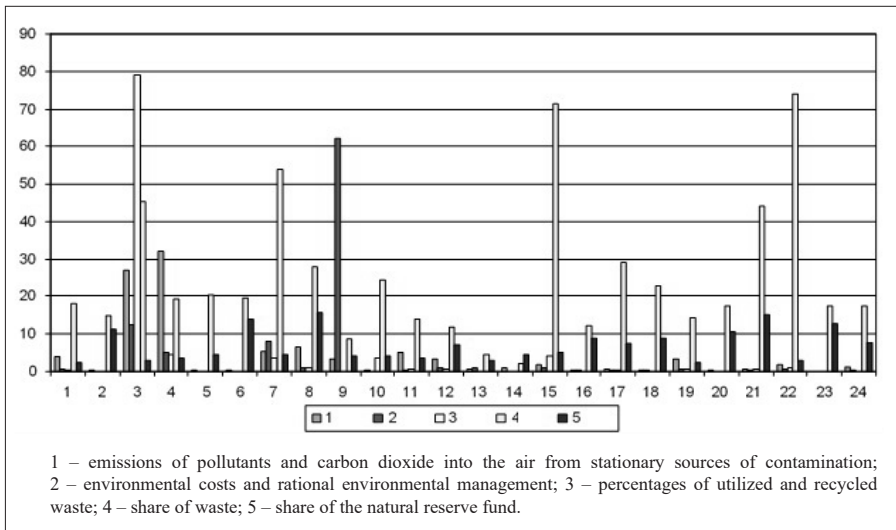
**Figure 3. Selection of social parameters for model construction**

Source: own study based on (State Statistics Committee, 2018).



The leading parameters of the **ecological component** were selected (as a percentage of the total indicator in the regions of the country) as follows: emissions of pollutants and carbon dioxide into the air from stationary sources of contamination (Row 1), environmental costs and rational environmental management (Row 2), percentages of utilized and recycled waste (Row 3), share of waste (Row 4) and share of the natural reserve fund (Row 5) (Figure 4).

The results of the parameter analysis indicate that the availability of a general tendency – in industrialized regions (Dnipropetrovsk, Zaporizhia, and Kyiv) a higher percentage of investments is aimed at environmental protection and waste processing – and the share of waste disposal is higher in non-industrial regions (Poltava, Khmelnytsky, Cherkasy), while the share of the natural reserve fund is distributed almost equally across all regions of the country.



**Figure 4. Selection of ecological parameters for model construction**

Source: own study based on (State Statistics Committee, 2018).

The analysis results were obtained using the STATISTICA program, with the totality of areas under research divided into three groups of objects according to macroindicators, similar to the nature of development. For the beginning of the procedure,  $k$  random objects to be used as references or centres of clusters have to be set (Fiedosieiev et al., 2002).

To find the optimal configuration in the group, it is necessary to:

- compare the values of potential aggregate results of all cluster participants in all possible options;
- determine the reference configuration as most advantageous for all participants;
- choose the optimal composition of the cluster, focusing on the standard.

These problems can be solved by means of a taxonomic method (Euclidean distances). Its basis is formed with the selection of a standard and a comparison of the optimal parameters (coordinates) of its vector with the corresponding parameters of the vectors of all other objects studied (identification of Euclidean distances, according to which the object is ranked: the smallest distance corresponds to the highest point of the object). The principle of this technique is to present all the statistical data according to the selected criteria (indicators) in the form of a matrix, where a single line is a vector of a particular object, the coordinates of which are the values of criteria (indicators).

Since the studied indicators have different natures and different meanings, some normalization of the matrix elements is needed.

For the formation of the standard, maximum values are selected among the matrix elements. The reference point is  $E_0$  with the coordinates  $K_{01}, K_{02}, K_{03}, K_{04}, K_{05}$ , obtained as follows (Fiedosieiev et al., 2002):

$$K_{0j} = \max k_{ij}, j = \overline{1,5}$$

where:  $k_{ij}$  – coordinates of the studied configuration.

Since matrix  $K$  consists of normalized values, each column is a vector, the coordinates of which in the sum are equal to zero. A comparison of possible cluster configurations with indicators of the reference configuration was carried out by means of identifying the Euclidean distance according to the formula (Horitsyna et al., 2010):

$$C_i = \sqrt{\sum_{j=1}^n (k_{ij} - k_{0j})^2},$$

where:  $k_{0j}, k_{ij}$  – normalized coordinates according to the reference and study configurations.

The average distance for the entire totality is determined according to the formula:

$$C_0 = \frac{1}{m} \sum_{i=1}^m C_i$$

where:  $m$  – numerical observation moment.

Deviations in the whole totality are determined according to the formula:

$$\sigma = \sqrt{\frac{1}{m} \sum_{j=1}^m (C_j - C_0)^2}$$

where:  $C_0, C_j$  – normalized coordinates according to the reference and study configurations.

The taxonomic index of the studied configuration is calculated according to the formula:

$$d_j = \frac{1 - C_j}{C}$$

where:  $C = C_0 + 2\sigma_0$

$\sigma_0$  is a standard, and 0 in the calculations is substituted with the values of  $j$ .

$\sigma_j$  – deviation of  $j$ -th indicator,

$j = 1, 2, 3, 4$  – number of the indicator

As a result, the closer the value of the taxonomic value is to 1, the more perfect the configuration is and the more likely it is that the use of available resources is effective.

According to the calculations, which formed the basis of the matrix, the allocation of five clusters on the territory of Ukraine is substantiated.

To identify the crisis state of territories (under the conditions of decentralisation), we suggest supplementing the model with risk factor  $K_r$ , which characterises the ratio of probability magnitude of the maximum possible damage ( $Z_{max}$ ) to the normative value of the socio-ecological and economic components of the territories ( $K_{0j}$ ). The risk factor is calculated according to the formula:

$$K_r = \frac{Z_{max}}{K_{0j}} 100\%$$

The obtained values of the risk factor can be assessed according to the scale:

up to 10% – favourable condition (i.e. lowest risk);

from 10% to 30% – optimal condition;

from 31% to 69% – alarm condition;

from 70% – crisis situation (i.e. highest risk).

Simultaneously, it is appropriate to take into account the overall decentralisation factor in decision-making ( $K_d$ ), which allows assessing the degree of decentralization in a particular management system. It is calculated according to the formula (Antoniuk, 2018a):

$$K_d = \frac{r_i}{R_i} 100\%$$

where:

$r_i$  – number of decisions taken at the lower levels of the hierarchy in the  $i$ -th period;

$R_i$  – total number of decisions taken in the  $i$ -th period.

The scale to determine the impact of the calculated decentralisation factor:

0.0–0.1 – minimum degree;

0.1–0.3 – insignificant degree;

- 0.3–0.5 – medium degree;
- 0.5–0.8 – significant degree;
- 0.8–1.0 – high degree.

The closer the coefficient is to 1, the higher the degree of decentralisation. However, considering merely the number of solutions will be inadequate because it disregards the importance of decisions taken at the lower levels of management and the degree of their independence; therefore, the definition of this indicator is of a general nature. The starting data for determining this ratio were the data obtained after the assessment of the financial capacity of the united territorial communities operating in the regions of the country, based on the results of monitoring how local budget targets for 2017 were met. The assessment was carried out according to the indicators that reflect: own income per capita of one inhabitant; level of subsidisation of budgets (share of basic/reverse subsidies in income); specific weight of expenditures on management body maintenance in the community's own resources (without transfers from the state budget); and capital expenditures per inhabitant (Financial Assessment of 366 UTC, 2018).

According to the results of the study, we suggest using a model for identifying the crisis state of the territories under the conditions of decentralisation which takes into account: resource potential; social, ecological and economic components of the development of territories; risk coefficient of crisis; and general decentralization factor. The final model is as follows:

$$N = E_s^\gamma + d_i + K_r + K_d$$

where:

$N$  – indicator of detecting the crisis state of the territories under the conditions of decentralisation;

$E_s^\gamma$  – capacity utilisation rate;

$d_i$  – taxonomic index of the studied cluster configuration;

$K_r$  – risk coefficient;

$K_d$  – general factor of decentralisation in decision-making.

Accordingly, the aggregate indicator (efficiency norm) of potential use ( $E_s^\gamma$ ) is defined as follows (Antoniuk, 2018):

$$E_s^\gamma = \frac{P_p^\gamma}{V_s^\gamma} = E_n \cdot d_n + E_l \cdot d_l + E_k \cdot d_k$$

where:

$d_n, d_p, d_k$  – ratios of natural, labour and stock potentials accordingly in aggregate potential;

$E_n, E_p, E_k$  – potential of natural resources, potential of labour resources and potential of the basic funds.

Indicator  $N$  can assume the favourable, optimal, small, minimal and lowest value of the decentralisation degree. Depending on the obtained value of the indicator, a different approach is used to develop and implement the strategies of territorial development.

It is not complicated to discern that the norm of effectiveness for each territorial formation will have a differentiated character due to structural differences in the component composition of the total potential of the territory. This allows the theoretically correct justification of the cluster differentiation sources of the costs of social labour and methodological conditions for conducting cluster comparisons. The latter can be produced by bringing the component of assessment to a single structural basis, which can be formed by the structure of the overall potential of the state national economy.

On the basis of the constructed model, the value of index  $N$  was calculated, which made it possible to determine the rating of regions and suggest their division into five clusters (Table 1).

As a result of the cluster ranking (according to the level of factor macroeconomic indicators and measured coefficients), the administrative regions of Cluster I can be determined as the closest to the standard. The index of detection of crisis situations in these territories is the lowest. Cluster II has eight administrative regions, while Cluster III has four. Clusters IV and V have five regions each. All clusters in the country are characterised by a minimal and insignificant degree of decentralisation, which indicates slow movement in this direction.

Calculating the existing potential of the administrative regions of a country can be made and the priorities of their long-term development as well as probability of crises under the conditions of decentralisation determined to indicate their further growth and development. In focusing on the original values, we have obtained likely insights into the main tendencies in future variations.

**Table 1. Cluster ranking based on taxonomic indicator**

Clusters	Regions	Estimated values				Indicator for detecting the crisis state of the territories under the conditions of decentralisation ( $N$ )
		$E_s^r$	$d_i$	$K_r$	$K_d$	
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
V	Luhansk*	0.02	0.1	0.02	0.02	0.16
	Rivne	0.03	0.1	0.02	0.02	0.17
	Ternopil	0.04	0.1	0.02	0.02	0.18
	Khmelnitsky	0.05	0.1	0.02	0.02	0.19
	Chernivtsi	0.08	0.1	0.02	0.02	0.22
IV	Kirovograd	0.06	0.1	0.02	0.05	0.23
	Kherson	0.07	0.1	0.02	0.05	0.24
	Cherkasy	0.07	0.1	0.04	0.06	0.27
	Chernihiv	0.09	0.1	0.07	0.09	0.35

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
III	Volyn	0.03	0.2	0.07	0.06	0.36
	Zhytomyr	0.06	0.2	0.08	0.08	0.42
	Ivano-Frankivsk	0.08	0.2	0.10	0.10	0.48
	Mykolaiv	0.13	0.2	0.12	0.13	0.58
II	Donetsk*	0.14	0.3	0.11	0.12	0.67
	Zakarpattia	0.16	0.3	0.14	0.14	0.74
	Kyiv	0.16	0.3	0.15	0.15	0.76
	Lviv	0.17	0.3	0.15	0.16	0.78
	Odesa	0.16	0.3	0.16	0.17	0.79
	Poltava	0.17	0.3	0.16	0.17	0.80
	Sumy	0.16	0.3	0.17	0.17	0.80
	Kharkiv	0.18	0.3	0.17	0.17	0.82
I	Zaporizhia	0.18	0.4	0.14	0.12	0.84
	Dnipropetrovsk	0.20	0.4	0.19	0.17	0.96

Note: \* – without extracted territories

Source: own study.

## CONCLUSIONS

We believe that the increase in the budget resources of the regions will be facilitated by improvements in anti-crisis management, both at the central and the local levels.

Accordingly, decentralisation has a major impact on the development of democracy and the implementation of changes in society, transition of governance based on the initiative and responsibility of the community as well as that of the individual, which is a matter of special importance under a crisis situation. We propose a method of crisis management in Ukraine based on decentralisation.

In the present study, we developed an algorithm for grouping objects according to the level of improvement of anti-crisis management in the national economy of Ukraine under the conditions of decentralisation. Unlike the existing algorithms, it takes into account the positive effect of implemented anti-crisis actions. It certifies that taking into account social, environmental and economic parameters significantly influences the result of grouping objects and determines the direction of anti-crisis measures. In addition, we substantiated the cluster ranking methodology based on a taxonomic indicator, which helps to identify the most problematic areas in the country. Unlike the existing techniques, this one takes into account the indicator of detecting crisis situations in the territories and allows an analysis of the social, ecological and economic conditions of the conjoint territorial object. In order to

identify the crisis state of territories under the conditions of decentralisation, we introduced a risk factor and suggested its gradation.

The research allows the differentiating of approaches to the creation of development plans for territorial systems of various types, allocated in accordance with revealing the crisis state of the territories. The application of the suggested methodology should allow them to maintain a long-term development on the basis of sustainability under the conditions of decentralisation.

The present study may be of interest to numerous countries in the world that face aspects of crisis phenomena or strive to determine the level of social, ecological and economic development of a certain territory. Based on the suggested methodology, it is possible to design prospective development plans for the territories in any country.

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### Summary

The article examines the process of modelling the anti-crisis management of an economy under the conditions of decentralisation using the example of Ukraine. Under the conditions of economic reform and aggravating crisis phenomena, a task of crucial importance is developing the prediction

capability related to the effectiveness of the scheduled actions. The most problematic area in crisis management is the development of an effective model that takes into account the participation of citizens in the process of business decision-making.

One of the possible solutions to this problem is to model situations to overcome the crisis, and to study the territories (regions of the country) in terms of their socio-ecological and economic status. The study applied the following methods: study of phenomena (objects, subjects); division of the territory of Ukraine into parts according to aggregate indicators; research into the various aspects of territorial objects; and the identification and analysis of interrelations between the factors and results.

On the basis of the developed approach and results of the study, a model is suggested for identifying the crisis status of territories in a decentralised environment; the latter takes the following into account: availability of resource and labour potential; social, ecological and economic components of the development of territories; risk factor for the advent of crisis; and the overall coefficient of decentralisation.

The introduction of an algorithm was suggested for grouping objects, which takes into account the level of improvement in anti-crisis management under the conditions of a decentralised environment. The use of the cluster ranking methodology, which, unlike the existing ones, includes calculations based on taxonomic metrics, was rationalized. The research allowed the introduction of a differentiation approach to creating development plans for the various types of territorial systems included in the clusters. The division was made in accordance with the crisis situation in the territories to allow development on the basis of sustainability in the context of introducing decentralisation.

*Keywords:* modelling of anti-crisis management, crisis situation of territories, decentralisation in Ukraine, territorial entities.

## **Modelowanie kryzysowego zarządzania terytoriami w warunkach decentralizacji: na przykładzie Ukrainy**

### *Streszczenie*

W artykule przeanalizowano proces modelowania zarządzania kryzysowego gospodarką w warunkach decentralizacji, na przykładzie Ukrainy. W warunkach reform gospodarczych i rozprzestrzeniania zjawisk kryzysowych, istotnym zadaniem jest umiejętność przewidywania skuteczności zaplanowanych działań. Najbardziej problematyczne w zarządzaniu kryzysowym jest opracowanie skutecznego modelu uwzględniającego udział obywateli w procesie podejmowania decyzji ekonomicznych. Jednym z możliwych rozwiązań tego problemu jest modelowanie sytuacji w celu przewycięcia kryzysu i zbadanie terytoriów (regionów kraju) pod względem ich stanu społeczno-ekologiczno-gospodarczego. W trakcie badania wykorzystano następujące metody: badanie zjawisk (przedmiotów, obiektów); podział terytorium Ukrainy na podstawie zestawu wybranych wskaźników; badanie różnicowania obiektu terytorialnego; identyfikacja i analiza relacji między czynnikami a wynikami.

W oparciu o opracowane podejście i wyniki badania zaproponowano model umożliwiającą identyfikację sytuacji kryzysowej terytoriów w warunkach decentralizacji, który bierze pod uwagę: dostępność zasobów i potencjał zasobów pracy; społeczne, ekologiczne i ekonomiczne elementy rozwoju terytoriów; współczynnik ryzyka kryzysu; ogólny współczynnik decentralizacji.

Zaproponowano algorytm grupowania obiektów, który uwzględnia poziom poprawy zarządzania kryzysowego w warunkach decentralizacji. Uzasadniono wykorzystanie metody rankingu klastrów, która wykorzystuje indeks taksonomiczny. Przeprowadzone badania umożliwiły wska-

zanie różnych podejść do tworzenia planów rozwoju różnych typów systemów terytorialnych wchodzących w skład klastrów. Podział został przeprowadzony zgodnie z sytuacją kryzysową poszczególnych terytoriów, co zapewniłoby ich zrównoważony rozwój w warunkach wprowadzenia decentralizacji.

*Słowa kluczowe:* modelowanie zarządzania kryzysowego, stan kryzysowy terytoriów, decentralizacja na Ukrainie, jednostki terytorialne.

JEL: H12, R12, R15.

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## **The importance of management control in the implementation of public tasks by local government<sup>2</sup>**

### INTRODUCTION

Efficient and effective management of public administration offices requires considerable competence and experience of policymakers making management decisions. Nowadays, there are more and more voices in the scientific literature that “contemporary public administration is slowly moving away from the traditional Weberian model of the so-called ideal bureaucracy” towards management based on defining goals, determining adequate indicators – measures, and then rigorously accounting for local government decision making for intended purposes (Lubas et al., 2016, p. 8). In public administration units, the management process differs significantly in many ways from that which is practiced in the private sector. The fundamental goal of the management process in the private sector is to look for organizational, economic and financial solutions, in particular to increase the assets of owners and shareholders. On the other hand, public administration units, acting both at the central and local level, perform specific functions in the field of social life, providing services and benefits in the public interest (Kumpiałowska, 2011, p. 10). In the common sense, public management in relation to public sector entities (public finance sector) means organizing activities to achieve specific goals while maintaining the principles of organizational efficiency and effectiveness, including real responsibility for the obtained results (Jastrzębska et al., 2016, p. 66). In public administration, the essence of management control

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comes down to changes in the way of planning, organizing and, finally, offering an innovative approach to the implementation of public tasks. Full implementation of management control demands should ensure the improvement of the managerial quality of public funds and assets under the control of local government officers. Compliance with procedures – both external (provisions of general law) and internal regulations (regulations, instructions) in economic terms creates a solid basis for more efficient and effective making of public expenditure. It should be added that skilful management of public expenditure has an impact on reducing the constantly growing debt of local government units. Adam Czudec draws attention to this important problem, stating that “a significant problem of public finances in Poland is high and ever-increasing debt, which – if this trend persists in the long run – must lead to shifting the costs of today’s operations to the following generation, and reducing the possibility of performing tasks belonging to the public sphere” (Czudec, 2014, p. 17). Raising the degree of clarity regarding the operation and management of public funds is one of the objectives of management control, which in practical terms should contribute to reducing the debt of local government units and improving local government admission.

The organization of a management control system is of great importance in the activities of Local Government Units (LGUs) and in ensuring the quality of public services provided. If management control functions properly, then LGU offices are more effective and efficient. Management control standards have an influence on a proper functioning of the management control system if they are respected by the managers of LGUs. Bearing in mind the above premises, a research problem arises which reads as follows: *what actions are taken by the management of LGU offices in order to ensure effective and efficient management control?* On the basis of such a research problem, there is a hypothesis put forward, under which: *effective implementation of public tasks by local government depends on the quality of the management control system.* Bearing in mind such a research problem and the specific hypothesis, the main goal of the study is to present the state and functioning of management control in local government units in Poland. The practical goal is to try to show the solutions that can be used by decision makers to design the management control system.

## LITERATURE REVIEW

After the change of rules of the Public Finance Act of June 30, 2005 (Official Gazette from 2005 no. 249, 2104) in the public finance sector units, an innovative management concept emerged, defined as management control. Management control should be viewed through the prism of a new way of public sector management, promoted on an international scale, similar to the one existing in the private sector (Winiarska, Postuła, 2012, p. 4; Szczepankiewicz, 2011,

pp. 247–258). The legislator presented the concept of management control in the regulations of the Public Finance Act of 27 August. According to art. 68 of this Act “management control in units of the public finance sector is the totality taken to ensure the implementation of objectives and tasks in a lawful, effective, economical and timely manner”.

The legislator, by introducing management control to the public finance sector entities, justified the decision in that, among others (...) the current practice associated with the functioning of the concept of financial control in the regulations shows that it is identified only with a strictly financial aspect of the entity’s activity. The intention of the originator is to extend the scope of management control to all aspects of the entity’s operations. The basic element of management control in administration is the responsibility of each unit manager for the implementation and monitoring of such elements of management control, so that the entity achieves its goals in a lawful, effective, economical and timely manner (*Justification for the government project...*, 2010).

The definition of management control can be found in numerous scientific publications. One of the examples may be the definition formulated by E. Chojna-Duch. According to the author, “management control is a category related to the management process itself, combining elements of power and responsibility in the public finance sector. It is also the role of the head of the unit as a regulator to perform managerial or administrative functions” (Chojna-Duch, 2010, p. 50). A fairly interesting definition of management control has also been presented by R. J. Mockler. In the author’s opinion, the term “management control” is nothing more than comparing certain standards, plans and objectives, with the results that assumptions are obtained – the results constituting the basis for possible corrective actions, so that the organization’s activities are most rational and economically justified (Mockler, 1970, pp. 123–124).

The implementation of a new management concept designed to improve the functioning of public administration usually means the need to optimize expenditure (including employment) and the privatization – or quasi-privatization – of state property, the development of information technology (IT) and reaching international standards, and therefore global dimensions (Mazurek, Knedlerek, 2010, p. 16). An important role in the operation of public administration units is played by skilful management of risk. It should be emphasized that in accordance with the existing legislation of financial law, risk management is one of the elements of management control. The main goal of risk management in LGUs is to limit possible negative effects to the accepted level (Czerwiński, 2004, p. 930). The literature indicates that the main factors that have a direct impact on the effectiveness of risk management are insufficient knowledge of the management and staff on the subject of risk management as well as difficulties in analyzing and determining the effects of risk (Braig et al., 2011, p. 3). The management of the highest level is responsible for both proper functioning of management

control and for effective risk management. This is confirmed by the judgment of the Regional Administrative Court, which states that “(...) the head of the unit, even if he effectively delegates certain powers and duties to his employees, is not relieved of the responsibility for the lack of management control” (ruling of the Provincial Administrative Court in Warsaw of May 14, 2012, VSA/WA 2016/12, SIP LEX no 1297705). Internal audit provides a lot of help for the managerial staff in ensuring the proper functioning of the management control – its participation is especially reliable in the assessment of IT systems (IS) as well as indicating recommendations improving the system (Cangemi, Singleton, 2003, pp. 70–71). Inadequate risk management in local government units may cause that the intended purposes will not be achieved or will lead to the risk of irregularities, embezzlement or financial fraud. In the event of abandonment of the postulates of management control, in particular risk management, a catastrophic situation may occur. It is mainly about providing sufficient resources to finance the effects of such events (Benson, Clay, 2004, pp. 19–21). That is why skillful risk management is important in the implementation of public tasks by local government.

New public management, however, is not just a pro-quality concept, because the aim of administration operating in the spirit of new public management is to obtain specific results, effective control of operations and accountability for the results achieved (Dolnicki, 2019, p. 50). In the literature on the subject, there are also indications of the correct construction of management control protecting the entity against failure to achieve its goals (Mazurek, Knedlerek, 2010, p. 44). Most interpretations, however, seem to lead to the general conclusion that management control is a kind of process by which the management ensures that the resources are efficient and effectively obtained as well as used to achieve the goals of the entity (Małecka-Lyszczek, 2015, p. 12). The allocation of services of general interest for the population of a given local government community may be more effective, more colourful or even cheaper. That is, if the objectives of management control listed in the *Act on Public Finance of 2009* are taken into account (Sołtyk, 2013, pp. 45–51).

## METHODOLOGY AND DATA

The assumption was made that the study would be carried out using a questionnaire survey. The first part of the survey was aimed at obtaining information about respondents. Therefore, the questionnaire has eight questions. The remaining part of the survey contains 42 detailed questions related to five segments of management control. The questionnaire prepared in an electronic form was sent in the second half of 2017 to 2808 LGUs – all units in Poland. The percentage of LGUs participating in the study was as follows: self-governing voivodeship – 13 (81.3%); powiats – 45 (14.46%); cities with powiat status



– 14 (21.2%); urban gminas – 45 (19%); rural-urban gminas – 77 (12.5%) and rural areas – 213 (13.7%). The survey was sent to 650 randomly selected LGUs. 485 replies were received, which constituted 74.6% of the questionnaires sent. Due to the fact that some of the surveys were filled out incorrectly – it was decided to conduct the analysis on the basis of 407 surveys, which constituted 62.6% of the surveys sent to local government units. The number of surveys adopted for analysis was sufficient to allow the research sample to be representative. The rationale for using the questionnaire was based on such premises as automatism, speed of obtaining information from the respondents and the assumed research goal. The head of each territorial self-government unit was responsible for filling in the questionnaire. This is due to them being responsible for the functioning of management control in accordance with the provisions of the Act on public finances.

The questions formulated in the survey questionnaire were drawn up by the author of the study, based on the guidelines of management control standards for the public finance sector announced by the Announcement No. 23 of the Minister of Finance of December 16, 2009 (Official Journal of the Ministry of Finance 2009, No. 15, item 84). The research also involved a critical review of the literature in the field of public finances and management of public organizations. It was also necessary to use some legal regulations. In the research, the method of deduction and induction was also used.

Respondents were asked the following questions in the survey:

- Whose activities have a major impact on improving management control at the JST office?
- When did the last review of the organizational structure of the LGU office take place?
- Is there a plan for setting goals and task implementation in the local government office?
- What are the main barriers and limitations in the LGU office related to risk management?

Selected research results were presented in the article titled “Implementation of management control postulates in the improvement of local government units – preliminary survey results” – published in the journal *Optimum. Economic Studies* 2018 No. 2 (92) (Sołtyk, 2018, pp. 123–137). The issues of research published in the *Optimum* journal are very different from the results presented in the current study. The subject of previous research was to determine whether the goal-setting scheme has been implemented in LGU offices. What tools are used to monitor and evaluate the implementation of the assumed goals and tasks? The subject of the published research was also determining whether a code of ethics was introduced in the LGU office, and verifying whether managers of local government units submit a statement on the state of functioning of management control.

The current study presents the rest of the research conducted by the author. However, this time the subject of investigation was the issue of the importance of management control in the design of the organizational structure and its review, the preparation of action plans as well as showing what the barriers and other limitations are in risk management by local government managers.

#### ANALYSIS OF THE RESULTS AND THEIR INTERPRETATION

The respondents were asked the question: *Whose activity has a significant impact on the improvement of management control in the LGU Office?* The numerical data contained in Table 1 clearly shows that the share of individual instruments affecting the improvement of management control varies depending on the type of LGU. According to the respondents from the urban districts, internal audit is significant in improving the management control system – 84.6% of responses. In addition, the results obtained indicate that the LGU manager is of the greatest importance regarding the correct operation of management control – 66.7%, as well as functional control – 76.9%. The research shows that the activity of the audit commission is the least important in improving management control – 4.7%.

A general conclusion that can be drawn on the basis of the obtained results is that in the opinion of the staff of the investigated local government units, the internal audit activity and the head of the LGU office have the greatest impact on the improvement of management control. Detailed results of the study are presented in Table 1.

**Table 1. Whose activities have a major impact on improving management control in the LGU? (the percentage of responses among respondents)**

Specification	Type of Territorial Local Government Unit (%)					
	voivodships	powiats	cities with powiat status	urban gminas	rural-urban gminas	rural gminas
Institutional control	66.7	39.5	61.5	43.2	38.2	31.9
Functional control	66.7	44.2	76.9	65.9	35.5	30.9
Manager of LGU	66.7	41.9	53.8	52.3	55.3	62.8
Internal audit	66.7	60.5	84.6	61.4	56.6	25.1
External audit	66.7	20.9	23.1	22.7	10.5	7.3
Cashier	33.3	27.9	38.5	36.4	35.5	51.3
Revision committee	33.3	4.7	23.1	13.6	6.6	8.4

Source: own study based on the survey.

Table 2 contains the answers to the question on respecting postulates of management control standards by LGU. To the question: When was the last review of the organizational structure of the local government office?, over half of the respondents (60.4%) answered with 'a year ago'. Such an answer can be considered satisfactory because it can mean that the managers of LGU undertake actions aimed at adapting the organizational structure to the assumed goals and tasks. Importantly, the research showed that in 35 LGU offices (9.0%) the review of the office structure was not carried out at all. This means that the management of these LGU offices does not comply with the guidelines of the Communiqué No. 23 of the Minister of Finance of December 16, 2009, regarding the standards of management control. Detailed results of the study are presented in Table 2.

**Table 2. When was the last review of the organizational structure of the LGU office? (the percentage of responses among respondents)**

Specification	Type of Territorial Local Government Unit (%)					
	voivodships	powiats	cities with powiats	urban gminas	rural-urban gminas	rural gminas
4 years ago	0.0	2.3	0.0	2.2	3.9	6.7
3 years ago	33.3	7.0	7.1	2.2	5.2	9.6
2 years ago	0.0	18.6	0.0	11.1	23.4	19.1
1 year ago	66.7	62.8	92.9	73.3	62.3	54.1
no review of the office structure at all	0.0	9.3	0.0	11.1	5.2	10.5

Source: own study based on the survey.

The next question related to the identification of whether the government has implemented a scheme for determining goals and tasks. The research has shown that in more than half of the local government offices (63.2%) the scheme has been implemented. Lack of action in this respect is confirmed by a large number of responses (36.8%). On the basis of the received responses, one can draw a general conclusion that the managers of Local Government Units striving for more effective risk management, undertake activities aimed at more a efficient realization of objectives and tasks. Crucially, in the offices where a scheme for setting goals has been implemented, it is possible to identify the risk of non-compliance more efficiently and therefore reduce the possible negative effects of its substantialisation. Detailed results of the study are presented in Table 3.

One of the goals of the management control is risk management. Effective risk management in public administration units is primarily aimed at limiting potential losses or a loss of public image. Risk management is a complex process requiring a lot

of experience from the management. It also requires elements of specialist knowledge to make decisions effectively, especially those involving public financial resources.

**Table 3. Is a plan for setting goals and tasks implemented in the LGU office? (the percentage of responses among respondents)**

Response	Type of Territorial Local Government Unit (%)					
	voivodships	powiats	cities with powiats	urban gminas	rural-urban gminas	rural gminas
Yes	66.7	81.4	100.0	86.4	57.9	54.1
No	33.3	18.6	0.0	13.6	42.1	45.9

Source: own study based on the survey.

Bearing in mind the issue mentioned above, the respondents were asked another question: *What are the main barriers and limitations in the office associated with risk management?* The obtained data indicated that among all the mentioned factors, the most important in the opinions of the respondents was the increase in responsibilities of the managerial staff and the staff of the LGU – 199 responds (53.4%), and a lack of a uniform methodology in the field of risk management in the public sector – 195 respondents (52.4%). At the same time, the lowest-rated element was difficulty in implementing good practices and proven solutions (26%). The general conclusion that can be drawn after the analysis of the data obtained amounts to the statement that there are various barriers and limitations in risk management in individual types of LGUs, but a lack of a uniform methodology of risk management in public administration units has been most often indicated. Detailed results of the study are presented in Table 4.

**Table 4. What are the main barriers and limitations in the office associated with risk management? (the percentage of responses among respondents)**

Response	Type of Territorial Local Government Unit (%)					
	voivodships	powiats	cities with powiats	urban gminas	rural-urban gminas	rural gminas
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
need to increase the costs associated with employment of a specialist in the office	66.7	22.0	15.4	20.0	17.3	34.4
lack of sufficient experience related to risk management	66.7	41.5	61.5	42.2	50.7	48.2
increasing the responsibilities of the management and staff of the office	0.0	51.2	69.2	53.3	54.7	53.3

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
difficulties in implementing good practices and proven solutions	66.7	36.6	30.8	28.9	28.0	21.5
too vague legal regulations in the field of risk management	0.0	58.5	46.2	62.2	52.0	45.1
lack of a uniform methodology in the area of risk management in the public sector	33.3	58.5	61.5	71.1	57.3	44.6

Source: own study based on the survey.

The research results obtained are consistent with the views expressed in the scientific literature. Consequently, the importance of the correct organizational structure in the proper functioning of an organization was noticed by M. Małecka-Łyszczek (2015, p. 33). This author states that in the “case of local government units, the statutes and regulations establishing the internal system of units will be of special importance”. The obtained research results demonstrate that the organizational structure of local government units is verified in order to adapt it to the tasks performed.

Internal audit has a large impact on the correct operation of controls when analysing the opinions of the respondents. Similar conclusions were evident from research conducted in 2017 by E. I. Szczepankiewicz (2017, pp. 111–120). The results of this author’s research indicate that 69.0% of internal control contributes to the improvement of LGU operation. It means that internal audit in LGU fulfills its role supporting the head of unit in realising goals and tasks (Ignacy, 2016, p. 65). As for the main barriers and limitations related to risk management, the results of the research are consistent with the statements of another researcher, namely O. Martyniuk. The author’s research also demonstrates that “public finance sector entities still report the need for the Ministry of Finance to develop detailed guidelines and guidelines on risk management methodology” (Martyniuk, 2014, p. 95).

## CONCLUSIONS

In conclusion, the above considerations should be taken to the effect that properly organized management control supports the management of LGU in the realisation of intended tasks and objectives. Above all, the essence of management control in public administration units assumes the identification of risk, the continuity of its diagnosis leading to the self-improvement of management processes. On the basis of the research conducted, it can be stated that the managers of individual types of local government units undertake actions aimed at a continuous improvement of the

management control system. The head of the office plays the main role in improving the management and control processes. Effective management control allows for more efficient execution of public tasks.

The results of the research clearly confirm postulates of management controls in the scope of reviewing the organizational structure, as well as the need for implemented schemes in the scope of defining goals and tasks. The surveys conducted also illustrate the most common barriers and limitations in the management of risk in the LGU offices. It turned out that the most frequently reported barrier is a lack of uniform risk management guidelines and methods. Results obtained from this research could form the basis for further research into the functioning of management control in public administration.

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### Summary

The concept of management control in the Polish legal system has been implemented together with the amendment to the provisions of the Public Finance Act of 27 August 2009. The essence of management control concerns a different view of local government decision-makers on managerial activity in public administration. Management control solutions contribute to increasing the quality, efficiency and effectiveness of public services. In the activities of local government units, the concept of management control may also contribute to the self-improvement of local government administration.

The main purpose of the article is an attempt to assess and demonstrate the functioning of management control in local government units in Poland. The practical goal was to illustrate the solutions that local government decision-makers can implement to design management control systems in offices. The research hypothesis is as follows: The effective implementation of public tasks by the local government depends on the quality of the management control system. The hypothesis was verified by means of an electronic questionnaire.



The research conducted demonstrated that the proper functioning of management control depends on the involvement of the head of a local government. A helpful instrument in assessing management systems is the use of internal audit. The research results illustrated that an obligatory audit commission is of little importance in ensuring the efficiency of management systems in local government administration. As for risk management, respondents pointed out that the main barrier to achieving this goal of management control is, unfortunately, a lack of a uniform risk management methodology in the public sector.

*Keywords:* local government units, management control, management control standards.

## **Znaczenie kontroli zarządczej w realizacji zadań publicznych przez jednostki samorządu terytorialnego**

### *Streszczenie*

Koncepcja kontroli zarządzania w polskim porządku prawnym została wdrożona wraz ze zmianą przepisów ustawy o finansach publicznych z 27 sierpnia 2009 r. Istota kontroli zarządzania dotyczy odmiennego spojrzenia decydentów samorządu na działalność jednostek administracji publicznej. Rozwiązania kontroli zarządczej przyczyniają się do podnoszenia jakości i wydajności świadczonych usług publicznych. Skuteczna kontrola zarządcza zapewnia również realizację celów. W działalności jednostek samorządu terytorialnego koncepcja kontroli zarządczej może również przyczynić się do samodoskonalenia administracji samorządowej poprzez zarządzanie ryzykiem.

Głównym celem artykułu jest ocena oraz ukazanie funkcjonowania kontroli zarządczej w jednostkach samorządu terytorialnego w Polsce. Celem zaś praktycznym jest próba wskazania decyden-  
tom samorządowym rozwiązań, które mogą być wykorzystane do projektowania systemu kontroli zarządczej w urzędach. Postawiona hipoteza badawcza to: skuteczna realizacja zadań publicznych przez samorząd terytorialny uzależniona jest od jakości systemu kontroli zarządczej. Weryfikacji postawionej hipotezy dokonano za pomocą elektronicznego kwestionariusza ankiety.

Przeprowadzone badania ukazują, że poprawne funkcjonowanie kontroli zarządczej uzależnione jest od zaangażowania kierownika JST. Pomocnym instrumentem w ocenie systemów zarządzania jest audyt wewnętrzny. Wyniki badań pokazują, że obligatoryjna komisja rewizyjna jest mało istotna w zapewnieniu sprawności działania systemu zarządzania w urzędach samorządowych. Jeżeli chodzi o zarządzanie ryzykiem – respondenci wskazali, że główną barierą w realizacji tego celu kontroli zarządczej jest brak jednolitej metodologii zarządzania ryzykiem w sektorze publicznym.

*Słowa kluczowe:* jednostki samorządu terytorialnego, kontrola zarządcza, standardy kontroli zarządczej.

JEL: H72, M42.

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## **Employee retention management in the context of situational leadership<sup>2</sup>**

### INTRODUCTION

Today's high employee turnover affects most modern organizations. They incur considerable costs for the recruitment and training of employees who, after some time, move to other companies. In order for an organization to maintain its significant market position, it must develop the ability to retain the employees for a long time. This applies primarily to key employees with high competences essential for the effective achievement of organizational goals.

Organizations undertake many activities aimed at identifying the reasons for employees leaving, as well as seeking ways to retain them. The problem of retention of employees with high potential and competences has still not been sufficiently resolved. The specificity of external conditions for the functioning of enterprises is not conducive here as it is determined by chaos, non-linearity, turbulence, and unpredictability (Sarnecki, 2019). These features determine the current organizational reality. Knowledge of the mechanisms of navigating this reality is a secure platform for competitive advantage, including the mechanism of key employee rotation and retention management. Nevertheless, should it be shaped based on the existing linear way? Since the modern world and the environment of the organization are not linear, and even are characterized by unpredictability, what should then be taken as a determinant of such an employee retention management mechanism?

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The article assumes that under current conditions, it is the situational approach to employee management that can affect a longer attachment of workers to an organization. The idea of flexible managerial adaptation towards current determinants of situations contained in the situational management model, may be an excellent response to the variability and unpredictability of operating conditions. Flexible adjustment of the scope of employees' autonomy to their competences and professional experience may contribute to a stronger identification with the employing organization. The main goal of the considerations in this thesis was to verify the significance of the analyzed factor for building the involvement and retention of employees with high potential, based on other similar studies. The issue of employee retention in modern organizations has been presented, including the main reasons for leaving and ways of retaining employees in the organization. The essence and assumptions of the situational management model were characterized. Next, the impact of the situational approach in management on the retention of key employees was also analyzed, which allowed for referring to the practical solutions applied and proposing some modifications.

#### EMPLOYEE RETENTION AS A MANAGEMENT CHALLENGE

Employees are the most valuable and productive resource of any organization. Retention of employees, especially those with high potential, is one of the biggest challenges for modern managers. When employees leave the organization, they take with them knowledge, experience, culture, and a system of values, which are not only a loss for the company but which can also be used against the organization. A high rate of employees leaving the organization also has no positive effect on the company's image and may contribute to creating unfavourable opinions in potential employees and clients. Attention should be paid to the high costs of recruiting and hiring new employees (Merhar, 2016).

The term employee retention is defined in many ways. In general, it means that organizations take various measures to encourage employees to remain within the organization for a long time. The measures used take into account the needs and priorities of employees. Employee retention aims to help the organization achieve its strategic goals by determining the reasons for employees leaving the organization and factors leading to increased employee dissatisfaction, which can directly or indirectly help retain dedicated and loyal employees (Rakhira, 2018). When the retention rate is appropriate, business knowledge, experience, and long-term relationships and knowledge of the organization lead to competitive advantage, an increase in market share, trigger workforce loyalty, and customer satisfaction.

The essential aspect of employee retention, however, is to prevent those most talented from leaving (James, Mathew, 2012), because the competitive

advantage of the organization depends to a large extent on them. In research studies found in the literature on the subject, the authors (Scott et al., 2012) mention talent deficiency caused by the global increase in the importance of talents and the growing global struggle for talents. It is also indicated that the phenomenon of “aging” societies, to some extent, increases the demand for high-potential employees (Kyndt et al., 2009).

Two types of reasons for employees leaving the organization can be distinguished, i.e., voluntary turnover and involuntary turnover (Singh, 2019). The former covers the reasons underlying the decisions taken by employees, which include: the possibility of obtaining higher income, bad relations with the supervisor, family reasons, poor organization of work, dissatisfaction with working conditions, lack of autonomy, etc. The latter type of reasons for employees leaving the organization relates to decisions taken by organizations due to e.g., company restructuring or poor work results achieved by employees (Allen et al., 2010). The problem raised in this article specifically focuses its attention on voluntary turnover, whereby explaining why employees decide to leave an organization.

Research carried out on employee retention (Eldridge, Nisar, 2011; Terera, Ngirande, 2014) allows one to distinguish three types of challenges faced by organizations in the field of employee retention. These are:

- strong competition between organizations in the limited pool of talented employees along with the belief that maintaining a strong market position depends significantly on them,
- migration of some human capital to other countries offering more favourable working and pay conditions,
- organizations are not able to predict the future requirements of employees and thus cannot take appropriate actions to correct/improve employee-organization relationships.

As a consequence of the last of these aspects, there is quite a substantial dissatisfaction of employees with the level of meeting their needs and expectations. Different researchers present different sets of reasons for that dissatisfaction. The findings of C. Sinha and R. Sinha (2012) confirmed not only a large variety in this respect but also showed that factors that are of great importance to employees in one organization might be meaningless in another.

Kumar and Arora (2012) showed in their research that the highest dissatisfaction rates among young professionals (20–25 years of age) relate to the following reasons: slow career growth, poor relationships with colleagues/seniors/superiors, work-life imbalance, undertaking higher education, etc. Dutta and Banerjee (2014) tried to focus on learning about the potential reasons for the employee leaving the job and the problems the organization faces due to high employee turnover. It has been observed that the lack of training, career opportunities, and recognition of

skills lead to a weakening of staff attachment to the organization. In the research of Kossivi *et al.* (2016) aimed at determining the variables affecting employee rotation, more attention was paid to factors such as organizational culture, training and development, and autonomy.

The results of research by Sharma *et al.* (2010) illustrated that in various organizations, there is a wide range of employee retention strategies divided into two categories: monetary and non-monetary strategies. The authors realized that although companies use monetary strategies with great success (incentive, reward, payroll activities), etc., there are also several innovative non-monetary activities. Samuel and Chipunza (2009) conducted a study and observed that internal motivation variables that significantly affected employee retention in both public and private sector organizations included training and development, a sense of belonging to an organization, work safety, demanding/interesting work, and freedom of innovative thinking.

James and Mathew (2012) in their research on employee retention in the IT sector, highlighted the following retention strategies: reward and recognition, training and development opportunities, career planning, flexible working hours, performance evaluation, financial support, mentoring and coaching, etc., and Baruah (2013) expanded the analysis by discussing the importance of factors such as training and development, leadership style practiced in the company, and job security (Das, Baruah, 2013). Training and development is considered one of the most important retention factors, in addition to work performance appraisal (Yousuf, Siddqui, 2019). In turn, the behaviour of leaders increases the level of job satisfaction.

Mehta *et al.* (2014) tried to learn about practices that motivated and retained staff. According to their observations, there are no established practices that would show how important it is to retain employees and involve them in the organization's activities, as employers place different emphasis on different variables depending on what suits their organization best. Results by Silva, Amorim Carvalho, and Dias (2019) showed that training policy is a significant factor in keeping people in organizations. Other factors characterized by similar indicators include access to development, professional promotion policy, salaries, additional benefits, appreciating good ideas, promoting sustainable life, employee competence, openness of internal communication channels, and lifelong learning. Practiced activities also include job rotation, job enrichment, interviews, participation in decisions, social recognition, etc.

The multiplicity of factors and aspects that directly or indirectly affect employee retention make it a challenging undertaking for an organization on condition that it is a permanent element of its functioning. Managers should integrate retention activities with the overall company strategy and make them visible for human resource management purposes. An in-depth analysis of employee retention factors in a given organization and building appropriate strategies on this basis are essential.

SITUATIONAL LEADERSHIP  
– A FAMILIAR CONCEPT IN NEW CONDITIONS

Although situational leadership is not a new concept, it has not been sufficiently popularized in modern organizations so far. The situational approach is based on the premise that there is no single best way to manage an organization. A justification for the development of situational direction was presented in the 1960s by H. Sherman (1966), who stated that it is impossible to achieve the perfect structure and order of organizations that would suit every circumstance and event. He noted that different conditions and situations in which recommendations regarding the sphere of organization and management are applied require different actions. Some management methods that are effective in one situation may prove to be unreliable in another. That can be influenced by many aspects that differentiate organizations (Lachiewicz, Matejun, 2012). Sherman stated that the achievements of management science could not include entirely positive or negative patterns of activities, methods, and techniques. The role of managers should be to recognize the conditions and situations in which the use of given tools can bring the most desirable results. The situational approach is characterized by relativism and pragmatism (Peszko, 2002). Relativism manifests itself in the assessment of the organization's activities and functioning in the context of a specific situation, while pragmatism determines the organization's activities by giving them a dimension depending on time and goals, as well as values and the current situation (Kopczyński, 2016). Therefore, the situational approach to management is highly dynamic and requires skillful analysis and adjusting solutions to the current operating situation each time. The situational point of view is to help managers understand differences and circumstances and respond to them appropriately (Schermerhorn, 2008).

The issue of the relationship between external conditions and structural solutions applied by organizations was the subject of research by P. R. Lawrence and J. W. Lorsch (1967), who showed the following relationships:

- enterprises operating in unstable and uncertain conditions, function more efficiently if their structures are less formal, decentralized, show significant diversity of tasks and, at the same time, a good matching of elements within the organization,
- enterprises operating in stable and reliable conditions function more efficiently if their structures are more formalized, a greater centralization of decisions occurs with a greater dependence of individual units,
- there are no optimal structural solutions; the best solutions should take into account the features of the current situation (e.g., organization's growth phase, sector of activity),
- the level of stability of the technologies used affects the functioning of enterprises: unstable technological conditions and diversified operations require decentralized organizational forms.

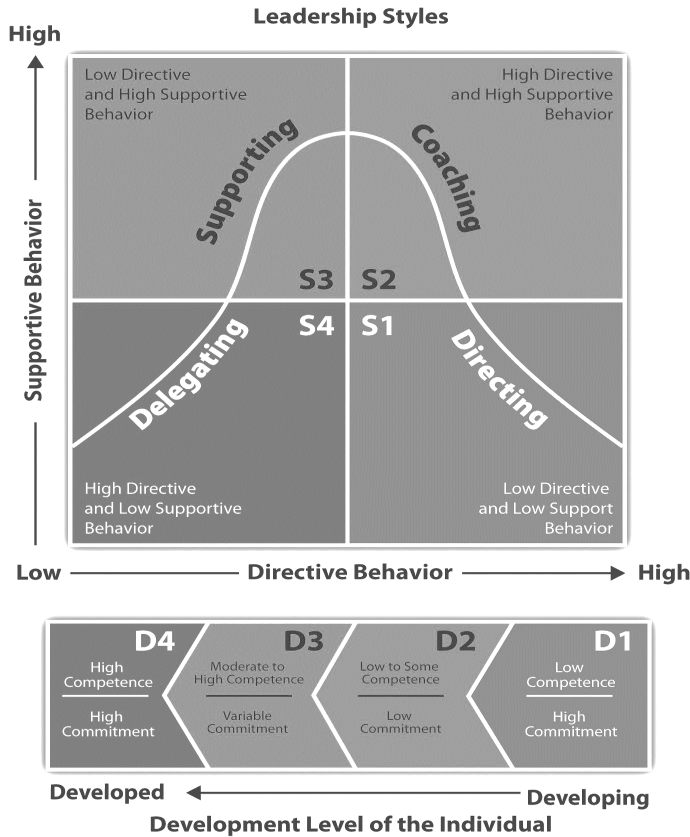
Based on the relationships studied, P. R. Lawrence and J. W. Lorsch (1967) formulated a conclusion according to which traditional organizational structures and formal schemes of operation should be replaced with individualized and adaptive structures adjusted to the current internal and external conditions of the organization's operation. The management goal in this approach is, therefore, to achieve a good adjustment of the organization to the environment and the use of diverse solutions depending on individual tasks and environmental conditions (Morgan, 2002). The good adjustment, however, requires careful observation and analysis of the actual situation; it is assumed to be inductive. The conducted analyses are not about looking for cause and effect relationships, but rather they are manifestations of desirable and undesirable organizational behaviours (Peszko, 2002). It should be noted that the presented characteristics clearly emphasize the practical dimension of the situational approach, whose main message is to show managers the significant complexity of each management situation (Lachiewicz, Matejun, 2012).

Researchers who have significantly contributed to the development of the discussed trend are P. Hersey and K. Blanchard. Based on many years of research, they created the situational leadership model (Hersey, Blanchard, 1977), which is an essential proposition for managers of modern organizations. The authors focused their attention on the approach to employees and proved that there is no one optimal management style, but it should be individually selected, taking into account the employee's professional skills and development needs. The effectiveness of various styles of leader behaviour depends on the degree of employee maturity assessed in the context of the task being implemented (Kozłowski, Piotrowski, 2006). The level of maturity depends on the scope of employee competence and the degree of their commitment. Based on these criteria, they determined the following four stages of employee development:

- initial, determined by low competence and high commitment (R1),
- moderate lower, determined by low/medium competence and low/medium commitment (R2),
- moderate-higher, determined by medium/high competence and variable commitment (R3),
- high, determined by high competence and high commitment (R4).

At individual stages of development, employees need different approaches and styles of managing their work. The situational management model distinguishes four management styles, i.e., directing (S1), coaching (S2), supporting (S3), and delegating (S4). The creators of the concept indicated that as the employee's maturity increases, the management style should be flexibly changed from directing to coaching and supporting to delegating. The essence of the relationship between the level of employee development and the management style is presented in Figure 1.





**Figure 1. Situational Leadership Model**

Source: based on (Blanchard, 2007); <https://feelthebrain.me/2016/12/30/lideres-y-seguidores-planificadores-y-ejecutores/>.

A flexible selection of management style, taking into account the employee's development stage, means that the employee develops his competence, increases commitment and self-confidence. It should be noted that due to the diversity and variability of tasks, employees can go back to previous stages of development. A manager who flexibly uses the indicated management styles must have a well-developed ability to diagnose a work situation, i.e., recognize the current needs and stages of employee development. Another vital skill is the ability to cooperate for the results, i.e., open communication with an employee about his/her professional problems and the needs associated with the implementation of tasks.

At present, in the era of the growing dynamics and uncertainty of the operating conditions of organizations, the idea of a situational management model assuming that the way of management depends on the situation seems to be particularly desirable. Meanwhile, two styles still dominate in practice – autocratic and democratic. It is

still arguable which is more effective. Analyzing their pros and cons leads to an indication of their varieties or intermediate forms. Usually, the search and analysis process is directed towards demonstrating the superiority of one style over the other.

The situational approach introduces a different way of thinking about employee management. The concept of situational leadership does not look for the answer to the question of which management style is best, but assumes flexibility in the selection of styles. At the same time, high effectiveness of style depends on the adequacy of selection concerning the employee's level of professional maturity. A modern manager must be ever more sensitive to the needs and expectations of employees. The organization's success is strongly linked to economic conditions, but as these conditions are dynamic, the effectiveness of people's actions in the changing reality is even more significant (Szenrok, 2018). The situational approach is an excellent methodology that allows managers to assess both people and tasks accurately in order to choose the right management style.

#### THE IMPACT OF A SITUATIONAL APPROACH ON MANAGING EMPLOYEE ATTACHMENT

In the context of the presented variety of employee retention factors, it is worth considering what role determinants of the situational leadership model can play in this respect. To what extent does research on the subject pay attention to the stages of employee competence development and flexible selection of management style, including creating conditions for professional development, work autonomy adequate to the stage of employee development and freedom of action? To what extent can the use of the assumptions of the situational leadership model increase the effectiveness of retention strategies?

A good basis for analysis in search of the answers to the above questions is the list of factors of particular importance for the retention of talented employees created by Singh (2019). To sum up the author's considerations, attention should be paid to:

- creation by the organization of the opportunity for employees to critically assess working conditions,
- effective interpersonal, group, organizational and intercultural communication that strengthens the employee's identity and creates an open and trusting work environment,
- remuneration and other material benefits. Although this trend is gradually changing, almost 30% of employees still indicate this factor as the reason for leaving the organization (Kumar, Arora, 2012),
- responsible leadership based on three components: (1) ethical culture of stakeholders, (2) honest personnel practices, (3) full support for employee development,
- possibilities of career development, which do not only keep the employee for longer but also increase his/her loyalty to the organization (Mehta et al., 2014).

- training and development focused on raising employee competence to solve problems in the workplace,
- possibility of flexible work performance providing opportunities to make a choice when, where and how long the employee will be involved in the implementation of tasks, which allows one to maintain a work-life balance,
- experience of job satisfaction resulting from the organization meeting the employee's expectations, which shapes a strong relationship between job satisfaction and retention (Terera, Ngirande, 2014),
- evaluation of work results as an individual contribution to the functioning of the organization. It is a specific interface between the manager and the employee. It helps improve results and build better relationships with supervisors (Mehta et al., 2014).

The presented factors and their more in-depth insights basically indicate compliance with the determinants of situational leadership. Despite the diversity, a group of factors depending on managers is quite clearly emerging. They are related to communication, professional development and career, job satisfaction, appreciation, and so on. To keep an employee in a company, it is essential to use internal factors, i.e., proper management of human resources and a greater recognition of human capital, especially that with high potential. It is noted (Silva et al., 2019) that employee quitting is a problem that can be significantly reduced by the direct action of organization-dependent factors rather than employee-related factors. In other words, organizations operate more efficiently on those variables that they can control themselves rather than requiring the employees to change forms of matching their responsibilities.

The aspect of responsible leadership is not only strongly emphasized in the research results available in the literature, but also specific types of managerial activities that create it are indicated. However, only the situational leadership model defines the rules for taking such actions. Not in every professional situation and not for all employees do these activities prove to be effective. Situational leadership does not glorify one chosen management style. There are four types of styles, i.e., directing, coaching, supporting, and delegating. The manager must demonstrate the ability to flexibly choose the management style most relevant to the requirements of the work situation characterized mainly by the level of professional maturity of the employee. The theory of situational leadership presented earlier perfectly complements the results of ongoing research in the field of employee retention. It draws one's attention to the aspect of shaping managerial competences, which has been omitted in previous studies, regarding:

- knowledge and in-depth understanding of the mechanisms of different management styles,
- skills related to the flexible and adequate selection of management styles,
- assessing the level of employee maturity taking into account work resources and the degree of commitment,

- recognizing employee development needs,
- continuous diagnosis of the operating situation by assessing employee capabilities and work-related problems,
- subject organization of the work environment.

It should be added that the subjective dimension of work environment is well shaped by the aforementioned analyzed factors of employee retention, which are the basis of retention strategies undertaken by organizations. However, building these strategies should be done using the rules contained in the situational leadership model. Only a well-thought-out and accurate selection of management styles can effectively keep an employee for longer in an organization. Taking into account the critical needs of the employee and analyzing the challenges of a given situation is not without significance in this case. Particularly significant are the expectations of employees with high potential who are actively involved when they can be part of a higher pursuit, do something meaningful, be able to express themselves, make independent choices and be self-sufficient (Sasin, 2015, p. 38). The situational management theory provides valuable indications defining retention strategies. It shows the relationship between a given management mechanism and the specificity of a situation. In a non-linear and dynamic environment of the functioning of modern organizations, knowledge of these relationships can increase the effectiveness of retention strategies.

For many managers, the situational approach is a serious challenge due to the previously preferred management style. Management flexibility must, in this case, be combined with systematic recognition of the employee's development stage and potential, and thus of the employee's capabilities in the context of his tasks. A significant predictor of situational management is building a subjective and engaging work environment. An employee who experiences organizational support and feels subjectively treated is not only willing to build a positive image of the employer, but also to work with him longer, which significantly affects organizational commitment (Arasanmi, Krishna, 2019). In turn, employee empowerment and commitment are two fundamental types of tools to increase retention in organizations (Sergio, Rylova, 2018). Both the experience of organizational support and commitment contribute to building a more open, innovative environment and faster decision-making, and consequently, loyalty and increase of employees' personal (internal) motivation. Meeting these critical conditions of the situational approach in management makes them a powerful tool for building retention strategies.

## CONCLUSIONS

Turnover in companies is a phenomenon that should be better analyzed and interpreted by managers and scientists in the area of HR. Having satisfied and productive employees is more critical to organizations than ever before. When they are wholly involved in the business, profits are automatically higher. When they leave, especially

those with high potential, the organization suffers significant losses. Solutions to the problem of leaving employees are sought by building strategies for remedial actions based on a number of different factors retaining employees in organizations. They are still not enough. In turn, the situational leadership model creates the opportunity to build more comprehensive strategies based on specific indications of building a subjective work environment and a flexible impact on employees in the form of the management style used. The subjective work environment leads to attachment and commitment. However, this type of attitude maintained for longer is only possible if the manager can flexibly and accurately respond to the needs and expectations of employees as specific determinants of the management situation. The significant aspect here is managers striving for the improvement of managerial quality, according to the assumptions of the situational leadership model.

Other research analyzed in the present paper demonstrates that money or capital are not the most important resources in an organization today, but human capital is what really determines its functioning. To ensure the sustainability and survival of an organization, employees, especially talented ones, should experience motivational support in a timely manner. The answer to the challenge of employee retention is that managers regularly take on strategies that include the relevant retention factors using situational leadership methodologies and integrate them into their primary business strategy. The situational leadership methodology allows one to deal with the variability of operating conditions by preparing different management styles and different scenarios. Their use should depend on the current state of dependence between the elements of the operating situation and agile, flexible adaptation of these elements to the changing conditions. This approach redefines the key employee's position and the quality of cooperation with managers requiring a full understanding of the variability and non-linearity of the organization's environment.

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### Summary

The way employees are managed is fundamental to modern organizations. Employees are the most valuable and productive resource of any organization. When they leave the organization, they take knowledge, experience, culture, and the system of values with them, which significantly limits the effectiveness and competitiveness of the organization. The phenomenon of employees leaving now affects most organizations. Employee retention, especially referring to those employees with high potential, is one of the biggest challenges for modern managers. The problem raised in the article concerns the impact of the situational approach to employee management on their attachment to the organization. The author's goal was to determine the importance and role of situational leadership in building retention strategies. It was assumed that the flexible selection of management style, taking into account competences and professional experience, may contribute to a stronger identification with the organization and staying in it for longer. The article was prepared based on a critical analysis of the latest literature on the analyzed issue. The issue of employee retention and the factors taken by organizations into account to retain employees (in particular those most talented), were presented. The idea of the situational leadership model was discussed. Attention was paid to its poor dissemination and, at the same time, its usefulness in the era of growing dynamics, non-linearity, and uncertainty of the organization's functioning conditions. It was shown that the situational leadership model creates the possibility of building more comprehensive



retention strategies based on subjective mechanisms of flexible impact on employees. The situational leadership methodology allows one to deal with the variability of operating conditions by preparing different management styles and different scenarios. The answer to the challenge of key employee retention can be the strategy of managers taking into account the relevant retention factors using the situational leadership methodology and integrating them into a primary business strategy.

*Keywords:* employee retention, retention factors, flexible management, situational leadership.

## **Zarządzanie retencją pracowników w kontekście przywództwa sytuacyjnego**

### *Streszczenie*

Sposób zarządzania pracownikami ma fundamentalne znaczenie dla współczesnych organizacji. Pracownicy są najbardziej wartościowym i produktywnym zasobem każdej organizacji. Kiedy odchodzą z organizacji, zabierają ze sobą wiedzę, doświadczenie, kulturę i system wartości, co znacząco ogranicza jej efektywność i konkurencyjność. Zjawisko słabego przywiązania pracowników dotyka obecnie większość organizacji. Retencja pracowników, zwłaszcza tych o wysokim potencjale, to jedno z największych wyzwań dla współczesnych menedżerów. Problem podjęty w artykule dotyczy wpływu sytuacyjnego podejścia do zarządzania pracownikami na ich przywiązanie do organizacji. Celem autora było określenie znaczenia i roli przywództwa sytuacyjnego dla budowania strategii retencyjnych. Założono, że elastyczny dobór stylu zarządzania uwzględniający kompetencje i doświadczenia zawodowe może przyczynić się do silniejszego identyfikowania się z organizacją i pozostawania w niej na dłużej. Artykuł opracowano na podstawie krytycznej analizy najnowszej literatury dotyczącej analizowanego zagadnienia. Zaprezentowano ideę modelu przywództwa sytuacyjnego. Zwrócono uwagę na jego słabe upowszechnienie i zarazem przydatność w dobie narastającej dynamiczności, nieliniowości i niepewności warunków funkcjonowania organizacji. Przedstawiono zagadnienie retencji pracowników oraz czynniki podejmowane przez organizacje w celu zatrzymania pracowników, w szczególności tych najbardziej utalentowanych. Wykazano, że model przywództwa sytuacyjnego stwarza możliwość budowania bardziej kompleksowych strategii retencyjnych opartych na podmiotowych mechanizmach elastycznego oddziaływania na pracowników. Metodologia przywództwa sytuacyjnego umożliwia radzenie sobie ze zmiennością warunków działania poprzez przygotowanie różnych stylów zarządzania i różnych scenariuszy działania. Odpowiedzią na wyzwanie, jakim jest retencja kluczowych pracowników, może być podejmowanie przez menedżerów strategii uwzględniających odpowiednie czynniki retencji przy zastosowaniu metodologii przywództwa sytuacyjnego i wkomponowanie ich w podstawową strategię biznesową.

*Słowa kluczowe:* retencja pracowników, czynniki retencji, elastyczne zarządzanie, przywództwo sytuacyjne.

JEL: J24, M14.

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## **Does teal suit everyone? Psychosocial factors affecting work attractiveness in an organisation with a horizontal structure<sup>2</sup>**

### INTRODUCTION

More and more management theoreticians and practitioners believe that the assumptions standing behind the business activity of the majority of enterprises which relied in the past on hierarchy, rivalry and profit optimisation, no longer respond to the changes taking place in the world (Juchnowicz, 2017; Parasiewicz, http; Blikle, 2018). The performance analysis of such companies as Airbnb, WeWork, Pinterest as well as of many smaller start-ups leads to the conclusion that their success results from a modified approach, which is based on decentralised control, flexibility and prompt reaction to the ever-changing circumstances.

Additionally, the situation has been changed by millennials entering the labour market, who go to work expecting an opportunity for development and a sense that their work has a deeper meaning (De Hauw, De Vos, 2010; Ng et al., 2010). Therefore, they often require their employer not only to satisfy their basic needs or the need of security and affiliation, but also to meet higher needs, including respect and self-fulfilment (Maslow, 1987; Conley, 2007). That is why it is increasingly important to find methods and tools to attract employees with a high capacity for self-regulation and then increase their involvement and retention in the organisation. One source of ideas for finding them may be to explore new trends in creating organisations that are either based on new management

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strategies or even turn away from the traditional understanding of management, e.g. teal organisations (Laloux, 2015) or holacracy (Robertson, 2015).

However, since there exist some organisations which were built in this way and which achieve measurable success, and there are others which after a certain period of time from the implementation of that method withdraw from it, many questions arise about the determinants of their effectiveness. In this article we will focus on one of them, posing a research question of whether and to what extent the implementation of such solutions is dependent on the needs, development and predisposition of the individuals involved. The answer to this question can be used in practice in recruitment processes or in a vocational counselling, as there are still no scientific studies on the subject.

Therefore, the purpose of this paper is to take a closer look at the psychosocial determinants of work in an organisation with a horizontal structure in the first place, and, secondly, to identify the research problems which should be solved in order to enable entrepreneurs and the persons interested in such a model to rightly consider if that model of organisation is suitable for them. In order to achieve these goals, first of all, the literature was analysed (Czakoń, 2016) and the case study method was used to confront theoretical assumptions with the practical implementation of this work system.

## CHARACTERISTICS OF TEAL ORGANISATIONS

Among ten factors which now have a significant impact on acquiring, developing and keeping employees in innovative companies, Meister and Willyerd name (alongside with e.g. globalisation and demographic changes) such characteristics of contemporary organisations as participation in management, knowledge sharing and corporate social responsibility (2010, p. 17). They constitute elements of the organisational culture which is oriented on the subjective treatment of the other person, cooperation and engagement. Nevertheless, it is worth noting that commitment should not result from managerial efforts, but, to a large degree, from the internal motivation of the employee.

Juchnowicz (2017) suggests a human resources management that is based on positive organisational culture, employee empowerment and appropriate human relationships. Her concept of a self-engaging company is a synthesis of management by values (Blanchard, O'Connor, 2015), management by commitment (Juchnowicz, 2012) and the concept of full participation in managing (Stocki et al., 2008).

The teal organisation model also rests on participation, subjective treatment and decentralised control; however, it is simultaneously related to the specific approach to people and their development. Discussing the phenomenon of teal organisations, Laloux (2015) notes that their originators assumed that people are most efficient in conditions of freedom, trust, partnership and cooperation. Thus,

they reversed the traditional order of things, according to which we strive for success, so as to be able to afford a good life in the future. In their understanding, that good life should be a daily objective. This means that daily work should provide a sense of meaningfulness, create occasions for development, and also possibilities to use and improve talents. The good life, as noted by Blikle, “is among people we trust and they reciprocate that trust”. Work in organisations that ensure a good life is joyful and thus more efficient, more innovative and burdened with fewer mistakes. This is just what gives those companies an advantage on the market (Blikle, [http](#)).

### TYPES OF ORGANISATIONAL MODELS

In the opinion of Laloux (2015), the type of organisations that were formed over years as well as the way in which they operated were always connected with the world view prevailing in a given period. The development of people as a species also changed their way of thinking about the world, which in consequence resulted i.a. in the discovery of more and more effective types of organisational models. As noted by Beck (2006), the factor that stimulates the development of consciousness is the ever-changing life conditions on our planet. In order to adapt to changes, people develop new, more and more complex conceptual systems which enable them to manage things more effectively, ensure survival and further development. Every next level of consciousness was the beginning of a completely new era in human history, in which society, economy, power structure and the role of religion changed, and a breakthrough in work organisation abilities occurred, leading to the creation of a new model (Laloux, 2015). Referring to human consciousness development stages, Laloux proposed five corresponding organisational models that differ in management methods and organisation structure. Each of them is an individual model, the objective of which is to meet, as adequately as possible, the needs resulting from specific circumstances or cultural context. Table 1 presents main characteristics, contemporary examples and a metaphor of each type of organisation.

The model of impulsive red organisations managed by a chief who under a penalty imposes absolute obedience works well when a group feels a threat from the outside. Hence, what the red organisation participants have in common is fear, while the valued qualities are strength and toughness. Activities in such an organisation are planned on an ongoing basis, depending on the current needs, the focus on short-term objectives is noticeable, and the activities themselves are usually chaotic. This model was used by tribes in the aboriginal civilisation social structures. At present, you can find it for example in the mafia structure or in paramilitary organisations. A guiding metaphor of this type of organisation is a wolf pack.

**Table 1. Types of organisation according to F. Laloux and their characteristics**

Type of organisation	Characteristics	Current examples	Metaphor
Impulsive red organisations	They are headed by a chief. Obedience comes from the fear of punishment. This model works when the group feels threatened from outside. Fear is a common feature. The most important values: strength and endurance.	mafia street gangs	pack of wolves
Amber conformist organisations	Highly formalised roles in a hierarchical pyramid. Command and control top-down (related to both “what” and “how” things are to be done). The most important value: stability.	catholic church army public school system	army
Orange organisations of achievements	The goal is to defeat competitors, make profit and grow. Innovation is the key to market leadership. Management by objectives (control over “what” but freedom from “how”).	business corporations	machine
Green pluralist organisations	It functions in the classic pyramid structure, but it focuses on culture and empowerment in order to achieve extraordinary motivations of employees, value-oriented company culture.	culture-driven organisations, stakeholder model	family
Teal integral organisations	Enables the realisation of the needs of self-fulfillment, flat structure, co-responsibility, mutual trust, stimulating the development of both the whole company and individual employees, dignity motivation.	organisations that want to change the world for the better, want to build on trust, sense of responsibility and partnership	organism

Source: own study based on Laloux (2015).

Amber (conformist) organisations, in turn, thrive in conditions of absolute peace. Groups that function in this way work out a formalised pyramid-shaped hierarchy as well as repetitive procedures and rituals. Individuals are subject to stringent rules and play formalised roles, while goals are attained in a long-term perspective. This type of an organisation model can be encountered in the army, in church hierarchy or in a public school system. The most important value is stability, which can be ensured with stringent processes and the future is perceived as a future repetition. A guiding metaphor of this type of organisation is the army.

The next stage is orange organisations (of achievements). Their purpose is expansion, defeating the competition, gaining profit and growth. Management is also performed in the system of hierarchy but it is realised through objectives. Supervisors exercise control over what should be done, leaving at the same time the freedom over how to do it. In orange organisations, an employee can feel like a cog in the machine, being accountable for its performance and subject to performance appraisal and evaluation systems. The key to success, in this

case, is innovation. International corporations can be an example of this type of organisation, and its guiding metaphor is the machine.

Green “families” (pluralistic organisations) appeared as opposition to red organisations consisting of machines and cogs. They also function in the classical pyramid structure but concurrently they focus on culture and empowerment, achievement of common values and participation in decision-making by the lower ranks, which enables them to increase employee motivation. Company culture-driven organisations can be mentioned as examples of this type of organisations.

The teal model appeared based on the previous experience and also in response to the existing present-day needs. In the opinion of Laloux, it means entering the next stage of human evolution and corresponds to the highest level of the Maslow pyramid, which is self-fulfilment needs. In teal organisations, hierarchical dependency is replaced by joint responsibility, a flat structure and the ability to make use of employees’ potential. This approach is focused on joint responsibility and its purpose is to strengthen mutual trust and stimulate the development not only of the whole company but also of its individual employees.

Teal organisations adopt totally new work organisation principles. One of their main objectives is to make the world a better place. They want to build on trust, sense of accountability and partnership, they reject the so-called “incentive schemes” in favour of the sense of satisfaction “from what they do and what they are like” (dignity-based motivation). They also reject the hierarchical managerial structure in favour of a network-based process structure (Blikle, <http>). Such a model of functioning does not exclude leadership at the top management level, neither the development of vision nor the whole organisation strategy. Nevertheless, to a large extent it limits the number of managerial positions, in consequence of which a lot of functions are performed directly in teams, including, but not limited to, the recruitment of employees, planning or administration.

Work organisation within teams should in principle be flexible, without formalised descriptions of job positions and the scope of duties. It rests on the roles and functions that change according to the needs, subject to the interests and talents of particular team members. Therefore, the *sine qua non* conditions are trust, a subjective treatment of employees and the sense of accountability for your own actions. Such an approach, as confirmed by research (Adamska-Chudzińska, Pawlak, 2017), contributes to an increase in employee engagement. The teal management model can be compared to a living organism, where each cell performs a specified function and all the actions serve the main purpose: a healthy, well-functioning organism<sup>3</sup>.

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<sup>3</sup> It is worth noting that this comparison is close to the idea of implementing health procedures to the management and operation of an organisation, which should be the method of building long-term effectiveness, since companies that focus only on business performance and disregard the health aspect of an organisation do not operate long on the market (Dyrbuś-Graca, Bratnicki, 2011, p. 233). In addition, one of the characteristics of a healthy organisation is a high level of job satisfaction and employee engagement (Cooper, Cartwright, 1994, p. 462).

## CHARACTERISTICS OF PERSONS WORKING IN A TEAL ORGANISATION

It should be noted that the teal approach according to Laloux is not only a way for an organisation to operate but also a way in which the level of self-knowledge and consciousness of employees is manifested. The author assumes that people who choose the teal model accept the fact of consciousness evolution (Laloux, 2015). In his opinion, going into teal is connected with how the world is perceived and understood, and also with readiness for self-development. The above is manifested, on the one hand, in attitudes and behaviours which are within what is usually considered desirable qualities of employees, e.g. a friendly cooperation with others or learning from failures but, on the other hand, Laloux lists a number of characteristics which are expressed by means of a language that is far from the one used in management sciences.

They include:

- taming ego-driven fears, minimising the needs to control people and events, creating a space to listen to the wisdom coming from the deepest parts of ourselves;
- perceiving our life as an ongoing journey;
- building on strengths – softer and more realistic perception of our limits and acceptance of what constitutes the beauty, strength and potential of people and situations;
- coping well with adversities – reasoning that there are no mistakes, only experiences; elimination of anger, shame, blaming; making frequent, minor corrections, as the problems encountered contribute to our development and education;
- wholeness in relationships with others – resignation from judgement, creation of shared safety space.

Although many of the above characteristics are close to resilience, effective coping with stress or the postulates set out in communication without violence by Rosenberg, they are not the most common ways in which employees react. Therefore, a question arises whether they are the *sine qua non* condition for becoming a teal organisation participant or whether it is possible to develop them only after starting work in a given organisation. Should employees already be at an appropriate level of consciousness development at the time of recruitment (or transformation of an organisation into a teal version), as Laloux assumes, or can they enter it only being inspired by co-workers and the organisation culture?

Another question is whether these expectations are explicitly deployed by an organisation or is it assumed that the persons applying for a job in a given company are already aware of them? An adequate psychological contract is – as it seems – one of the key elements of good cooperation in this situation. Taking into account the role of soft skills, which has its place in teal organisation assumptions, particularly important should be therefore an adequate selection and such recruitment processes that it will make it possible to employ persons being able to work effectively in “a bossless organisation”.



According to Blikle, it is the orientation on employees' self-discipline and self-management that provides huge room for development and action. He states that "In a teal organisation there's no need to supervise anyone's work, no need to evaluate or make anyone work with the use of the stick and carrot. And if there's no need to supervise or urge, the managers turn into authentic leaders and mentors" (Blikle, [http](#)). This also increases the sense of influence and empowerment of employees, which contributes to self-fulfilment and the sense of being the "author" of one's own life, not just a pawn (Pawlak, 2012)<sup>4</sup>. It should be pointed out that this way of working is largely based on a different part of self-concept than in a situation of control and duty, since selves defined in terms of "ideals" elicit different regulatory orientations than selves that emphasise "oughts" (Shah, Higgins, 2001).

#### PSYCHOSOCIAL FACTORS AFFECTING WORK ATTRACTIVENESS IN A TEAL ORGANISATION

As it has already been said, teal organisations gain their enthusiasts, i.a. because of the fact that such organisations meet the needs of self-fulfilment and they provide the sense of meaningfulness. Nevertheless, it is worth noting the processes which may additionally contribute to an increase in the number of people interested in that model.

The first one is the said generational change, i.e. entering the labour market by people from Generation Y. People born in the 1980s and 1990s went to work with quite different ambitions than their older colleagues, expecting from their employers the possibility to learn, a clear action plan and the sense that their work has a deeper meaning. As demonstrated by research carried out by De Hauw and De Vos (2010), what millennials expect from their employers is the possibility to reconcile professional work with private life, the possibility to develop and render work which will be meaningful (2010). According to the report prepared by Harrington, Deusen, Fraone and Morelock (2015), for 95% of respondents it is the pay that determines success at work, but job satisfaction turns out to be more important for them (98%). Rapacka-Wojdat (2016) state, in turn, that people from that generation are motivated by flexible working hours, the possibility to realise their passions and show creativeness. It means that we deal with a generation which pays more attention to whether the culture of a given organisation suits them and complies with their vision of themselves and the need for self-fulfilment.

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<sup>4</sup> It might seem that an organisation managed in this way certainly forms a friendly environment for employees, but it does not bring any profits. However, performance of organisations developing in the teal model, e.g. AES in the heating technology sector, which employs 40,000 people, Buurtzorg, which associates 8,000 nurses, Morning Star (2,400 employees) which is a manufacturer of labels and packages, Marco from Gliwice or Blikle, all prove that this model can be very beneficial. Morning Star is one of the world's biggest tomato processing companies, and Marco obtains a 20% profit rate, appropriating 10% of its yearly profits for social purposes and charities.

Another factor which might affect the expectations of new employees as to a hierarchical or horizontal type of organisation is the change connected with the education system. The teaching approach, in which usually students are treated collectively rather than individually and taught to follow the procedures (Robinson, 2011) and to function in a certain hierarchy, is slowly passing away.<sup>5</sup>

As noted by Rasfeld and Breidenbach (2015), in order to respond to future challenges, schools have to reject the 20<sup>th</sup> century education concepts and start to live by diversity and democracy. They also have to become places conducive to the development of individual potential, where everyone has unique skills and can offer extraordinary potential (Musiał, 2017). In response to those expectations, there are more and more schools offering an alternative approach towards education, e.g. Waldorf schools, democratic schools or those most popular Montessori schools, which, to much larger degree than traditional education, allow students to decide about the pace of learning, and also about what at a given moment they want to learn. People who study in this system are being prepared from their earliest years to assume more accountability for knowledge acquisition than in the case of traditional education in which it is the curriculum and topics of consecutive lessons that decide what at a certain moment a child should learn. When entering the labour market, such persons will have different competencies and different expectations than those who studied in a more traditional way.

One should note the fact that there are also more and more people educated in the homeschooling system. In Poland, within two years, this population was doubled from approx. 7,300 students to nearly 14,000 (Suchecka, 2018)<sup>6</sup>. This increase is connected i.a. with the increasingly growing consciousness of parents that they can also consider such an option of teaching children, as well as with the growing disappointment with school teaching. Simultaneously, it should be noted that homeschooling is chosen mostly by big families (57%), where parents have a university degree (75%), living in big cities (54%) (Budajczak, 2010).

Children who study in this way have no experience of being in the school hierarchical system, hence they may differently perceive the idea of compliance with the requirements of an organisation with a clearly outlined hierarchy. Simultaneously, it should be underlined that – as the results of exam tests show – persons who learn in the homeschooling system usually obtain better final results.<sup>7</sup> Therefore, we do not deal with someone who has deficiencies in education but first of all with persons who have attained a high educational and intellectual level, and secondly with children of parents who chose to act outside the traditional scheme, and so those who have already had, in their families, an experience of reaching

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<sup>5</sup> It is worth recalling that the traditional education system, according to Laloux (2015), is within the amber, i.e. second level of consciousness development.

<sup>6</sup> In the USA it is estimated as 2,300,000 (Ray, 2015).

<sup>7</sup> Average test results from all studied subjects of education for children learning at home in the USA are at the level of 86% (Ray, 2009, p. 2), which is far above an average.

for non-typical solutions and taking accountability for using them. Hence, it might turn out that for such persons working in a teal organisation will be a natural consequence, closer to their experience than finding oneself in a hierarchical organisation. Therefore, considering the growing trend in applying non-standard education forms, it can be assumed that in a few years the labour market will be entered by more and more people having other than current experience connected with work organisation and cooperation within a group, and people who probably have different needs and expectations from employers.

Demographic, generational and educational changes may result in a growth of popularity of teal organisations since they will be more suitable for employees. However, it should be noted that there are a number of individual differences which may determine how well a given person will fit in a teal organisation. For example, persons tending to dominate, who are mostly motivated by the perspective of promotion, might not feel well in a horizontal organisation, where there will be no opportunity for them to achieve higher levels of professional development. It may also be true of persons having a great need of power according to the McClelland theory. Whilst persons with a strong need of control might find it difficult to work in an organisation in which particular work stages are handed over from one person to another and the effect of work depends on the accountability and engagement of all its members (Pawlak, 2015).

The factors which might affect the operation of a teal organisation also include beliefs, habits and skills resulting from previous work and/or school experience. For example, the acquired skill of working mostly in conditions of supervision and control, and the tendency of being afraid of making mistakes and hiding them from supervisors can make it difficult to fit in new conditions, when it is necessary to demonstrate self-management skills.

An insufficient employee consciousness development stage as a difficulty in implementing teal solutions is indicated, among others, by Dębowski (2017). He provides examples of Generation Y representatives who as a group are to a certain extent teal but often in an immature way. It means that their world view focuses on good life, they also want to experience the sense of meaningfulness at work but at the same time, they are not ready for making effort, self-development, cooperation or independence. They expect a lot but do not provide much of their own contribution (Dębowski, 2017).

This is related, among others, to a person's efficiency of self-regulation. Some employees have a lower self-regulatory and self-control ability, which affects their functioning at work, performance and adaptability (Tangney et al., 2004). At the same time, in organisations with more emphasis on personal initiative, empowerment, and self-management, a greater burden is placed on individual workers to control their own goal-directed activities (Lord et al., 2010).

However, it should be noted that, on the one hand, a horizontal organisation requires a high level of soft skills, on the other hand, it creates many occasions for

developing them. Being oriented on individual qualifications and assets of every single employee, it is conducive to recognition and development of one's own strengths. It also makes it possible to improve employee potential with regard to group work, communication, decision-making and holding negotiations. As emphasized by Kozina and Pieczonka (2018, p. 213), "limiting the meaning of order-based hierarchy in managing conflicts, it makes it possible to form and maintain peer relationships between job positions and teams working within an organisation. In consequence, it improves the process of motivating employees and creates conditions conducive to their development".

#### CASE STUDY: A COMPANY WITH A HORIZONTAL STRUCTURE

The data collected in the literature on the subject were confronted with a case study. An organisation was selected for the case study, which in its assumptions, as described on the website, refers to participation and dignity management. Based on the analysis of documents (the company's website) and an in-depth interview with the founder and owner of the company, information on the functioning of the company was collected and then compared to the premises characteristic of teal organisations. The study was conducted in April 2020.

The aim of the study was to compare theoretical assumptions with their implementation in an operating company and to assess their transposition into the quality of functioning. For the analysis in this article the most important characteristics examined in the interview were selected.

The surveyed company is the RTCK publishing house<sup>8</sup>. RTCK is a small company employing 14 people on a permanent employment contract and 6 collaborators. Information about the way RTCK operates and its organisational culture can be presented applying the following points, which are summary answers to particular questions.

1. **The structure of the company** is built on two levels of hierarchy: on one level there is a guardian of a system, whose main task is to ensure that the system functions well, on the other level there are other employees: competent and decision-making in their areas of responsibility, e.g. commerce, production, training, etc.
2. **The necessary conditions for the functioning of the model:** involvement of everyone in the decision-making process, clearly defined procedures and rules on who should take decisions and where they should be taken, according to the principle that decisions are taken by the most knowledgeable person.
3. **Characteristics:** Flexibility (e.g. the strategy has been changed from day to day during the pandemic, resulting in an increase in turnover) and good communication (FECE Model).

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<sup>8</sup> RTCK is the abbreviation for the Polish "Do what you love".

4. **The working model:** a 6+2 system, i.e. 6 hours of work for the company, and 2 hours of self-development: mental, physical or spiritual development.
5. **The evaluation system:** it is a system of self-control, once a quarter, the so-called “quarter reflections”: discussing achievements in the field of work and one’s own development.
6. **Advantages:**
  - The need for control disappears, which means that the expensive managerial level can be removed from the company’s structure, as no one has to be supervised.
  - Personal productivity increases: everyone is a leader in his or her own area of work, which entails a great amount of responsibility and autonomy.
  - Profit-sharing for everyone generates greater commitment.
  - From 2016 to 2020, productivity increased by about 80%.
7. **Disadvantages:**

Extended decision-making in the initial stage of implementation, due to the length of discussion, in which there is room for everyone to express their opinions. There may be more disputes than in other companies, but it may also mean that doubts are expressed explicitly, without hiding or murmuring.
8. **Features of an employee who is suitable for work in such an organisation:**

According to the company founder, this method of management “is suitable for everyone, unless they have killed their own dignity”. Self-confidence is important, but it has to be based very strongly on self-knowledge as it enables development. The company is focused on building on talent, so the employee must be able to discover his or her talent. Another important feature is the ability to cooperate well with people and the ability to give feedback. In general, the assumption is that many of the skills needed at work can be learned, but it is much more difficult to find someone with the right personality predispositions. The observation of the creator of RTCK also shows that a school or college can destroy the right attitude and self-confidence, and you can also fall into the trap of choosing a job for practical reasons and not based on your talents and desires.
9. **What qualities must the founder of such an organisation have?**

In order to give someone the decision making power, one must believe and have trust in that person. You also need to be able to let the other person make mistakes, be open to sharing and be convinced that it is not me who builds the company, but all my co-workers.
10. **Recruitment:** when recruiting a person, it is determined under what conditions he or she wants to be involved: whether he or she wants to provide services or become a co-worker. He/she can therefore opt for a looser form of cooperation or a full-time job. In the latter case, the person accepts the organisational culture and the way he/she works for RTCK.
11. **Turnover:** if very low, after a probationary period (3 months), the question is “Is the person satisfied with his or her cooperation with us?” Most people who decide to stay with the company have been connected with it for a longer period of time.

The analysis of the company's operations indicates that it belongs to self-engaging organisations, with a flat structure and, in many areas, close to teal ideas, although the founder himself refers rather to Total Participation Management. Just as Laloux (2015) described teal organisations where there have emerged: co-responsibility, flat structure and skilful use of employees' potential instead of hierarchical dependence, so in RTCK we are dealing both with a removal of the whole level of managers, and with entrusting – adequate to the scope of tasks – responsibility and influence to each employee. It is also visible when focusing on the development of the company as such as well as of individual employees, who have the time of self-development included in their working hours. As it has been said, one of the assumptions of the teal approach is that every day work should make sense, create opportunities to develop, use and improve talents. All these elements are visible in RTCK (see the company name). In RTCK, one can also clearly find the actions that Juchnowicz (2017) proposes in the aforementioned concept of a self-engaging company, which is based on a positive organisational culture, empowerment of employees and good interpersonal relations. It is also worth recalling Blikle's statement – very similar to RTCK's assumptions – that teal companies “want to build on trust”, sense of responsibility and partnership, rejecting the so-called “motivation systems” for the sake of satisfaction “with what I do and what I am” (dignity motivating) (Blikle, [http](#)).

The way the creator of the company describes people who will “fit” into this type of organisation also largely confirms the predispositions identified earlier in this article: self-knowledge, readiness to develop, self-confidence, the ability to cooperate with others, learn from failures, building on strengths, and communicating with others without being judgemental. It is worth noting that the impact of previous educational experiences was also mentioned during the study.

Therefore, it may be concluded that the implementation of teal ideas can lead to success, both in financial and interpersonal terms. We can also distinguish certain characteristics of the employer and employees, which are very important in creating such a company with an organisational culture based on dignity management, characterized at the same time by flexibility, employee commitment and high personal productivity.

#### FUTURE RESEARCH SUGGESTIONS AND RESEARCH LIMITATIONS

Taking into consideration all the above-described factors, it would be worth conducting research which would enable entrepreneurs to assess the probable effectiveness of creating a teal organisation or implementing such solutions to an already existing one, being aware of the resources at hand, including those related to what Laloux calls the level of consciousness of its future participants. The research questions which should also be asked certainly include the problem of what motivates employees who choose hierarchical organisations and those choosing teal



organisations. Do they differ in terms of their values or other preferences? What affects their effectiveness? Given also the importance of self-regulation skills and coping with a high level of autonomy, it would be important to research effective ways of strengthening and developing them.

This study and research are not devoid of limitations. These limitations apply to both the concept of a teal organisation itself as well as the literature review and the case study. It should be underlined that the concept of a teal organisation is quite new, as it was established in 2014, so there are not many scientific studies, and in-depth empirical research on this topic is also scarce. Furthermore, there are not many Polish organisation with a horizontal structure to examine. The language used by Laloux is specific and may seem to be far from scientific research methodology. It is therefore difficult to present it in such a way that, on the one hand, it is adequate to the scientific research and, on the other, it does not lose its character, since “being different” is its hallmark. A case study also has its limitations. The study of one organisation may suggest too narrow a subjective scope (Mielcarek, 2014), but it should be noted that its aim was to look at how this model might function in practice and compare it with the assumptions, and this aim was achieved.

## CONCLUSIONS

As it has already been said, teal organisations, on the one hand, make an interesting alternative form of organisation which may bring measurable profits; on the other hand, however, implementing this kind of solution or forming a new teal organisation is not always successful. This is related, among other things, to the fact that, as Wyrzykowska notes, it is a model that requires a significant level of maturity and commitment from employees. Currently, not every company is ready for such a revolutionary transformation of its functioning (Wyrzykowska, 2019).

No specific research has been conducted so far which would indicate the success of this type of organisations in Poland. The research findings of Juchnowicz (2016; 2017) indicated numerous limitations in the broad applicability of a self-engaging organisation concept in Poland. This can be related i.a. with the currently dominant work culture, social habits and lack of preparation for the ability to “manage oneself”. Sometimes, as already mentioned, teal expectations can be in line with teal readiness to make efforts.

However, the creation and development of teal organisations as an alternative approach towards work is an interesting trend with new possibilities. This trend responds to the changes taking place in the contemporary world. Effective use of that paradigm will depend on the qualifications of individuals, both those which have formed employers and those which have shaped their employees, as well as their readiness to re-value the previous thinking about work. As emphasized by Blikle, building a “teal organisation” is not “the training of the crew” under new



procedures, but it leads to deep social transition that makes it necessary not only to abandon common reasoning but also gain new habits and master new tools (2018). Contemporary trends, such as generational and educational changes, may cause more and more people to find room for development and for achieving satisfaction from their lives in this type of organisation. Therefore, it seems important to examine the conditions of effective work in such an environment so as to be able, among others, to adequately plan the recruitment process, incorporate this option into the qualifications assessment in the course of the career counselling process and sometimes to help to make a decision regarding staying within a hierarchical organisation as a more appropriate option for a given individual.

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### *Summary*

As success in today's world is increasingly associated with an approach based on flexibility, decentralised control and quick response to the changing conditions, a new approach to the functioning of organisations is needed. Previous guidelines influencing the way many companies operate, which were based on hierarchy, competition and maximising profits, have ceased to respond to changes taking place in the world. An additional important variable is the change in the labour market and employees' expectations, therefore, recruitment, increasing commitment and retention in the organisation have all become more of a challenge for managers.

One of the possible responses to these changing conditions is the creation of horizontal organisations, such as teal (turquoise) ones. However, as some organisations based on this model achieve success, while others return to traditional solutions, attention should be paid to factors affecting the satisfaction and effectiveness of employees' work in this type of organisations. Based on literature analysis and a case study, the paper discusses psychosocial determinants of work in a teal organisation, related, among others, to the changing approach to work by younger generations, different needs of employees, changes in the education system, as well as to personality predispositions. Recognition of these factors may be helpful in planning recruitment, considering the possibility of implementing teal solutions in a particular organisation, and may also help to include this option in the analysis of individual predispositions in the process of career guidance.

*Keywords:* teal organisation, turquoise organisation, job satisfaction, employees' needs, organisational commitment.

## **Czy turkus pasuje każdemu? Psychospołeczne czynniki wpływające na atrakcyjność pracy w organizacji o strukturze horyzontalnej**

### *Streszczenie*

W związku z szybko zachodzącymi zmianami we współczesnym świecie dotychczasowe zasady kształtujące sposób funkcjonowania wielu firm, które w dużym stopniu opierały się na hierarchii, konkurencji i maksymalizacji zysków, stają się coraz mniej aktualne. Sukces natomiast znacznie

częściej wiąże się z podejściem opartym na elastyczności, zdecentralizowanej kontroli i szybkim reagowaniu na zmieniające się warunki. Dodatkowo nastąpiła zmiana w oczekiwaniach pracowników, dlatego też rekrutacja, zwiększanie zaangażowania i retencja pracowników stały się jednym z ważniejszych wyzwań dla menedżerów. Jedną z możliwych odpowiedzi na zmieniające się warunki jest tworzenie organizacji o horyzontalnej strukturze, np. turkusowych. Ponieważ jednak niektóre organizacje, które opierają się na tym modelu, osiągają sukces, podczas gdy inne wracają do tradycyjnych rozwiązań, należy zwrócić uwagę m.in. na czynniki wpływające na satysfakcję i efektywność pracowników w tego typu organizacjach. W artykule, w oparciu o analizę literatury i *case study*, omówiono psychospołeczne determinanty pracy w organizacji turkusowej, związane m.in. ze zmieniającym się podejściem do pracy młodego pokolenia, odmiennymi potrzebami pracowników, zmianami w systemie edukacji, a także predyspozycjami osobowościowymi. Rozpoznanie tych czynników może być pomocne w planowaniu rekrutacji, rozważeniu możliwości wdrożenia turkusowych rozwiązań w danej organizacji, a także może pomóc w uwzględnieniu tej opcji w analizie indywidualnych predyspozycji w procesie doradztwa zawodowego.

*Słowa kluczowe:* organizacja horyzontalna, organizacja turkusowa, satysfakcja z pracy, potrzeby pracowników, zaangażowanie organizacyjne.

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## **Education versus standard of living in the considerations of classical and modern neoliberal approaches**

### INTRODUCTION

The industrial revolution has contributed to transformations in three important areas: technical, economic and social. The new technologies have enabled the transition from manual work to machine work (mechanisation and automation of the production processes continue and give rise to both positive and negative consequences). For the economic transformation, the new production systems forced changes not only in the organisation of production (the development of factory production has contributed to the marginalisation of the role of the guild system and small-scale production in increasing wealth) but also contributed to the deepening of the division of labour and specialisation, as well as to the dissemination of economic accounts as a tool for making decisions. With these social transformations, the new economic order favoured the transition from rural to urban (industrial) society, and this in turn was associated with the disappearance of the traditional family model and traditional social system. There was a transition from the estate-based to the class/strata organisation of society, which while it stimulated the activity and entrepreneurship of individuals, i.e. the desire to learn and acquire new skills in order to get richer and improve living conditions, while also giving rise to social conflicts, i.e. it favoured the struggle for a fairer distribution of already created wealth (manifestations of this demanding attitude are also currently visible and related to the surge of populism, which affects the state of public finances) and for the activation of the state in the social, employee, health and education spheres.

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Transformations in all the above spheres contributed to the modernisation of societies and the gradual democratisation of political systems, which in turn translated into socio-economic development, including the efficiency of the education system (quality and level of teaching), which significantly affects not only the conditions of wealth multiplication, but also determines the standards of living (which translates into economic awareness) (Dahrendorf, 1993, pp. 48–50).

The paper aims to present the views of the classics of economic thought, i.e. Adam Smith and John Stuart Mill, and a representative of modern liberal thought, i.e. Milton Friedman, on the relationship between the accumulated knowledge of the educational system and the standard of living in terms of the management of the individual and society as a whole.

#### SMITH'S VIEW ON THE DIVISION OF LABOUR, WEALTH AND THE ROLE OF EDUCATION

As a liberal, Adam Smith claimed that the freedom of individual action is inextricably linked to private property, personal freedom and freedom of conducting economic activity. “(...) *Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way*” (Smith, 1954, vol. II, pp. 394–395). In such a reality, the state should not interfere in the economic process, but only create conditions conducive to human self-realisation. A free entity (both the producer and the consumer), self-managing, stimulates entrepreneurship, which is naturally associated with satisfying one's own needs and achieving the desired level of personal welfare (and indirectly, the welfare of the whole society). Smith, in following this line of reasoning, states that an economic entity always acts rationally, and when conducting a business activity it is guided by the motive of individual benefits (satisfying one's material needs and achieving wealth). The implementation of individual benefits not only stimulates diligence and increases productivity but also determines the rate of capital accumulation, and thus the level of production and the degree of satisfying perceived needs, i.e. the standard of living (Bremond, Salort 1994, pp. 292–295; Cambell, 1971, pp. 16–23; Gray, 1994, p. 39; O'Rourke, 2009, pp. 9–16, Szarzec, 2013, pp. 21–29; Zabiegaliak, 2002, pp. 123–130). The selfish attitude of the economic entity contributes in parallel to technical and social progress, and thus to an increase in wealth and the dissemination of prosperity: “(...) *by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain; and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest, he frequently promotes that of society more effectually than when he really intends to promote it*” (Smith, 2007, vol. 2, p. 40). Thus, the human instinct for self-preservation contributes to the

emergence of individual benefits, which generate two effects: on the one hand, they contribute to multiplying the wealth of the individual, and on the other, they trigger the process of social progress, which ultimately leads to an increase in the wealth of the state and an improvement in the standard of living of the whole society (Piątek, Szarzec, 2008, pp. 67–77).

Smith, in discussing the economic activities of the economic entity, naturally deals with the problem of the wealth of the nation and combines it with work (with the level of primarily productive employment) (Buchan, 2008, pp. 114–116; O'Rourke, 2009, pp. 9–10). This is why he states: "*The annual produce of the land and labour of any nation can be increased in its value by no other means, but by increasing either the number of its productive labourers, or the productive powers of those labourers who had before been employed. The number of its productive labourers, it is evident, can never be much increased, but in consequence of an increase in capital, or of the funds destined for maintaining them. The productive powers of the same number of labourers cannot be increased, but in consequence either of some addition and improvement to those machines and instruments which facilitate and abridge labour*" (Smith, 1954, vol. I, p. 435). The above statement shows that most people intend and want to improve the quality of their lives through the accumulation of wealth, which is regarded as its most universal and obvious measure (Smith, 2007, vol. I, p. 387).

In Smith's interpretation, the size of a nation's wealth directly depends on two factors: the size of employment (primarily productive) and labour productivity (in indirect analysis it also takes into account capital accumulation), while labour productivity is closely related to the division of labour (however, division of labour is limited by the size of the market) and specialisation (which promotes the development of skills and creativity) of the employed individuals. Division of labour thus affects technical progress, and hence it increases skills, i.e. it provides new knowledge, which in turn contributes to the emergence of new professions and an increase in labour productivity. Therefore, an advanced division of labour stimulates the rate of economic growth and thus determines the standard of living, while also encouraging the development of the education system.

Smith derives the division of labour from man's natural tendency to exchange and cooperate. The willingness to exchange enforces free competition, which guarantees optimal allocation of resources, including work, desired entrepreneurship development, approved price level, desired supply of goods (appropriate level of consumption) and optimal level of income for all participants of the management process. Based on the above interpretation, Smith concludes that the division of labour (knowledge and skills) directly determines the level of wages, while advocating a "good" wage, encouraging the individual to work more efficiently and to reproduce at the same time (Grzybek, 2018, p. 73–85; O'Rourke, 2009, pp. 56–58; Smith, 2007, vol. 1, pp. 93–97, 116–124; Warsh, 2012, pp. 42–43).



Smith, by linking wealth to the division of labour and the division of efficiency and inventiveness, emphasises the importance of knowledge (ignorance) and skills (lack of skills) of employed individuals in the process of increasing wealth and material affluence. In this approach, knowledge determines the pace of socio-economic development of the country. Smith, noticing the discrepancy between the knowledge of employees and the pace of technical progress, is in favour of introducing publicly available basic education (learning to read, write and count) to the poorer part of society (in relation to education for children and adults, the education institutions are divided into upbringing and educating people, regardless of age), with the obligation to create schools ceded to the state (the costs of educating the poor should be covered by the state from taxes, but with minimal parental involvement). *“The education of the common people requires, perhaps, in a civilized and commercial society, the attention of the public, more than the education of some people of rank and fortune. (...) the common people (...) have little time to spare for education. Their parents can scarce afford to maintain them, even in infancy. As soon as they are able to work, they must apply to some trade, by which they can earn their subsistence”* (Smith, 2007, vol. 2, pp. 449–450). The financial effort undertaken by the state and learners (parents) translates into an increase in employees’ skills, and this contributes to an increase in production and income, and thus to the improvement of living conditions.

According to Smith, technical progress has two effects: firstly, it shapes relations of production, and, secondly, it encourages the acquisition of new knowledge and increase in skills. Thus: *“Science is the great antidote to the poison of enthusiasm and superstition; and where all the superior ranks of people were secured from it, the inferior ranks could not be much exposed to it”* (Smith, 2007, vol. 2, p. 454).

#### MILL`S VIEW ON EDUCATION AS A TOOL FOR INFLUENCING THE STANDARD OF LIVING

In the third decade of the nineteenth century, both positive and negative consequences of the transformations in the economic and social sphere emerge. The pursuit of profit, on the one hand, accelerates the process of concentration of capital and production, but on the other, it intensifies the polarisation of society and increases the scale of poverty among workers. A new economic and social reality forces a new outlook on the factors determining the growth rate of wealth (economic growth), and thus of living standards. This task is undertaken by John Stuart Mill and, at the same time, he reinterprets the powers of the state (it creates the foundations for two economic functions performed by the modern state, i.e. the function of creating legal order and the function of redistribution). Interpreting the tasks of the state, he is in favour of: safeguarding liberties and freedom of economic activity; organisation of employment services for persons deprived

of work; employment control for children, young people and women; financing technical progress important from the point of view of future generations, and, above all, organisation of universal education, in which he finds the tools to fight unemployment and increasing poverty (Mill, 1995, pp. 61–75; Mill, 2012, pp. 103–108; Zagóra-Jonszta, 2016, pp. 96–97). According to Mill, in the new economic reality, an efficient education system plays an important role: “(...) *any well-intentioned and tolerable government may think, without presumption, that it does or ought to possess a degree of cultivation above the average of the community which it rules, and that it should therefore be capable of offering better education and better instruction to the people, than the greater number of them would spontaneously demand. Education, therefore, is one of those things which it is admissible in principle that a government should provide for the people*” (Mill, 1965, vol. II, p. 798).

According to Mill’s outlook, the non-educated individual (employee) behaves irrationally and when making decisions about excessive reproduction condemns himself to a decline in income and unemployment, and consequently to a lowering of the standard of living, because: “(...) *from indolence, or carelessness, or because people think it fine to pay and ask no questions, three-fourths of those who can afford it give much higher prices than necessary for the things they consume; while the poor often do the same from ignorance and defect of judgment, want of time for searching and making inquiry, and not unfrequently from coercion, open or disguised*” (Mill, 1965, vol. I, p. 583). Therefore, in order to reduce the extent of unemployment and poverty, and thus increase the level of wealth of workers, it is necessary to disseminate elementary education among workers and their children. The introduction of compulsory schooling is associated with the state’s involvement and an increase in public sector expenditure (Kundera, 2014, pp. 131–132).

Mill, modifying his approach to the rights of the liberal state, advocates the evolution of the capitalist system of production towards a system guaranteeing social equality (thus presenting a socialist point of view) and he therefore distinguishes two types of state intervention: authoritative (sovereign) and non-authoritative. In the case of the first type of intervention, he rejects it because the state, by means of prohibitions or orders, restricts the freedom of the economic entity and thus exacerbates social inequalities. However, approves of the second type of intervention because the state, through the information provided, determines the efficiency not only of the individual but also of the entire society and thus affects the conditions for the distribution of already produced wealth (Danowska-Prokop, 2017, p. 137; Mill, 1965, p. Vol. II, p. 787; Mill, 2012, pp. 178–200; Ratajczak, 2008, p. 49).

These representatives of the classic economic thought were the first to bring attention to the relationship between the standard of living of the individual and of the general public, and the education system. That is why they were of the opinion that universal compulsory education would allow the acquisition of new knowledge and raise the competences of employees employed directly in the process of creating

wealth. According to them, an educated and not demoralised worker is more productive in economic and social terms, which has a positive effect on technical progress, division of labour and specialisation. This creates conditions accelerating industrial and technological development (socio-economic development), including the level of wealth of the entire society.

#### MILTON FRIEDMAN'S ASSESSMENT OF THE EDUCATION SYSTEM

In the 1970s, after a period of Keynesian economics and a "harmful" policy of boosting the economy by increasing state spending at the expense of raising taxes as well as inflation and unemployment (in the late 1960s, the economies of industrialised countries were falling into recession), liberal economics returned to favour, one of the leading representatives of which was Milton Friedman (founder of the Chicago school, monetarism). Friedman returned to the roots, promoting a classic view not only of the market, the state, technical progress and division of labour, but also of the role of the education system in creating conditions conducive to economic growth, which in turn affects income and standard of living (i.e. determines the quality of life), and ultimately stabilises the socio-political order (Cameron, Neal, 2004, pp. 401–403; Jones, 2002, pp. 597–599, 669–673).

In a new economic and social reality, Friedman refers to the classical concept of the freedom of choice of the individual. According to Friedman, the right to the freedom of choice is the basis for the functioning of a healthy society, both in economic and socio-political terms, because free and rational individuals, working together on a voluntary basis, realise both individual and collective benefits hand in hand. *"A free society releases the energies and abilities of people to pursue their own objectives. It prevents some people from arbitrarily suppressing others. It does not prevent some people from achieving positions of privilege, but so long as freedom is maintained, it prevents those positions of privilege from becoming institutionalized; they are subject to continued attack by other able, ambitious people. Freedom means diversity and also mobility. It preserves the opportunity for today's disadvantaged to become tomorrow's privileged"* (Friedman M., Friedman R., 1988, p. 142). Friedman's reasoning clearly shows that freedom of choice of an individual in connection with justice condition economic and political freedom, i.e. a free market economy within the capitalist system of production (Friedman, 1993, pp. 21–32). Further: *"Economic freedom is an essential requisite for political freedom. By enabling people to cooperate with one another without coercion or central direction, it reduces the area over which political power is exercised. In addition, by dispersing power, the free market provides an offset to whatever concentration of political power may arise"* (Friedman M., Friedman R., 1988, p. 11).

Not only does economic freedom allow the individual to freely dispose of his/her own income and assets (in this aspect Friedman takes into account the individual's

freedom to choose education and profession), but it also guarantees the freedom of ownership and exchange without any constraints. It follows that each individual, guided by individual (relatively constant) preferences, strives to realise their own benefits (a direct reference to the smithian concept of homo oeconomicus). “*Each saw his work as a way to get the goods and services he wanted*” (Friedman M., Friedman R., 1988, p. 20). In contrast, changes in individual preferences depend upon access to information and knowledge, and he therefore advocates an efficient education system that guarantees not only a high level of education regardless of place of residence or social background but which also provides knowledge useful from the perspective of economic needs.

Friedman, accepting the classic view of broadly understood freedom, presents his own view of the state and its role in socio-economic life (Friedman, 1993, pp. 33–43). In Friedman’s view, the state is subjected to the individual, which is associated with the limitation of the rights of this entity, as: “(…) *every accretion of government power for whatever purpose increases the danger that government, instead of serving the great majority of its citizens, will become a means whereby some of its citizens can take advantage of others*” (Friedman M., Friedman R., 1988, p. 39). On this basis, he reduces the competences of the state (political power) to three tasks: protection of private property, protection of public order and protection of the free market, which is connected with supporting competition. The condition for achieving the desired level of socio-economic development is the functioning of the economy without the participation of government institutions, and therefore Friedman is in favour of replacing high income tax with a fixed tax rate, conducting a stable monetary policy, limiting government administration and granting the president the right to a separate veto (Belka, 1984, pp. 42–48; Friedman, 1993, p. 56; Lityńska, 1999, p. 69; Ptak, 2008, pp. 30–39).

The relationship between freedom of economic activity and economic efficiency is determined by the “efficiency” of the education system, i.e. the level of education adapted to the needs of the economy. According to Friedman, in the American reality, there is a discrepancy between the level of education (knowledge provided) and the needs and expectations of the economy. “*Unfortunately, in recent years our educational record has become tarnished. Parents complain about the declining quality of the schooling their children receive*” (Friedman M., Friedman R., 1988, p. 168). Friedman therefore speaks openly about the ineffectiveness of education (about the different levels of education) depending on the wealth of parents or place of residence: in the rich suburbs of large cities, the level of education is high, whereas in the case of small towns and rural areas, the level of education is only satisfactory, and the worst situation in this respect is observable in the centres of big cities, where poorer and coloured people live. Therefore, the low level of education (mismatch between knowledge and the needs of the economy) is a result of excessive state interference in the functioning of the education system. The

expansion of administration in education leads to: marginalising the role of parents in school (limiting their impact on the teaching process and content), strengthening the position of the teacher and weakening the incentives encouraging teachers to work more effectively (he advocates Max Gammon's theory of bureaucratic replacement – the administration strives to implement its own benefits).

According to Friedman, the poor condition of public education (low-quality teaching and programs not adapted to the needs of the economy) cannot be remedied with an increase in expenses, because the root of the evil lies in the education system itself, in a faulty organisational formula. Therefore, recognising the organisational shortcomings of the education system, he is in favour of the privatisation of public education. "*As the private market took over, the quality of all schooling would rise so much that even the worst, while it might be relatively lower on the scale, would be better in absolute quality*" (Friedman M., Friedman R., 1988, p. 189).

In the twentieth-century reality, he approves of the obligation of universal access to schools, and therefore supports the so-called school voucher at primary and secondary levels, the value of which would cover the average cost of teaching in each school. Thanks to school vouchers (the possibility of choosing a school), students would receive a better product (higher level of education), because there would be an element of competition between public and private schools. However, in the case of higher education, he proposes the introduction of an alternative financing system in relation to government funding, i.e. a system of loans (the state's investment in a student) (Friedman M., Friedman R., 1988, pp. 202–206; Friedman, 1993 p. 50; Ptak, 2008, pp. 71–73).

## CONCLUSIONS

Development processes, initiated by the industrial and technical revolution, trigger changes in the sphere of production and in the organisation of society. There are twofold effects of industrialisation:

- firstly, it contributes to the economic rationalisation of the individual's activities,
- secondly, it stimulates the demand for skilled workers.

Both effects lead to an increase in production, and thus to an increase in the wealth of the nation and better satisfaction of needs (improvement in the standard of living).

However, as the capitalist relations of production develop, internal contradictions between freedom and equality increase (social inequalities aggravate), and for them to be resolved, the need to cooperate with the state arises. The state, supporting individual freedom, plays the role of an active social reformer through the organisation of education. The efficiency of the education system determines the pace of economic growth and the level of wealth of the whole society.

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### Summary

The paper presents the attitudes of the English classics, i.e. Adam Smith and John Stuart Mill, as well as the neoliberal Milton Friedman, to education as a tool supporting the process of division of labour, and thus having a positive impact on the nation's wealth (national income) and standard of living, not only of individuals but of whole society as well. The aim of the study is to discuss the representatives of the classic economic thought and Milton Friedman's idea of education as a tool for improving living conditions. The method of describing and reviewing the literature of the subject was used in the paper.

In the reality of the free market economy, knowledge and skills as well as the activity, creativity and entrepreneurship of an individual determine individual success, and thus translate into a standard of living. However, with the spread of the capitalist system of production and the deepening of the process of division of labour (specialisation), a universal and public education system, financed by public and private funds hand in hand, plays an increasingly important role in improving the standard of living of the individual and of the general public. Today, the efficiency of the education system (easier access to an appropriate level of education) determines the wealth of society and the position of the state in the global economy.

*Keywords:* classical economics, liberalism, living standards, education, labour.

## Oświata versus poziom życia w rozważaniach klasyków i współczesnego neoliberalą

### Streszczenie

Artykuł prezentuje stosunek angielskich klasyków, tj. Adama Smitha i Johna Stuarta Mill, a także neoliberalą Milтона Friedmana, do oświaty (edukacji) jako narzędzia wspomagającego proces podziału pracy, a tym samym oddziałującego pozytywnie na bogactwo narodu (dochód narodowy) i poziom życia nie tylko jednostki, ale i całego społeczeństwa. Celem artykułu jest zaprezentowanie spojrzenia klasyków myśli ekonomicznej i Milтона Friedmana na edukację jako narzędzie poprawy warunków bytowych. Przy pisaniu artykułu posłużono się metodą opisu i przeglądu literatury przedmiotu.

W realiach gospodarki wolnorynkowej wiedza i umiejętności oraz aktywność, kreatywność i przedsiębiorczość jednostki decydują o indywidualnym sukcesie, a więc przekładają się na po-



ziom życia. Jednak wraz z upowszechnieniem kapitalistycznego systemu produkcji i pogłębieniem procesu podziału pracy (specjalizacji) coraz większą rolę w podwyższaniu poziomu życia jednostki i ogółu społeczeństwa odgrywa powszechny i publiczny system edukacyjny, finansowany równolegle ze środków publicznych, jak i prywatnych. Współcześnie sprawność systemu edukacyjnego (ułatwiony dostęp do odpowiedniego poziomu kształcenia) decyduje o zamożności społeczeństwa i pozycji państwa w globalnej gospodarce.

*Słowa kluczowe:* ekonomia klasyczna, liberalizm, warunki bytowe, edukacja, praca.

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## **The knowledge-based economy: an integrated macroeconomic and management approach to the analysis of major forces affecting the evolution of modern economies<sup>2</sup>**

### FORWARD

This paper presents the introductory results of a broad analysis, with the aim of providing a personal and theoretical interpretation of how the different economic phenomena characterizing modern economies can be logically explained based on both macroeconomic theory and the evolution of management practices. The present work is based mainly on a critical analysis of academic literature, aimed at systematizing in a theoretical and meaningful way the evidence emerging from work partially available from other authors and that partially autonomously re-developed and processed by the author related to data concerning the evolution of income inequalities, economic growth and physical capital accumulation through the 20<sup>th</sup> and 21<sup>st</sup> centuries. Moreover, it has a secondary, although not irrelevant according to the author, goal of providing a short review of the theoretical developments of different schools of thought present in economic theory as well as of attempting partial integration of those approaches and of evaluating their usefulness in explaining the concrete phenomena registered in modern economies. The present article focuses in particular on checking the elements and arguments which can lead to interlinking and interpreting as two parts of a whole, on the one hand, the more general phenomenon of high income inequalities, low rates

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of economic growth, slower physical capital accumulation and of the renewed emergence at present of a regime of growth strikingly similar to that formerly occurring through the 20<sup>th</sup> century until the end of the Second World War, and, on the other hand, the observed in the literature emergence of the increased relevance of knowledge, human capital and innovation. Considering the availability in the literature of two different points of view – one underlining the completely novel nature of the knowledge-based economy phenomena, and the other focusing more on long term tendencies registered in economic system development, and stressing their relative novelty – the aim of the present study is then to illustrate how the adoption of a third approach integrating both approaches can be justified. Through the integration of mainstream and heterodox economic theory, it is, according to the author, possible to confirm the thesis that the same forces and mechanisms can logically explain both the affirmation of different phases of economic system development through the whole of the 20<sup>th</sup> and 21<sup>st</sup> centuries, as well as the differences, similarities and peculiarities of the knowledge-based economy in comparison to former phases of economic system evolution.

After a short review of the phenomena and different positions available in the literature, this paper presents a set of arguments which support the point of view that these two apparently self-excluding points of view available in the literature can be integrated. Then the author presents elements, mainly based on the theoretical approaches of Keynesian and non-mainstream authors, constituting the basis of the first arguments on the proposed theoretical explanation common to both present and future papers dedicated to the same issue.

The introductory conclusions of this paper consequentially lead to the representation of the knowledge-based economy as a phase of development of an economic system characterised by high income inequalities, low profitability of investments in physical capital and low rates of both capital accumulation and economic growth. Although some considerations of this kind are sketched in the conclusions of the present article, the detailed analysis of how such a categorisation can be useful to explain the typically observed phenomena of financialisation, servicisation, increased meaning of human capital, technical progress, knowledge and innovation in the present context, as well as its influence on management method evolution and their further examination, has been postponed to a second phase of the analysis complementing the one presented here. It needs to be pointed out that the introductory conclusions in this paper and the idea that the same forces are actually governing both the emergence of higher income inequalities, lower physical capital accumulation and lower economic growth rate, as well as the reorientation of the economy toward intangible assets leading to the increased relevance of knowledge, human capital and innovation, are, according to the author, the true novel features characterizing the proposed theoretical interpretation of the main phenomena affecting the current phase of development of modern economies, as argued here. This can moreover be considered one of the main

features supporting the usefulness of this work. As far as the author is aware, such an integrated interpretation of both the present income inequalities, economic growth and physical capital accumulation dynamics and those phenomena more strictly typical for knowledge-based economy is not yet available in the literature. This paper can thus be considered as useful in reducing the divide between the studies of more traditional and old styled income inequalities, income distribution and economic theory and those more focused on new trends and current peculiarities of the knowledge-based economy.

#### KNOWLEDGE-BASED ECONOMY: COMPLETE NOVELTY OR RE-EMERGENCE OF PAST TRENDS?

Many authors refer to modern economies as knowledge-based, underlining the increased relevance of knowledge, information, high skill levels and general human capital and innovation in advanced economies as sources of both economic growth and development at the aggregate macroeconomic level (OECD, [http](http://); OECD, 1995; Godin, 2006; Jabłonski, 2007; 2008; 2011; 2012), as well as relevant sources of comparative advantage over competitors or crucial factors of success at the single enterprise level (Czerniachowicz, 2003; Dzikowska, Gorynia, 2012; Gallon et al., 1995; Kozioł, 2009; Kunasz, 2006; Mikuła, 2006; Mikuła, Pietruszka-Ortyl, 2008; 2010; Pietruszka-Ortyl, 2005; 2006; 2008; 2018; Oczkowska, 2012a; 2012b; Oczkowska, Śmigielska, 2018). As noted by some authors (Cf. e.g. Kelly, 2001; Godin, 2006; Mikuła, 2006), the knowledge-based or new economy concepts are linked to the initial idea of the post-industrial economy, through a progressive evolution of the concept and accentuation in further definitions and theoretical elaborations of the increased roles that intangible assets, information and the services sector are playing in modern economies, in contrast to the former industrial era, or “old economy”, in which tangible assets and material and durable goods production were much more dominant (Mikuła, 2006). Having a deeper insight into the rise of the term and interest in the knowledge-based economy by the mid-1990s, however, it needs to be understood that its popularity can be partially seen as connected to its nature as a rhetorical term, an umbrella concept or a buzzword (Godin, 2006). It can be underlined that – similarly to such concepts as the National System of Innovation, Knowledge Society, Information Economy or New Economy – it was adopted and initially popularised by OECD officers and scholars engaged in its activities as an instrument to somehow increase the focus of both scholars and policy-makers on the relevant role of human capital, technical progress and, more broadly speaking, knowledge, which were perceived to contain, according to recent theoretical development, an element giving rise to economic growth and/or improvements in the performance of economic systems (Godin, 2006). Without negating the role of such factors in generating economic growth, which dates back to the very birth of economics as a separate academic discipline (Cf. i.e. Smith, 1776

with Galor, 2009; 2011; Galor, Moav, 2004), such a switch of interest, according to the author, can be seen as a tendency much in line with the evolution in mainstream economic thought and the progressive transition from exogenous growth models to endogenous growth theory. The endogenous models developed by various authors starting from the 1980s (Cf. e.g. Aghion, Howitt, 1992; 2007; Lucas, 1988; Mankiw et al., 1992; Romer, 1986; 1989; 1990; 1994) attempted to address the perceived issue of the unsatisfactory explanatory power of exogenous neoclassical growth theory (Cf. e.g. Solow, 1956; 1970; Sala-i-Martin, 1990a; 1990b) on the basis of which forces driving long-term growth would rely upon such traditional factors as labour, capital and other tangible assets employed as inputs in production endowment evolution alone (Godin, 2006; OECD, 1995). This led to the variously conceived introductions of knowledge as an additional factor positively affecting the economic growth dynamics in endogenous growth theory models (OECD, 1995), and the emergence of interest in knowledge management at management science level, already foreshadowed by some authors based on its similarity to the knowledge-based economy theoretical construct (Godin, 2006).

Alongside with the increased role of technical progress, human capital, innovation and knowledge, however, much more recent interest in the steadily increasing income inequalities, which were shown as to be some of the significant features characterising developed economies since the 1970s, has arisen since the publication of the work by Thomas Piketty (2014a). This led, in turn, to a revival in interwoven studies of income distribution as a relevant element which has to be taken into account in the study of the evolution of economic systems within a wider historical framework of analysis.

The author, as well as many other scholars, is rather critical about the economic theory instruments upon which such an approach relays. Although not sound in its specific formalisation, as proposed by Piketty (2014a), the same elements gave rise to the suggestive idea that, on the basis of observed trends in income and wealth distribution dynamics, the current phase of economic history and economic system evolution can be rather seen as a return to formerly prevailing trends, already experienced on a global scale since the industrial revolution – or even earlier if Piketty's view of the three fundamental laws of capitalism and natural value of interest or return rate is assumed to hold (Cf. Piketty, 2014a; 2014b; 2014c with Milanović, 2013; 2014; Kunkel, 2014; Galbraith, 2014; Homburg, 2014) – up until the beginning of the 20<sup>th</sup> century. This, then, led to the emergence of a slightly different approach to the present state of development of economic systems, somewhat alternative in comparison to the knowledge-based economy focus, which prevailed until very recently. Rather than the interpretation of modern economies as a completely new state or phase of economic system evolution into the knowledge-based economy, the new evidence which emerges from Piketty's work on tax income statistics rather supports the thesis according to which present trends can be interpreted only as relatively novel. The conditions currently registered differ from

those which were observed during the former “exceptional”, according to Piketty’s interpretation, economic system phase of development which characterised the so-called “golden age” of market economies, and it overlaps with the concept of the industrial era or old economy as it appears in knowledge-based economy literature (Cf. Piketty, 2014a; Kunkel, 2014; Miękula, 2006). They are, however, strikingly similar to those experienced in former periods of economic history. According to Piketty’s approach to economic system evolution on the basis of income inequality trends and his fundamental laws of the theoretical framework of capitalism analysis, as a result, the present phase of economic system evolution should be seen rather as a return to “normal” conditions. It has, then, to be pointed out, that in present so-called knowledge-based economic systems development phase – identically to what happened during the major part of market economies history (Kunkel, 2014; Piketty, 2014a; 2014b; 2014c; Milanović, 2013) – the rates of return on capital or wealth are higher than the income growth rate and thus support both the occurrence of high capital – or rather wealth as described in more detail in the forthcoming paper – to income ratios as well as deepening of the inequalities in income and wealth distribution as those currently observed and noted by Piketty.

On that basis, it has to be underlined that in recent economic literature two different points of view exist accounting for the main features of modern economies. According to the first and most recent one,<sup>3</sup> the conditions currently experienced in modern economies are just a return to typical tendencies which characterised market economies and can be assumed to normally prevail, with the exception of extraordinary periods, as the only one ever actually experienced which lasted from the end of the Second World War until the end of the 1970s, when more extended public interventions and/or the shocks linked with First and Second World Wars led to lower wealth to income ratios and lower income inequalities (Cf. Piketty, 2014a; 2014b; 2014c; Kunkel, 2014). According to the second point of view, on interpreting the features of modern economies – which is more in line with recent, but still older than Piketty’s contribution, and revival of interest in income distribution and its influences on economic system evolution, knowledge-based or new-economy literature – conditions characterizing modern economies have to be considered, instead, as absolutely novel and should be analysed through completely new, or at least significantly different, approaches to economic system functioning (Cf. i.e. Lucas, 1988; 2004; Kunasz, 2006). Before adhering to just one of those apparently mutually excluding theses, however, it is worth noting that both approaches or points of view can be integrated and intermingled. Such an integration requires a review of both earlier analyses by the author and the contributions of other scholars not directly adhering to any of the two formerly presented points of view or to the mainstream school of economic thought.

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<sup>3</sup> This was initially proposed by Piketty and somewhat adopted by some scholars who appreciated his contribution to the re-emergence of income distribution and economic development studies in more traditionally oriented terms (Cf. e.g. Kunkel, 2014; Galbraith, 2014; Homburg, 2014; Krugman, 2014a; 2014b; 2014c; 2014d; Milanović, 2002; 2011; 2013; 2014; Saez, Zucman, 2014).

## A PROPOSAL FOR INTEGRATING THE PRESENTED POINTS OF VIEW

It must be noted first that, together with the observed increase in the wealth to income ratio and income inequalities registered by Piketty (2014a), as per an earlier analysis (Valente, 2016a), the tendencies registered in income distribution evolution<sup>4</sup> in the main market economies during the whole of the 20<sup>th</sup> and 21<sup>st</sup> centuries were paralleled (Figure 1) by similarly paced, but opposite in direction, tendencies in GDP growth rate and capital accumulation rates, where reductions can be considered as an additional and very relevant feature differentiating the currently prevailing economic environment from the much more stable regime of economic growth and capital accumulation prevailing in the 1950s–1970s during the former phase of economic system evolution of the so-called industrial era or golden age of market economies.

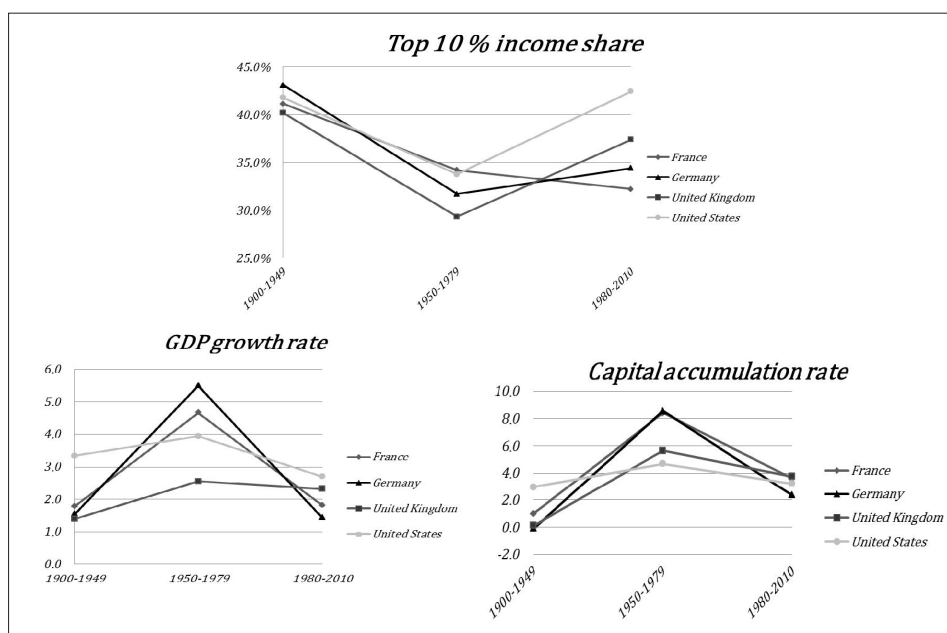


Figure 1. Relevant macroeconomic trends

Source: own study based on Piketty (2014a) and Maddison project datasets (Cf. Valente, 2016a).

As previously argued in other papers (Valente, 2016a; 2016b), all opposing that assumed by both Piketty (2014a; 2014b; 2014c) and mainstream endogenous growth theorists, who mostly exclude or do not take into sufficient account that

<sup>4</sup> Illustrated in the following chart presenting the share of the wealthiest 10% of members in total income. Trends observed in France seem to be just an apparent outlier due to averaging problems derived by higher income inequalities registered during the 1960s (Cf. Valente, 2016a).



income distribution can relevantly affect long term GDP growth rate and/or physical capital accumulation (Garegnani, 1962; 1983; 1992; Petri, 2001; 2003; 2011a; 2011b; 2013; 2015; Setterfield, 2003; 2014), this tendency can be seen as worth noting and as relevant when dealing with the assessment of the main forces guiding the evolution of modern economies. In theoretical approaches alternative to the neoclassical or mainstream ones, income distribution evolution can be seen as an additional source of endogenous economic growth through the effects it can both be assumed to exert and be empirically demonstrated to historically exert throughout the 20<sup>th</sup> and 21<sup>st</sup> centuries on investments, physical capital accumulation and GDP growth dynamics (Cf. Valente, 2016a; Keynes, 1936; Onaran, Stockhammer, 2001a; 2001b; Onaran, Galanis, 2013; Lavoie, Stockhammer, 2012; 2013). As mentioned above, the very same knowledge-based economy concept development and popularity can be connected, moreover, with the fact that the new generation of mainstream economists have been mostly dissatisfied with former mainstream exogenous growth models, which considered traditional factor endowment – and thus forces affecting economic growth – as determined outside the growth models (i.e. Solow, 1956; 1970; Sala-i-Martin, 1990a; 1990b). In recent works some non-mainstream authors have already stressed how the lack of soundness of traditional mainstream exogenous growth models can be partially linked to the specific assumptions upon which the mainstream neoclassical approach is based and which were by no means rejected in further developments by neoclassical endogenous growth model theorists (Petri, 2001; 2003; 2013; Setterfield, 2014). It is worth mentioning that, as shown in the next section, based on alternative theoretical approaches, which seem more in line with the evolution of the main variables taken into account during the whole of the 20<sup>th</sup> and 21<sup>st</sup> centuries (Cf. Valente, 2016a), the factors analysed in traditional neoclassical exogenous growth theory can be considered far from being exogenously determined. They can be argued, indeed, to be path-dependent upon their former values through different mechanisms linking them either or both to aggregate demand evolution and income distribution as per the Keynesian or mixed Keynesian-classical approach (Cf. e.g. Setterfield, 2003; Onran, Stockhammer, 2001a; 2001b; Onran, Galanis, 2013). Such factors can thus be taken into account as additional sources of endogenous growth on the same level as knowledge, innovation, human capital accumulation and technical progress. As already indicated in the literature (Setterfield, 2014; Petri, 2001; 2003; Valente, 2016b), this leaves it wide open for both theoretical developments and empirical studies, which could focus on bridging the gap between economic growth models and empirical studies addressing the role of neoclassical endogenous economic growth sources alone and those stressing just that played by heterodox endogenous – or more properly path-dependent – growth sources not taken into account in traditional neoclassical and mainstream studies. Such an attempt leads, according to the author, to the emergence of a wider picture for both the forces governing the peculiar present phase of economic system

development – the knowledge-based economy – as well as the long-run differing historical phases of economic development during the course of the whole of the 20<sup>th</sup> and 21<sup>st</sup> centuries.

It is worth noting, moreover, that the observed integrated explanation of both the peculiarities characterizing the knowledge-based economy as well as its similarities and differences in comparison to former phases of economic development, accounts for other relevant phenomena characterizing present day economies as well. Financialisation, servicisation and the evolution of management methods registered since the 1970s can be included and seen as part of this wider picture. They can be explained relying on the same arguments which link the increased relevance of knowledge, human capital and innovation, with increased income inequalities, economic growth and capital accumulation stagnation in current economies. It seems worth moving to the merit of the current paper, which shows why increases in income inequalities and capital accumulation along with economic growth stagnation can be seen as relevant factors at the core of the integrated approach to the evolution of present economic systems, as proposed by the author and discussed both in this and further studies.

#### A THEORETICAL EXPLANATION OF THE MECHANISMS INTERLINKING INCOME INEQUALITIES, CAPITAL ACCUMULATION AND ECONOMIC GROWTH EVOLUTION

To better explain the point of view stated by the author, it is worth focusing on how the integration of mainstream growth models<sup>5</sup> with non-mainstream models<sup>6</sup> can be useful in bringing together the novel character of some features characterising economies today – from the knowledge-based economy point of view – and how the present situation compares to former phases of economic history and economic system development, according to Piketty and other authors more focussed on the income distribution evolution point of view.

It needs to be pointed out that in opposition to the traditional mainstream exogenous growth model, according to a Keynesian approach, rises in income – as well as wealth, as shown by Piketty (2014a), based on the argument that income from capital was systematically less evenly distributed during the whole period of economic history of market economies than income from work in whatever country and period – distribution inequalities can be expected to exert a durable effect on both short and long

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<sup>5</sup> In particular those stressing the relevance of human capital, technical progress and general knowledge and innovation as sources of endogenous growth.

<sup>6</sup> In particular those based on Keynesian or Classical and Keynesian approaches, and supporting the introduction of path-dependency of economic growth, physical capital accumulation and income distribution evolution from the formerly registered value of those variables as an additional source of endogenous growth.

term evolution of production and income levels, employment and capital endowment. According to the multiplier effect, it is worth noting that since the wealthier members of society have a lower propensity to consume and a higher propensity to save in comparison to less well-off members, increases in income distribution inequalities have, in the short term, a negative effect on consumption demand, reducing the value of the multiplier and thus giving rise to total aggregate demand levels that are lower than those associated with the same amount of autonomous effective demand, which could be expected to be observed if such an income distribution change was not experienced (Cf. Keynes, 1936). Both directly and indirectly generated multiplicative effects of reductions in effective demand connected with income distribution inequalities increase, lead thus to a reduction in sales opportunities, production levels in enterprises and income levels at the aggregate level, giving rise to reductions in both total profits and total wages in the economy, as clearly illustrated by Keynes (1936) on the basis of his well-known paradox of thrift.

Secondly – in opposition to mainstream models in which long term capital demand is assumed to be limited by capital supply<sup>7</sup> and thus income inequalities rises are expected to exert positive long run effects on capital accumulation, through larger and/or cheaper availability of financing sources, and by this mean of economic growth – Keynesian models introduce variously conceived acceleration mechanisms. Through them, investments at the single enterprise level, capital accumulation rate and capital endowment in a given economic system can be in turn be expected to be rather positively linked in both the short and long term with sale opportunities improvements, increases in aggregate demand and volumes of production which can be expected to derive from reduction of inequalities in income distribution. According to this approach, increases in income inequalities can be expected to have negative effects on investment, capital accumulation, capital endowment and economic growth, leading – through the positive dependence of income inequalities on the level of unemployment, which, based on mixed Keynesian and classical theory assumptions, can be expected, in turn, to be negatively linked to lower physical capital accumulation and economic growth stagnation – to further depending of the initially arising disparities in the distribution of income<sup>8</sup>. As described in a former

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<sup>7</sup> On the basis of long term Say's law acceptance and implicit rejection of any long term effect of the paradox of thrift, which leads mainstream author to assume that income inequalities rises will lead to increases of average propensity to save (Cf. Sala-i-Martin, 1990a; 1990b with Petri, 2011a; 2011b; 2013; 2015).

<sup>8</sup> The above synthetically recalled theoretical argumentation, although much more articulated in reality, can be, for the sake of simplicity, summarized in the following statements. The lower the capital accumulation, economic growth rate, investment and aggregate demand is, the lower the expected level of production and the higher the unemployment in a given economy. Due to its negative effects on workers and trade union bargaining power – as well as due to the negative effects which can eventually be expected to logically show up in labour productivity based on lower investment, capital accumulation rates, and thus the possible emergence of lower per worker capital endowment – higher unemployment will lead to lower wages, labour share and increases in the

paper (Valente, 2016a) and confirmed based on a similar approach by other authors both at the single country level and when considering the growth performance of a wider set of countries accounting for as much as 80% of world GDP (Onran, Stockhammer, 2001a; 2001b; Lavoie, Stockhammer, 2012; 2013; Onran, Galanis, 2013), such an approach seems in line with the evolution of income inequalities, economic growth and capital accumulation during the whole of the 20<sup>th</sup> and 21<sup>st</sup> centuries. It justifies both lower inequalities in income distribution, higher capital accumulation and economic growth rates experienced during the “exceptional” and completely unexplained by Piketty’s so-called fundamental laws of capitalism (Kunkel, 2014) industrial era or “golden age” of the market economies phase of development of economic systems that took place between the end of the Second World War and the 1970s in the main market economy and on a global level, as well as the higher income inequalities, lower capital accumulation and economic growth rates periods experienced at the beginning of the 20<sup>th</sup> century and since the 1980s in the main market economies.

The main difference in such an approach, in comparison to mainstream ones, and the most significant and potentially controversial element of the proposed interpretation of economic system evolution relies solely on the functioning of an acceleration mechanism assumed to be at work. It links lower short term consumption demand, which can be logically assumed to derive from increases in income inequalities based on whatever theoretical approach, to lower investments and capital accumulation. Through the hypothesis of positive dependence of the economic growth rate on capital accumulation, which has been since the very start of economic thought broadly accepted by economists of almost every known orientation, it, as a matter of fact, leads to the result that income distribution plays a decisive role in the determination of the long term evolution of the economic system. It must be remembered that these arguments lay at the core of the explanation – proposed in the forthcoming paper – of why the increased relevance of human capital, technical progress, knowledge and innovation, financialisation and increases in intangible asset relevance in the determination of company market value and management method reorganisation can be observed in present day economies and become well-known and characteristic features of the knowledge-based economy or the current phase of development of economic systems. It seems worthwhile to briefly illustrate why an acceleration mechanism can be expected to occur in an economic system on a general basis, stressing how the existence of such a mechanism can lead to a different interpretation of the main knowledge-based economy features, which will lay at the centre of further studies into the forces at work in the present phase of economic development.

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differences between pay for qualified and unqualified workers in the considered economic system, finally leading through such a mechanism to further increases in the initial inequalities in income distribution (Cf. i.e. Setterfield, 2003; Onran, Stockhammer, 2001a; 2001b; Onran, Galanis, 2013).

ACCELERATION MECHANISM AND KNOWLEDGE-BASED ECONOMY AS A PHASE  
OF ECONOMIC DEVELOPMENT CHARACTERISED BY LOW PROFITABILITY  
OF INVESTMENTS IN PHYSICAL CAPITAL

The positive dependence of investment and/or capital accumulation upon increases in effective demand and reduction of inequalities in the distribution of income – the accelerator concept – is variously justified in Keynesian literature. The different elaborations can be categorised in three separate, although interlinked, sets of arguments.

The first and oldest one derives from the idea already introduced by Keynes (1936), according to which any capital investment must sooner or later finish in a capital disinvestment, so that capital accumulation and investment demand cannot be seen as independent of the consumption demand and consumption acts found in a given economic system. Due to the conventional nature of the propensity to invest, and expectation of future profits upon which the investment demand curve relies, according to Keynes (1936), whatever decrease (or increase) of propensity to consume, which is considered permanent by entrepreneurs, will affect negatively (or positively) not just consumption but also investment demand. In other words, when the propensity to consume increases (as when inequalities in income distribution are reduced) the profit expectations of entrepreneurs, on which their investment decisions depend, will be higher and thus will lead to the realisation of larger investment amounts whatever will be the interest rate prevailing in the economy. When the average propensity to consume is permanently reduced (as is the case when inequalities in income distribution increase), companies face more difficulties in keeping the same level of sales due to the aggregate demand reductions, so that their profit expectations and willingness to invest will decrease.

A second more complex set of arguments supporting the functioning of an acceleration mechanism in the economic system is based on the integration of the work of different authors (Badhuri, Marglin, 1990; Onran, Stockhammer, 2001a; 2001b; Onran, Galanis, 2013; Lavoie, Stockhammer, 2012; 2013; Setterfield, 2014), with considerations inspired by Kalecki (1942; 2013a; 2013b) and more relevant autonomous developments by the author. In the face of these arguments, not only does the willingness to invest rise or become reduced together with increases or decreases in effective demand and propensity to consume, but the availability of own funds and the possibility to finance investments through credit is affected by these two factors as well, due to their effects on both the total level of profits and the profit rate. In such an approach, the initial increases in wages or reductions in income inequalities lead to increased sales opportunities for companies due to aggregate demand increases. This in turn can be logically argued to lead to:

1. increases in sales volumes and revenues;
2. increases in productive capacity utilisation rates and lowering of the unitary costs of production of goods in the case of idle capacity – in accordance with the

arguments presented below and constituting the third type of justification for the existence of an acceleration mechanism present in the literature – was initially available and/or economies of scale take place in the production process;

3. reduction in the storage of unsold goods and products;
4. possibility to increase sale prices;
5. shortening of the time between production cost payments and revenues from sales perception and thus a reduction of time during which the financial assets of the enterprise remain locked in the production process as well as a decrease of own or third party funding required to finance the realisation of the same volume of production;
6. the existence of all the above phenomena at the same time.

As all these factors either positively affect the total amount of profits, the profit rate or both of them at the enterprise level, the positive dependence of capital accumulation (and thus economic growth) upon initial increases in effective demand derived from income inequality reduction can be argued to exist through such a channel, due to the fact that the investment decisions of entrepreneurs can be logically expected to be positively linked with higher profits (Ornan, Galanis, 2013; Lavoie, Stockhammer, 2012; 2013)<sup>9</sup>.

The third and final way through which the acceleration mechanism can be argued to exist is based on the considerations of Keynesian authors (Garegnani, 1962; 1983; 1992; Petri, 2001; 2003; 2013; 2015), through the positive dependence of capital accumulation upon the capacity utilisation rate, and the dependence of the capacity utilisation rate upon aggregate demand level and income inequality variations, relying on the assumption that productive capacity at both the company and aggregate levels is normally not fully utilised<sup>10</sup>. It can indeed be observed that increases in aggregate demand, sales and production levels lead to:

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<sup>9</sup> It seems worth noting that such a mechanism has already been demonstrated to empirically hold in the much more restrictive cases of wage rises, profit and capital accumulation increases, wage reductions, profit and capital accumulation contractions, even when the effects of wage variation on exports are taken into account (Ornan, Stockhammer, 2001a; 2001b).

<sup>10</sup> Some of the reasons according to which such an assumption can be true were already discussed in former papers by the author and other Keynesian economists (Cf. Valente, 2014; 2016a; 2016b; 2018; 2019; Garegnani, 1962; 1983, 1992; Petri, 2013; Lavoie, Stockhammer, 2012; 2013; Bhaduri, Marglin, 1990; Ornan, Stockhammer, 2001a; 2001b). To provide a short recap and to underline some additional elements, based on both macroeconomics and production management and planning theory and practice (Cf. i.e. Brzeziński, 2000; 2002; 2013; Pająk, 2011; Szatkowski, 2014), which can support such a hypothesis, it can be stressed that:

- due to the very nature of durable goods constituting fixed capital, when economic growth and sales opportunities can be assumed to act as they normally do in an economic system, new plants and machinery in their first phase of utilisation will be available and utilised below the maximum level of capacity utilisation (they should serve to realise a larger amount of production when operating at maximum levels), while due to the same reasons the plants and machinery employed in the production process of goods whose life cycle is in its first or final phase will also be not fully



1. increased consumption of fixed capital and increased wear and tear of existing machinery and equipment;
2. shortening of the amortisation time linked with the faster pace at which the initial machinery and equipment purchasing costs – as well as other fixed costs – will flow back to the company in the form of revenue due to the higher volumes of production sold in a given unit of time;
3. reductions in reserves of idle capacity, which due to the nature of master production scheduling with the most profitable rates of capacity utilisation level for continuous (or semi-continuous) mass production of standardised goods can be assumed to be always available and needed at single company level to systematically absorb, seasonal production peaks, unforeseen variations in sales volumes and production needs, eventual deviations of actual time of production process realisation in com-

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- utilised (in the central phase of a product life cycle the production levels will be much higher), so that these kinds of plants and connected idle capacity at the aggregate level can be always assumed to exist in a given economic system;
  - reserves of productive capacity will systematically show up even in the continuous production processes of standardised goods produced in mass (which, as per production scheduling management and production planning theory and practice, is the kind of productive process characterised by the highest level of capacity utilisation possible, while capacity utilisation will be lower for whatever process organised not in mass on dedicated and exclusive production lines and realised on the same line or work station on which the productive processes of other goods or varieties of the same goods are realised, causing machine and work station set-up times to show up during the process and reducing the actual time the work stations are employed in realising production, thus decreasing the capacity utilisation rate), due to the existence of seasonal peaks of production and other factors described in point 3 of the following sentence in the main text;
  - idle capacity can be normally assumed to exist due to the willingness of companies to maintain extra capacity in comparison to normal foreseen needs of production as per the monopoly degree or power arguments discussed in point 4 of the next sentence in the main text;
  - due to the fact that, with the exception of plants and sectors in which production is realised 24 hours a day, 7 days a week, the same production master schedule, plan of production and scheme of workloads at different working stations – even if, as in reality it never happens in practice, it means prescribing full utilisation of capacity – can in reality be realised at a faster pace, generating larger volumes of products through recurring to the very easy trick of overtime and extension of plant operation days. To keep the reasoning easily understandable even to readers not familiar with production planning it can be, indeed, argued that the same master production schedule, setting workloads, capacity utilisation at single work station levels and volume of production for the whole production line per given period of reproducibility of the schedule in an automotive factory, and characterised, for example, by that the production of 1000 cars every two eight-hour work shift will lead to a total output of 5000 cars per week in a plant operating two shifts per day, five days per week. It, however, leads, without any change in the schedule or in the quantity of the work stations, machinery and equipment required to realise it, to the production of 10,500 cars per week with an increase of 110% of production volumes, if the plant starts to operate three shifts per day, seven days per week. Taking into account how actual production processes are organised at a single enterprise level, the very concept of full capacity utilisation, implicitly assumed to exist in the mainstream macroeconomic approach and central to many of the conclusions typical for such a school of thought, which stress the limitations which increase in aggregate demand due to this factor, seems to the author to have become an abstraction.



parison to planned time norms, as well as to avoid problems in the synchronisation and harmonisation of output per unit of time at a single work station level, and to achieve better reproducibility of master production schedules and workloads in production process planning (Brzeziński, 2000; 2002; 2013; Szatkowski, 2014);

4. weakening of the degree of monopoly or monopoly power of companies operating in sectors experiencing increased sales volumes, which, in an extreme simplification of Kalecki's (2013a; 2013b) reasoning related to the concept, enterprises can be assumed to consider to be profitable to maintain the ability to increase production levels when demand for the products rises, and to defend themselves from the entry of new competitors into the market, which can be expected to be the more probable the larger the increases in unitary sale price and the greater the gap between production capacity availability and demand level.

All these elements can be seen as signals that may lead to an increased willingness to invest in expanding the productive capacity at the company level and thus lead to higher physical capital accumulation and increased economic growth. Such a conclusion can be argued to be even more true if, as per the first set of arguments justifying the existence of an acceleration mechanism, the increase in the capacity utilisation rate at any moment is due to increases in effective demand, which can be both observed and perceived as long-lasting as those supported by the propensity to consume increases and income inequalities reductions, and enterprises are registering increases in the availability of their own funds and/or increased chances to obtain access to third party credit due to profit and revenue increases, in accordance with the second set of arguments supporting the acceleration mechanism formulation available in the literature.

The centrality of the arguments for the existence of an acceleration mechanism for the interpretation of the observed tendencies in economic system evolution, as described above, seem very clear for the author. Indeed, based on the theoretical arguments discussed above, the phases of high income distribution inequalities, lower economic growth and lower capital accumulation rate registered between the start of the 20<sup>th</sup> century and the end of the Second World War, as well as the current phase of development of economic systems since the end of the 1970s can be interpreted, on the basis of the accelerator concept, as periods during which investment in physical capital and thus its accumulation was less profitable in comparison to the extraordinary period of higher GDP growth, higher rate of capital accumulation and lower inequalities in the distribution of income registered in developed economies from the 1950s until the end of the 1970s.

## CONCLUSIONS

The transition from the industrial or golden era of market economies to the progressive affirmation of the present knowledge-based economy can be seen, according to the arguments presented here, as a phenomenon of lower profitability

of investments in tangible assets and physical capital, both in companies and at the aggregate level, which through the direct mechanisms which link changes in physical capital accumulation with variations in the same direction of GDP growth rate, and the direct and indirect ones linking lower GDP growth and lower capital accumulation with rises in income inequalities, lead to the emergence of path-dependency mechanisms reinforcing the initial variations registered in the 1970s.<sup>11</sup> This intuition, according to the author, paves the way to the new possibilities in interpreting both the peculiarities of the knowledge-based economy and the phenomena characterising the modern economic system evolution phase, leaving a wide gap for further papers to develop an integrated theoretical model able to synthesise the complex mechanisms governing economic system development and functioning.

Based on these conclusions, as it will be argued in more detail in further papers directly dedicated to the analysis of those other phenomena and to the development of the introductory results achieved here, the financialisation currently observed in modern economies can be interlinked with the increased availability of wealth and increases in wealth to income ratio deriving from the currently prevailing high levels of income inequalities and with the reduced profitability of physical capital accumulation that those increases in income inequality support (Cf. i.e. Piketty, 2014a; with Garegnani, 2011; Galbraith, 2014; Homburg, 2014). Similarly, by integrating the already presented elements derived from Keynesian and Classical theory with the mainstream endogenous growth theory, the increased relevance of human capital accumulation and knowledge can be seen as the effect of the fall of profitability in physical capital accumulation and the increased returns which human capital and higher levels of work skills are generating both for individuals investing in the improvement of their skills and the companies hiring them, thus increasing the attractiveness of the former. A similar

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<sup>11</sup> A much more extended discussion of path-dependency mechanisms and a review of the related literature were already presented in previous works (Valente, 2014; 2016a; 2016b), while a short insight into the mechanisms at work in the 1970s in the case of the Italian economy was also attempted (Valente, 2018) and will not be repeated here. A more general, although for matter of space, much more superficial analysis of the reasons why some of the specific conditions registered during the 1970s could start the switch from one phase or regime of economic system development to another will be presented in a forthcoming paper constituting the continuation of the present, while referring to changes in management methods which began to emerge in the 1970s and 1980s. The opposite switch from the high income inequalities, lower capital accumulation and growth to the exceptional period following the Second World War will, instead, not be further discussed, neither in the present nor the forthcoming paper, even if the author judges this matter worthy of analysis in the future. Although further refinements will be for sure needed and will arise during future research about this period, it seems worthwhile signalling to the reader that an explanation of this former switch phase can be based on the integration of Piketty (2014a; 2014b; 2014c) and his critical reviewers' considerations already available (Galbraith, 2014; Homburg, 2014; Kunkel, 2014), with some very interesting earlier analyses by economists, among which one of the factors leading to 1929 stock market crash provided by Keynes (1936) and Kalecki (1971), considerations of the reasons supporting the stabilization of the market economies in the Western block countries during the 1950s–1970s are considered particularly suggestive by the author.

line of reasoning in terms of innovation will be developed in future articles by the author, assessing, in more detail, the peculiarities of the knowledge-based economy, stressing how, when physical capital accumulation is stagnating, both an increased return of innovation in comparison to the rate of return on investment perceived by non-innovating subjects – as per Schumpeterian argumentation (Cf. i.e. Anghion, Howitt, 1992; 2007) – and a slower pace of innovation diffusion – as per Kalecki (1974) argumentation – can be assumed to emerge. The fall of both economic growth and physical capital accumulation and the increased relevance of human capital can be reconnected with the transition from more rigid, quantity oriented and capital-intensive Fordistic just-in-case methods to the recourse to the more flexible lean management and just-in-time production methods<sup>12</sup>, generating, for the companies adopting them further, increased possibilities to cope with the less stable regime of economic growth and increased competition characterising the current phase of economic development as well as allowing them to effectively deal with the lower profitability of physical capital accumulation and tangible assets.

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<sup>12</sup> As to say from methods that can be shortly characterised as production organisation techniques focused mainly on achieving higher productive capacity utilisation and lower unitary costs of production, based on sales forecasts, detailed planning of workloads, operation and quantity produced at the single work station level, parcelling out of productive processes and recourse to a strict control and order system, to methods which, instead, are characterised by lower-capital intensity, the increased meaning of product quality, teamwork, self-management, appropriate selection, training and motivation of employees and focusing on the shortening of the production cycle (Cf. Brzeziński, 2000; 2002; 2013; Pająk, 2011; Szatkowski, 2014).

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### Summary

The present article represents the first part of wider research focusing on the development of an authorial interpretation of the phenomena characterising modern economies on the basis of a critical analysis of macroeconomic and management literature. It points out, first of all, the existence of two opposing approaches to the interpretation of phenomena characterising the knowledge-based economy. The first one describes these as a completely new phenomenon requiring the development of theoretical instruments significantly different from those already available. The second one, instead, underlines that the conditions characterising modern economies can be treated rather as an economic system development phase, which, based on income inequalities, economic growth and capital accumulation evolution, resembles a return to trends already observed in the past. The paper presents the author's proposal of integrating both approaches and knowledge-based economy interpretations as an economic development phase characterised – based on the observed trends and a set of theoretical arguments derived from Keynesian theory and justifying the existence of an acceleration mechanism – by the lower profitability of physical capital accumulation. The conclusions indicate how the existence of such a mechanism and the underlining of such a feature of modern economies suffices, according to the

author, to explain both the emergence of different phases of development as well as specific economic phenomena considered typical for the knowledge-based economy in the literature. Forthcoming articles will supplement the present one, focusing on their analysis, leading to the development of a unified interpretation scheme able to explain the main mechanisms and major forces affecting economic system functioning both at a given development phase and in the longer-term perspective.

*Keywords:* knowledge-based economy, economic growth theory, income distribution inequalities, acceleration mechanism, Keynesian theory.

## **Gospodarka oparta na wiedzy: zintegrowane podejście do analizy najważniejszych sil wpływających na ewolucję współczesnych gospodarek na podstawie makroekonomii i dorobku nauk o zarządzaniu**

### *Streszczenie*

Artykuł stanowi pierwszą część szerszych badań poświęconych opracowaniu własnej koncepcji interpretacji zjawisk, charakteryzujących współczesne gospodarki na podstawie krytycznej analizy piśmiennictwa naukowego z zakresu zarówno makroekonomii, jak i nauk o zarządzaniu. W pracy podjęto dyskusję wokół dwóch przeciwstawnych stanowisk, co do interpretacji zjawisk cechujących gospodarki oparte na wiedzy. Pierwsze z nich opisuje je jako zupełną nowość wymagającą opracowania znacząco różnych od już dostępnych narzędzi analizy teoretycznej. Drugie, natomiast, podkreśla, że kondycje cechujące współczesne gospodarki można potraktować bardziej jako kolejną fazę ewolucji systemów gospodarczych, którą można scharakteryzować jako etap powrotu do trendów już zarejestrowanych w przeszłości na podstawie zaobserwowanej ewolucji nierówności w podziale dochodu, wzrostu gospodarczego oraz akumulacji kapitału fizycznego.

Opracowanie przedstawia autorską propozycję ujednoczenia owych stanowisk i interpretacji istoty gospodarki opartej na wiedzy jako fazę rozwoju gospodarki, cechującą się – na podstawie zarówno zaobserwowanych trendów, jak i szeregu argumentów teoretycznych wynikających z opracowań przedstawicieli nurtu keynesowskiego i uzasadniających występowanie w gospodarce mechanizmu akceleracyjnego – niską opłacalnością inwestycji w kapitał fizyczny. W konkluzjach podkreślono, dlaczego występowanie takiego mechanizmu i wyróżnienie takiej cechy współczesnych gospodarek są, zdaniem autora, samodzielnie wystarczające, aby wyjaśniać zarówno długookresowe pojawianie się różnych faz rozwoju gospodarczego, jak i występowanie specyficznych zjawisk gospodarczych zasygnalizowanych w literaturze jako typowych dla gospodarki opartej na wiedzy. Te zjawiska będą przedmiotem kolejnych analiz ukierunkowanych na zbudowanie ujednoczonego schematu interpretacyjnego, który będzie w stanie wyjaśnić główne mechanizmy i podstawowe siły determinujące działanie systemu gospodarczego zarówno w danym etapie rozwoju, jak i w dłuższym okresie.

*Słowa kluczowe:* gospodarka oparta na wiedzy, teoria wzrostu gospodarczego, nierówności w podziale dochodu, mechanizm akceleracyjny, teoria keynesowska.

JEL: E12, M11, N10, O11.

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## **Fostering digital business transformation and digital skill development for economic growth and social inclusion in Poland: a preliminary study**

The rate of economic growth, measured as the increase in GDP per capita, and the development of the knowledge economy are now strongly determined by the ability of enterprises to function, innovate and compete under the conditions of the fourth industrial revolution. The latter is characterised by the development of technology-enabled platforms that combine both supply and demand to disrupt the existing industry structures, such as those within the “sharing” or “on-demand” economy (Schwab, 2016). The social perspective of this technological change demonstrates that technical innovations are likely to have a positive effect on the diffusion of social innovation, development of the information society, and vice versa (Morrar et al., 2017, p. 18). The creation of digital opportunities (e.g. access to a broadband Internet connection, distance learning, public e-services) within all sectors is therefore essential for the socio-economic development of a country and plays a significant role in eradicating poverty and creating and accessing new economic opportunities, which are key for success in the new economic reality (Hameed, 2007).

At the microeconomic level, the scope and the dynamics of the changes following global access to the Internet and the development of mobile applications mean that enterprises are forced to adapt to turbulent economic conditions, including consumer expectations. This requires enterprises to go through a process of digital transformation.

The digital transformation of an enterprise is an extremely broad issue, which encompasses changes to traditional business models and processes thanks to the use

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of Information and Communication Technology (ICT) based solutions. Innovative applications, like SMAC (social, mobile, analytics, and cloud), create new ways of producing and distributing goods, and also affect how services are provided, including better interaction with the client through real-time communication and online chatbots (Berman, 2012). Therefore, digital transformation, as a very vital issue in terms of the contribution made by ICT to economic growth and the reduction of social inequalities, occupies a crucial place in socio-economic development strategies, e.g. *A Digital Single Market Strategy for Europe* (European Commission, 2015). It is also becoming an important element in business development strategies (Hess et al., 2015; Bełz et al., 2019).

In an economy increasingly based on virtual, augmented reality, artificial intelligence, and global data flows, the development of adequate skills by society, particularly by the workforce, presents one of the most critical issues facing the higher education system. Appropriately competent managerial staff and employees are an essential element in the effective implementation of a digital strategy for an enterprise. The skill gap, understood as a lack of organisational knowledge, skills, and experience significant with respect to achieving the strategic goals, is the main reason for not undertaking or failing to carry out a digital transformation. The importance of this problem is reflected in numerous empirical studies (i.e. Śledziwska et al., 2015; Goerzig, Bauernhansl, 2018), reports of international organizations (e.g. World Bank, 2016; OECD, 2019; UNCTAD, 2019) as well as reports of the world's largest consulting companies (including PwC, 2018; EY, 2019).

In relation to the issues mentioned above, the purpose of this paper is to outline the problem of reducing the digital skill gap, which is vital in terms of achieving an effective digital transformation, and to present selected solutions concerning systemic support for the improvement of digital skills in Polish enterprises.

Since the study is fairly exploratory and presents preliminary findings, and precedes the main empirical stage, a desk-type research method was adopted, including a critical analysis of the literature, reports of public institutions and consulting companies, as well as using press information. The author also carried out a review of the Eurostat databases based on a set of several dozen indicators, including DESI (Digital Economy and Society Index) in the timeframe 2015–2020, i.e. since the announcement of *A Digital Single Market Strategy for Europe* (European Commission, 2015).

The paper attempts to answer three research questions:

- What factors determine the digital maturity of an enterprise?
- What are the relationships between the digital skill gap, digital divide and social inequalities?
- What is the role of the system support for the digital transformation and development of digital skills, recognised as a driving force for economic growth and the process of social inclusion?

The first part of the article outlines the essence of digital transformation and provides the definition of digital maturity for enterprises. The second part focuses on analysing the problems related to the digital skill gap for enterprises, which is a result of the digital divide at the macroeconomic level and concerns the issue of social inequalities. The third part concisely presents initiatives in the field of systemic support, provided in the framework of cooperation based on the concept of the triple helix and including coordinated actions for the development of digital skills, undertaken jointly by the enterprise sector, the science sector, and the state administration. The final part is a summary of the research limitations and the main findings of the analysis, as well as directions for future empirical research.

### TOWARDS THE DIGITAL MATURITY OF AN ENTERPRISE

The digital transformation process consists in transferring business processes from the analog to the digital sphere. It is a long-term and complicated process that requires, first of all, a strategic vision responding to three basic questions: in which direction, when, and how should the enterprise evolve as a result of the introduced changes, so as to ensure long-lasting growth under the conditions of the digital economy (Matt et al., 2015)?

In the first decade of the 21st century, the digital transformation mainly took place in large companies operating on foreign markets. In the case of SMEs, enterprises in advanced technological industries, due to their specialisation, were particularly involved in digital development. For most SMEs in the world, digital transformation remained an optional solution, enabling them to enter a new market arena in the future and increase the chances of rapid growth. On the threshold of the third decade, business practice demonstrates that digital development is becoming a *sine qua non* condition for SMEs to ensure their further existence in the market.

In recent years, there has been an increase in awareness among entrepreneurs and managerial staff of the essence of digital transformation and its importance in gaining a competitive advantage in the market. However, the problem is that despite relatively high awareness among entrepreneurs of digital change, only a small percentage of SMEs are becoming engaged in this process. The reason is mainly a lack of appropriate resources, including digital and general competences (i.e. communication and analytical competences), as well as competences in the field of strategic management. An additional barrier is a lack of sufficient financial resources to cover the costs of this process.

Contemporary enterprises face various challenges that require them to make several strategic decisions. These comprise the extraordinary growth of data, and the associated need to manage big data, including the provision of storage space (servers vs. cloud computing), the ability to share data with other entities in the market and data sales. Cybersecurity and the issue of protecting the processes of data transfer

and storage are becoming extremely difficult and costly tasks for business, yet they are very important given the growing data flows on a global scale and new legal regulations regarding the protection of personal data (Kaplan et al., 2015).

The digital development of the company also brings significant benefits, among which are internal improvements in the business processes due to the adaptation of ICT solutions, as well as the possibility of distance cooperation with foreign partners, resulting in reduced transport costs and easier access to geographically distant markets due to the digital goods and services available.

Digital transformation is closely related to the issue of the ex-ante digital maturity of the enterprise, defined as the readiness of the organisation to implement this process. Ex-post digital maturity, in turn, is defined as the level of digital proficiency of the company, as a result of the changes.

The degree of digital maturity of an enterprise is determined through various models based on selected indicators, which consider numerous variables that can be categorised into three groups:

- quality of human capital in terms of the presented digital skills (human resources capable of adapting ICT solutions),
- scope of digitisation of business processes,
- technological preparation in terms of an adequate ICT infrastructure.

In the literature, digital maturity is identified by the enterprise's results in specific areas, which includes: digital culture, technology transfer, digitally-driven operations and processes, digital strategy and leadership, digital skills, digital innovation, digital governance, digital ecosystem, digital compliance and cybersecurity, digital products, and the e-business model (Teichert, 2019, p. 1681).

The digital development of the company can be narrowed down to five stages (Ra-mantoko et al., 2018, p. 216):

- stage 1: the company operates and is visible only in physical space. This is the zero level digital maturity;
- stage 2: the company is visible in the digital space, via a website for example, but does not use more advanced digital solutions;
- stage 3: the company uses ICT in the process of data collection, analysis, and processing;
- stage 4: digital solutions are introduced in functional areas of the company's operations;
- stage 5: the current business model has been redefined to achieve comprehensive integration of the digital solutions in all areas of the company's operations. This is the level of full digital maturity.

Research on the digital development of enterprises carried out in EU countries prove that enterprises from the countries of Central and Eastern Europe are in a transition period, i.e. they are undertaking activities in the field of digital transformation, but these are fragmentary and relate only to specific areas of the enterprise's activity. However, the approaches enterprises are taking to the issue of

digital transformation are evolving. Until now, domestic enterprises, particularly those from the SME sector, have been considering whether they should undergo a digital change. Currently, they are heading towards an approach based on seeking answers to the questions of how and in what time frame the process should be carried out. However, the greatest problem on the way to full digital transformation is still the competence gap in the form of a lack of, or insufficiently developed, digital skills to allow maximum use of the potential that the use of ICT solutions in operational activities entails.

### DIGITAL SKILL GAP, DIGITAL DIVIDE, AND SOCIAL INEQUALITIES

The gap in the digital skills of an enterprise is closely related to the occurrence of a digital divide at the macroeconomic level, which is one of the important forms of social inequality in the 21<sup>st</sup> century (Hargittai, Hsieh, 2013). It contradicts the egalitarianism assumption of the fourth industrial revolution (Hudson, 2003), in which all market players have equal access to the global Internet network and therefore can develop their digital skills without any problems.

In the field of social science, the complexity of the digital divide problem concerns many theoretical views and thoughts that are based on economic, sociological, political and administrative theories and sciences. Some aspects are also reflected in the nomenclature used in the analysis of this subject, which contains such terms as ‘digital inequality’, ‘digital divide’, ‘digital gap’ and ‘digital exclusion’.

Along with the implementation of the Internet on a global scale in 1996, the issue of the digital divide was defined as inequality of access by the population to the Internet in different countries of the world (Compaine, 2001; Castells, 2002). The current discourse emphasizes that the digital divide can occur on three levels (Ragnedda, Kreitem, 2018, pp. 9–13), associated with the dynamic development of new technologies.

The first level of the digital divide is the Internet access gap – which refers to the inequality of access by people to the network. The divide can be quickly bridged thanks to public investments in the development of a national ICT infrastructure. The second level of the digital divide comprises digital skills and digital capabilities, which refers to social stratification with respect to the level of digital skills possessed by individuals; competences determine how and for what purposes Internet users can benefit from access to the network (Robinson et al., 2015, p. 569). The digital skill gap is closely related to socio-economic status (Witte, Mannon, 2010), which results in the division of society into digitally rich and poor citizens (van Dijk, 2006, p. 166), and also has an impact on the supply of a highly skilled workforce. A higher social and economic status of the population is associated with the possibility of incurring the cost of purchasing the latest generation equipment and access to paid content, including online education. This



results in a more productive application of ICT in the daily use of the Internet and automatically strengthens the digital skills of a given group of Internet users.

People with a higher socio-economic status use their Internet access primarily for professional and educational purposes, which, in turn, makes it easier for them to find employment as specialists. Unlike them, those with a lower socio-economic status focus, during online activities, primarily on consumption purposes, including the use of social media and platforms offering entertainment media content.

In addition to social inequalities in digital skills due to differences in economic status, the research also showed a diversity in digital skills based on gender (Ono, Zavodny, 2009), age (Friemel, 2016), race, and ethnicity (Mesch, Talmud, 2011). Therefore, to effectively identify barriers in the development of the digital skills of a given population, a broader context of the economic environment should be taken into account, e.g. GDP per capita (labour market structure, R&D expenditure, technology advancement of enterprises), social aspects (life expectancy, number of university graduates, including in the fields of STEM (Science, Technology, Engineering, Mathematics), middle income, geographical distribution of the population), and cultural aspects (national innovation culture, creativity, entrepreneurship, and lifelong learning).

The third level of the digital divide – tangible benefits of using the Internet – is defined as a gap in the development of the digital economy, which consists of digitisation through the use of electronic platforms in the most important areas of the functioning of the state (e-administration), business and commerce (e-business and e-commerce) and teaching (e-education) (Hidalgo et al., 2020).

The socio-economic reality of the second decade of the 21st century indicates that economic entities continue to struggle with the problem of the digital divide. The most developed EU-15 countries, including Germany, Britain, and the Scandinavian countries, exhibit a high degree of digital maturity of enterprises and are widely recognised as global digital leaders. Their economic structure is characterised by the dynamic development of industry 4.0 and the ICT labour market with a relative balance of supply and demand in terms of highly qualified workforce. These economies are separated by the digital divide from the Central and Eastern Europe (CEE) states that joined the EU in 2004 and later. The CEE countries, after years of economic and political transformation, and the preceding period of Soviet Union influence, are still largely characterised by a technological lag and still face the problem of the digital divide. This is observable in statistics on innovation and the development of the digital economy and the information society in EU member states. A PwC analysis conducted at the beginning of the second decade of the 21<sup>st</sup> century revealed that an increase by 10% in a country's digitisation score fueled 0.75% growth in its GDP per capita. Additionally, the economic effect of digitisation accelerated as the countries moved to more advanced stages of digitisation. Digitally poor economies received the least benefit, largely because they had not yet established an ICT ecosystem that could capitalise on the benefits of digitisation (PwC, 2013, p. 7).

The analysis at the microeconomic level shows that there are significant differences between the digital proficiency of enterprises from the EU-15 countries and those from Central and Eastern Europe. The differences can be measured using a DESI 2019 index regarding the integration of digital technologies. It consists of two components: business digitisation (60% weighted average of the normalised ratio) and e-commerce (40% weighted average). For an in-depth analysis of the digital gap at the microeconomic level, other indicators from the Eurostat database can be included. The Digital Intensity Index (DII) 2019 measures the enterprise's digital development, which is defined by 12 different digital technologies:

- more than 50% of the persons employed use computers with access;
- use of at least 3 ICT security measures;
- maximum contracted download speed of the fastest internet connection of at least 30 Mb/s;
- more than 20% of the employees provided with a portable device that allows Internet connection via mobile telephone networks for business purposes;
- employees made aware of their obligations in ICT security-related issues;
- electronic orders (web or EDI) received from customers from other EU countries;
- use of any social media;
- ERP software package used to share information between different functional areas;
- use of CRM;
- social media used for at least two purposes;
- any computer networks used for sales (at least 1%);
- web sales of more than 1% of the total turnover and B2C web sales of more than 10% of the web sales.

In enterprises of Central and Eastern European countries, the absorption and diffusion of advanced digital technologies is a challenge due to the average level of development of the social macrostructure in these countries and the brain-drain by Western economies, which results in a low level of business digital maturity and an insufficient supply of highly qualified employees.

The low level of digital maturity is primarily noticeable in the SME sector, which, excluding companies in the high-tech industry, is facing difficulties in adopting ICT. Due to high costs, SMEs limit their expenditure on training personnel in the field of digital skills. Enterprises may pay for external IT services, however, despite IT outsourcing, employees in other departments need to understand the concept of digitisation processes and be able to use ICT tools in their jobs (Arendt, 2008).

In the analysis of the digital skill gap at the microeconomic level, attention is paid to the complementarity of individual types of competences. To be effectively digitally transformed, an enterprise must combine general digital skills, i.e. those that are associated with the use of basic ICT solutions in current operational activities, along with specific competences, i.e. those which are based on programming skills, data science, and the use of highly advanced specialised programs necessary for the production of goods and services based on the use of artificial intelligence.

The fields of business activities that require digital skills include (Śledziewska, Włoch, 2015):

- communication within the organisation through digital tools;
- collection, analysis and processing of data sets, including big data;
- creation of virtual teams;
- digitisation of enterprise management processes and customer relations using ERP and CRM platforms.

In the second decade of the 21st century, the OECD carried out an analysis of digital skills (OECD, 2016, pp. 14–15). The analysis allowed a strategic framework to be created for strengthening digital social competences to ensure an appropriate pace of economic growth and social inclusion. This strategy is based on three pillars: 1. educational activities aimed at strengthening digital skills, 2. activities to increase the supply of qualified employees in the area of digital solutions use, and 3. activities stimulating an increase in enterprise demand for digitally skilled workforce. This should allow the enterprise to reach market equilibrium.

In this context, the role of educational government programs should be emphasized, which support society financially and institutionally, as well as the role of enterprises themselves in strengthening digital skills. One should also remember other competencies that are needed in the digital transformation of enterprises, namely skills in the field of critical thinking, problem-solving, and behavioural ones, including communication, leadership, project, and teamwork, which together constitute a set of features essential for digital transformation (Hoidn, Karrkainen, 2014, p. 7).

Therefore, activities for the development of digital skills in line with the idea of lifelong learning, undertaken as part of public-private partnerships, are extremely important. They include cooperation between enterprises and universities in the development of new educational programs and work practices in enterprises. Besides, the non-governmental sector and public institutions, particularly such business environment institutions as business incubators, accelerators, technology transfer – centres and Science and Technology Parks (STPs), play a significant role in the digital transformation process. The improvement in the availability of financial instruments that enable entrepreneurs to finance specialist employee training and purchase advanced ICT solutions also have a significant impact on further digital development.

#### SYSTEMIC SUPPORT FOR THE DIGITAL TRANSFORMATION OF POLISH ENTERPRISES

In 2018, Poland joined the group of twenty-five developed countries that form the global FTSE Russell classification of equity markets. It is also the first country in the former Eastern Bloc to meet the strict criteria to be recognised as a developed country, such as a correspondingly high economic growth rate and macroeconomic stability. Paradoxically, in 2014–2019, in terms of digital technology integration in

enterprises, Poland was one of the last of all EU countries, including the countries of the Eastern Bloc. In 2017, it was ranked in 25<sup>th</sup> place among 28 member countries. In 2018–2019, Poland dropped by one place, to 26<sup>th</sup> place.

The biggest differences in digital development are between SMEs and large enterprises. According to DESI 2019, only 12% of SMEs in Poland sell on the internet, while the EU average is 17% of total sales by SMEs. The turnover from online sales is also low, accounting for 7% of SME turnover in Poland.

The findings of the analysis of the digital skills potential in Poland compared to the developed EU countries have shown that the problem lies primarily in the inadequate system approach to the needs of the modern digital economy. This is particularly visible in the organisation of digital education at high school and university levels. The shortage in this area has been fully revealed by the education situation in March 2020 related to the COVID-19 pandemic, which forced the Polish education system to switch to remote teaching. The difficulties of some teachers, students, and their parents in using web applications such as Microsoft Teams, Zoom, Moodle, or Yammer showed a lack of preparation for functioning in the digital reality of the 21<sup>st</sup> century. A similar situation occurred with SMEs, which, accordingly, conducted their core business without the aid of digital technologies. As a consequence of the coronavirus pandemic and the announcement of the national quarantine, a significant proportion of SMEs faced the threat of bankruptcy due to the forced shutdown or limitation of their core business activity, while e-commerce SMEs reported an increase in sales volume at the same time (Business Insider Polska, 2020).

In the era of digital technology revolutions, including 5G technology, IoT (Internet of Things), AR (augmented reality), AI (artificial intelligence), Blockchain and Big Data, system support should be focused on developing more advanced digital skills. In Poland, the workforce, especially for the 18–50 year age group, has basic digital skills in the use of electronic office equipment and information retrieval. The competency gap in this age group relates primarily to the use of more advanced computer programs such as Excel, ERM (Enterprise Risk Management), and ERP (Enterprise Resource Planning) systems. Other competencies such as communication competencies, including communication in a foreign language, teamwork and project work are also insufficient to ensure an appropriately high level of competitiveness of Polish enterprises.

In the third decade of the 21st century, the demand for advanced specialists in the field of ICT will also increase, which requires a redefinition of the education system in Poland, following global standards in higher education. The implementation in the Polish higher education system of Act 2.0 is tasked with modernising educational and scientific activities and reducing barriers like the bureaucracy of the grant system and the poor financing for the development of academic staff and scientists. Universities have become outdated with insufficient ICT equipment, which means that the process of educating the future staff of

enterprises cannot be carried out to an adequate level, based on access to virtual tools, simulations and global databases.

In enterprises, especially SMEs, one barrier to the development of digital skills is the bureaucracy required to obtain finance from EU funds and, as entrepreneurs claim, an unfavourable regulatory environment, particularly the tax system, as well as an inflexible labour code. Entrepreneurs emphasise difficulties in obtaining finance and institutional support as the biggest obstacle in the digital transformation. The managerial staff of Polish enterprises are aware of the need for digital development, and this is inscribed in the company's long-term strategy, but it faces two types of problems. There is a shortage of employees with appropriate digital skills in the labour market, while entrepreneurs often cannot afford to develop these competencies as part of the training of their employees. Large companies, especially transnational corporations, are ready to accept employees who lack a high level of digital skills but show intellectual potential and can therefore be easily and quickly provided with appropriate digital skills training. SMEs in this area focus on acquiring digital skills from the market and employing the human capital already in possession of the digital skills required by entrepreneurs.

Considering the reduction of the competence gap as a barrier to the digital transformation of enterprises in Poland, further actions are necessary to shape a friendly institutional environment that supports business. The task for the coming years is to increase the efficiency of the digital ecosystem, based on the triple helix model (Etzkowitz, Leydesdorff, 2000), i.e. cooperation between science, enterprises, and administration (public authority). The ecosystem should cover its operations at the macroeconomic level (education and higher education systems) and the mesoeconomic level (regional innovation centers, technology transfer centers, academic incubators, digital hubs). At the microeconomic level, further support is needed in the form of financing the cooperation between enterprises and scientific staff, practices in enterprises, mentoring programs, and other initiatives based on the principle of public-private partnership.

The key to strengthening the digital economy in Poland is institutional support in shaping digital skills for a competitive and innovative labour market, which at the macroeconomic level should translate into joint programs implemented under the cooperation of the Ministry of Digitisation, the Ministry of National Education, the Ministry of Science and Higher Education, and the Ministry of Development. International partnership is also gaining importance. The Polish government has already made the first steps in this respect, which is joining the EU PRACE project. In 2019–2023 its task is to develop international research cooperation in the field of advanced computer technologies. Another initiative is the strategic partnership signed in April 2020 connecting the National Cloud Operator and Microsoft. Part of this initiative is the creation of the first data processing region in Central and Eastern Europe. The main goal of the partnership is to accelerate the digital transformation of enterprises, education, and public institutions. This is the second strategic partnership

after the agreement with Google signed in September 2019, under which the Google Cloud region is being built, i.e. a hub of technical infrastructure and software for clients from Poland and the region of Central and Eastern Europe. It should be noted that there are extensive actions planned to develop advanced digital skills, including training, workshops, e-learning programs in cloud computing, the use of artificial intelligence and machine learning technologies, and advanced data analytics and the Internet of Things under both partnerships.

On the other hand, strengthening the support at the regional level as part of the support provided by Polish STPs remains a key issue. Out of twenty-two STPs, only three have an organised technology transfer centre (Mażewska, Tórz, 2019, pp. 55–58). Over two-thirds of STPs possess access to specialised ICT laboratories; however, in-depth interviews conducted by the author showed that the management teams had mainly listed servers and 3D printers as specialised ICT equipment. A significant number of the STPs also do not offer specialised training on digital transformation for their tenants, nor other forms of support (e.g. in matching partners on the university-business line; loan funds, etc.) that could help enterprises, especially SMEs, in digital development. There is also a lack of technical and engineering resources for creating Industry 4.0 solutions in the field of the Internet of Things, autonomous robots, simulations, augmented reality, artificial intelligence, and cybersecurity. Changing this state of affairs should, therefore, be a priority in shaping the development strategies for STPs, taking into account the fact that STPs are envisaged as institutions of innovation that support policy and therefore should respond to the strategic current needs of their tenants.

## CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

Digital transformation is a serious challenge for Polish enterprises, particularly in the SME sector, considering the barriers in the form of financial and competence gaps. Although SMEs often claim financial barriers are a reason for not undertaking digital transformation, it is possible to overcome them with the help of instruments of financial support from the EU and national funds for innovation and digitisation of business.

That is why the study focuses on the analysis of one of the key barriers to the digital transformation process: the digital skill gap. The statistics related to digital technology integration in European business show that Poland suffers from a lack of properly trained staff who can use ICT solutions in the current operations of an enterprise. As a consequence, this is the prime factor that hinders Polish enterprises from achieving a higher level of digital development and full digital maturity, which is reflected in the dynamics of economic growth and the development of information society.



The problem of enterprises having gaps in both general and specific digital skills should be linked with the issue of the digital divide at the macroeconomic level. Along with technological development, the nature of the digital divide is changing. It currently refers primarily to the phenomenon of social inequalities in the field of digital skills, and no longer just access to the network.

Government programs, the activities of business environment institutions and public-private partnerships have a crucial impact on overcoming the digital gap.

This paper aims to analyse the occurrence and character of this research problem. An undoubted limitation of the analysis is the reliance on secondary data, which does not fully explain the conditions for the development of digital skills in transforming economies. This is a particularly important issue in the context of the dynamic changes that are taking place in enterprises at the threshold of the third decade of the 21<sup>st</sup> century in the countries of Central and Eastern Europe, as they attempt to bridge the gap between them and those in Western European countries.

Therefore, a justified direction for further research is an empirical analysis of the scope, dimensions, and limitations of support for the digital transformation of enterprises, provided by Polish business environment institutions, principally STPs, which are an instrument of pro-development and pro-innovation policy.

Since there are many studies on digital transformation focused on the application of quantitative methods, there is now a need for qualitative research (a case study of selected Polish STPs and their tenants) based on the use of the triangulation method (in-depth interviews, direct observation, and analysis of internal documentation and artifacts). The assumption of the research is to be of an applied nature and to serve Polish managers of STPs by the provision of more effective support to their tenants in the field of digital transformation.

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### *Summary*

The digital transformation of an enterprise is an extremely complex issue, which involves modification of the traditional model and business processes through the use of ICT solutions. The transfer of operational activities from the analog to the digital sphere enables new production and distribution methods, better interactions with the customer and the production of digital goods and services. Therefore, digital transformation, as a key issue for enterprises, should play a central role in their development strategy.

In the world of artificial intelligence, based on self-learning algorithms and global data flows, appropriate workforce skills are necessary for the effective implementation of a digital strategy. The skill gap, resulting from a lack of proper vision, knowledge, skills and experience, is the main reason for the lack of success in the process of the digital transformation of SMEs. It is also significant with respect to ensuring faster economic growth and the process of social inclusion.

The purpose of the study is to outline the importance of the issue of reducing the digital gap, which is one of the important competence gaps for conducting effective digital business transformation at the threshold of the third decade of the 21<sup>st</sup> century, and to present solutions of systemic support for the development of digital skills in Polish enterprises.

The findings of the analysis are as follows: in order to reduce the gap in digital skills, it is necessary to strengthen extensive cooperation within the triple helix, to include public-private partnerships based on coordinated actions undertaken jointly by enterprises, science, and public administration. Science and technology parks (STPs) should play a special role in this respect. However, for this assistance to be effective, it is necessary to prepare the managerial staff for the construction and, above all, implementation of an appropriate support strategy related to STPs for the digital transformation of their tenants.

*Keywords:* digital divide, digital maturity, digital skills, digital transformation.

## **Wsparcie cyfrowej transformacji biznesu i rozwoju cyfrowych kompetencji na rzecz wzrostu gospodarczego i społecznej inkluzji w Polsce: badania wstępne**

### *Streszczenie*

Cyfrowa transformacja przedsiębiorstwa jest zagadnieniem niezwykle szerokim, obejmującym zmiany tradycyjnego modelu i procesów biznesowych przy wykorzystaniu rozwiązań ICT. Przeniesienie działań operacyjnych ze sfery analogowej do cyfrowej, umożliwia nowe sposoby produkcji oraz dystrybucji, pozwala na lepszą interakcję z klientem oraz produkcję cyfrowych dóbr i usług. Cyfrowa transformacja zatem, jako bardzo aktualna i bardzo ważna kwestia, powinna zajmować istotne miejsce w strategii rozwoju przedsiębiorstw.

W świecie sztucznej inteligencji, opartej na samouczących się algorytmach i globalnych przepływach danych, coraz większego znaczenia nabiera kwestia odpowiednich kompetencji kadry, które potrzebne są do efektywnej implementacji strategii cyfrowego rozwoju. Luka kompetencyjna, rozumiana jako brak istotnych z punktu widzenia celów organizacji, wiedzy, umiejętności i doświadczenia, stanowi główną przyczynę niepodjęcia bądź nieudanego procesu cyfrowej transformacji przedsiębiorstw, w tym zwłaszcza MSP. Prezentuje ona również kluczowe znaczenie z punktu widzenia zapewnienia szybszego tempa wzrostu gospodarczego i procesu społecznej inkluzji.

Celem opracowania jest syntetyczne nakreślenie znaczenia kwestii redukcji luki kompetencji cyfrowych, która stanowi jedną z istotnych luk kompetencyjnych dla przeprowadzenia efektywnej cyfrowej transformacji biznesu u progu trzeciej dekady XXI wieku, oraz prezentacja rozwiązań systemowego wsparcia rozwoju kompetencji cyfrowych w polskich przedsiębiorstwach.

Wnioski płynące z przeprowadzonej analizy są następujące: w celu zmniejszenia luki w kompetencjach cyfrowych potrzebne jest wzmocnienie szeroko zakrojonej współpracy w ramach potrójnej helisy, która będzie obejmować partnerstwo publiczno-prywatne, w tym skoordynowane działania, podejmowane wspólnie przez sektor przedsiębiorstw i nauki oraz administrację państwową. Szczególną rolę w tym zakresie mają do odegrania parki naukowe i technologiczne. Aby jednak pomoc ta była efektywna, konieczne jest przygotowanie kadry menedżerskiej do budowy i przede wszystkim implementacji odpowiedniej strategii parku w zakresie wsparcia cyfrowej transformacji jego lokatorów.

*Słowa kluczowe:* luka cyfrowa, cyfrowa dojrzałość, cyfrowe kompetencje, cyfrowa transformacja.

JEL: O32, O33.

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## **The relation between income from active foreign tourism and the number of foreign visitors: a case study of the four Visegrad Countries**

### INTRODUCTION

Tourism plays an important role in the social, cultural, psychological, physical and geographical environment. It is a very significant phenomenon in the creation of living standards. The importance of tourism is described primarily as an important source of revenue for the national budget. It contributes to the gross domestic product, enables the creation of new jobs, and supports the development of the regional economy. Tourism sector operations have multiple effects as they significantly influence a number of other economic sectors, such as: transport, trade and culture. Therefore, the tourism economy is perceived as a flywheel of both the local and regional economy. It also helps to preserve culture, customs and traditions. The World Travel and Tourism Council expects the tourism sector to grow faster than the wider economy and many

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other industries in the next decade. Tourism is expected to generate more than 370 million jobs by 2026 (WTTC, 2015).

The aim of the study is to examine the relationship between income from active foreign tourism and foreign visitors in the V4 countries (Slovak Republic, Czech Republic, Poland and Hungary) in the period from 2009 to 2015. The positive development of tourism up until 2008 was then significantly affected by the global economic and financial crisis, which had a significant effect on tourism from 2009 to 2015. This period of economic crisis also affected the tourism sector, which then returned to the position that it had occupied before the crisis. Here we present the status of these indicators as individual overviews of income from active tourism and numbers of visitor arrivals.

In this study we present a partial outcome that focuses on the relationship between income from active foreign tourism and foreign visitors within the V4 countries. A hypothesis was put forward which assumed the existence of a positive relationship between income from active tourism and the number of foreign visitors. This relationship was examined separately for each Member State. The data from the 2009–2015 period were evaluated by correlation analysis using Pearson's coefficient. It is the number of foreign tourists together with the income from active foreign tourism that is most often used by UNWTO (United Nations World Tourism Organisation) to evaluate the volumes of international tourism in individual regions and states, as well as to compile the ranking of the most frequently visited countries in the world. These statistical indicators of tourism development for each country are important (monitored quarterly) in order to respond to changes in status and to seek suitable causes and remedies (in the case of an undesirable decline). Tourists, especially from more distant continents, are not considered to be source markets for certain V4 countries, but they are important for the V4 countries as a group, which see the importance of increasing active tourism. For example, tourists from Asia tend to visit more than one country during one trip. Rather than remaining in one country, they visit others as well.

The V4 group is trying to approach many problems in a coherent way. This is done through economic, cultural and scientific achievements, or as an attempt to stabilise the region. Tourism is to some extent an important link and a reason for cooperation between the member countries, especially for markets where single countries would not succeed. The V4 countries are committed to creating a competitive region for tourism ready for the digital age. In recent years, the V4 countries have discussed intensifying the levels of marketing cooperation for highly solvent markets.

The arrival of foreign tourists in a country/region is accompanied by the arrival of money, which they plan to spend there. This, of course, implies some direct proportion. If this does not occur, it is necessary to look for the barrier and to remove it.

This paper consists of an introduction, with a subsection concerning tourism policy in the V4 countries and an overview of V4 tourism. The following parts include the study methodology, the results and their interpretation, and the main conclusions.

## TOURISM POLICY IN THE V4 COUNTRIES

The Visegrad Four (V4) is an informal grouping of four Central European countries (Slovak Republic, Czech Republic, Hungary and Poland) coordinating common activities according to current political needs and foreign policy goals (Druláková, 2007). All countries of the V4 Group accessed the European Union in 2004, but after joining, there appeared critical voices claiming that in this situation the V4 had lost its sense of existence, as the primary objectives of transformation and integration into European structures had been achieved (Strážay, 2011). Time has shown that the V4 countries are able to adopt criteria and measures affecting their economic, social or cultural development on their own, which emphasised the justification for the existence of the community.

In 2004, they signed the Declaration of the Prime Ministers of the Czech Republic, the Republic of Hungary, the Republic of Poland and the Slovak Republic on cooperation between the Visegrad Group countries after their accession to the European Union, in Kroměříž in the Czech Republic (Druláková, 2007). By signing this declaration, they undertook to cooperate and meet the objectives that are based on this declaration. Tourism enters directly or indirectly into several areas of cooperation among the V4 countries.

Cooperation in education, science, culture and sport brings a number of benefits to the V4 countries. These include access to customer databases, access to new markets, better satisfaction of the needs of customers and thus incoming tourists, increased perception and differentiation of tourist flows and increased social responsibility and introduction of rules and initiatives for sustainable tourism (Kozoň, Cuper, 2016).

Cooperation also continued in the preparations for joining the Schengen area. All the countries took joint efforts, set up working groups and subsequently applied for Schengen membership in 2004 (Neubauer, 2016), which finally came to effect in 2007. Entry into the Schengen area was a strong factor for the V4 countries to expand their opportunities for tourist flows, which was reflected in the choice of periods analysed statistically for the purpose of this study.

The V4 countries implement a policy of tourism development on their own. They try to coordinate this policy together with other interests of the V4 group.

In the 2009–2015 period under review, the Slovak Republic supported marketing promotion within neighbouring countries, including the V4 countries, as its main source markets (including countries with high market potential i.e. Ukraine, Austria and Russia). Characteristics of the neighbouring countries were re-developed focusing on demand preferences for individual source segments. In the same period, the Slovak



Republic significantly supported the products of summer and winter tourism, congress tourism, spa and health tourism, rural tourism and agritourism, as well as cultural and urban tourism, for which it has excellent potential as a country. Another goal was to increase the competitiveness of tourism while making better use of its potential in order to balance regional disparities and create new job opportunities. The area of priorities also concerned the improvement of informatisation as well as the quality of employees in tourism (SACR, 2013).

In Hungary, as part of overcoming the negative effects of the economic crisis, they reduced the VAT rate on accommodation services to 18% in July 2009 (VAT on other services at that time was 27%). The Hungarian National Tourist Office (Magyar Turizmus Zrt.) emphasised promotional activities in neighbouring countries, which was carried out in cooperation with other V4 countries. Hungary still focuses more on supporting domestic tourism. In this context, a new system of employee benefits (Széchenyi Card) was introduced in 2011, with the aim of achieving better results in domestic tourism in the coming years.

Between 2010 and 2013, the Czech Republic introduced the National Tourism Support Program, which also includes the "Tourism for All" sub-program. This sub-project focused on the development of new products aimed at reducing seasonality in tourism and creating conditions for the creation of new jobs throughout the calendar year. The program also focused on marketing support for newly created products.

Poland developed a strategic direction for the development of tourism for up to 2015, preceded by an analysis of the conditions for Polish tourism and a comparison with global and European trends. This led to the definition of priority areas to strengthen the dynamics of tourism development. It aims to achieve a highly competitive tourism product, with human resource development, marketing support and an analysis of the stays and flows of foreign visitors as source markets, etc. (MDVR SR, 2013).

Tourism support policy in the V4 countries is perceived as a part of development plans, regional policies as well as a stimulant for economic development.

The V4 countries have the need to cooperate in other areas linked with tourism. This is mainly needed in the field of business support legislation, the position of tourism in the economy of the state, and in relation to the natural and cultural resources of the individual countries.

The V4 countries understand this as a requirement of social responsibility, in terms of creating favourable conditions for the development of tourism. This is then transferred to tourism revenue. Acquiring new source markets is challenging and, in the case of lack of support for tourism, there may be a diversion of tourist flows and a reduction in income from active tourism (Bucher, 2015).

Primarily within tourism, the emphasis is on the presentation of the following six product groups: capitals, historic cities, UNESCO monuments, Jewish monuments, spas and MICE (meetings, incentives, conventions and exhibitions)

(Visegrad Group, 2014). These are high-income areas, which are also at the center of attention of foreign tourists and residents of the V4 countries alike.

Joint steps have also been taken by the V4 countries to promote tourism. The presentation of the countries as a whole, as a single destination rather than individually, is more than needed. The joint promotion of the V4 countries in the field of tourism was covered by the European Quartet – *One Melody* platform (Kozož, Cuper, 2016). Here we want to draw attention to the importance of a common approach in promoting new target markets. The creation of joint promotion and a unified presentation procedure has an impact on the direction of tourist flows to the area of Central Europe including the V4 countries.

Within the V4 area, a tourism group has been created which focuses mainly on joint promotional activities in third markets in order to strengthen the position and competitiveness of the member countries. The joint promotion of the V4 countries in the field of tourism is covered by the European Quartet – *One Melody* platform. This platform brings together the national tourism centers of the Czech Republic, the Slovak Republic, Poland and Hungary. The aim of the cooperation between the V4 countries is the development of incoming tourism, especially from more distant destinations. Therefore, joint activities are carried out in the markets of Japan, China and the USA and, since 2007, also in the Asian part of the Russian Federation, where the V4 countries are presented as a single marketing unit. For this purpose, individual projects and marketing activities are used for the V4 countries, which are set out in the activity plan for the relevant year (Lochmannová, 2015).

Surveys of specialised organisations as well as international tourism trends confirm the increased interest by third-country visitors in traveling to Europe. The V4 countries have become very interesting due to their historical affinity, geographical accessibility and tourist offer. The Czech Republic, Hungary, Poland and the Slovak Republic do not compete in distant markets; instead, tourists from these countries choose to visit a region rather than a specific country. In 2014–2015, the V4 countries continued to exchange experience and implement marketing and promotional activities under a common brand, Discover Central Europe (MNZVE, 2016).

In June 2020, the Slovak Republic took over the presidency. In the field of tourism a meeting of the country leaders was held at Štrbské Pleso (March 2019), where a joint financial plan for joint marketing activities in the next period was approved, with a common budget of 300,000 euros. One of the goals of joint promotion for the coming period is to increase traffic and arrivals in the Central European region, attract visitors and present the V4 countries in the USA, Canada, the Russian Federation, China, the Gulf countries and Australia (MFA, 2019).

Achieving the above-mentioned goals (as well as others) will require the systematic creation of optimal conditions for increasing the number of incoming foreign and domestic tourists, as well as close cooperation of all stakeholders directly or indirectly affecting tourism performance, where the basic indicators are income from tourism and destination traffic.

## OVERVIEW OF THE V4 TOURISM SITUATION

Several authors deal with the issues of the V4 countries. Bucher (2015) examines the competitiveness of the V4 countries as a tourist destination. The study evaluates individual indicators, such as environmental sustainability, safety and reliability, tourism priorities, transport infrastructure, tourism infrastructure, information and communication technologies, and the price competitiveness of tourism human resources, tourism affinities, natural and cultural resources, all of which are competitiveness indicators of the V4 countries compared to other countries of the European Union. The development of foreign income from foreign arrivals (active tourism / incoming tourism) is also monitored among the V4 countries as well as in selected leaders in tourism, such as Germany and Austria. In conclusion, the author points out that the result of all the activities of the V4 countries is search of a way to make the V4 destination more attractive. This should lead to a higher number of foreign participants and consequently to an increase in the revenue side of the budget.

Šauel, Pařil and Viturka (2018), in their study, describe the metropolitanisation of cities within the V4. They do not only analyse the economic profile of representative places, but also their ability to attract visitors. The results of their study show the dominance of the Czech metropolises, followed by Poland. Majerová (2018) examines the offer of the cities within the V4 countries with regard to source markets in active tourism. She repeatedly emphasizes the importance of cities and the culture and entertainment offered within them. She states that important source markets for V4 cities are visitors to Western Europe, which indicates the marketing orientation of the V4 countries. The author points out the need to create profiles of visitors in active tourism. Jankowska, Wacowska-Slezak and Zukowska (2014) focus on the risk of accidents caused by incoming tourists from V4 countries to Poland. The study focuses on the following voivodships: Mazowieckie, Dolnośląskie, Śląskie and Małopolskie. These voivodships feature the highest arrivals of Slovak, Czech and Hungarian tourists. In conclusion, the authors state that, despite the bad condition of the roads in Poland (unlike in other European countries), incoming tourists are not exposed to great risk in terms of transport. They recommend drawing conclusions for the competent institutions, regarding increasing the safety of specific groups of tourists and thus partially encouraging their arrival in Poland as a destination country.

Abraham (2014) deals with tourism in connection with regional development, including with the role of clusters in tourism within the V4 region. The author states that the tourism strategies for the V4 countries are completely different to those of the EU strategy. Each country involved in the study has developed its own independent system of tourism movement indicators. Pristach (2016) examines the V4 countries in terms of their approach to regional policy, and concludes that each country has a differentiated approach to it. The main differences concern, for example, tourism

capacity indicators, presuppositionals of tourism policy, both local and regional, etc. Kozma (2019) comes to the same conclusions within the scope of a more general economic topic, when he describes the strategy of sustainable development of the V4 countries and the indicators for each country separately. His conclusions are that while the strategies for the V4 countries share similarities, compared to the EU, the national strategies are different. The strategy for the development of tourism in the V4 countries also takes into account the priorities and interests of the V4 countries.

Chudy-Hyski (2013) focuses on the development of the spatial structure of the largest groups of foreign visitors to Poland, by voivodship. German tourists prefer visiting the provinces of Mazowieckie and Małopolskie, while Russian, Ukrainian and Lithuanian tourists travel mainly to the provinces of Podkarpackie, Lubuskie and Dolnośląskie. The findings have their application in the field of foreign visitor flows, related to the targeted promotion within the source markets. Provinces that know the tourist profile can initiate activities aimed at tourists from specific countries, while knowing the structural similarity of provinces related to the arrival of foreigners in Poland mitigates the selection of partners for project implementation.

Among Slovak authors researching the issue of the V4 countries, Belanová (2014) deals with the quality of the business environment in the countries surveyed, with an emphasis on the availability of financial resources. Gonos and Timková (2017) are also concerned with the competitiveness of the V4 countries, with an emphasis on the global index and GDP growth, where they state that the V4 countries joined the European Union together and of course had positive expectations. The economies of the countries found themselves in a new space in the form of a larger market. In identifying trends in the GDP growth rate for the V4 countries, they identified a sharp decline in the growth rate for all the above-mentioned countries, especially in 2008 as a result of an international financial crisis. The context of V4 development, with an emphasis on the economic indicators or political development, has been examined by several authors. Hudec (2016), Kozoň and Cuper (2016) focus on the position and state of domestic and foreign tourism development in the V4 countries. In the study, they monitor and evaluate attendance as well as indicators of accommodation facilities in the V4 countries. For the years 2012 to 2015, they confirm an increase in the number of foreign visitors, which they assess as a positive development in the V4 countries. In connection with tourism and regional development, there are not just Slovak authors (Šenková, 2018; Švedová, Dzurov Vargová, 2018), but also others (Mayer et al., 2019; Włodarczyk, Tryhubczak, 2018).

## METHODOLOGY

The aim of the study is to examine the relationship between income from active foreign tourism and the number of foreign visitors in the V4 countries (Slovak Republic, Czech Republic, Poland and Hungary) in the 2009 to 2015 period. On the

basis of these criteria, we put forward a hypothesis in which we assumed the existence of a dependence between the income from active foreign tourism and the number of foreign visitors in the individual V4 countries. We examined the relation between income from active foreign tourism and attendance for each country individually.

We used several mathematical-statistical methods to evaluate the partial goals. The correlation analysis used the Pearson correlation coefficient ( $r$ ).

We tested (verified) the hypotheses:

$$H_0: r = 0 \quad H_1: r \neq 0$$

$$p \geq 0.05 \quad p < 0.05$$

where:

$r$  – Pearson coefficient

$\alpha$  – level of statistical significance

$p$ -value (compared with  $\alpha = 0.05$ ).

The Pearson correlation coefficient is the selection correlation coefficient. It takes a value in the interval  $[-1;1]$  and expresses the degree of linear correlation between  $X$  and  $Y$ . The closer the value of  $|r|$  to 1, the stronger the linear dependence, while the closer the value  $r$  to 0, the weaker the linear dependence. If this coefficient takes the value of 1 or  $-1$ , all points lie on the regression line and the dependence of quantities  $X$  and  $Y$  is exactly linear. If  $r = 0$ , we can say that there is no linear relationship between  $X$  and  $Y$  (non-existent).

The basis for the analysis was secondary data from the Statistical Office of the Slovak Republic ([www.susr.sk](http://www.susr.sk)), the Statistical Office of the Czech Republic ([www.czso.cz](http://www.czso.cz)), OECD (<https://stats.oecd.org/>) and Eurostat (<https://ec.europa.eu/>). The surveyed period was 2009 to 2015, one associated with the outbreak of an economic crisis (2009), which affected tourism until its alleviation. The uniqueness of the period lies in that even the crisis tourism sector returned to its original performance in a short time in 2015 (after only 5 years). The positive development of tourism until 2008 was later significantly affected by the global economic and financial crisis, which had a significant effect on tourism from 2009 onwards. The year 2015 had been the first one since 2009 when the tourism performance increased above that for the years prior to 2009. This was significant for the observations during this period.

## RESULTS AND INTERPRETATION OF THE ANALYSIS

We observed that, based on the visitor rate index (annual growth rate), the number of foreign visitors increased in the monitored period of 2009–2015 in three of the V4 countries, namely the Slovak Republic, Poland and the Czech Republic. A decline of 1.09%, which was not significant, was recorded in Hungary.

In order to maintain accuracy, it is important to mention the decline in the number of visitors in 2014 to the Slovak Republic, the largest drop in visitor numbers in this area. The Ministry of Transport of the Slovak Republic, after the decline in tourism in 2014, announced a weak winter result from the point of view of visitor numbers due to the lack of snow. Another reason was attributed to the crisis in Ukraine, thus reversing the trend of increasing the number of foreign visitors from there and from Russia. Another disadvantage was the strong euro currency, which made these vacations more expensive for people from neighbouring countries who do not use the same currency. We can also say that, over the review period on average, the Slovak Republic saw 3.74 million foreign visitors, the Czech Republic 14.33 million, Hungary 25.45 million and Poland 32.19 million.

**Table 1. Foreign visitors to the V4 countries in the period 2009–2015**

Year	Slovak Republic		Czech Republic		Poland		Hungary	
	Visitors in mln	Index	Visitors in mln	Index	Visitors in mln	Index	Visitors in mln	Index
2009	3.38	–	11.98	–	27.38	–	25.69	–
2010	3.39	100.29	12.21	101.92	28.79	105.15	26.11	101.63
2011	3.57	105.31	12.89	105.57	31.02	107.75	27.44	105.09
2012	3.77	105.60	15.09	117.07	32.49	104.74	25.72	93.73
2013	4.04	107.16	15.40	102.05	33.95	104.49	23.41	91.02
2014	3.72	92.07	15.58	101.16	35.61	104.89	24.33	103.93
2015	4.33	116.4	17.19	110.33	36.12	101.43	25.41	104.44

Source: own study based on Eurostat 2009–2015.

Nominal income from active tourism in each of the V4 countries developed positively, and increased in each country during the review period. This increased by 5.05% in the Czech Republic, by 15.2% in Hungary, by 25.25% in Poland and by 27.54% in the Slovak Republic, the last being the highest result. On average, over the review period, the Slovak Republic earned EUR 1.84 billion from active tourism, the Czech Republic EUR 5.91 billion, Hungary EUR 4.84 billion, and Poland EUR 8.29 billion.

**Table 2. Income (nominal) from active tourism in the period 2009–2015**

Year	Slovak Republic		Czech Republic		Poland		Hungary	
	Income (bilion, EUR)	Index	Income (bilion, EUR)	Index	Income (bilion, EUR)	Index	Income (bilion, EUR)	Index
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
2009	1.67	–	5.74	–	7.13	–	4.54	–
2010	1.68	100.59	5.72	99.65	7.08	99.3	4.47	98.46
2011	1.77	105.36	5.87	102.62	8.00	112.99	4.67	104.47

1	2	3	4	5	6	7	8	9
2012	1.78	100.56	5.95	101.36	9.03	112.88	4.49	96.14
2013	1.92	107.87	6.14	103.19	9.11	100.89	4.84	107.79
2014	1.94	101.04	5.93	96.58	8.77	96.27	5.64	116.53
2015	2.13	109.79	6.03	101.69	8.93	101.82	5.23	92.73

Source: own study based on Eurostat 2009–2015.

We came to the following conclusions concerning the dependence between the selected variables for the Slovak Republic, the Czech Republic, Poland, and Hungary:

The results show that in three of the V4 countries, namely the Slovak Republic, the Czech Republic and Poland (Table 3), a positive relationship was confirmed between income from active tourism and the number of foreign visitors.

**Table 3. Correlation between the number of foreign visitors and nominal income from active tourism**

Specification	Slovak Republic	Czech Republic	Poland	Hungary
Correlation coeff.	0.932	0.841	0.892	-0.490
p-value	0.002	0.018	0.069	0.265

Source: own study.

The hypothesis in the case of Hungary, however, was not confirmed. This means that there was no statistically significant relationship between the active income from tourism and the number of foreign visitors. We assume that this was influenced by the situation that occurred after 2008 in the form of the economic crisis, and its impact on tourism was still evident in 2009. The statement can be supported by adducing the study of Karelová (2016), who examined the business environment of the V4 countries. The study covers the period of 2010–2016 and shows that the lowest quality of the business environment among the V4 countries was found in Hungary. The country was ranked in the penultimate place in all indices, respectively. The author worked with the indices from the Global Entrepreneurship Monitor, Global Entrepreneurship Index, Ease of Doing Business Index, Global Competitiveness Index, Index of Economic Freedom, and Corruption Perception Index. Kincses *et al.* (2017) examine the situation for the tourism market in Hungary with regard to transit visitors in 2009–2013. Their findings record the fact that Hungary went through a change in the motivation of transit visitors during the period of the economic crisis. Tourism experts and economic policy makers were asked to evaluate these changes. However, this happened with a slight time delay. They recommended monitoring the country-specific factors (such as labour market conditions or tourism offer) and the conditions (visa requirements, transport infrastructure, accommodation along transit routes, etc.) provided by Hungary. In conclusion, they emphasise the monitoring of individual groups (not only transit



visitors), which, if suitable and quick decisions were made, could contribute to Hungary's competitive advantage.

We can assume that income from foreign visitors depends on the available amount that they are able to spend on tourism. The subject of further research could thus be a study of the purchasing power of individual source markets, depending on their disposable income, the ability to generate savings as well as the willingness to spend the saved money on tourism.

Kozoň and Cuper (2013) come to the same conclusions regarding the number of visitors to the V4 countries in their study for the 2012–2015 period. The authors suggest focusing on the promotion of visitors from more distant regions in order to attract more tourists who will remain at the destination and spend more money during their stays. At the same time, they emphasise the improvement of air connections in the V4 countries and support the introduction of information technologies.

## CONCLUSIONS

The object of the study was the Visegrad Four countries. In the present study, we focused mainly on the analysis of the number of foreign visitors and income from active tourism. Within the hypothesis, we assumed the dependence of the given variables. The statistically significant relationship between income from tourism and the number of foreign visitors was not confirmed for one of the V4 countries, namely the Republic of Hungary. Thus, we can neither confirm nor fully reject the research hypothesis for all the V4 countries. Therefore, it is worth underlining that tourism plays an important role in the economies of the countries, but it is essential to manage this sector in a proper way. Tourism management and tourism policy (at local, regional and national levels) should be perceived as priority actions and initiatives by decision-makers and authorities. Suitable directions for tourism policy and strategies should be indicated and implemented by those who are responsible for tourism development in each country. One might also claim that tourism promotion is very important because it enables tourists to visit a country and the residents to host the tourists.

Tourism is a sector that is sensitive to a wide range of diverse factors and its development is fundamentally influenced by various global or regional events. In the 2009–2015 review period, the number of foreign visitors increased in three of the V4 countries. On the other hand, an insignificant decline of 1.09% occurred in Hungary. Active tourism revenues in all the V4 countries developed positively, which represented an increase of 5–27.5%. It can also be stated that tourism has the ability to react to an unfavorable situation caused by economic crisis (which hit tourism in 2009) in each country individually. It also influenced positively the entire economy of the countries because it contributed to their economic growth.

As mentioned earlier, the V4 countries themselves speak of intensifying marketing cooperation. Positioning the V4 countries, not only as destinations, is

possible only through consistent, continuous and long-term brand building. Its direction should have a positive effect on the increase in tourist flows as well as in the incomes of the V4 countries, as a result of a favorable development. At the level of the association of the countries, this should not only include intensifying the participation in trade fairs or exhibitions of tourism, but also the monitoring of incoming foreign visitors (tourists), whose initial moment of decision on the choice of a country / destination is based on the interest in the V4 region. Clearly, cross-border cooperation, which is also in the interest of the EU area, should be promoted in the V4 countries. Innovation or creation of new tourism products based on the promotion of new types of tourism for international and regional markets should be encouraged.

The V4 countries work together as a whole. However, are there closer ties between the countries within this group? We could identify them in the so-called central V4 countries, primarily the Slovak Republic and the Czech Republic. Especially the Slovak Republic is forced to cooperate in the V4 organisation as a whole, but also with each neighbouring country with which it borders, through cross-border cooperation. Cooperation between Poland and the Slovak Republic has resulted in negotiations on a common brand in tourism. How will the other V4 member states react to this situation?

Will these initiatives presenting the services and products of tourism in the Slovak Republic and Poland, with the aim of attracting and gaining foreign visitors, be perceived as a threat or as a manifestation of common initiatives of the V4 countries? There are stronger voices questioning whether the V4 is still justified. Nevertheless, the V4 countries continue to set their common goals and support the development of the member countries. One of the latest examples is the rejection of the digital tax within the EU. The V4 countries, on the other hand, are announcing the preparation of their national digital taxes.

If we focus on the Slovak Republic, we can observe an increase in foreign visitors from the unfavourable year of 2009 to 2014. Tourism has confirmed its flexibility and resilience to changing economic conditions, and 2010 can be characterised as a year of stabilisation, where there was a minimal but still growing number of tourists compared to 2009. For the year 2014, the decline in the number of foreign visitors was justified by the unfavourable situation in winter – a lack of snow and hence the failure of the ski season. The real reason was, of course, the inability to replace the usual winter offer with another product. Here it is necessary to point out the importance of creating tourist products in accordance with the demand occurring in individual segments – which means understanding the source markets. There is still a need to monitor the number of foreign visitors, and it seems appropriate to re-perform the analysis of the source markets in order to define their preferences and transform these preferences into tourism products, not only in the Slovak Republic but also in the V4 countries. The V4 countries have given priority to the presentation of selected and preferred types of tourism in the

source markets, such as spa tourism within the Russian Federation. In the light of the growing competition in the international tourism market, it is necessary to add new products to the V4 offer in the form of packages. The V4 countries are working on this as part of the Discover Europe project. We would like to point out that the new non-traditional forms of tourism that the V4 countries can offer visitors should be included in the project. These include creative tourism, glamping tourism and how to try to present a “diverse palette of tastes” in culinary tourism.

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### Summary

The importance of tourism primarily lies in it as an important source of revenue for the national budget. It contributes to the creation of gross domestic product, enables the creation of new jobs, and supports regional economic development. The tourism sector plays multiple roles because it significantly influences a number of other economic sectors, such as: transport, trade, and culture. Therefore, the tourism economy is perceived as a “flywheel” for local and regional economies.

The present study is an analysis of foreign visitors and revenues from tourism within the Visegrad Four countries in the 2009–2015 period. The aim of the study is to describe the position of tourism in the Visegrad countries. Specifically, it focuses on the relationship between income and traffic within the Visegrad Four countries. The data obtained from official sites of the statistical authorities and the OECD were evaluated using Pearson's correlation coefficient. There was a presumption of the existence of a dependence between the income from tourism and the number of visitors in individual countries of the Visegrad Four. On the basis of testing, the main hypothesis cannot be verified or falsified. The statistically significant relationship between the income from tourism and the number of foreign visitors was not confirmed in one of the Visegrad Four countries, namely in the Republic of Hungary. Therefore, it is significant to manage the tourism sector in a suitable way. Tourism management and tourism policy should be perceived as priority actions and initiatives by decision-makers and authorities. Suitable directions for tourism policies and strategies should be indicated and implemented by those who are responsible for tourism development in each country. Moreover, the countries of the Visegrad Four should continue to cooperate, to exchange information on legislative changes in the field of tourism in individual countries, but mainly in promoting the Visegrad Four as a unified whole.

*Keywords:* tourism, Visegrad four countries, arrivals, incomes.


### **Relacja między dochodami z zagranicznej turystyki przyjazdowej a ruchem turystycznym: studium przypadku czterech krajów Grupy Wyszehradzkiej**

#### *Streszczenie*

Turystyka odgrywa niezwykle ważną rolę w kształtowaniu budżetu państwa, ponieważ stanowi istotne źródło jego dochodów. Sektor turystyczny przyczynia się do PKB, stwarza nowe miejsca pracy, wspiera rozwój regionalnej gospodarki. Przemysł turystyczny pełni rolę tzw. mnożnika turystycznego, ponieważ przyczynia się do rozwoju innych sektorów gospodarczych, jak między innymi transportu, handlu czy kultury. Gospodarka turystyczna w związku z tym postrzegana jest jako „koło zamachowe” lokalnej i regionalnej gospodarki.

Opracowanie przedstawia wyniki badań dotyczących ruchu turystycznego i wpływów finansowych z niego wynikających w czterech krajach należących do Grupy Wyszehradzkiej w okresie 2009–2015. Celem opracowania jest przedstawienie roli turystyki w gospodarce krajów z Grupy Wyszehradzkiej, a w szczególności skupiono się na relacji ruch turystyczny – przychód. Analiza (przy użyciu współczynnika korelacji Pearsona) i interpretacja danych statystycznych oraz wyników badań pozwoliła na wykazanie prostej zależności między przychodami z turystyki a liczbą odwiedzających dany kraj. W trzech krajach, tj. na Słowacji, w Czechach oraz w Polsce, potwierdzono występowanie takiej zależności, natomiast takie współwystępowanie nie miało miejsca na Węgrzech. W związku z powyższym, odpowiednie zarządzanie branżą turystyczną okazuje się być istotnym zagadnieniem. Zarządzanie turystyką i polityka turystyczna powinny stanowić priorytet w działaniach decydentów i przedstawicieli władz. Odpowiednie kierunki i strategie rozwoju turystyki powinny być wskazywane i wprowadzane w życie przez osoby odpowiedzialne za jej rozwój. Ponadto kraje z Grupy Wyszehradzkiej powinny kontynuować współpracę, wymianę informacji dotyczącą zmian w przepisach prawnych w zakresie turystyki w poszczególnych krajach, ale głównie współpraca ta powinna polegać na promowaniu turystyki w krajach z Grupy Wyszehradzkiej jako wspólnej destynacji turystycznej.

*Słowa kluczowe:* turystyka, cztery kraje Grupy Wyszehradzkiej, przyjazdy, przychody.

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## **Social foundations of functioning and development of local communities**

### INTRODUCTION

In terms of the efficient course of social changes, it is vital that local communities are capable of grass-roots activities and creativity when it comes to autonomous way of solving social and economic problems. As a result of system transformations, in which local communities have been participating since the 1990s, the conditions of their functioning have also changed. Along with the territorialisation of developmental processes, the usage and development of endogenous social resources have taken essential meaning. They increase the possibility to acquire system solutions, as they are the foundation of integration and complete participation of citizens in both the functioning and development of local socio-territorial systems. Efficient and consistent functioning of the authorities endowed with social trust, as well as the activity of empowered communities, contribute to the practical usage of the developmental potential of local communities.

The functioning and development of local communities is significantly influenced by the character and the strength of social bonds, founded on the sense of empowerment, self-agency and social activity. Weak group bonds, lack of trust and detachment makes it difficult to communicate and cooperate, thereby limiting the ability to take common initiatives. Authority, professionalism and efficiency of local governments, as well as a participatory model of management, supports the process of shaping and strengthening social bonds and trust. They become the impetus for activity and social self-organisation. Favouring greater openness to changes, they increase trust in one's own abilities and strengthen the will to act for the common good (Tuziak, 2014, p. 10).

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The main goal of this article is an attempt to define the role of endogenous resources in the form of subjectivity, participation and civil activity, treated as social foundations of local communities' functioning and development. While conducting the research, the author applied the method of literature analysis. Analytical characteristics of subjectivity, participation and civil activity proved their mutual relations and multiple positive influence on cooperation, integration and activity of local communities oriented towards their efficient functioning and self-development.

In the author's intentions, the added value of the study is the discursive character of presenting subject issues. It is also an attempt to create the model of a triple social helix – prepossessing mutual dependencies between subjectivity, participation and social activity as social conditioning of the development at a local community level.

#### THE SUBJECTIVITY OF LOCAL COMMUNITIES

The academic discourse dealing with the issue of subjectivity mostly concerns social science (Cichocki, 2003, pp.18–46). The manifestation of multi-dimensionality is evident in the theories developed within psychology, behavioral sciences and sociology. The limited framework of this article makes it impossible to present the full variety and complexity of positions regarding the discussion on the phenomenon of subjectivity. It may be highlighted that the psychological analysis of subjectivity encompasses two main levels. The first level concerns the individual itself, the second relates to the relations of the individual with the social surroundings. Pedagogical concepts of subjectivity extend the analysis of this phenomena into three levels – the individual falling within socialisation, the individual's relations with primal groups as well as with institutional structures.

It is worth presenting the essence of sociological approaches to subjectivity at a slightly broader level, which the author adopts as the most appropriate from the point of view of the subject scope of the study. Sociological analysis focuses on social and institutional conditions that enable or limit the possibility of subjectivity manifestation. As part of the sociological approach, the scope of research and analysis includes: the impact of individual actions on the external symbolic and material reality; control of the social environment by individual and collective entities; the impact of activities of individual subjects and collective entities on social micro- and macro-structures; the impact of the pursuit of subjectivity on the emancipation processes of relatively disadvantaged groups, as well as the impact of collective entities' activity on historical processes (Cichocki, 2003, p. 48). It should be stated in favour of the sociological approach that the main criterion of subjectivity is the impact of the collective entity (in this case the local community) on its own social environment.



Within our social activity, subjectivity takes a different form and it manifests itself in many dimensions of local reality. It is especially significant at the local level, where there are networks of social connection based on partnership and cooperation (Markocka, 2017; Szostok, 2017). At the beginning of the systemic transformation in Poland, the postulate of subjectivity was an essential element of changes taking place in the economy, in politics, as well as in collective consciousness. When planning the changes concerning social relations, local governments and regionalisation were the substance of it. Empowerment is a social value and one of the requirements for the development of local communities. It became the source standard for the emerging social order, as well as the source grading criterion for the prepared reform projects, when it comes to both individual and group dimensions. The legal and institutional solutions implemented during the administrative reform created new conditions for the subjectivity of local communities. They also changed the relations between these communities, public institutions and the government system, as well as they changed the conditions to reverse mutual mechanisms of affection between society and bureaucratic-political structures (Cichocki, 1996, pp. 7–8).

Local governments, as an institutional tool of implementing the rule of subjectivity, are appointed to organise social development by creating suitable life conditions for local and regional communities. As early as in the 1990s, local governments, as important institutions of a democratic country, became the decisive factor of local development. The local government is not the only subject working for the development of local systems. Entrepreneurs and all sorts of institutions functioning in the area of education and culture are also such subjects. Still, the role of local governments, as the widest representation of local community interests, is certainly very important. Local development is based on initiative and active participation of citizens living in a certain territory and being members of a subjected local community. An essential factor when it comes to local development is citizen engagement in the creation of permanent economic and cultural values.

Subjectivity of local communities through decentralisation and development of local governments is manifested in a set of occurrences, processes, conditioning and factors, these being mainly sociological and political. This ‘conglomerate of subjectivity’ consists of the following elements:

- a) a population living in a certain area transforms into a psychologically and politically empowered community that generates wealth;
- b) a local community connected with its area and its place by many factors, including: historical, ethnographic, housing, professional, family, neighbours etc.;
- c) there is a necessary minimum of social bonds showing a tendency to develop and support the process of social integration;
- d) there are local institutions which, created by a certain local community, become a form of – and a way of – empowering the citizens, which makes it possible to articulate their collective needs;

- e) within a local community, on the basis of commonly felt needs, the awareness of common interest and the sense of common good is created, transforming a local community into a collectivity;
- f) social activity develops, civic attitudes improve, local communities become more creative, social energy is released, various local initiatives oriented towards achieving a set goal are created;
- g) the mechanisms of local governments improve and develop, and a certain community acquires the ability to carry out public tasks of local importance;
- h) through the above-mentioned functions and values, the local community becomes the subject of creative development (Piekara, 2003, pp. 26–27).

The subjectivity of local communities is effectuated through providing a real impact on the fate of local self-government ties, as well as meeting the basic needs connected with the place of living. One of the subjectivity conditions, manifesting itself in an active influence on the surroundings, is the integration of local communities, which plays an important role in various realms in the life of such communities. The indicators of local community integration are primarily: territorial bonds in an area limited by the range of everyday contacts, local bonds such as family, neighbourhood, colleagues, parish, and, generally, country bonds. They also include bonds emerging from common activity which causes the implementation of common social contacts (interactions, relations) between the citizens, usually on the level of a village or a commune (Sadowski, 2005, pp. 145–146).

An important role in empowering society and developing its participatory and pro-social attitude, is played by the territory – understood as the “adapted space” of local life. Territory as understood in this way is “the best place to learn the pro-social attitude, and therefore to search for foundations for shaping the forms of effective working local communities in Polish conditions” (Wódz, 2005, p. 231). The level of subjectivity of local communities depends extensively on the model of management. In this context it is important to emphasise the need of spreading the modern approach to exercising authority, whereby breaking the traditional model of local community based on staff-expert management (Wódz, 2005, p. 239). This kind of management is not particularly stimulating for the local community and it strengthens the belief that the authority should handle all of the important matters and solve local problems. Modern management is desirable due to the fact that this kind of partnership empowers society as it is based on social partnership.

#### PARTICIPATION ON A LOCAL LEVEL

Social participation on a local level is a manifestation of the decentralisation of public administration (Kalisiak-Mędelaska, 2015; Legutko-Kobus, 2018). Due to such participation, local communities gain the status of the subject of

power. In reality it makes it possible to implement the rules of subsidiarity, self-government and civic control over performing tasks and public competences. It is often emphasised that only civic self-government institutions guarantee frugal and rational (that is in accordance with the local needs) allocation of public resources to particular social, economic and developmental goals (Izdebski, Kulesza, 2004; Jaska, Skoczek, 2018).

Participation of local communities in exercising authority should be one of the permanent elements of local government policy. Building a network of cooperation with citizens may take place on different levels. The first level is sharing information with citizens when it comes to issues concerning internal functioning of local government authorities, policy, as well as information concerning external situations in a certain community. This is done through activities such as: conducting information campaigns, maintaining contacts with the media, using direct and informal information channels, organising meetings, conferences etc. The second level is gaining information from the citizens, which is understood as feedback in relation to the first level. This dimension of citizen participation is focused on the engagement of citizens in the decisive process through introducing them in the process of accumulating data. And it is not only about objective data concerning the citizens' situation, but also citizen preferences, their expectations, needs, interests and doubts. The third level of building a network of cooperation between local governments and citizens is through dialogue. On this level of social participation, a very important function of dialogue is to negotiate optimal solutions by the sides partaking in it. The fourth, and the most advanced manifestation of citizen participation in authority is their participation in the decisive process. Citizens are then treated as consultants or makers, working on the final decision, recommending solutions or sharing responsibility with local governments (Rybczyńska, 2002, pp. 115–117).

A self-governing activity may be characterised by a voluntary participation and engagement, as a result of internalisation of certain norms and rules of social life on the intellectual level (Schimanek, 2015). Social engagement and local patriotism cause the level of local identification to increase, whilst democratic procedures make up for the high level of political alienation amongst citizens. The efficiency in inducing civic engagement and participation and the creation of self-governing communities depend on the following several rules. The first of them concerns the need to keep contact with citizens and maintain a full transparency of decisions made by local leaders. The second rule makes us choose people according to substantive criteria, so, above all, trust-building, discovering and meeting needs, own examples, accepting the decision by a group and direct intervention (Starosta, 1995, p. 105).

Implementing the idea of civil society and the development of self-government are significant conditions of systematic growth of local community participation in solving the problems of a commune (Szaja, 2015). Social engagement of

individuals is a function of their attitude towards the community they live in. Being ready for social participation is greater in communities characterised by a higher level of integration. This determines the development and strengthening of localism understood as the empowerment of certain communities in terms of economy, society and culture under a broader socio-spatial and political-constitutional system. Fully empowered civil society participating in the governing process is able to create a new image of their local and regional environment. This sets certain tasks for the structures of local governments in terms of initiating and organising activities, as well as creating conditions for the creativity and entrepreneurship of the local community. The activities of self-government should proceed multidimensionally and refer to social, economic and political issues (Potoczek, 2001, pp. 30–32).

Local self-government institutions should favour strengthening the feeling of being rooted in a local community, which conditions the individual to be the subject and not the object of the socio-economic processes in progress. A sense of belonging to a certain territory, place, community and its tradition is the foundation of human activity. Hence, the need to shape the sense of local identity as the basis of engagement in the functioning of one's own community. A strong sense of local identity usually means being ready to undertake activities for the reference community, including innovative doing. This results in the need to rebuild the sense of local identity, supporting dynamic development and enriching the values which are present in one's own closest environment. Taking these conditions into consideration helps in the stimulation of local development understood as a series of changes taking place under the influence of a certain way of thinking and deeply rooted social powers (Jałowiecki, Szczepański, 2002). Local self-government is a common ground to create active, participatory attitudes for taking actions within a local community to meet their needs and to allow for comprehensive development (Sadowska et al., 2019).

### CIVIC ACTIVITY

In scientific discourse, civic activity is considered against a broader background of civil society issues (Bokajło, Dziubka, 2001; Pietrzyk-Reeves, 2012; Wojtaszek, Krawcewicz, 2016). The concept of civil society is used in various contexts, both descriptive and normative. It is also the subject of a dispute which, on the one hand, is connected with its sources in the tradition of political thought, and, on the other, its cognitive and explanatory value (Pietrzyk-Reeves, 2012). Narrowing, out of necessity, the scientific discussion on the subject of civil society to contemporary concepts, one should point to the problem which is associated with its ambiguous understanding in the context of economic activity. Some theorists, referring to the liberal tradition, assume that the sphere of economic activity is within civil society. Others, who support the concept of A. Gramsci –

who defined civil society as “the political and cultural hegemony of one social group over the whole society” (1961, t. 2, p. 417) – place civil society outside the economy and the state, outside the sphere of power and capital. Therefore, two interrelated issues are the subject of the dispute” to which spheres of social life the civil society category should be related and what relations there are between civil society and the market economy (Pietrzyk-Reeves, 2012). It seems that the most appropriate position in this dispute connects civil society and free market activity. As these are not spheres that are mutually exclusive (but rather complementary), they allow the implementation of individual intentions under various types of activities that shape relationships and interpersonal relations.

Social civic activity is based on common and conscious articulation, implementation and defence of interests (needs and aspirations) of some social group by its members (Gliński, Palska, 1997, p. 366). The range of civic activity is very diverse in terms of its content and form (Gawkowska et al., 2005; Ziółkowski, 2005; Gliński, 2006; Raciborski, 2010; Zboroń, 2017). The frames of civic activity are described by the area of voluntarily created associations, organisations and institutions functioning between the citizen with the family and the country together with economy; in short, it is an area of institutions mediating between the citizen and the state (Fukuyama, 1997).

A self-governing community is an example of a local system relevant to pluralistic (civic) society. Civic society with a local self-government as the fundamental institution is an alternative for both the country dominance and free market in social life. A self-governing community, permanently inscribed in the structures of civic society, is characterised by a strongly developed network of contacts and secondary relations, especially local associations and organisations. Voluntary associations are places to shape public opinions and social norms (Starosta, 1995, pp. 102–103).

The range of civic activity, identified by researchers of these issues, is broad (Gliński, Palska, 1997, p. 367). It includes, among others, activities favourable to creating civic identity and performing typical civic functions. These include articulating the interests of a certain social group, government control, civil protest. Additionally, they embody participation in the processes of preparing and taking decisions on various government levels (consulting, information access, advisory bodies, legal solutions project analysis, participation in decisive bodies etc.). They include the signalling of social problems and issues; preparing projects of alternative decisions, social programmes etc.; independent development of certain public areas – direct meeting of social needs (projects, campaigns, implementing certain programmes, services, education etc.). Finally, they include civic self-education.

In the literature, four basic types of social civic activity are indicated: verbal, potential, enclave and empirical (Gliński, Palska, 1997, pp. 356–384). Verbal activity does not have a great deal to do with activity favouring the

development of democratic society. It is an attempt to join public life only on the level of declarations, prescriptions and advice. Potential civic activity is also declarative, and the activating potential may easily change into social frustration. At the same time, it is characteristic of potential activity to influence positively self-organisation of society on the local level. Empirical (sounding) activity is the picture of civic attitudes which emerges from surveys and opinion polls. Enclave activity takes place in certain, partly isolated, areas of social life and does not concern relatively 'excluded' social environments. Enclaves have two dimensions: they concern certain particularly active social groups, as well as specific social problems, among which the intensification of independent social civic activities are in focus.

Civic activity has become a fundamental favour of market and social changes, and an important element of "innovative socialisation", i.e. of the shaping of affirmative attitudes against system changes (Gagacka, 2003, p. 325). The research indicates a significant variety of ranges and forms of civic practices in Polish society (Raciborski, 2010). Civic communities created by people implementing a common goal and aiming at common good are guided by the rules of equality and justice which, according to the rule of subsidiarity, guarantee empowerment to individuals and communities without depriving them of state support. The rule of subsidiarity leads to socialisation of the country through the empowerment of citizens (Piekara, 2003).

Civic activity of Polish society is manifested in many different ways, above all through participation in many various grassroots movements, initiatives and social organisations (Bartkowski, 2005; Domaradzka, 2009; Lewenstein et al., 2010). Civic initiatives are most often undertaken in the area of the so called third sector, which is a domain of non-governmental organisations. Non-governmental organisations are structures integrating citizens, aiming at changing people's mentality and behaviour. They are independent and non-commercial, and they have a significant volunteer share. In Poland, the term 'non-governmental organisations' is quite widely understood, and it encompasses all of the organised groups or social institutions which are not directly engaged in politics, and where social, volunteer and spontaneous civic participation plays a significant role. Such organisations are characterised by being self-governing, having considerable independence of any state, economic or self-government structures, as well as social utility, i.e. a lack of pursuit of profit (non-profit). Finally, and most significantly, they are characterised by being engaged in the creation and distribution of 'public' and 'factual' goods, or, more widely, active attitudes towards public issues (Frączak, 2010, pp. 42–60).

Regardless of their different types, content and civic society manifestations, they actually fulfil one positive role (Ziółkowski, 2005, p. 34–35). The most important beneficial results of their functioning (both locally and socially) are the following: (a) legitimising various pressure groups, including those competing



for authority and thus recognising the right to be opposed, to be different and distinguishable, establishing the opinion that a dispute, competition and conflict are something natural; (b) reducing resistance against surprising changes, preventing the isolation of political institutions from society, activating and engaging people in the process of reforms and changes; (c) teaching and inuring to creative and innovative behaviour; (d) contributing to boosting confidence, and so building social capital.

SUBJECTIVITY, PARTICIPATION, CIVIC ACTIVITY:  
MODEL OF TRIPLE SOCIAL HELIX

Social potentials in the form of subjectivity, participation and civic activity are endogenous factors and resources which play a fundamental role in the functioning and development of local communities. In the context of the subject analysis and characteristics of the spheres of endogenous development resources as discussed in the article, an attempt should be made to create a scheme ordering a relationship between them.

The suggestion of mutual and pro-development interactions in the area of the three spheres is a proprietary model called the social triple helix. The inspiration to create this model is the concept of triple helix functioning in the research and analysis of mechanisms and conditions of local and regional development (Etzkowitz, Leydesdorff, 1997; Etzkowitz, 2002). In its original shape, the triple helix model concerns the interaction and cooperation between the elements of the innovation system: science – enterprises – public authority, in an attempt to increase the effects of innovation and regional competitiveness. The main idea behind the model is an interpenetration of the spheres of impact of individual institutional entities (helixes). This has a universal character and can be referred to as a system, part of which are social institutions (including principles, norms, patterns of action and interaction) which build social networks and economic interpersonal relations.

Cooperation for the development and implementation of local community needs requires active cooperation and networking among local entities. Effective cooperation between individual participants in activities for the development and implementation of the common good of local communities, can be carried out according to the triple helix social model. Local communities create some kind of systems equipped with their own resources which manifest themselves, among others, in subjectivity, participation and civic activity. In such local social systems, there are several important issues. These include historically shaped culture, value systems, accumulated knowledge and experience. These create their own specific and unique character. Entities that make up the local system should be connected with each other, as the system is an ordered arrangement of elements between



which certain relationships occur, forming a certain whole. The synergy effect that arises as a result of mutual cooperation of local entities, is important for the system. Relationships in three spheres (subjectivity, participation and civic activity) do not have a rigid, static nature, but are subject to dynamic changes. The social triple helix model emphasises the importance of networks of cooperation and social contacts in which learning and consolidation of pro-developmental behaviors, stimulation of trust and development of activity focused on the common good of the local community takes place.

The analysis of the social foundations of local community functionality and development (in the context of the triple helix social model) allows for identification of the essential dimensions of the interpenetrating positive interactions of three types of endogenous resources (helixes). These include subjectivity, participation and civic activity. It can be expressed as the following ordering list:

- a) efficiency and scope are increased regarding activities implemented for the effective and socially responsible course of development processes;
- b) both the scope and forms of cooperation within the local community develop in order to meet its needs;
- c) optimisation of functioning and an improvement in the standard of living of the local community through an exchange of knowledge and experience, as well as an increase of mutual trust and social responsibility for the well-being of the whole community;
- d) links and feedbacks between the three elements of social resources of the local system (subjectivity, participation, civic activity) promote the improvement of local leadership, whereby building partnership and strengthening social cohesion;
- e) the situation within each of the spheres of resources (helixes) and the deepening relationships between them form a system of interactions exerting a significant positive impact on the functioning of the local social system;
- f) the functioning and the development of the local community according to the triple helix social model is conducive to raising the level of awareness in terms of values arising from network cooperation, which stimulates connections and improves social relations within the local system.

The social triple helix is a pictorial view of the interactions taking place between the sphere of subjectivity, participation and civic activity. It guarantees the preservation of the essential role of these interactions, their own specificity and relative independence while simultaneously interpenetrating these spheres. This permeation consists of the adoption of a range of interactions and functions by one of the spheres, whose performance is assigned to one of the other two spheres (helixes). The social triple helix model is an attempt to capture the transformation of typical interactions and relationships that link the sphere of subjectivity, participation and civic activity as equally legitimate endogenous resources underlying the functioning and development of local communities.

## CONCLUSIONS

Local development is a form of social activity aiming at achieving certain goals. The subject of this development is a local community, on behalf of which self-governments take certain actions. Local success depends mostly on endogenous factors and resources, and this is evident in the form of empowerment, participation and civic activity. When it comes to local development, economy plays the main role, but it should not be solely reduced to economic issues. One indicator of local development is constituted also by the citizens' subjective experience of improvement, expressing the level of fulfilling their needs and aspirations.

Local development is a grassroots process with not only economic, but also social, cultural and political dimensions. One of the most important factors is claimed to be the existence of effective leadership exercised by someone who is able to formulate a vision of development, and unite around themselves the local elite who would be able to implement it. Participation of citizens in making decisions is also important. Success in local development also depends on the institutional infrastructure of a certain local system, i.e. effectively functioning local institutions focused mostly on supporting entrepreneurship, as well as those which create foundations for civil society. Moreover, achieving success in local development is favoured by a high level of social empowerment and mutual trust, as well as by compromise and cooperation with the use of social capital.

The objective of the analyses and descriptions contained in the article is to outline the social model of the triple helix. It presents relations and interrelationships as well as an interpenetration of the impact ranges of three helixes, i.e. subjectivity, participation and civic activity, having a range of social institutions. As endogenous social resources, they create a dynamic system of functionally related fields of activity and impact that make up the social foundations of the functioning and development of local communities.

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### *Summary*

The purpose of the article is an attempt to answer the question about the role of endogenous social resources in the functioning and development of local communities. The initial thesis of the analyses undertaken in the article is included in the statement that such resources as subjectivity, participation and civic activity constitute the social foundation and functional requirement for the duration and development of local communities. In the scientific recognition of the subject matter, a method of analysing the literature was used. The scope of the study includes characteristics and analyses of the subjectivity of local communities, participation at the local level and civic activity.

The first part of the study shows the subjectivity of local communities as a function of decentralisation and development of local government. Attention was focused on a set of phenomena, processes and factors of the sociological and political character – the integrated co-existence of which is an expression of subjectivity – by providing a real impact of the residents on the functioning and development of the local community. In the second part of the study, social participation was analysed as a manifestation of decentralisation of public administration and an important element of local development programming. A multi-level system of cooperation between citizens and local authorities was presented, as well as rules determining the effectiveness of involvement and participation in the conditions of local government. It stressed the importance of the local government as an institutional environment formation of the active participatory attitude towards undertaking the activities within local communities for the implementation of their needs and self-development. The following part of the article focused on social civic activity as common and conscious articulation, implementation and defence of the interests, needs and aspirations of the local community. Types, scope and manifestations of civic activity were presented, emphasising the pro-development and functional benefits of civic involvement.

The analyses and descriptions provided in the article lead to the conclusion that the functioning and development of local communities are a bottom-up, integrated process of economic, political, social and cultural character. Their orientation and proper conduct are positively influenced by endogenous and social potential in the form of subjectivity, participation and civic activity. A synthetic approach to the issue under scrutiny is the author's model of social triple helix depicting interdependencies and interpenetrations of the three spheres of influence – subjectivity, participation and civic activity within the functioning and the development of local community.

*Keywords:* subjectivity, participation, civic activity, development, triple social helix, local community.

## **Spoleczne podstawy funkcjonowania i rozwoju społeczności lokalnych**

### *Streszczenie*

Celem artykułu jest próba odpowiedzi na pytanie o rolę endogenicznych zasobów społecznych w funkcjonowaniu i rozwoju społeczności lokalnych. Wyjściowa teza podjętych w artykule analiz zawiera się w stwierdzeniu, że podmiotowość, partycypacja i aktywność obywatelska to społeczna podstawa i funkcjonalny wymóg trwania i rozwoju społeczności lokalnych. W naukowym rozpoznaniu przedmiotowej problematyki zastosowano metodę analizy literatury przedmiotu. Zakres opracowania obejmuje charakterystyki i analizy podmiotowości społeczności lokalnych, partycypacji na poziomie lokalnym oraz aktywności obywatelskiej.

W pierwszej części opracowania ukazano upodmiotowienie społeczności lokalnych jako funkcję decentralizacji i rozwoju samorządu terytorialnego. Skupiono się na zespole zjawisk, procesów i czynników o charakterze socjologicznym i politycznym, których zintegrowane współwystępowanie

jest wyrazem upodmiotowienia przez zapewnienie realnego wpływu mieszkańców na funkcjonowanie i rozwój wspólnoty samorządowej. W drugiej części opracowania przeprowadzono analizę partycypacji społecznej jako przejawu decentralizacji administracji publicznej i istotnego elementu programowania rozwoju lokalnego. Przedstawiono wielostopniowy system współpracy obywateli z władzami lokalnymi oraz zasady decydujące o skuteczności zaangażowania i partycypacji w warunkach społeczności samorządowej. Podkreślono znaczenie samorządu terytorialnego jako instytucjonalnego środowiska kształtowania się czynnych, partycypacyjnych postaw na rzecz podejmowania działań w obrębie społeczności lokalnych dla realizacji ich potrzeb i samodzielnego rozwoju. Kolejną część artykułu poświęcono społecznej aktywności obywatelskiej jako wspólnej i świadomej artykulacji, realizacji i obronie interesów, potrzeb i aspiracji społeczności lokalnej. Przedstawiono typy, zakres i przejawy aktywności obywatelskiej, podkreślając prorozwojowe i funkcjonalne korzyści obywatelskiego zaangażowania.

Przeprowadzone w artykule analizy i charakterystyki prowadzą do wniosku, że funkcjonowanie i rozwój społeczności lokalnych to oddolne, zintegrowane procesy o wymiarze ekonomicznym, politycznym, społecznym i kulturowym. Syntetycznym ujęciem problematyki opracowania jest autorski model społecznej potrójnej helisy obrazujący współzależności i przenikanie się trzech sfer oddziaływań – podmiotowości, partycypacji i aktywności obywatelskiej w funkcjonowaniu i rozwoju społeczności lokalnych.

*Słowa kluczowe:* podmiotowość, partycypacja, aktywność obywatelska, społeczna potrójna helisa, społeczność lokalna.

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