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TYPOLOGY OF MICRO AND SMALL COUNTRIES IN THE LIGHT OF TRANSBORDER ECONOMICS

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ABSTRACT

The majority of economies in the world of today (over 200) are small economies (MMS). Today 96 of them have the political status of sovereign, independent states. All of them are the member-states of the United Nations. Over 50 small economies are the regions of some level of political autonomy, however they are officially or de facto politically dependent or politically interrelated with other countries. About 50 MMS are the economies that have the political status of exclaves or overseas territories of other countries.
In globalized world main prerequisite of social and economic policy of governments of MMS is the availability of pertinent information adjusted to the specificity of each particular small economy. Special attention should be paid to the production of sets of integrated data on political, social, economic and ecological environment, on the fields of economic gravitation and on transborder economies in which the MMS exist. The production and dissemination of such information for governments, social organizations and businesses is the duty of national systems of official statistics of the MMS.
Statistical agencies of small economies are insisted by international organizations to submit statistical data following exactly global, international standards that are adjusted first of all to the specificity and the needs of large countries. Those standards – methods, categories, metadata and data - are often difficult for direct implementing, hardly interpretable, sometimes useless or even misleading for SME. Social and economic attributes specific of small economies, especially those, that have the impact on information sources, methods of statistical monitoring and the information needs of national users of statistics, are analyzed. On the basis of those analyses the typology of small economies is proposed. The consequences of the specificities of different types of the SME for statistical methods and tools, for duties, functionalities and strategies of development of official statistics and the approaches to statistical capacity building for the MMS are discussed.

Key words: small countries, transborder economy, cross-border processes, economic gravitation, official statistics.
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1. Formulation of the problem. Micro, mini and small countries and economies as official statistical categories

Micro, mini and small country and economy (MMS) is a *national economy* or a *geographically and institutionally* separated *economic or social region politically interrelated* with other country, several countries or with international organizations, which demographic *potential*, human and social *capital*, natural *resources* or economic *capacity are not sufficient for independent, sustainable maintenance and development* in its political and economic environment of globalized economy.

In the world of today the majority of national economies and separate economic regions (over 200 – from statistical point of view) are *micro, mini or small economies* (MMS). About 100 *small economies* have the political status of sovereign, independent states. For most of them this political status is confirmed by the membership in the United Nations and in other international organizations. About 50 economies do not have full political sovereignty. They are politically interrelated with other countries, with some level of political autonomy, with political institutions self-governance. The forms of limited political autonomies are different. Next about 50 small economies are the geographically separate regions that are politically the entire parts of other states, e.g. *exclaves* or so-called *overseas territories*.

In global system of official statistics the statisticians representing micro, mini and small economies are the ***silent majority***. The voice of official statisticians of MMS is not strong enough on the fora of international statistical community represented by the United Nations Statistical Commission and statistical services of other international organizations.

Because of that, the information needs of stakeholders representing small economies and the conditions of organization and production of official statistical data are not taken into account sufficiently by international statistical organizations and by research institutes and universities of the countries that are the leaders in the development of modern statistical methods and techniques. Also the specificity of small economies is not sufficiently taken into account in the recommended ***best statistical practices***.

MMS are rather often placed on the peripherals of main processes of global politics, technological progress, development of information society and knowledge-based economy in this sense that they are not participating in the development of main trends of information culture. Small economies are adopting themselves to political, social, economic and technological environments created by other countries. They are rather the users of methods, approaches and techniques elaborated in bigger economies.

However full independence or autonomy that is not true for small economies. Economic and social position of small economies differs very much from the position of middle and large economies. In small economies the governments and businesses do not have in their hands – as a rule – the legal, political or economic tools strong enough for the control of impact of external impulses and stimuli coming from outside, from big countries and from global transnational companies. The MMS – willing or not – are under strong influence of external factors and processes generated in their political, economic and natural environment. The MMS are also interrelated persistently with other, bigger national economies and supranational companies.

All economies are creating their own ***fields of economic gravitation***, i.e. the geographic space in which the processes controlled by those economies are dominating. In globalized world the *fields of economic gravitation* of national economies of states that have the status of global, regional or sectoral powers, are transnational, global or regional. Some fields of economic gravitation are also created by international organizations, e.g. the global field of economic gravitation of banking sector controlled by the IMF, global field of economic gravitation of the branch of petrol and gas controlled by the OPEC and global fields of economic gravitation created by international organizations of producers of some strategic goods and services.

All countries or economies that find themselves in the fields of economic gravitation are trying to optimize their position in those economic spaces. Big economies are actively creating or influencing the fields of economic gravitation. Middle-sized countries are trying to build their own fields of economic gravitation that enables them to optimize their position in global or regional economic spaces.

Fields of economic gravitation is also created by small economies. However, fields of economic gravitation of the MMS are very small and weak. The powers of gravitation are not strong enough to counterbalance the economic gravitation of other bigger economies. The only possibility of the MMS is to adapt themselves to the conditions that exist inside the fields of economic gravitation created by other countries or by international organizations. To optimize their position inside those fields of economic gravitation, the governments and businesses in the MMS are trying to increase the adaptability of local economy and society to the situation existing inside the fields of economic gravitation and to possible changes of those fields, especially to economic shocks coming from outside to the MMS. The governments and businesses of small economies need extended official information on the fields of economic gravitation inside which they exist.

Most of the MMS are belonging to the spaces of economic gravitation created by bigger neighbouring economies or by large trans-national corporations. Political, social and economic processes in bigger economies that are the centers of the fields of economic gravitation inside which the MMS exist, have – as a rule – much stronger impact on small economy than the reactions that can be undertaken by economic subjects and the instruments that can be used by the governments of the MMS.

Because of that the strategies of economic development realized by the governments of the MMS is focused on the finding of "safe niches" inside the fields of economic gravitation created by bigger economies by optimal adopting their economies and societies to political, social and economic environment created by bigger countries.

For official statistics it is also important that real political independence of countries and economies that belong to the class of MMS is often limited by different international bilateral or multilateral agreements with other countries, by international conventions and resolutions, as well as by informal influence of different external groups of interests, especially by transnational, global corporations running their businesses on the territories in the MMS. Those limitations of economic sovereignty depend on the policy of international organizations, of the countries and of trans-national corporations that are dominating in the fields of economic gravitation and in political and economic environments of small economies.

The policy of governments of the MMS is realized the conditions of strong influence – or even the pressure - of political and economic environment created by bigger economies on the MMS makes the decision. Because of that, the governments and businesses of the MMS need stronger information support relevant for their concrete decisional situations, for social and economic policy optimal for their own small countries.

The information needed by governments, businesses and social organizations for realizing effective, successful policy, for representing properly the interests of local societies and businesses of the MMS, should cover not only the information on entire national or regional economy of single MMS, but also on the whole economic and social environment, and complex, pertinent information on the processes and phenomena occurring in the fields of economic gravitation inside which the MMS are functioning.

In globalized world, in the majority of middle and large economies, main factors of social and economic development are controlled by the institutions of national governments of those economies. The governments of those economies have – or have the hope to have – political, legal and organizational instruments enabling them to control the stability and sustainability of internal social and economic processes and to react on external factors influencing their national economies. Official statistics in those countries is the informational foundation of governments and organizations of businesses. So, the official statistical institutes are expected first of all expected to meet those needs.

The information needs of governments, businesses and social organizations of the MMS are much wider than the needs of many respective institutions in big economies. The statistical information requirements of institutions in big economies are to large extent covered by international statistical standards, while the MMS need more data on many external factors influencing small economies.

Official statisticians of the MMS should also anticipate future potential information needs of national users. This anticipation shall be not only passive i.e. forecasting possible requests of users addressed to statistical agencies, but active in this sense that statisticians should formulate the proposals of delivery of new information that may be useful or necessary in the future, in probable usage situations of the stakeholders of statistical processes. Statistical offices of the MMS shall also stimulate the development of information needs of governments and other stakeholders of statistical processes by explaining the users how the proposed new information may help them to optimize their behavior in future usage situations.

Additional important functionality of official statistics of the MMS shall be the initiation, and – if possible – the elaborating of specific information standards pertinent to existing and future usage situations in the MMS, and the coordination of the implementing of those standards in all infrastructural information systems and processes in the MMS, with special reference to administrative information systems and to the systems producing and managing social and economic transactional data resources (*big data*).

National statistical services of MMS in their *national strategies of development of official statistics* (NSDSs) and in the programs of national subjects responsible for producing, collecting and delivering relevant official information for national and local users of data of *small economies*, the production of statistical data relevant to those specific, extended information needs of the stakeholders in the MMS should be given high priority, with special reference to the potential needs governments and leading businesses.

Anticipated defining of potential – actual and future – information needs of stakeholders of statistical processes in the MMS and active supplying of pertinent information to them, also without their explicit requests from the part of the stakeholders, should be the task of highest priority and permanent activity of official statistical agencies of MMS.

However national stakeholders, also the governments of the MMS, rather often do not expect from statistical offices such wide scope of competences as the basic governmental information service. The officers in governments, managers of businesses, experts and even the scientists often imagine official statisticians as the producers of yearbooks and tables with numbers that usually are to late, to general and not very relevant to their current needs.

Alas, official statisticians of MMS are often made to self-limit their active role in national information infrastructure to the delivering of data that are satisfying the explicit information requirements of most important institutional users. Because of that self-limitation of ambitions and duties of official statisticians, the efforts of national statistical offices in the MMS are concentrated on the producing of basic, standard statistical data and on the organizing the surveys required by

international organizations (e.g. United Nations and regional political and economic supranational and international institutions) or by statistical offices of countries that are politically or economically interrelated with the MMS.

The tasks of official statistical agencies as the leaders and coordinators of information standards and infrastructural information systems of governments, as the suppliers of social and economic data, providers of analyses and prognoses for governments and leaders in active development of national information infrastructure of the MMS are often not formulated clearly and explicitly in national laws regulating the competences of official statistical agencies and statistical services of governments of the MMS.

On the other hand it happens quite often that statistical agencies of MMS are rather passive in the initiating and elaborating of new methods adjusted to the specificity of particular small economy, in the delivering of pertinent data not required explicitly by end-users and in the offering of personalized information services for governments and businesses of the MMS. Official statistical agencies of MMS rather prefer to wait patiently for explicit, precise requests of governments and other national and international stakeholders. They do not like to take the risk – sometimes political - of initiating new surveys, new statistical data and analyses, especially when those initiatives require additional budget and resources for statistical agencies.

Passive behavior of national statistical agencies of the MMS on international fora of official statistics can be explained by:

(1) The fundamental law of progress in official statistics[2]: ***The only internal driving force of progress in official statistics is its inertia***. All stimuli of progress in statistical offices, the initiatives of development or implementation of new methods, realization of new surveys, are coming from outside – from universities and scientists, from IT, from governments and international organizations.

(2) The capacity of official statistical services in the MMS is – first of all – adjusted and limited to current external informational obligations of the governments of the MMS, mainly the duties of delivery of statistical data to international organizations (UN agencies, regional and sectoral organizations) or – in case of small economies dependent of other countries – the realization of demands of central governments and central statistical offices of those countries.

[2] The fundamental law of progress in official statistics was formulated in the paper: Olenski J., The structure of the statistical information system and the methodology of surveys in terms of computerization, in : Proceedings of the ISIS 78 Seminar on integrated statistical information systems and related matters, Economic Commission for Europe and the Conference of European Statisticians, United Nations Computing Research Center, Bratislava 1978. Published in the UN Journal of Official Statistics, Geneva, 1979.

Active *anticipated identification and defining* of information needs of national stakeholders needs extended scientific, methodological and educational capacity of statistical offices. However in small economies such capacity is underdeveloped because of limited resources for statistics in the budgets of governments of MMS. Most of statistical offices of MMS in practice have very limited number of staff, especially the shortage of researchers and methodological experts. Statistical offices in the MMS do not have – as a rule – special research and development units or institutes. Despite of high professional level of staff, the quantity of human and social capital of statistical offices of the MMS is often not sufficient for systematic analysis and forecasting of information requirements of stakeholders and for elaborating statistical methods adjusted to the specificity of societies and economies of the MMS. The number of high level experts and brilliant scientists in statistical agencies of MMS is to small to meet all needs of all domains of statistics.

Because of shortage of scientific human capital in many MMS the realization of complex research works in official statistics by national scientists, the coordination of the information infrastructure of economies by implementing relevant statistical standards and active information policy is difficult for national or local statistical agencies of MMS. In case of the need of scientific help for realization of new developments, official statistical agencies of MMS rather prefer to invite experts from other countries or from international organizations. Most frequently those invited experts are coming from bigger countries. Their knowledge and experience, usually excellent from scientific point of view, may not be directly applicable in small economy. Frequent approach of external experts is the adoption or direct transplantation of experiences and best practices of their native countries into statistics of small economy. Those experiences and practices may be useful in and only if they are creatively adjusted to the specificity of particular small economy.

From the point of view of data sources and information needs of users in the MMS, statistical methods, scope and organization of surveys, statistical data produced by official statistical agencies of the MMS cannot be limited to statistical standards, programs of surveys and methods recommended by international organizations and developed by official statisticians and by scientists in few developed countries of the world that are the leaders in research in statistics and in information technologies.

International statistical standards, methods and techniques are – as a rule - not taking into account sufficiently the specificities of the MMS, their economic and social conditions, the availability of information sources, local statistical capacity and special needs of stakeholders of statistical processes – statistical units, producers of information and users of data – governments, businesses and external stakeholders.

As it was mentioned above, for proper statistical describing, measuring and monitoring of phenomena and processes in MMS are needed specific, pertinent methods and approaches that often may differ from global statistical standards. Despite of that obvious fact, official statistical agencies of MMS are in practice focusing their efforts and capacity building on the meeting of the requirements and recommendations of international organizations. They are obedient executors of direct implementing of international statistical standards, most often by "transplanting" those standards, and on the adopting of foreign best practices of big countries leading in world statistics. They also are trying to describe the phenomena and processes in MMS using directly standard methods and indicators recommended by international organizations adjusted to the conditions of big national economies.

International methodological standard are often not relevant to the availability of the sources of information and to the information needs of local stakeholders in the MMS. Also the semantics of standard statistical indicators, especially macroeconomic indicators, is not relevant for describing the specificities of the phenomena and processes important for small economic systems[3]. Some macroeconomic indicators may be misleading for the officers of international organizations and the experts not acquainted with the specificity of articular small economy. For example deep dropdown of the annual indicator of dynamics of GDP in a single small economy may not necessarily mean the macroeconomic turbulences of a small economy as a whole, but rather it could be the statistical effect of the problems of small regional branch of one foreign financial institution – bank or insurance company – operating on the territory of a given small economy.

Serious problem for official statistics of all the MMS is the methodological gap between international statistical standards and the standards that are pertinent to the needs of stakeholders of statistical processes and to the specificity of information environment and information sources of the MMS. Methodological gaps between statistics of the MMS and international standards are the consequence of the fact that international standards are elaborated by excellent experts from big countries, without active participation of experts understanding and representing the experiences of MMS.

International statistical standards are based on *best practices* of developed economies leading in official statistics. Most of them are large or middle-sized countries, developed, relatively rich, with well-organized governments and

[3] Macroeconomic categories of the SNA – like famous index of growth of GDP – are not very useful as the indicators measuring economic situation and stability of the MMS. The shocks generated in the field of economic gravitation by more powerful economies may cause the changes of numerical values of macroeconomic indicators without any consequence for real sphere of small economy (e.g. pragmatic reaction of governments of Iceland and Estonia on the dropdown of national GDP caused by global financial turbulences round 2008).

statistical institutions. Comparing the situation of information infrastructure in the majority of the MMS with the situation in countries leading in official statistics we can easily notice that *best statistical practices* of big, developed, rich economies and international organizations may be *not the best*, not adjusted or – sometimes - even *not applicable* in many small economies.

The development of official statistics in small economies should be also analyzed from historical perspective. Leaders in official statistics have long tradition of development of scientific capacity and statistical institutions. For example, most of developed economies have organized their central statistical agencies by the end of XVIII century or in XIX century (e.g. first central statistical institute in Europe was created by Polish government in 1789). Statistics as the science was developed by scientists and was thought at the universities in most developed countries much earlier. The methods and techniques of statistics were developed to meet the information needs of those countries.

The tradition of official statistics in MMS is much shorter. Building official statistics in the MMS is connected with the changes of their political status as independent states or autonomic political regions. It should be remembered that most of the MMS that have now the status of sovereign countries have reached their full political independence or higher level of political and economic autonomy not so long ago, some after 1st World War, most of them in second half of XX century, after 2nd World War or even in the 90th.

Because of that, official statisticians from small countries and economies did not participate in the activities of international organization developing global, international standards of statistics. especially in works of International Statistical Institute, statistical divisions of the League of Nations after 1st World War and of United Nations after 2nd World War).

The process of building global statistical system has been started after 1st World War under the auspices of the League of Nations, still in the period of colonization of large parts of the world by few political powers. The process of building modern global statistical system was accelerated after 2nd World War within the frames of the United Nations, especially thanks to the creation of the UN Statistical Commission in 1947, and to the development of statistical bureaus or services of other international institutions e.g. International Monetary Fund, World Bank, OECD and regional or specialized international organizations of the United Nations.

Even today (2018) the voice of official statisticians representing over 200 small economies, with about 100 members of the United Nations, in global statistical community is not strong enough to convince the statisticians in international organizations and bigger developed countries that their colleagues from small economies shall not be expected and to be made to imitate or to follow their *big brothers* (so *ex definitio* – older and wiser) by transplanting their *best experiences*.

To the contrary, analyzing the experiences of the MMS in European region I am convinced that statistical *big brothers* could and should learn a lot from the experiences of their colleagues from MMS. One of the main reasons of my opinion is that in MMS the statisticians are much closer to the respondents, sources of data and the users. They see much clearer the interrelation between microeconomic processes, macroeconomic phenomena and statistical data in real economy. Those relations and the details of representation of real economic and social processes in statistical surveys in small economies are directly observable and interpretable, while in big countries the statisticians organizing the surveys often see only the numbers and can hardly associate those numbers with real people and companies, with real social, economic or ecological facts.

Official statisticians in MMS are working in quite different institutional, economic, technological and informational environments than their colleagues in big, stabilized and developed countries, saying nothing about statisticians that are analyzing global economic processes sitting in the towers of international organizations. The contacts and cooperation of statisticians with the stakeholders of statistical processes in small economies is much closer. For proper understanding and describing of social and economic phenomena and processes original methods of statistical monitoring and measurement adjusted to entire specificity of particular MMS can be very illuminating and edifying for global statistical community.

Conclusion

Informational obligations of statistical offices and services in the MMS are much wider than the duties of official statistics in large countries. The duty of official statisticians in the MMS should not be limited only to the producing of the data on explicit requests of national government following the recommendations of international organizations.
Official statisticians of the MMS should – first of all - creatively identify specific, extended, potential information needs of governments, businesses and scientists of the MMS, stimulate new information needs and actively deliver pertinent data to the governments and institutions even without their explicit demands and requirements.

2. Statistical typology of MMS economies

The MMS create the heterogeneous set of different types of political, socio-economic and ecological systems. Those systems are functioning in different political, social, economic and ecological environments, under the influence of different fields of political and economic gravitation. The governments of small economies that are responsible for social and economic stability and development, the businesses and non-profit social organizations operating in economic space of

particular MMS need good theoretical or doctrinal basis necessary for their activities, for proper understanding of the economic and social processes and for monitoring, simulation and decision making within the frames of their competences.

Proper typology of small economy is necessary for better understanding of social, economic and political processes in small economies and for building theoretical foundations and doctrines useful for elaborating strategies of development of each MMS. The typology of MMS is also helpful for elaborating relevant statistical methods, tools and indicators for particular economy and for building statistical capacity.

Because of the variety of MMS, the typology should be multi-criterial (*facet* structure). Below it is presented the preliminary proposal such multi-criterial typology of MMS. It seems that this multi-criterial typology needs further research and deeper empirical verification based on statistics and other information characterizing the whole variety of small economies. I take the liberty to invite researcher and practicians to join the discussion on the approaches and methods of defining basic types of *MMS* and building the classification useful for official statistics of MMS.

On the basis of empirical observations of socio-economic processes, the behavior of businesses and the activities of governments in selected representative economies that can be classified as small *economies* we distinguish three general types of MMS:

A. *micro*-economies,

B. *mini*-economies,

C. *small* economies.

Micro-economy is an economy in which demographic potential, human and social capital, institutional capital, financial system, economic and natural resources are not sufficient for its independent, sustainable existence, stability and development. Micro-economy is fully dependent on their political and economic environment. The prerequisite of sustainable development of micro-economy is the continuous access to complementary resources that are available in its economic environment. Economic and social processes in micro-economy are determined by the fields of economic gravitation created other countries. E.g. San Marino, Liechtenstein, very small island states and overseas territories.

Mini-economy is an economy that has the demographic potential, human and social capital and institutional capital sufficient for its sustainable development, however some resources, e.g. financial resources, specialized economic potential and modern technological capital, highly specialized human capital, are to small for effective use of own resources and the resources from abroad. The prerequisites of sustainable development of mini-economy are:

(1) the access to complementary resources existing in its environment,

(2) their absorption and use by local businesses and institutions, and

(3) sustainable strengthening of the own resources of mini-economy in cooperation with the economies creating the fields of gravitation and economic environment. E.g. small island countries in the Caribbean or Pacific, Guiana, small exclaves.

Small economy is an economy that has the demographic potential, human and social capital, institutional capital, financial, economic and natural resources are sufficient for its independent, sustainable stability and development, but because those capacities are to small, the economy is under strong impact of the field of economic gravitation of other larger economies. Small economy is that they can base sustainable development on its own social and economic capacities, but these capacities can be built, maintained and developed only thanks to the continuous access to the resources of economic environment. The governments and businesses of small economy adopt their strategies and current activities to the economic environment created by other, stronger countries and supranational organizations. The strategies are not limited to foreign trade between businesses of small economy and other countries. They are based on international agreements between governments and on institutionalized cooperation in infrastructural branches of economy (e.g. energy, transport, research activities) and – if necessary – the outsourcing of activities that need the investment and infrastructure exceeding the possibilities of small economy (e.g. telecommunication, defense). E.g. Luxembourg, Estonia, Greenland, Reunion.

In globalized world and in knowledge based economy, the independent *institutional capital* based on own solid human capital and social capital that is able to counterbalance the impact of stronger economies and states, is the prerequisite of effective, sustainable development of small economy and country.

Micro-economy is a socio-economic subject reacting on the economic processes in the field of economic gravitation and in its economic environment inside which the MMS exists. Micro-economy does not have the capacity to influence those processes. The main feature of the strategy of survival and sustainable development of micro-economy is the ***passive adaptation*** to its economic environment.

Mini-economy is also strongly influenced by the processes realized in relevant fields of economic gravitation and in economic environment. But, mini-economy can define its own social and economic policy that – at least in some domains – represents the interests of MMS independently on interest of the countries dominating in the economic environment of MMS and determining the processes of economic gravitation. However the capacity of mini-economy is not sufficient to influence the economic environment. In practice the main feature of main strategy of implementing political and social goals of economic development of mini-economy is the ***creative adoption*** to the changes of economic environment and implementing institutional solutions optimizing the position of mini-economy inside the fields of economic gravitation and inside its economic environment.

Small economy is also under strong influence of external procesMMSs and events that appear in its economic environment and in its fields of economic gravitation. But – comparing to the situation of micro and mini economies – the political status and economic capacity of small economy is strong enough to realize its own national or regional policy of social and economic development. The strategy of achieving the goals of economic and social policy of small economy is based on the creating of institutional instruments and infrastructural foundations controlled by the institutions, making the small economy more resistant on the impulses and shocks coming from the fields of economic gravitation and from its economic environment. The main feature of strategy of economic development of small economy is ***active adoption*** to its external economic environment by the control of infrastructure, independent institutional, human and social capital.

Summarizing the above definitions of types of economies, main *differentia specifica* between three types of countries and economies is the position of particular MMS within the frames of concrete ***fields of economic gravitation*** created by bigger economies and inside its political, social and economic *environment* created by global or regional powers.

Special importance for stability and sustainable development of small economy has the possibility and efficacy of the reacting of governments, institutions and businesMMSs on economic and social procesMMSs running within the frames of the fields of economic gravitation, especially shocks and catastrophes and the position inside its economic environment.

3. Typological criteria of classification of micro, mini and small countries and economies (MMS)

It seems that good scientific and methodological tool for defining the types of the MMS it the *facet classification* consisting of following facets:

[1] Demographic potential,

[2] Human and social capital,

[3] External economic environment,

[4] Natural resources,

[5] Transborder processes,

[6] Political status,

[7] Geographic space.

3.1. Demographic potential

The main criterion of classifying of economies into three classes: micro, mini and small countries and economies is the population.

Statistical indicators of *demographic resource* are basis for classifying and rating the economies as *micro, mini* or *small* countries and economies. National economy or autonomous economic region are small because their population is below certain number of population. Demographic resources are decisive for creation, building and strengthening of human capital and social capital of those economies. Other factors like territory, natural resources, economic resources or financial resources are of secondary importance in globalized world.

The demographic criterion of classifying the countries and economies into *micro, mini* and *small* is of qualitative nature. Analyzing the number of inhabitants in particular representative cases of small economies, the following quantification of the following general criterion of demographic potential may be proposed:

A. *Micro-economy* – below 0.2 million residents,
B. *Mini-economy* – about 0.2 – 1.0 million residents,
C. *Small economy* – about 1.0 – 3.0 million residents.

In each case the indicator of demographic potential should be defined and interpreted individually for particular country or region. We can find the country with the number of population below 0,4 million that has all demographic qualitative capacity of independent *small* economy (e.g. Iceland, Malta), as well as we can find a region with the population of 0,6 million inhabitants that has rather the economic capacity of micro-economy (e.g. Cape Vere).

Ad A. *Micro-economy*.

> In *micro-economies* the demographic potential is sufficient for the maintenance of existing model of economy. However it is not sufficient for development, restructuring or modernization of the economy. Especially the demographic potential of micro-economies is not sufficient for the creation of human capital needed for all positions in governments, social services, education, science, managerial capacity of businesses. The initiatives of development and progress should be supported by the immigration of population from outside. E.g. in small tourist islands the development of tourism requires seasonal or permanent migration of people employed in tourist industry.
>
> In micro-economies relatively small immigration or emigration of inhabitants is generating demographic and social shocks. Because of very small demographic potential the micro-economies are dependent in many domains on human capital of other economies.

Ad B. *Mini-economies*.

Demographic potential of mini-economies is sufficient for creating of basic human capital for governments, administration and local businesses. However it is not sufficient for technological development of the economy, use of natural resources, reaction in case of shocks and catastrophes. Education and training of skilled staff required by the sectors of social services that need higher level of knowledge and experience cannot be created on the basis of existing demographic potential, e.g. higher level of education, research and development, implementing of modern technologies, health care, finances, engineering, defense etc.

Because of limited demographic capacity the development of human capital on high level is dependent on the access to university education and highly specialized professional experience outside the mini-economy.

Ad C. *Small economies*.

The potential of population of *small economy* is sufficient for sustainable demographic and social development of a country or region. However the demographic potential is not sufficient for providing human capital and social capital necessary for building national institutional and economic capital.

Important demographic feature of all types of small economies is the reaction of the economy and society on demographic shocks caused by the emigration of educated or professionally experienced people from small economy to the countries or regions that are the centers of the fields of economic gravitation in which the economy exists (***emigration shocks***). Another kind of demographic shocks may be caused by immigration of people from other countries or continents (***immigration shocks***). For all types of small economies even little number of emigrants or immigrants may cause serious social and economic disturbances.

In the world of today demographic processes are becoming more and more dynamic. Main reason of that is the globalization of economic and information processes. Main reasons that made or encourage the people to migrate, causing the demographic shocks and catastrophes in small countries of immigration and emigration are not only economic crises, but social, ethnic and religious policy of governments, military conflicts and ecological disasters.

The causes of demographic shocks are also the economic polarization of countries and regions, social and ethnic policy of governments, shocks and catastrophes of safety and security of population are stimulating demographic processes of migrations on regional and global scale. It is necessary to stress that the global information systems and telecommunication (TV, internet), relatively cheap transport, liberalization of the crossing of borders and availability of international travel services encourage people to migrate between countries and continents. Idealized images of other countries are also important reason of migration.

For micro, mini and small economies the processes of emigration and immigration are the causes of demographic shocks or even catastrophes. Official demographic statistics should elaborate the systems of monitoring of demographic processes enabling to forecast different kinds of processes of migrations and their possible impact on demographic, social, political and economic situation of small countries and regions. Special attention should be paid to the forecasting and modeling of shocks and catastrophes caused by migrations in demographic environments of the MMS economies.

Classic theory and methods of demography elaborated in XIX century are not sufficient for statistical monitoring of dynamism of population processes in globalized world of today, in XXI century. It seems that – especially for the MMS – relevant theoretical foundations and methodological approaches of monitoring, modeling and forecasting demographic processes should be elaborated.

3.2. Human and social capital

Internal *human capital* and *social capital* of micro, mini and small economies, is the capital of educated and active individuals and social groups that are independent from foreign, external political, economic and environment. National *human capital* and *social capital* should identify itself with the values and interests of the country and society. This identification is of crucial importance for political, social and economic position and development of MMS economies.

The creation, development and maintenance of *human capital* depend on following main factors:

(1) demographic potential of economy,
(2) system of education, with special reference to the education on higher level realized by local universities and other types of schools,
(3) vocational education and training,
(4) life-long learning,
(5) protection of people representing national human and social capital of the MMS economy against internal and external threats,
(6) continuous use of human capacities and skills of population in the forms of employment, entrepreneurship, social and political activity of population,
(7) research and development programs and institutes.

In many micro, mini and to some extent also in small economies the entire demographic potential to small for the "reproducing" of sufficient number of educated, trained and experienced people, individuals with managerial capacity and leadership talents, that are willing and ready to take responsible positions in the governments and national institutions that need educated, skilled and motivated people (e.g. in the sectors of education, health care, security, research, innovative branches of industry etc.) and in businesses.

Because of the shortage of national human and social capital in the MMS economies the positions in business and administration that need specific knowledge and expertise are rather often offered and taken by experts from other countries, mainly from bigger developed economies. Those experts are transferring the solutions, know-how and best practices that occurred to be efficient and that were successfully implemented in their countries. However best practices from highly developed big countries may not be necessarily relevant for specific situation and needs of micro, mini or small economies.

Next problem of the capacity building of human and social in the MMS is that many micro and mini-economies and some small economies do not have their own potential of education on the university levels, in the research and development institutes. It may be also the shortage of the *training-on-the-job* facilities for upgrading the experience of existing human capital and for building the capacity of new human capital. Moreover, gifted individuals from micro, mini and small economies that have the opportunity to study at the universities, to work in foreign research institutes and other organizations for education and professional training in developed countries, rather often are offered more attractive positions in those countries. Capacity building of human capital by the education and training abroad can be the form of *brain drain* that is very big loss for the quality and quantity human resources of the MMS countries. The emigration of many educated and gifted people from India to developed industrialized countries is negligible, but the emigration of few talented young scientists, engineers or doctors of medicine from micro-economy may create serious gap in human capital of the society.

Because of that the high priority task of official statistics of MMS should be the building of the system of statistical monitoring of the needs of human capital, the gaps between the needs and the resources of human capital, the processes of creation of national human capital, the efficacy of different forms of creation of human capital by education and training on site and abroad, and the processes of deletion of national human capital, especially in different forms of emigration to other countries. The import of human capital from abroad and the impact of this import on the creation of national human capital should also be the function of the system of statistical monitoring. Main function of imported human capital should be rather the creation of national human capital by transfer of know-how, training and education of local population than the taking of managerial positions in the economy and governments of the MMS.

In MMS the following phenomena and indicators of should be taken into account from the point of view of the criterion of human capital and social capital:

- the level of self-sufficiency of the economy from the point of view of maintenance and upgrading of existing human capital,
- the possibilities and the policy the creation of human capital adjusted to new needs of society and economy by national system of education, training and development of skills,

- the possibilities of creating national human capital of high level experts, scientists, leaders and politicians, e.g. by research and development institutes, universities, governments and businesses,
- the capacity of *social capital* (political, managerial, professional, cultural, local social organizations integrating human capital on national and local level) and relevance of different resources of *social capital* to the needs of the MMS, their impact on the stimulation of social activity, the mobilizing and integrating distributed human capital in the forms useful for the MMS countries, economies and societies,
- the policy of governments toward the development of different forms of social capital needed by society, economy and governments, e.g. the policy of supporting or creating the obstacles in the development of NGOs, social role of religious organizations.

Social capital of any economy is dependent not only on the capacity of *human capital* but – first of all – on political system of countries. Political systems may support or may hinder or block the development of proper social capital useful and necessary for the development of countries. It seems that especially in the MMS the role of active policy of governments in developing human capital as well as in stimulating and supporting its organization in different forms of social capital is crucial for the use of national human capital for the benefit of local society.

The troubles of creation of social capital effectively contributing to the development of particular MMS appear when the resources of *social capital* in MMS economies are created and maintained not by national or local society, but by financed from abroad, small, noisy, well organized groups representing external, foreign political and economic interests, e.g. by the so-called NGOs controlled and financed from abroad, by financing different political and social actions, by financing of some politicians from abroad, by organized and financed from abroad foreign mass media, research and development projects, foundations operating on the territory of the MMS.

For bigger countries the costs of creation and financing of groups of interest and organizations representing influential social capitals in particular micro, mini or small economy are negligible, while the effects of the influence of those groups of social capital representing foreign interest on the situation in MMS may be very high, bringing political, economic or social shocks or even catastrophes.

From the point of view of the mentioned above criteria of *human capital* and *social capital* the following types of small economies can be specified:

A. *dependent economy;*

B. *partly self-sufficient economy;*

C. *self-sufficient economy.*

The obligation of official statistics is to identify and classify the structures representing social capital, with special reference to real national social capital and the structures of social capital representing the interests of other countries or groups of interest. Statistical agencies should monitor the processes of creation and financing of the structures of social capital, the activities of those groups and organizations, their impact on different domains of life.

Especially the *micro-economies* are of the fully dependent on human capital from abroad or on their own human capital educated and created abroad. They do not have – as a rule – sufficient potential and internal capacities of universities and institutions of higher education, research and development institutes, professional training and upgrading the experience and skills of the residents to create national potential of human and social capital necessary for government administration, social services and for the management of economy.

In *micro-economies* many people with highest level of education are the graduates of foreign universities, as a rule in developed bigger countries. Many managers, engineers and experts are getting the experience in foreign institutes and corporations. Because of the shortage of national know-how, the foreign experts, also long-term experts, are bringing with them to the MMS their own profile of human capital. They are transferring their knowledge, know-how and best practices helping to create and develop national human capital of the MMS. The contributions of foreign experts for capacity building of human capital of MMS are – as a rule – very valuable. The transfer of the knowledge and experience from big developed countries to the MMS should not be concentrated on the "transplantation" of "best practices" of big country to micro, mini or small economy and country. This transfer of should be based on critical and creative adoption of best practices of developed economies to specific conditions of particular MMS by national processionals, with the help of foreign experts who are understanding well the situation and needs of particular micro-economy.

National or local human capital is sustainably used in the economy and country only if it is organized in the forms of social capital relevant to the needs of society and economy. Most often the input of foreign experts is limited to the building of human capital in specific domains and processions by training some individuals.

As a rule, foreign experts are not participating in the processes of building social capital in respective domains of MMS. Those experts after finishing their short-term or middle-term missions focused on the capacity building of human capital of the MMS economy in the forms of training, seminars, workshops and delivering lectures at local universities - they leave the countries. Human capital created by them - without respective integration with local structures of social capital – may not have the power or propensity to continue the creation of more resources of national human and social capital by transferring the knowledge and

skills to local stakeholders, within the frames of the national system of education, training and transfer of know-how.

For example, the capacity building of human capital of scientists by national universities and research institutes is the exception in micro-economies. Most frequent form of capacity building of human capital in research and education is that the developed countries or international organizations are supporting and financing research institutes or education projects on the territory of MMS, however those institutes are – as a rule – isolated technological enclaves on the territory of MMS. Such institutes are not very active in the upgrading or developing of the national human and social capital of the MMS hosting the institute, but – to the contrary – more often those institutes may play the role of the gates for the brain-drain of gifted local individuals, whom - after some period of time of work in those institutes - are offered more attractive positions abroad, in businesses and universities in the national economies of funders.

In *mini-economies* the building of basic human capital on middle level (e.g. secondary schools, vocational training) and skills (e.g. training on the job) is based on national or local system of education and professional training. National high level education is – as a rule – limited to the fields of pedagogics, law and administration, economics, some domains in engineering and natural sciences depending on the profile of the economy.

The development of human capital in more specialized domains, for which the *mini-economy* needs the limited number of people, relies on the access to the education and training outside the mini-economy, in other countries. The creation of high level human capital by research institutes and universities is similar to that in micro-economies, although the capacity of institutes and universities in the domain of humanistic sciences, social sciences, and the branches of natural and technical sciences covers the needs of mini-economy.

Small economies are more sef-sufficient from the point of view of the developing and maintenance of *basic human capital* needed by governments, society and economy. That refers mainly to the human capital of managerial staff, experts in law, administration, engineering, basic branches of economy. However in highly specialized branches of industry, in technical sciences, in some "narrow" specializations in medicine, in the management of special projects and organizations, there are often the gaps in national human capital of professionals and there is the shortage of experienced staff. Local universities and research institutes of the MMS do not have the building of national human capital in their educational and research programs. Because of that in some domains and branches of economy the small economies must rely on other countries. That dependence refers to the branches that are based on modern technologies and on know-how developed in other countries, and have to be imported or insourced by small economies from abroad.

3.3. External economic environment

Next typological criterion of MMS economies is the relation of the economy with its *external economic environment*. From the point of view of this criterion the following types can be specified:

A. *Independent* economy;
B. *Interrelated* economy;
C. *Integrated* economy.

Ad A. *Independent* economy – the *independent* MMS has regular or incidental relations and cooperation with other economies, but in case of breaking-off or disturbances those relations the economy is able to adopt itself new situation using their internal resources. Independent MMS are many distant island countries, distant exclaves, regions economically semi-autarchic, relatively self-sufficient overseas territories.

Main feature of *independent economy* is the sustainability and adoptability to the changes of political, social or economic situations without the necessity of the assistance from outside, from its external political and economic environment. This independence of MMS economy from the impact of external environment is especially important in case of high probability of political, social, economic or ecological shocks that appear seasonally or incidentally.

In globalized world full independence of economies does not exist. The MMS independent from their external environment often do not have all resources and capacities necessary for smooth absorption of shocks coming from outside and to the adoption of businesses and society. However they should be able to keep their economic and social stability and development on the basis of their own internal resources without politically-based help or the intervention from outside. However in case of extremal shocks or catastrophes exceeding the possibility of smooth absorption, also the independent MMS economies may need the support by other countries or regions.

For each particular MMS the criteria of *independence* should be defined individually. E.g. MMS that have good financial situation and rich human capital in stabilized political and market-driven economic environment (e.g. in Europe – Iceland, Luxembourg, Liechtenstein, Monaco) can be classified as *independent economies*, although they may depend on surrounding countries in many other domains of economy, also in strategic and infrastructural branches like energy, transport, water, university education, access to modern technologies. The countries of similar size in non-stabilized natural environment (e.g. seasonal hurricanes in Caribbean region) will not be *independent* in case of extremely strong meteorological catastrophes.

Ad B. *Interrelated* economy. *Interrelated* MMS are the countries and economies that have developed sustainable cooperation links with other economies in selected branches and domains. Those are mainly the interrelations of particular MMS with its external environment and with the countries creating the *fields of economic gravitation* inside which an MMS is placed. The interrelations between particular MMS and its external environment are developed often in strategic branches and sectors, e.g. monetary system, leading export-dependent and import-dependent branches of economy, strategic sectors services managed by foreign companies (e.g. tourism, insurance, transportation), research and development activities, high level specialized education, defense and security, transborder trade, highly professionalized segments of labor market, infrastructural systems like energy, air and railroad transport infrastructure, high-tech processes that need licenses and know-how. E.g. Cape Verde, Greenland, small islands in Pacific or Indian Ocean.

Ad C. *Integrated* economy. Integrated MMS economy is the part of the economic, social and ecological environment created by neighbouring bigger countries. The integration of MMS economy with its external environment may refer to the whole MMS country, or only to leading branches or to the companies dominating the national economy. Those branches or companies are entire parts of the branches of other countries or of foreign companies that have leading position in the external economic environment of MMS economy. For example, national company of MMS economy is the regional branch of big foreign company, national commercial bank of small economy is owned by foreign financial institutions, labor market of small economy is the entire part of the labor markets of its neighbouring countries creating the economic environment. Integrated MMS economies sometimes do not develop some branches or infrastructures at all, e.g. energetic infrastructure, monetary system, defense and security system, railroad or air transport. E.g. San Marino, Madera.

The interrelations of the MMS economy with its external environment should be also analyzed and classified taking into account the political independence of MMS country from external influence. The *independent* MMS *economy* is the economy that may have tight relations and cooperation with other economies, but those links are under the control of a government and businesses of MMS economy. Economic cooperation links with *independent* small economy cannot be overused by foreign companies or other governments to exert political or economic pressure on social or economic policy of MMS country, on its governments and national companies.

However, in globalized world real, full economic independence of small countries or regions does not exist. Because of that, the evaluating and measuring the *level of independence* is important for the analysis of the relations of particular MMS economies with their external economic environment. The identification

and measuring of *levels of independence* should be the task of official statistics of MMS economies.

The following types of MMS economies from the point of view of political independence can be defined:

- *Independent* MMS – the governments and businesses of *independent* small economies are able to counteract the economic and political pressure of their external economic environment and resist the impact of the fields of economic gravitation, e.g. counteraction against uncontrolled migrations, protection of energetic security, control of financial markets by governments, national universities creating strategic human capital for governments and management of economy, infrastructural mass media etc.
- *Policy-dependent* MMS – the governments and businesses of *policy-dependent* MMS economies have political, technological and economic capacity to control strategic layers of sectors and branches of economies, although economic and social policy may be influenced by external governments and foreign companies. For example, the government of small economy may keep control on natural soils of the country, however the exploitation of those soils is given to the hands of foreign companies that have finances, technologies and know-how; local governments and businesses may keep legal and administrative control on the tourist infrastructure of the country, but the management of tourism is in hands of foreign or international tourist companies
- *Sector-dependent* MMS – some sectors or branches of small economy are fully owned and managed by foreign companies or are controlled by other governments or international organizations, e.g. national banking system or insurance system of economy could be managed by national bank of other country; borders of small economy are guarded by the forces of other country, some natural soils, their exploitation and trade of products belongs to foreign companies or other governments.
- *Fully dependent* MMS – all sectors of economy of such MMS are directly or indirectly controlled by other countries or foreign companies. The governments and businesses of small economy have to adopt themselves to political and economic situation existing in their external environment. Social and economic situation of such countries or regions depends on political strategies of the big countries dominating in economic environment. Main question of the governments of fully dependent MMS economies is if the dominating countries are willing and ready to understand and accept real interests of the society of the MMS country, its ambitions of political, cultural and economic sovereignty, or the "big brothers" and international organizations are treating the MMS as the dependent areas and the territories of realization of their political and economic interests.

The evaluation and measuring of the independence of MMS economy should take into account the features of political systems of bigger countries existing in its external environment, creating the field of economic gravitation of the MMS economy. In practice, the political model of the external environment has decisive impact on all other factors of social and economic development of the MMS. The MMS countries or the MMS exclaves placed in unstable political environment cannot be classified as independent economies even if they have rich natural resources and rich human capital sufficient for full independence in other political model of its external environment.

Most of MMS – willing or not - are under the influence of the fields of gravitation generated by more powerful countries and must obey the rules and processes of their external political and economic environment. In practice the policy of the governments of the MMS countries, the activities of businesses and social organizations are often taking into account the possible reaction of their "bigger brothers".

Economic, social and political processes in the fields of gravitation influencing the MMS economies depend on political models and real political decisions of bigger countries creating the field of economic gravitation[4]. Political model of the environment of the MMS country is taken into account in the decisions of the governments and businesses of the MMS. In globalized world the superpowers as well as the regional and local powers are determining the conditions and rules of political, economic and social behavior for all sovereign MMS countries and self-governments of dependent territories existing within the frames of their economic environment and within the fields of political and economic gravitation. By the way, not only the MMS are expected by them to obey their rules, to consult with them also some internal decisions.

On the other hand the governments and self-governments of MMS are expected by the population and businesses to take the decisions and implement the laws optimal for the society and economy of the country or territory, for the benefit of their small societies and economies. We can say that the governments and businesses of the MMS are often "*between hammer and nail*" – the *hammer*

[4] The processes realized in the fields of economic gravitation, that are creating the economic environment of small economies, depend on political models and defining the interests of big countries. Democratic, market-driven economies are – as a rule – obeying international law and principles of international cooperation and trade. In political environment of the MMS economies determined by big countries, especially by global or regional powers, small countries are often made to accept limited economic and political sovereignty and adopt their economic and social policy to the expectations of "big brothers". The duty of official statistics of small economies is to provide to the governments and businesses complex data necessary for proper defining of real economic models of small economies from the point of view of the criterion on independence and for simulation of the impact of the environment on sectors, branches and the social situation of small economy.

of the surrounding political and economic environment and the *nail* of the needs, wishes and ambitions of local society and economy.

Official statistics of MMS can and should help the governments to optimize their economic policy in the conditions existing in their external political environment and under the influence of the fields of economic gravitation. Official statistics of each particular MMS should extend the scope of their traditional functions by building complex systems of dynamic statistical monitoring of the impact of external economic environment and the fields of economic gravitation of the MMS economy as a whole and on particular branches of economy and domains of social life. Official statisticians in the MMS should take the initiative to identify potential information needs of governments and other stakeholders in different possible usage situations, especially in the situations of shocks, catastrophes and other unusual impulses coming from outside.

The statisticians should not ask the users "*what data do you want*"? but they should build the scenarios of typical and extremal usage situations of local governments and businesses, to prepare in advance the statistical information systems ready to produce relevant data and to deliver to the users pertinent data without explicit request of stakeholders. Official statistics should also provide to national users the data necessary for forecasting possible threats coming from external environment and for management of possible crises and shocks. Such systems of dynamic statistical monitoring and early warning systems are of particular importance for *integrated* and *interrelated* MMS.

3.4. Natural resources

Main problem of MMS economies from the point of view of their natural resources is that those economies rather do not have their own capacities necessary for independent, effective use of the resources. For example, small island country may have rich resources of fish and other seafood, but it may not have their own shipbuilding industry, the technology for processing of products and the marketing capacities for efficient export of those products. In case of the resources that can be exploited only using high technologies and highly skilled professional staff (e.g. exploitation of mineral soils like oil, gas, ores of metals etc.), the MMS have to rely fully on foreign companies and on the policy of their countries of residence when they are negotiating the conditions of licenses for those foreign companies. Because of that the MMS are rather often dependent on the policy of big companies, institutions or countries that are active in their economic environment.

From the point of view of natural resources the MMS can be divided into three main classes:

A. *Rich resources;*

B. *Limited resources;*

C. *Conditional resources;*

D. *Poor resources.*

Ad A. *Rich natural resources*. The natural resources of the MMS country or region are *rich* if the economic effects of use or exploitation of those resources using available technologies is sufficient for sustainable development of the country in the perspective of very long time and if this exploitation is not wasting other natural, social and economic resources of the country. The MMS may have rich natural resources like: oil, gas, minerals, sea resources, favorable natural conditions for specialized agricultural production, attractive natural conditions for tourism. Many MMS, especially island countries, have their most important and most valuable economic resources are in their continental shelfs and in their 200-miles economic zones on surrounding sea or ocean.

Economic value of the resources of those MMS overcomes the needs of effective social and economic development of small countries. The MMS that have political rights to rich natural resources rather often do not have the technologies and capacities necessary or exploitation of those resources. So the MMS that have rich natural resources, do not have their own economic potential necessary for independent exploitation of those resources, their own human and social capital, know-how, technologies, industrial capital, finances, position on global markets.

In favorable political conditions the governments of rich MMS can control the sustainable exploitation of their natural resources. However political climate can be changed any time. Official statistics of MMS that have rich natural resources should build the information systems adjusted to high-risk and uncertainty of political environment.

Ad B. *Limited natural resources*. The MMS are classified as the economies of *limited natural resources* if they have valuable natural resources important for economy, but the scale of economic effects gained from the exploitation of those resources is not sufficient for sustainable development of those economies. The MMS is also classified as the economy of *limited natural resources* if the time of availability of resources is limited and the overexploitation of the soils will cause economic catastrophe in respective branches of economy in certain period of time.

In the MMS of limited natural resources the governments and businesses need the information basis for long-term forecasting of development and stability of economy as a whole taking into account of the scenarios of the exploitation of limited resources. The exploitation of *limited resources* should be carefully controlled by the governments of the MMS. The threat for MMS is the overexploitation of limited natural resources because of the

loss of the control of governments on the activities of foreign companies that have the licenses for exploitation. The obligation of official statistics is the information support of long-term forecasting of economic policy connected with the use of limited resources.

In the economic history we can find many examples of total, durable or permanent exploitation of limited resources. For the MMS economies such procesMMSs of wasteful exploitation of limited resources mean the macroeconomic catastrophe.

It may happen that the governments of the MMS do not have such information and are ready to sell the licenses for exploitation of their limited but valuable resources without effective restrictions protecting the country against the policy of grabbing by foreign or international corporations. The wasting of other resources, not so profitable for the moment, may not be taken into account. For short term exploitation of limited resources the governments of MMS can be paid and fill in the gaps in their budgets, but in middle or longer term such decisions may bring economic catastrophes. Statistics should help the governments of MMS to conduct complex, long term analyses and scenarios of different policies of exploitation of limited resources.

The availability of resources may be limited in time. It could be the scarcity of non-renewable natural resources that – in case of extensive exploitation – can become exhausted in some time. The limitation of use of natural resources could be also the effect of seasonality of use or access to resources, e.g. in many countries the tourist resources are available only seasonally during summertime or during a winter. The limitation of use of resources could be also the result of fluctuations of external demand for products, e.g. technological changes that dramatically reduce global or regional demand for some products. For most of the MMS such seasonality has macroeconomic character.

Another aspect of use of the limited resources in MMS economies are the changes of technological or ecological standards in the countries importing the products based on the exploitation of natural resources from MMS economy. Ecological and technological laws and standards are becoming more often the tools of protectionism and competition on the market. Big countries like to use this tool. It is for them very cheap method of strengthening the competitiveness of their national companies. Besides, such policy can be presented to the societies and international organizations as the protection environment, the care of people against the import of products of poor quality, protection of public health etc. The MMS do not have enough political power to counteract against such practices. The only method is to prepare their small economies to economic shocks that may be

caused by such protectionist practices. Therefore, for MMS of limited natural resources the policy of exploitation of limited natural resources needs additional official statistical information necessary for long-term simulation and planning how to optimize the exploitation of *small resources of small economies*.

The MMS – as a rule – do not have sufficient national capacity for independent, effective exploitation of their own resources. Especially they do not have the technologies necessary for exploitation of the resources. They are dependent on big international companies, institutions or on other countries. Those economies are dependent on external demand for their resources.

Governments of the MMS countries should be delivered the data enabling to simulate the middle and long term consequences of use of limited resources. Production and submission of such data is the special duty of their national official statistics. Official statistics should be obliged to collect the data on available limited resources.

Official statistical services of the MMS should have the right to demand the information on the scale and availability of limited strategic resources from all respective governmental institutions and any businesses operating on the economic territory of the MMS countries, including the economic zones on seas and oceans. Those data on resources should be integrated with other statistical variables. Such integrated data files can help the governments of the MMS economies in formulating proper policy of reasonable use of their limited natural resources, protecting the countries and nations against devastation of their most valuable natural wealth.

Ad C. *Conditional natural resources*. The *conditional natural resources* are the resources which usefulness depends on economic situation of other countries, on legal regulations, changes of fashion or habits in other countries, especially the countries that are creating the political and economic external environment of MMS. Good example of such conditional natural resource is climate, nature, monuments of historical and cultural heritage of MMS countries that are very valuable natural resource for international tourist industry. Those resources are effectively used by the MMS economy only if there is a demand from the part of other countries. The crises in the countries from which the tourists use to come to the MMS economies "specialized" in tourist services for foreigners, may generate deep economic shocks or even may bring to economic catastrophes of MMS economies. Beautiful beaches, wonderful climate and ancient architectural monuments have no economic value if foreign tourists do not want to pay for excursions or cannot afford to come to the resorts in those MMS.

The governments and the businesses of the MMS should be prepared for dynamic reaction in case of rapid change of the market for their resources caused by political decisions or by economic turbulences in other countries. The economies of the MMS should be *resistant* on such shocks.

To help the governments and businesses the official statistics in the MMS countries should include to their statistical systems the functionalities of dynamic monitoring of the potential of *conditional natural resources* and the statistical observation of the factors that influence the use of those resources for the MMS economy. Official statistics should also collect the data on all phenomena and processes in other countries that determine the *conditions* of use of those *conditional resources*.

Ad D. *Poor natural resources*. Economic value of accessible natural resources of economies is negligible from the point of view of the sustainability of development of country. The MMS economies that are poor form the point of view of accessible natural resources have to base their position and development on other assets, e.g. human and social capital, cultural and historical heritage, geographic localization in strategic places important from the point of view of geopolitics. For some MMS economies the most important value is their strategic geographic localization important from military point of view of political superpowers, from the point of view of international air and maritime transport, control of telecommunication. This value may be lost or may grow up in case of geopolitical and technological changes in telecommunication or transport.

The MMS that do not have valuable natural resources, are to large extent or dependent on the policy of bigger countries. Especially they may depend on cross-border processes between neighboring countries. The stabilization of economic situation of such MMS can be achieved by the institutionalization of cooperation with bigger countries, often within the frames of international bilateral and multilateral agreements.

The duty of official statistics of any MMS is to collect complex data on natural resources of the economy, the data characterizing the impact of economic environment on the exploitation of all four types of natural resources. Official statistics should also monitor the phenomena and processes in the economic environment, especially in the field of economic gravitation to deliver to the governments and businesses of the MMS all data necessary for monitoring and forecasting of possible shocks and catastrophes that may come from outside, caused by political, economic or ecological processes taking place in other bigger countries (e.g. political turbulences, embargos, ecological catastrophes, shocks on financial markets etc.).

3.5. Transborder processes

Most of the MMS are under the influence of cross-border processes that are – as a rule – covering the whole territories of MMS countries. The only exceptions are the island countries that are distant from other economies, e.g. small island countries on open oceans. However nowadays, because of the development of communication and transportation technology and decrease of costs of transport, the geographic coverage of cross-border processes and the areas of transborder economies are rapidly growing. Now much more small island countries may belong to transborder economy created by their relatively distant neighbors than it was few decades ago.

The scale, the power and the forms of impact of cross-border processes on MMS depend on the specificity of the fields of economic gravitation surrounding particular MMS and on its political environment. Often the whole MMS is the entire part of bigger transborder economy covering the border regions of bigger neighbor countries and the MMS economy as a whole. In this new situation all socio-economic subjects and processes of MMS are – more or less, but often fully – dependent on transborder economy dominated by bigger neighboring countries.

The dependence of MMS from related transborder economy does not mean the political dependence of small country on their neighbors. *Transborder economic dependence* may refer both to politically sovereign countries, to the countries of limited political sovereignty and to the politically dependent territories, e.g. exclaves of other countries.

From the point of view of impact of transborder economies and cross-border processes the following types of small economies can be defined:

A. *Total dependence*;
B. *sectorial dependence*;
C. *Infrastructural dependence*;
D. *Independence*.

Ad A. *Total dependence*. Small economies that are entire subsystems of transborder economy are *totally dependent* on cross-border processes. That means that any decision concerning the activity realized by national economic or social subjects in small economy should take into account all possible impact of external factors of transborder economy. The governments of such small economies in their political and administrative decisions should take into account. *Totally dependent* are – as a rule – the economies that are the enclaves or the MMS that do not have their own natural, infrastructural or demographic capacity for sustainable existence, development and for building the competitiveness of the economy on global market.

Ad B. *Sectorial dependence*. The MMS are often dependent on transborder economy from the point of view of selected sectors of economy, e.g. sector of energy, water supply, transportation, banking sector, university education, specialized health services or mass media. Sectorial dependence is rather common for micro and mini-economies geographically placed among bigger countries that have developed respective branches of economy and agree to supply the products of those branches to small neighboring small economies.

Ad C. *Infrastructural dependence* on the transborder economy means that the MMS economy is made to use the infrastructures developed and controlled by other countries. Often the MMS countries do not develop their own infrastructure in some domain of economy relying on the use of infrastructural facilities of other countries.

The infrastructural dependence is common in case of the infrastructural facilities which size or scale are significantly overcoming the needs and economic possibilities of the MMS economy. Infrastructural dependence refers mainly to the energetic infrastructures, transportation infrastructure (road, railway, water transport), water supply, telecommunication, information infrastructure in some domains of social and in profiled university education, highly specialized health care services.

Ad D. *Independence on cross-border processes.* The MMS are independent on cross-border processes in case of small island countries that are beyond the economic gravitation of any other economies. The MMS can also be independent on cross-border processes if their borders with neighbouring countries are isolating the businesses and societies, because of political decisions and administrative regulations or because of natural conditions (e.g. mountains, deserts).

The independence on cross- border processes does not mean that the MMS economy is autarchic or fully independent from other economies. It may be dependent as any economy in globalized world, but not as the entire element of regional transborder economy.

In all MMS that are or potentially could be dependent on cross-border processes, the transborder statistics and monitoring of transborder processes is the domain of statistics of utmost importance. It is necessary to elaborate methods and tools of statistical monitoring of transborder economies from the perspective of different types of the MMS countries. Important task of statistical community is the elaboration of methods of delimitation of transborder economies and the tools and indicators for statistical monitoring of the impact of processes of economic gravitation on MMS countries.

3.6. Geopolitical status

From the point of view of geopolitical status the following types of the MMS can be specified:

A. *Sovereign state;*
B. *Exclave;*
C. *Autonomic territory;*
D. *Dependent territory;*
E. *Occupied territory.*

All those types are well defined in international law and are used as the standard typology in international statistics.

Practical problems of classifying the MMS to particular types of political status arise in the situations of conflicts of interests between superpowers, regional powers or bigger states related to the MMS. Particular MMS economy could be considered by some states or international organizations as a sovereign state while at the same time other countries and international organizations may consider the same MMS as occupied territory.

For example, the MMS for one country could be an *occupied territory*, while for other country could be a formally *sovereign state*. More complicated is the situation if the MMS composed of a number of small island is considered by UN and many countries as one *sovereign state*, while one or few countries are a part of it – one or few islands – as the exclave of other country (e.g. political situation of islands on the South Chinese Sea).

3.7. Geographic space

Geographic space of the MMS economy is an important indicator characterizing the possibilities of potential development of such economy. The indicators measuring of the space of the MMS economies are necessary for computing any statistical coefficients of density of any other objects, phenomena and processes *per square kilometer* (*square mile*). For statistical purposes, for proper interpretation and comparability of the measuring of density per unit of geographic space, the following main statistical characteristics of the geographic area of the MMS economy are necessary:

A. *geographic space,*
B. *economically usable space,*
C. *economic space*.

The *geographic space* is the land area of particular MMS according to its political status. Practical problems of measuring and classifying the geographic space of MMS appear in case of conflicts of political interests of external countries

connected with the delimitation of borderlines of the territories of particular MMS.

In such situation collecting of data and statistical measuring of geographic space as the basis for compiling of any other indicators and indexes *per square kilometer* (mile), is difficult because of the problems of access to integrated and complete microdata.

The identification and measuring of the *economically usable space* is necessary for those MMS economies, which geographic space is extremely diversified from economic and social point of view. The indexes of density in any domain of statistics can be uninterpretable or even misleading without more precise defining of types of geographic space. For example in Greenland, the autonomic territory of Denmark (2 166 thousands sq. km, population 56 thousands), over 80 % is economically not exploitable and depopulated. At the same time the economic space of Greenland covers the 200 miles of maritime economic zone and is great value for the economy of Greenland as the MMS and for the whole Denmark. More extreme examples are the MMS economies that are the dependent territories of other countries on Pacific, Indian Ocean or Atlantic, with zero population, but with 200 miles of maritime economic zone around them. The same phenomena refer also to sovereign states that in the past were the colonies or dependent territories of bigger states.

The identification and measuring of *economic space* of the MSS is important for the economies that have direct access to seas or oceans, covering not only the land surface, but also economic maritime space, e.g. 200 miles around the island and other economic spaces according to international laws and multilateral agreements. Some problems appear in an MMS economy is located on the seashore with narrow strip of the shore, close to other countries. Official statistics should identify relevant strips of the sea or ocean according to legal status of division of economic space between neighboring countries (e.g. the impact of the access of West Balkan countries to the eastern shore of Adriatic and the division of economic space between those countries on statistical indicators measuring national economies of these countries).

Official statistics is obliged to elaborate relevant methods of delimitation of all three types of space for each MMS. Official statistics should also elaborate relevant statistical indicators measuring those three spaces (A, B, C) of MMS as separate economies as well as the parts of other national economies, for each type of geographic and political status.

International statistical community realizing the Amendment 10 of the UNFP woulod do good job helping the colleagues from MMS to elaborate such methods and indicators for each type of political and geographic status that may take place in practice of each MMS. Special attention should be paid to fragile regions and

to the areas of real and potential conflicts of political and economic interests between bigger countries of the region. The obligation of official statisticians of both the MMS and neighboring countries is also to cooperate in producing reliable statistical data measuring so complicated situations of delimitation of space of countries and economies.

4. Use of the facet typology of MMS for statistical capacity building

For better measuring, interpretation of statistical data and understanding the specificity of social and economic processes it is necessary to classify each economy is strongly recommended to classify of each micro, mini or small economy using the facet based typology discussed above. Such classifying would be useful not only for the governments of sovereign MMS and for governments of exclaves, autonomous and dependent territories, but also for international organizations, especially the United Nations, and – hopefully – for all bigger countries that have the impact on the situation of the MMS economies by shaping their political, social and economic environments, the processes of economic gravitation and transborder economies inside which all MMS have to exist and survive.

All listed below 7 facets of the typology are necessary to define for particular MMS the attributes that should be taken into account in the building of the system of official statistics and the strategy of development (NSDS) of the MMS:

[1] Demographic potential;

[2] Human and social capital;

[3] External economic environment;

[4] Natural resources;

[5] Transborder economies and cross-border processes;

[6] Political status;

[7] Geographic space.

From such typological classifying official statisticians can and should derive practical conclusions what priorities should be defined in the strategy of official statistics in particular MMS, how the interchange of data between statistical agencies of the countries creating the economic environments and the fields of economic gravitation and the statistical services of the MMS shall be organized, and what initiatives should be undertaken by international organizations that are developing and coordinating the global system of official statistics.

Each micro, mini and small country and economy should be classified by concatenation of all seven criteria listed above. For each country the values of attributes used for classification should be analyzed and – if necessary – verified.

Conclusion

Each MMS should be classified according to the above facet typology. For each multi-criterial behavioral type of MMS the models of statistical information system should be elaborated.
The models may be used by particular MMS for strategic planning (elaboration of the NSDS's), capacity building of official statistics, optimization of functionalities of statistical agencies and specification of leading statistical indicators relevant to the specificity of each particular MMS economy.
Multi-criterial facet-structured typology of the MMS needs further research works and discussion among statisticians of MMS and interested experts from other countries.
The contribution of International Statistical Institute, statistical offices of the United Nations and other international organizations in elaborating official multi-criterial classification of MMS can hardly be overrated.

REFERENCES

Cierpial-Wolan, M., Lasek, D., Olenski, J., (ed.), (2014). Foundations of transborder economics and statistics, Publ. Association of Carpathian Euroregion and Rzeszow University, Rzeszow.

Dissemination Standard Bulletin Board (DSBB), International Monetary Fund, https://sdbb.imf.org

European Statistics Code of Practice, (2017). adopted by the European Statistical System Committee, publ. Eurostat.

ISI Declaration on Professional Ethics, (1985). adopted by ISI General Assembly, Amsterdam.

Olenski, J., (2013). Education of Masters in Official Statistics for globalized economy in modern ICT environment, ISI 2013 World Statistics Congress, Hong Kong, 25–30 August 2013, Special roundtable session: Modern training of statisticians for modern globalized economy, session organized by Misha Belkindas, Open Data Watch, Washington.

Olenski, J., (2017). Role of official statistics in fragile countries, regions and branches of economy, in. Statistical Journal of the IAOS, Vol. 33, No. 4, Publ. IOSPRESS, ISSN 1874-7655 (P).

Olenski, J., (1979). The structure of the statistical information system and the methodology of surveys in terms of computerization, in : Proceedings of the ISIS 78 Seminar on integrated statistical information systems and related matters, Economic Commission for Europe and the Conference of European Statisticians, United Nations Computing Research Center, Bratislava 1978. Published in UN Journal of Official Statistics, Geneva.

United Nations Fundamental Principles of Official Statistics, (2012). Adopted by United Nations General Assembly, New York.

Zeeman, E. C., Catastrophe Theory, (1977). Selected Papers, 1972–1977, Addison – Wesley Publ. Co., Massachusetts.