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EU RAIL PASSENGER TRANSPORT – AN IMPORTANT DETERMINANT OF SUSTAINABLE DEVELOPMENT

Abstract

The 2030 Agenda for Sustainable Development has become the global blueprint for sustainable development. Sustainable development is supposed to change functioning of societies and economies in order to minimize negative ecological effects, at the same time providing for the needs of present and future generations. Due to its functions, transport is indispensable for meeting these needs, but it also generates demand for energy resources and has a negative impact on the environment. Appropriate shaping of transport systems is, therefore, an important element of the transformation of economies towards sustainable development and thus a key task for government policy.

Rail is among the most energy efficient modes of transport for freight and passengers. The aim of this article is to assess the development of rail passenger transport in European Union countries on the basis of statistical data in the context of the need to transform mobility systems in accordance with the principles of sustainable development. The analysis of the data shows that the development of rail transport is low compared to road and air transport, which raises questions about the reasons for this fact and the further measures needed.

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1. INTRODUCTION

The 6th report of the UN's Intergovernmental Panel on Climate Change (IPCC), published in August 2021, leaves no doubt - civilization is in a situation of urgent need to combat climate change through rapid and deep cuts in greenhouse gas emissions causing global warming. This requires radical changes in the principles of functioning of economies and societies. The new rules that should be applied are familiar to societies. The first warnings against over-exploitation of resources and pollution of the Earth appeared already in the 1970s in the Club of Rome report "Limits to Growth". Subsequent initiatives and work undertaken by UN commissions and teams led to the formulation of concepts and principles of sustainable development, and guidelines for its implementation.

In 1983, the United Nations General Assembly established the World Commission on Environment and Development (WCED). The Commission was tasked with developing long-term environmental strategies to achieve sustainable development by the year 2000 and beyond. It was also tasked with making recommendations for improving international cooperation on environmental protection, taking into account the different phases of economic and social development. The Commission's report "Our Common Future", published in 1987 and known as the Brundtland Report, is considered a major contribution to the global model of sustainable development. This report included the postulate of sustainable development, which is about meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. (UN, 1987, p.54)

Another important contribution to the sustainable development process at the global level was the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992. At the Rio Conference, 178 participating countries committed themselves to the guiding principle of global sustainable development. During the conference, states were able to agree on common solutions, which, among other things, constituted agreements for future environmental and development cooperation. Already in these first documents the important role of transport and the consequences of its development for the environment were pointed out. The EU adopted a strategy for sustainable development in 2001.

Sustainable development has officially become one of the long-term objectives of the European Union in accordance with Article 3(3) of the Treaty on European Union. (EU, 2012, p.17)

The 2030 Agenda for Sustainable Development, adopted in 2015 by 193 countries of the United Nations and comprising 17 Sustainable Development Goals (SDGs), has become the global blueprint for sustainable development. Sustainable development - is a development path that takes into account the current needs of all people without compromising future generations and their needs, based on three pillars: economic, environmental and social. An efficient transport system is one of the basic sectors of the well-functioning economy and an important component of life quality. Economic development entails an increase in transportation needs in the transport of goods and people, putting new requirements for ensuring the smooth flow of goods and mobility of people. At the same time, transport has a negative impact on the environment, contributing to climate change and global warming. These include greenhouse gas emissions, air, noise and water pollution, but also accidents, road crashes and congestion. Halting these changes has become a challenge for the present generation.

In the European Union, transport currently accounts for around a quarter of total greenhouse gas emissions (EC, 2018, p.7). Assuming a moderate economic growth over the long term, it is predicted that between 2010 and 2050 there will be an increase in demand for passenger transport of approximately 42% and for freight of 60% between 2010 and 2050 (EC, 2017, p.22). Reconciling the need for economic development and halting environmental degradation requires a shift in the EU transport system towards an environmentally friendly system. Rail transport, which has much lower external costs than road or air transport and a large and, in addition, underutilized transport potential, can play an important role in such a system. Rail is among the most energy efficient modes of transport for freight and passengers - while the rail sector carries 8% of the world's passengers and 7% of global freight transport, it represents only 2% of total transport energy demand. (IEA,2019, p.25). Underlining the importance of this form of transport for future sustainable development, the European Commission has declared 2021 to be the European Year of Rail.

2. A VISION FOR RAILWAYS IN THE EUROPEAN TRANSPORT POLICY PROGRAMS

A consistent policy to strengthen rail transport has been one of the priorities of European transport policy since the early 1990s. In the initial period, rail policy focused on three areas which created the conditions for the efficient and effective functioning of railway undertakings. They were:

– creation of a common railway market (through deregulation and liberalization),
– restructuring and revision of the functioning of state-owned railways,
– modernization of the railway infrastructure.

The measures taken led to the elimination of barriers to rail transport between EU Member States, to clear development of the supply side of the railway market and the emergence of new, also private carriers. These changes were accompanied by investments in railway infrastructure, also funded by large amounts of EU funds. These achievements are indisputable progress in the modernization of institutional structures and turn close this branch of the transport requirements of modern economies. However, in relation to the volume of freight, rail policy effects are rather moderate, although varied in different EU countries.

Key actions identified in the White Paper of 2011 have to bring structural changes to the railway sector and to increase rail network bandwidth. (EC, 2011, p.9-10) In particular, these are the following:

– tripling the length of the existing high-speed rail network by 2030,
– maintaining a dense conventional rail network in all Member States of the European Union,
– increasing the capacity and improving the quality of railway network,
– integrating railways into the multimodal urban travel and transport network by better integrating all forms of public transport, including the transformation of transport points (airports, stations, stations, ports) into multimodal connection platforms,
– development of multimodal internet information, electronic reservation and payment systems.

The 2011 White Paper program also sets specific transport objectives for rail transport, including the takeover by rail of the majority of passenger traffic over medium distances by 2050. An important action in relation to passenger transport is the integration of railways in public transport systems. This is not a new direction. The developed concept of integrating all forms of passenger transport in all possible areas was already presented by the European Commission in 1995 in the Green Paper on a Citizens' Network (EC, 1995). In order to support these measures, the introduction of extended and more precise ex-ante evaluation criteria for projects was announced, which will guarantee selection for implementation only of projects bringing real economic and social benefits. This may mean opportunities for less capital-intensive projects, but yielding desirable effects, such as the integration of conventional rail into other public transport systems or behavioral changes, to stimulate demand for public transport. Increasing the share of rail in meeting the transport needs of the economy and society is one of the permanent priorities of the European Union's transport policy since the 1990s. However, the transport sector's greenhouse gas emissions have increased over time and now account for up to a quarter of total EU emissions (EU, 2019, p.1).

The EU's current transport program, the 2020 Strategy for Sustainable and Smart Mobility, continues to prioritize supporting cohesion, reducing regional disparities and improving connectivity and access to the internal market for all regions. The vision for future transport is “Greening mobility”, which must be the new license for the transport sector to grow (EU, 2020, p.2). Mobility in Europe should be based on an efficient and interconnected multimodal transport system, for both passengers and freight, enhanced by an affordable high-speed rail network. Rail is one of the most sustainable, innovative and safest transport modes. To experience this, 2021 has been declared the European Year of Rail.

The time has passed. As stated in point 9 of the transport vision presented in the document, Europe needs to change the existing paradigm of incremental change and undertake a fundamental transformation. In order to realize the vision, the strategy identifies 10 flagship initiatives and an action plan for the work in the coming years. As for the railways it is assumed that high-speed rail traffic will double by 2030 and triple by 2050 and by 2050 rail freight traffic will double. (EC, 2020, p.3) To transform the transport sector into a truly multimodal system of sustainable intelligent mobility services, Europe needs to build a high-quality transport network with high-speed rail services for short distances and green aviation services to increase the number of connections on longer routes. (EC, 2020, p.9)

3. PASSENGER TRANSPORT ON HIGH-SPEED RAILWAY LINES

In the overall volume of rail passenger transport, several segments are distinguished according to the needs served, coverage and technical solutions: urban and agglomeration transport, regional transport and interregional transport. In the inter-regional transport segment carriage is further provided on the conventional, upgraded lines allowing traffic at speeds on the main segments equal to or greater than 200 km/h and on lines newly built for this purpose with speeds exceeding 250 km/h (HSR - high speed rail). The high-speed railway network is designed mainly to serve traffic between large urban agglomerations, usually connecting the capital of the country with the largest cities of social and economic importance. The first such lines in the EU were built in 1985 in France and Italy. By the year 2000, the construction of HSR lines in Germany, Spain and Belgium had been commenced. In 2000, the total length of high speed railway lines was 3014 km. The first decade of the 21st century saw a dynamic acceleration in the construction of new lines and the consequent doubling of their length. In 2010, high speed railway lines have been constructed on the territory of the 7 EU Member States (including Great Britain), and at the end of year had a total length of 8268 km.

The dedicated HSR lines in operation are located in seven EU Member States, with the largest length in Spain (3 015 km) and France (2 735 km). Relatively long, about one thousand kilometres are also the dedicated HSR networks in Germany (1223 km) and in Italy (896 km). The shortest dedicated HSR networks, less than 100 km in operation are in Denmark (56 km) and in Netherlands (90 km). The HSR network in Belgium has the length of 209 km.

In Poland is since 2015 only one line in operation, after modernisation suitable to higher speeds. The length of it is 224 km and no new lines have been adapted to high speed since than. The length of HSR lines in operation and under construction in the EU is presented in Table 1.

Table 1. The length of high speed railway lines in the EU

High-speed railway lines [km]							
	1990	2000	2010	2015	2020	Under construction	Start of operation
	Lines in use [km]					[km]	
UE	1 025	3 014	8 268	10 037	11 526	2 104	
ES	-	471	2 102	3 002	3 487	1 135	2021-2028
FR	717	1 290	1 912	2 058	2 734	-	-
DE	90	576	1 178	1 381	1 571	147	2022-2025
FI	-	156	1 120	1 120	1 120	-	
IT	194	238	856	856	921	327	2022
SE	-	187	680	860	860	214	2024 - 2035
AT	24	24	121	237	254	281	2022-2027
PL	-	-	-	224	224	-	-
BE	-	72	209	209	209	-	-
NL	-	-	90	90	90	-	-
DK	-	-	-	-	56	-	-
UK	-	-	113	113	113		

Source (EU Transport in Figures, 2021, 81)

The data in the table indicate that HSR lines are operated mainly in the countries of the "old" EU, while in the countries that acceded to the Community in 2004 and later is only one such line (in Poland). In relation to the entire rail network, these lines represent less than 6% of the total railway lines length (11 526 km among 200 161 km). In the near future the situation will not fundamentally change, since the construction of new high-speed lines in the greatest extent is conducted only in Spain and to a lesser extent in other countries, continuing the expansion of existing networks. New, longer lines are being built only in Austria and Sweden. The country with the longest HSR network in operation - Spain - is at the same time building the longest network of new lines. This clearly demonstrates the usefulness and popularity of this form of transport and the benefits it brings. After completion of construction in 2029, the length of the HSR network in the EU will be 13 630 km.

Only two types of data on rail passenger transport are available in the statistics collected by Eurostat: high-speed and total. High-speed services include services performed by high-speed rolling stock, e.g. tilting trains, travelling at speeds of 200 km/h, not necessarily on infrastructure built for high speeds. Subject to this disclaimer, high speed transport is carried out in 12 EU countries, in addition to those mentioned above also in the Czech Republic, Portugal and Slovenia. Data on the development of passenger rail services, including high-speed rail services, are shown in the table 2 and figure 1.

Table 2. Performance of EU rail passenger transport expressed in passenger kilometers [billion pkm]

Year	UE -27 Rail performance	Change in %	HSR performance	HSR as % of total rail performance	HSR performance change in %	Other rail performance	Other rail change in %
1995	312,7	100	32,9	10,5	100	279,8	100
2000	338,6	108	58,8	17,4	179	279,8	100
2001	373	119	65,13	17,5	198	307,9	110
2002	366	117	68,0	18,6	207	298,0	107
2003	362	116	70,7	19,5	215	291,3	104
2004	368	118	76,1	20,7	231	291,9	104
2005	339,8	109	79,7	23,5	242	260,1	93
2006	391	125	84,3	21,6	256	306,7	110
2007	396	127	88,7	22,4	270	307,3	110
2008	412,7	132	97,6	23,6	297	315,1	113
2009	405,3	130	104,1	25,7	316	301,2	108
2010	358,3	115	104,9	29,3	319	253,4	91
2011	364,1	116	103,7	28,5	315	260,4	93
2012	367,3	117	105,4	28,7	320	261,9	94
2013	371,8	119	107,3	28,9	326	264,5	95
2014	376,3	120	106,4	28,3	323	269,9	96
2015	381,7	122	109,9	28,8	334	271,8	97
2016	386,6	124	114,3	29,6	347	272,3	97
2017	400,8	128	124,2	31,0	378	276,6	99
2018	407,3	130	126,1	31,0	383	281,2	101
2019	421,4	135	132,0	31,3	401	289,4	103
Change in %							
2012-2019	14,7%		25,2%			10,5%	

Source (EU Transport in Figures, 2013. 2018, 2021, own calculations)

The HSR transport segment is growing steadily. Passenger transport by high-speed rail has quadrupled since 1995 and increased by over 25% since 2012[2]. This is disproportionate to the increase in the length of the HSR network. The length of new HSR lines increased from 6825 km to 11526 during this period, which means an increase of nearly 69% (Engelhardt J., 2019, 3). However, the share of HSR passenger transport in the total rail passenger market has not increased significantly. In 2012, the HSR transport segment (incl. tilting trains able to run 200 km/h) accounted for 28.7% of the total rail passenger transport in the EU and in 2019 it was only 2.6 percentage points more, giving 31.3% (in billion pkm).

Conventional rail passenger transport volume increased during this period by only 10%, what together with the HSR resulted in an increase of total rail passenger services volume accounting to 14.7%.

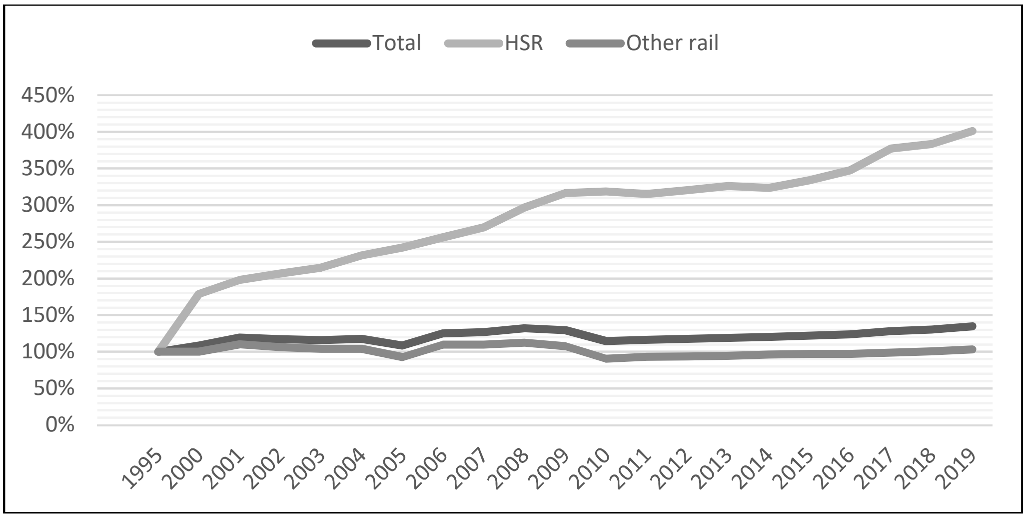

Fig. 1 EU Rail passenger service performance
Source: own elaboration, based on: EU Transport in Figures, 2013, 2018, 2021

[2] 2008-2011 were a time of global economic crisis, which affected the operation of rail transport.

In Poland in 2004 rail passenger transport amounted to 28,2 billion pkm and declined until 2015, when its value was 17.4 billion paskm. Since that year there has been a significant increase of 27% to 22.1 billion pkm. However, this is still much below the value in 2004 (EU, 2021, p. 53-54).

The largest volume of HSR transport is carried out in France. The HSR performance in this country in 2019 amounted to 59,95 billion pkm, which constituted over 58 % of the total rail performance in France and 45% of the high speed rail transport in the all EU countries. Apart from France, the leaders of high speed rail transport in the EU include Spain, Germany, Italy and Sweden. In total, high-speed rail transport in these five countries accounts for 92% of all HSR transport in the EU, equivalent to 132 billion pkm (EU,2021,p.54). The data in Table 3 show the development of the rail passenger transport in both main types of rail passenger services in the leading HSR- countries.

Table 3. The development of rail passenger transport in selected EU countries [billion pkm]

	DE		FR		ES		IT		Sweden	
	Rail other	HSR	Rail other	HSR	Rail other	HSR	Rail other	HSR	Rail other	HSR
2000	75,4	13,93	74,9	34,75	20,1	1,94	49,6	5,09	8,2	2,05
2010	83,9	23,90	92,4	51,89	22,5	11,72	47,2	11,61	11,2	2,94
2015	91,7	25,28	94,7	49,98	26,1	14,13	52,2	12,79	12,7	3,37
2019	100,4	33,20	102,1	59,95	28,8	16,07	56,6	12,79	14,6	3,90
% Change 2010-19	19,6%	38,9%	10,5%	14,7 %	28,0%	37,1%	19,9%	10,2%	30,3%	32,6 %

Source (own calculations, EU Transport in Figures, 2021, 53-54)

With an HSR network twice as long as Germany's, Spain carried only 16.07 billion pkm in 2019, half of the Germany's volume. This is clearly related to the population and population density, which is 231 inhabitants per square kilometer in Germany and only 80 in Spain (European mainland). An important issue is also the connection of high-speed railway lines with the local transport system of the region through which they run. Consequently, the question arises about the economic efficiency of the HSR network and the conditions that justify its construction and spending public money.

In Poland performance of HSR transport is counted since 2005, when the volume of this mode of rail amounted to 0.47 billion pkm. In 2019, the passenger volume on this only HSR line was already 1.68 pkm, four times bigger, representing 7.6% of total passenger rail services.

The market success of high speed rail is undoubtedly connected with a huge quality leap in the railway offer, primarily with a significant reduction in travel time within the range of average distances of 300 - 500 km. The first European high-speed line, the LGV Paris-Sud-Est, linking France's two largest conurbations, Paris and Lyon, has made it possible to cut journey times between them from 4 to 2 hours (Masel A., 2006, 35). High-speed rail travel has become an attractive alternative to air transport, so a significant part of HSR passengers are customers taken over from air transport. Conventional railways are also important, complementing the network of high-speed lines and creating an integrated mobility network, which is what the EU is aiming for. The superior quality of transport services provided on HSR lines is reflected in significantly higher dynamics of development of this segment, as shown in the table 3 (except Italy).

4. MODAL SPLIT OF PASSENGER TRANSPORT IN THE EU

Railways operate in 27 EU countries, except Cyprus and Malta. Between 2010 and 2019, there has been an increase in the transport volume and in the share of rail services in the passenger transport market, both in the high-speed and conventional rail segments. The systematic development of agglomeration and metropolitan railway systems is a factor stimulating an increase in the volume of traffic on conventional rail. Serving metropolitan cities and agglomerations is that area of transport, where the railway finds the most effective conditions for functioning, resulting from the mass nature of transport needs. This in turn translates into a good quality offer and its popularity. The data in Table 4 illustrate changes of modal split of the passenger transport in the EU (without Great Britain).

Table 4. Passenger transport in the EU [billion pkm]

EU	2000	2010	2019	Change 2010-2019
Passenger transport total	5 001	5 411	6 038	7,1%
Railways total	338,6	358,3	421,4	17,6%
EU HSR	58,8	104,7	132,01	25,9%
Railways share [%]	6,8	6,6	7,0	
HSR share in passenger tr. total [%]	1,2	1,9	2,1	
Bus & coaches	496,5	482,2	486,7	0,9%
Bus & coaches share [%]	9,9	8,9	8,1	
Passenger cars	3 660,4	3975,9	4 325,0	4,4%
Passenger cars share [%]	73,2	72,7	71,6	
Air	313,3	377,9	582,9	33,3%
Air share [%]	6,3	7,0	9,7	

Source (EU Transport in Figures, 2021, 53 - 80)

Individual motorization, despite a slight decline since 2000, accounts for the largest share of passenger transport (71,6%), due to its flexibility and importance in serving the so-called "last mile" and door-to-door connections. This situation is therefore unlikely to change much in the coming years.

The second largest share of passenger transport in the EU is held by air transport, at 9,7%. This mode of transport had also the highest growth rate over the whole period considered (except for the initial period of development of the HSR). Consequently, the share of air transport in passenger transport in the EU is higher than the share of passenger rail transport.

The increase in transport performance on HSR lines was at nearly 25,9% compared to 17,6% on conventional railways. As a result the share of rail services in the total passenger transport market slightly increased from 6.6 to 7,0% (Table 4). The most likely cause for these changes may be an increase in demand in the segment of agglomeration rail transport related to dynamic suburbanization processes. In the conditions of growing road traffic and congestion, agglomeration railways are an attractive alternative to daily commuting. In conclusion, both segments of the rail passenger market included in the statistics show positive development dynamics in recent years. Rail passenger transport has shown a higher growth rate than total passenger transport in the EU, which is an expected effect in the light of transport policy and sustainable development.

Short travel times, achieved through high speeds, are undoubtedly a great advantage of the HSR railways, which speaks in favour of their development. This will depend however on the availability of sufficient funds. As the ECA points out, high-speed rail infrastructure is expensive, the lines audited costed, on average, 25 million euros per kilometre. The level of cost reasonableness is low (ECA, 2018, p.58). Most of the construction and maintenance costs of rail infrastructure are covered by the Member States. As the European Commission points out, investment expenditures on the development of transport infrastructure amounting to 2.7% of GDP in 2016 were the lowest in 20 years [EC, Trends, 23].

This fact has also a negative impact on the maintenance of the existing, conventional railway network. As data show, the conventional rail network in the EU is shrinking. Since 2010, the length of the rail network has decreased in seventeen EU countries and only in ten countries has increased. The data in Table 5 illustrate the changes in the length of the rail network in selected EU countries.

Table 5. Rail lines in use in selected EU countries

	Lines in use [km]		% Change	
	2010	2019	Decrease	Increase
UE-27	203 847	200 161	-1,8	
BE	3 582	3 602		0,6
DK	2 606	2 646		1,5
DE	37 679	39 379		10,7
EE	919	1 033		12,4
ES	15 837	15 718	-0,7	
FR	30 335	27 483	-6,5	
IT	17 022	16 779	-1,4	
NL	3 013	3 055		1,4
AT	5 039	4 968	-1,4	
PL	19 702	18 538	-5,9	
LV	1 897	1 860	-1,9	
HU	7 893	7 588	-3,8	
RO	10 777	10 759	-1,6	
FI	5 919	5923	-	-
SE	11 160	10 899	-2,3	

Source (EU Transport in Figures, 2021, p.80, own calculation)

The largest decrease in the length of the rail network occurred in France and Poland, while the highest increase of 1700 km occurred in Germany, where the rail network is still the longest in the EU. There is also a noticeable decrease in the length of lines in operation in the Central and Eastern European countries that joined the EU in 2004.

5. CONDITIONS FOR DEVELOPMENT OF EU RAIL PASSENGER TRANSPORT

Increasing the use of rail transport to meet the transport needs of the economy and society is one of the most important issues in European transport policy. Despite detailed legal regulations and significant financial support, both from EU funds (TEN-T network) and national funds, the actions undertaken have brought moderate results in terms of increasing the volume of rail transport, which is confirmed by the analysis presented in the previous part of this article. Measures supporting the functioning of rail transport must be continued, but enriched with market-effective and economically efficient actions.

The overriding, current objective of the European transport policy is to link the national transport systems into one common Community transport system. This system should be able to satisfy increasing transport needs while consuming fewer energy resources and having less negative effects on the environment (EC,2011,3). But, as stated in the special report of ECA, there is no real high-speed European rail network - only a patchwork of national high-speed lines. Work on cross-border sections of HSR is not being finalized in a coordinated manner. The Court's assessment of the maximum “speed yield” clearly shows also, that HSR services are not always needed - in most cases, lines are only achieving an average speed of around 45% of design speed. this means low added value for EU co-financing of high-speed rail infrastructure investments in the Member States (ECA, 2018, 64, 65).

An indispensable condition for the effectiveness of the railway are investments allowing for an increase in capacity and modernization of the railway network. The EU transport policy documents emphasize the need to spend money only on projects with real added value for the EU. As it results from the earlier analysis of statistical data, the most dynamically developing segment of rail passenger transport in the EU is transport on HSR lines. Previous undertakings in this area, implemented in France, Germany or Spain, have been a great market and financial success. However, it would be simplistic to conclude that any project in this area will bring similar economic benefits. The key issue for the success of the new HSR lines, and also for the realization of the White Paper's objective, i.e. for railways to take over the handling of a larger proportion of passengers than before, is to generate sufficiently high demand for rail transport so that both the new and old lines are used. Running a profitable operation on the HSR line, due to the high costs of access to the infrastructure, requires a very high number of passengers, in the order of 9 million per year or at least six million passengers in the year of commissioning (ECA, 2018, p.43)

Analyzing the economic effects of selected, similar infrastructural investments in transport, T. Leunig noted that the greatest benefits from the construction of a new connection occur when the connection makes it possible to reach new markets, gives wider possibilities of choice or opens new spaces, necessary for the development of economic activity (Leunig T., 2011). Building a connection as such does not necessarily mean obtaining economic benefits that exceed the outlay. The benefits will be greater the greater the difference between the existing and the new link. Hence the conclusion that the decisive factor for society is the broadly understood increase in the usefulness of the new connection in relation to the existing one, taking into account the costs of the service, and not only the absolute reduction in travel time. This may provide opportunities for projects which are less capital intensive but which have the required effect, such as the aforementioned integration of conventional rail with other high speed rail systems or projects aimed at behavioral changes enabling a stimulation of demand for public transport. (EC, 2011, p.10).

The increase in utility of a new connection can be estimated by examining the willingness to pay of potential passengers for the new service. The volume of this new demand should be large enough to ensure the viability of the whole system. It should be noted that an increase in transport on HSR lines may be accompanied by a decrease in transport on conventional rail lines and a decrease in the number of airline customers, which means economic losses for the carriers operating them.

6. CONCLUSIONS

Despite political and financial support, the development of rail passenger transport in the European Union is showing a weak dynamism. All segments of rail passenger transport require substantial public support and funds for investments. High-speed rail requires investment in new lines and rolling stock, regional and agglomeration railways need support for an attractive, regular and relatively low-cost offer, and low-burden lines generate a deficit. This situation puts public budgets in a difficult position. As a result, rail transport growth is observed mainly in countries with a high level of economic development, which are able to devote significant funds to the development of HSR system and to subsidize other segments of rail transport.

The ever decreasing availability of public funds to finance transport projects requires a careful analysis of possible solutions which would achieve the same goals. The objective set out in the White Paper 2011 - to increase the share of rail in passenger transport - involves considerable expenditure, whether on building new high-speed rail lines or on significantly improving the usefulness of conventional rail services in an integrated transport system (EC, 2011,10).

In order to strengthen the role of the railway it is crucial to generate a high demand for its services. It is important that both - high-speed and conventional lines - are sufficiently exploited. Poor use of certain lines will lead to difficulties in maintaining and upgrading the whole network. It will therefore be difficult to maintain the current density of the conventional lines network, contrary to the vision of rail transport adopted in the European policy agenda and necessary, if the European transport system is to become environmentally friendly. There are opportunities to attract passengers by increasing the utility of rail service, defined by three factors: speed, reliability and cost. Speed should be considered in terms of the entire door-to-door journey time and not only as the speed of travel.

The aim of actions taken should be increasing the speed and comfort of travel, e.g. through access to dynamic information, better connected trains, improved transfer between sections of the journey, combining the rail offer with other mobility models, such as On-Demand-Transport, car - and bike-sharing, ride-hailing. These are measures aimed at integrating railways with other public transport systems, which is in line with the strategy for sustainable and intelligent mobility proposals. High-speed railway lines, like motorways, should not constitute a 'tunnel', i.e. an autonomous transit corridor, which only crosses a region and does not generate any economic stimulus in the surrounding area.

A modern, integrated transport system, well serving societal and economic needs, is not only an objective of EU transport policy, but should also be the subject of a broader discussion among practitioners and customers. Linking new rail lines to existing passenger transport systems, accessibility and ease of its use is a key to exploiting the full potential of the railways and provide an economic justification for incurring the high costs of its construction. In order to make rational decisions on how to achieve this objective, it is necessary to include in the analysis a wide range of economic, social and environmental impacts and costs of the project, as well as to conduct in-depth studies on the development of demand in the macro-economical conditions of a given country.

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ARTICLES

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FOREIGN DIRECT INVESTMENT IN THE POST-COMMUNIST MEMBER STATES OF THE EUROPEAN UNION - WHO ARE THE LEADERS?

Abstract

Joining the European Union has been treated as a chance for Poland and other post-communist countries to improve their economic growth and development. It was clear from the beginning that it was going to be a long and demanding process in which success is only possible if appropriate economic policies are pursued. That policy should provide stable frameworks to support business development, attract foreign direct investments (FDI), keep the discipline in public finances and assure the right institutional ability and managerial skills to absorb the EU funds. According to forecasts by The McKinsey Quarterly from 2004, 5% Poland's economic growth rate was to require around USD 10 billion of annual FDI inflow!
The aim of this study was identifying the leaders in attracting FDI among post-communist European Union member states in the period of 2004-2020.
The research showed a huge variation in attracting foreign capital among eleven post-communist EU members. Estonia, the Czech Republic, Hungary, Slovakia seem to be winners in this race, leaving Poland far behind.

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***JEL classification**: F21, O16, R38*

Paper type: *Theoretical research article*

1. Introduction

Foreign direct investment (FDI) is a key element in international economic integration. FDI creates direct, stable and long-lasting links between economies. It encourages the transfer of technology and know-how between countries, and allows the host economy to promote its products more widely in international markets. Finally, FDI is an additional source of funding for investment and, under the right policy environment, it can be an important vehicle for growth and development.

According to the Organisation for Economic Cooperation and Development (OECD benchmark definition,1999) FDI is defined as investment by a resident entity in one economy that reflects the objective of obtaining a lasting interest in an enterprise resident in another economy. The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprises and a significant degree of influence by the direct investor on the management of the enterprise. The ownership of at least 10% of the voting power, representing the influence by the investor, is the basic criterion used. Hence, control by the foreign investor (ownership of more than 50% of the voting power) is not required.

The accession of post-communist countries to the European Union opened new opportunities for intensive economic growth and development with the use of foreign capital, especially in the form of foreign direct investment. Hence, FDI has became an object of a strong competition among these states as the country's attractiveness to foreign investors is decided by many factors.

According to the United Nations Conference on Trade and Development (UNCTAD World Investment Report, 2002) these factors can be divided into three broad groups.

1. Policy framework for FDI which includes: economic, political and social stability, rules regarding entry and operations, standards of treatment of foreign affiliates, policies on functioning and structure of markets, international agreements on FDI, privatization policy, trade policy and coherence of FDI and trade policies, tax policy.

2. Economic determinants are as follows, depending on what investors are looking for.
   - In case of market-seeking FDI the most important are: market size and per capita income; market growth; access to regional and global markets; country – specific consumer preferences.
   - For resource/asset-seeking FDI decisive are: raw materials, low – cost unskilled labour; technological, innovatory and other created assets (e.g. brand names), including as embodied in individuals, firms and clusters; physical infrastructure.
   - In case of efficiency-`seeking FDI, matter: cost of resources and assets listed under resource/asset – seeking FDI, adjusted for productivity of labour resources; other input costs, e.g. transport and communication costs to/from and within host economy and costs of other intermediate products; membership of a regional integration agreement conductive to the establishment of regional corporate networks.

3. Business facilitation encompasses: investment promotion (including image-building and investment-generating activities and investment-facilitation services); investment incentives; hassle costs (related to corruption, administrative efficiency, etc.) and social amenities (bilingual schools, quality of life, etc.); after-investment services.

The aim of this study is to identify the leaders in attracting FDI among post-communist European Union member states.
The research focuses on eleven post-communist countries of which: eight joined the EU in 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia), next two in 2007 (Bulgaria and Romania) and the last one in 2013 (Croatia).
The period under study covers the years 2004-2020. The analysis of FDI inflows/stock was made based on the data provided by the UNCTAD and converted from nominal into real values expressed in dollars of 2018 (Sahr, 2018).
The study is organized as follows. Section 1 shows the world FDI size and allocation in 2004-2020, section 2 examines FDI inflows and stock in the EU-11 post-communist states, section 3 considers the relationship between FDI and country's economic wealth expressed by GDP per capita. Section 4 provides conclusions.

2. Foreign direct investment - size and allocation in 2004-2020

According to the definition adopted by the United Nations Conference on Trade and Development (UNCTAD) FDI inflows comprise the capital provided (either directly or through other related enterprises) by a foreign direct investor to an FDI enterprise, or the capital received by a foreign direct investor from an FDI enterprise. FDI includes the three following components:

1. Equity capital is the foreign direct investor's purchase of shares of an enterprise in a country other than that of its residence.
2. Reinvested earnings comprise the direct investor's share (in proportion to direct equity participation) of earnings not distributed as dividends by affiliates or earnings not remitted to the direct investor. Such retained profits by affiliates are reinvested.
3. Intra-company loans or Intra-company debt transactions refer to short- or long-term borrowing and lending of funds between direct investors (parent enterprises) and affiliate enterprises intra-company loans.

Negative flows generally indicate disinvestments or the impast of substantial reimbursements of inter-company loans.

FDI stocks measure the total level of direct investment at a given point in time, usually the end of a year. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. Inward stocks are all direct investments held by non-residents in the reporting economy.

In the years 2004-2020 we were witnessing an intensive growth in the global FDI. Within this period the world FDI inward stock almost tripled in real terms (281%), it increased from 14.1 trillion 2018 USD in 2004 up to 39.6 trillion 2018 USD in 2020. A slightly weaker growth rate was observed for, so called “old” the EU countries (235%) as well as for eleven post-communist EU member states (216%). Total FDI inward stock in the EU-11 amounted to 399 billion 2018 USD in 2004 to rise to 862 billion 2018 USD in 2020.

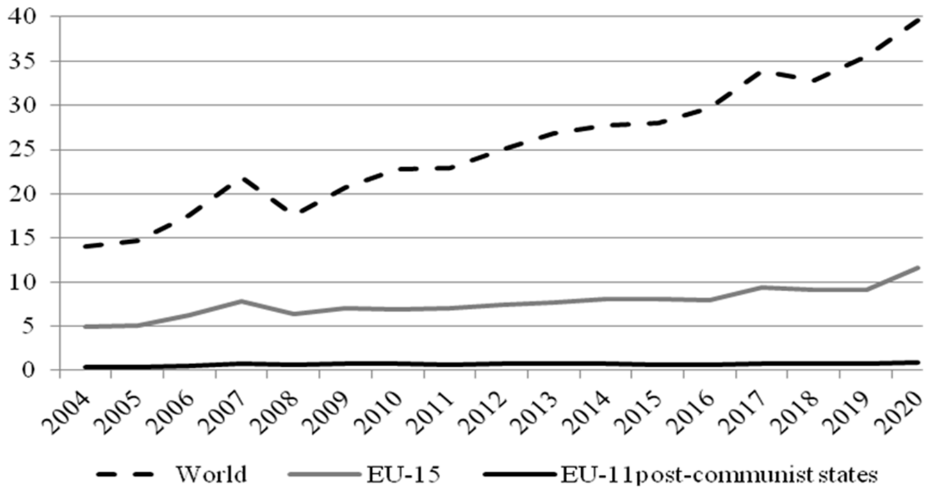


Figure 1. Foreign direct investment inward stock in 2004-2020 (in trillions 2018 USD)
Source: Own work on the basis of UNCTAD data converted to 2018 USD

As Figure 1 shows a significant proportion of the global FDI stock has been located in the EU countries. It should be noted, however, that “old” EU-15 member states host in average 31% of the global FDI inward stock, while new post-communist EU-11 members attracted just 3% of it.

When the annual FDI inflows are concerned, we can observe considerable fluctuations expressed by the annual growth rate (Figure 2). In 2004-2007 annual FDI inflows were increasing for the world economy by 31 - 44%. In turn, 2008 and 2009 saw large declines (25% and 16,5%, respectively) as a result of the global financial crisis that started in mid-2007.

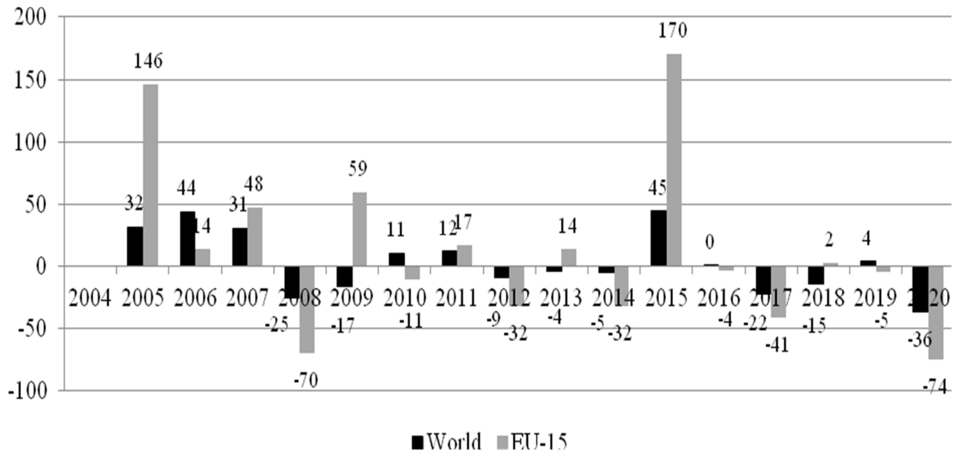


Figure 2. The annual FDI inflows growth rate (%)
Source: Own work on the basis of UNCTAD data converted to 2018 USD

Over the next five years, moderate fluctuations in the annual FDI inflows growth rate were observed, ranging from -9% to +12%. In 2015, there was a sudden explosion of foreign investors activity by 45%, only to fade in the following years, until the deep collapse in 2020 (-36%), which was certainly the result of the COVID-19 pandemic. In the analyzed period, fluctuations in the annual FDI flows to the EU-15 were much stronger than globally. For example, when in years 2005 and 2015 the global annual FDI growth rate amounted to, respectively, 32% and 45% than the FDI inflows to the EU-15 showed the annual growth rates at 146% and 170%, respectively. Many times a similar situation took place in the case of declines (see Figure 2).

3. Foreign direct investment in the EU-11 post-communist states in 2004 - 2020

Eight out of eleven analysed post-communist countries joined the European Union in 2004 (that are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia), Bulgaria and Romania joined the EU in 2007 and Croatia in 2013. Their system transformation, started in the early 1990s, resulted among others, in the introduction of various legal regulations which liberalised financial markets and brought them closer to the solutions adopted in the OECD countries. The principle of "*national treatment*" of foreign investors had initiated a period of intensive inflow of foreign capital in the form of FDI and so FDI become an object of competition among post-socialist countries on the one hand, and on the other – a new destination for the world capital flows searching for the most attractive allocations. In years 1993 -2004, total FDI inward stock attracted by analysed group of countries increased in real terms more than 15 times (from 26 billion 2018 USD in 1993 to 399 billion 2018 USD in 2004). During next years the dynamics of FDI inward stock growth was not so rapid. In the period of 2004 – 2020 the total FDI stock in the EU-11 post-communist states just doubled (see Figure 3).

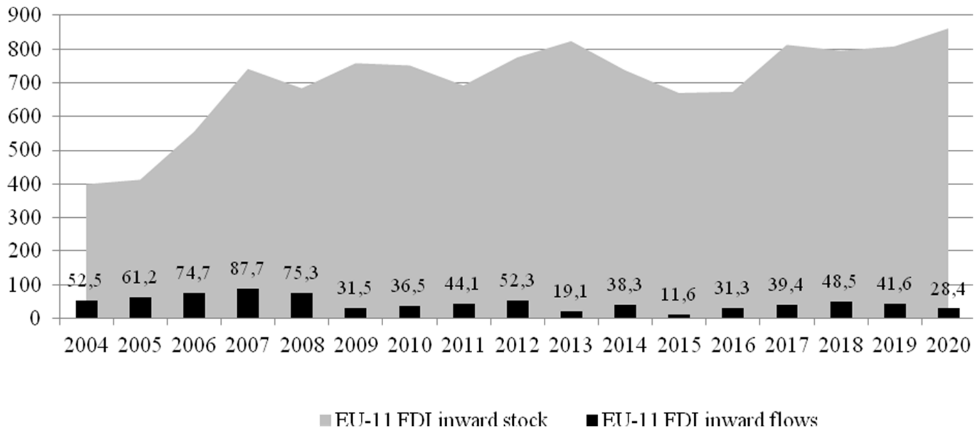
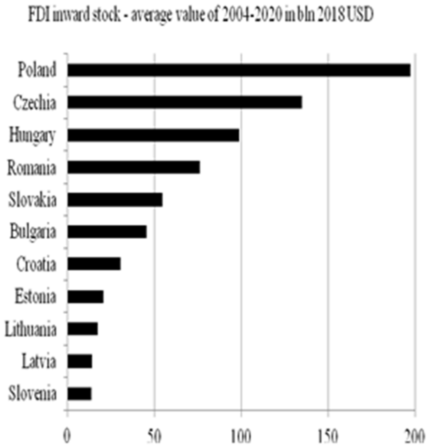


Figure 3. The EU-11 FDI inward stock and inflows in 2004 – 2020 (in billions 2018 USD)
Source: Own work on the basis of UNCTAD data converted to 2018 USD

At that period, the annual FDI inflows to the EU-11 fluctuated in the range from almost 88 to just 12 billion 2018 USD. The annual FDI inflows growth rate ranged between +170% and – 60%.

It should be stressed, however, that the distribution of the investment has been dramatically uneven. As the Figure 4 shows just four countries – Poland, the Czech Republic, Romania and Hungary – attracted about 70% of foreign capital, both in terms of FDI inward stock as well as FDI annual inflows.



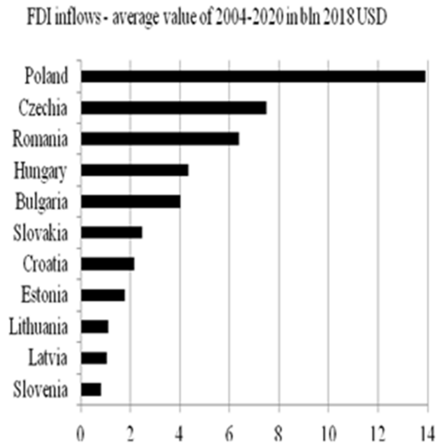


Figure 4. The FDI inward stock and flow in the EU-11 post-communist states (average value of 2004-2020 in billion 2018 USD)
Source: Own work on the basis of UNCTAD data converted to 2018 USD

Poland has been a leader in attracting foreign investment in the period 2004 - 2020 taking about 30% of the total FDI located in the EU-11 post-communist countries. Such statistics is often cited as an indicator of Poland's success as an attractive country for foreign capital. Unfortunately, Poland's position as a leader in attracting FDI looks completely different when we compare the data, expressed by numbers related to the number |of inhabitants or the area of the country. Such an approach shows Poland as a weak FDI host country.

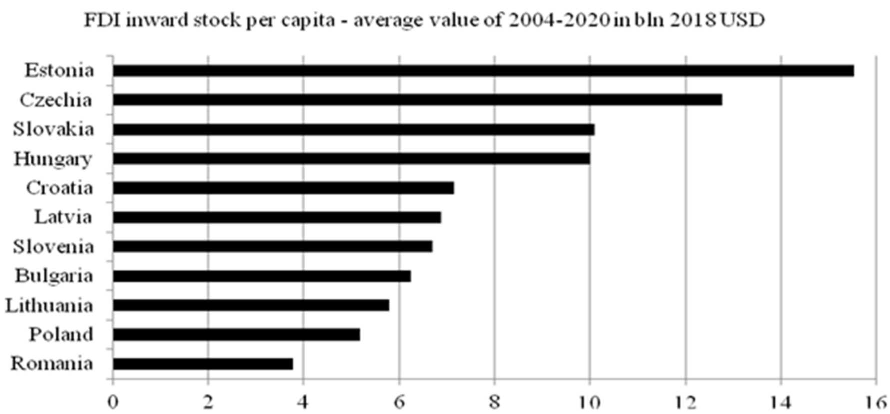


Figure 5. FDI inward stock per capita (average value of 2004-2020 in billion 2018 USD)
Source: Own work on the basis of UNCTAD data converted to 2018 USD

As presented in Figure 5, Estonia shows the highest accumulation of FDI stock per capita amounted to 15,5 billion 2018 USD. The second place belongs to the Czech Republic. It should be emphasized here that the Czech Republic also came second when we analyze the FDI stock and annual inflows in absolute terms. A similar situation applies to Hungary. It is very disappointing that Poland is falling to the penultimate place when we consider FDI stock expressed per capita. FDI stock per capita in Estonia is three times higher than in Poland, compared to the Czech Republic the difference is two and a half times.
The situation is similar when we consider FDI stock in relation to the country's acreage (see Figure 6).

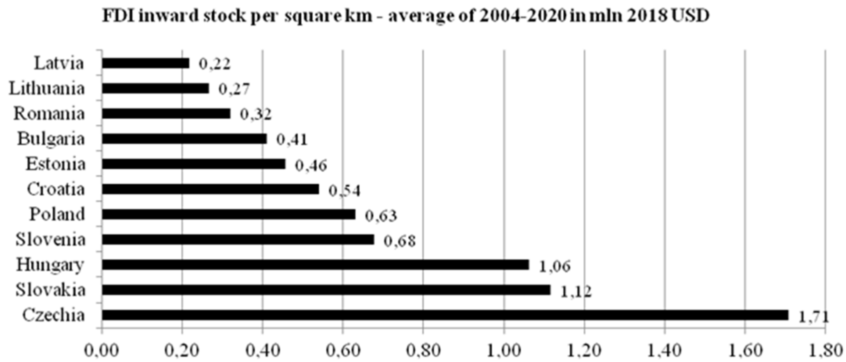


Figure 6. FDI inward stock per square km (average value of 2004-2020 in billion 2018 USD)
Source: Own work on the basis of UNCTAD data converted to 2018 USD
The Czech Republic is a leader as the FDI host country when we consider the FDI stock per square kilometre. The Czech Republic is ahead of all other countries in this respect - the value of foreign capital per square kilometre amounts to 1.7 million of 2018 USD. Slovakia and Hungary are ranked second and third (1.12 and 1.06 million of 2018 USD, respectively). Poland is only in fifth place with FDI per square km amounted to 0.63 million of 2018 USD, close to Slovenia and Croatia.

4. Foreign direct investment and economic wealth

The relationship between the FDI and the economic wealth has two aspects: the FDI stimulates economic growth and development, but also reacts to economic growth and progress of positive transformation. Growth is generated by FDI through imported means of investment, new technologies and capabilities transferred by foreign multinationals and international networking. On the other hand, foreign investors react positively to the consolidation of market-economy rules and the resumption of economic growth (Hunya, 2000). High technology is of particular

importance as it supports technological development, value creation, enhancement of staff qualifications, improvement in management quality, better competitiveness of enterprises, regions, related sectors and the whole economy. The form of FDI is relevant just next to its sector structure – the variety of organisational forms contributes significantly to the creation of new jobs, structure of the economy and development of individual regions (greenfield investments are particularly desired as well as other export-supporting projects).
The relationship of economic wealth and FDI is demonstrated by the similarity of per capita GDP and per capita FDI. Outliers matter most in this case. Countries above the regression line have higher FDI stocks than the level of economic development would suggest.

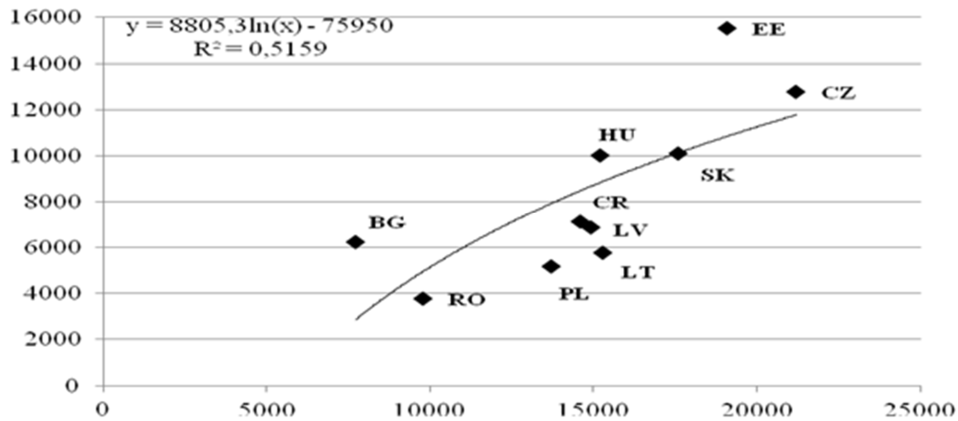


Figure 7. FDI and economic development in the EU post-communist member states
Source: Own work on the basis of UNCTAD data converted to 2018 USD

Among ten new EU post-communist member states, four countries (Bulgaria, Hungary, the Czech Republic and Estonia) have higher than average FDI Stock related to GDP. Negative outliers, these are: Romania, Poland, Latvia, Lithuania and Croatia, attracted less FDI than their development level would allow. Slovakia lies exactly on the regression line (Slovenia was removed from the sample as an untypical observation).
Poland 's FDI inward stock per capita was significantly too low as related to its size in terms of the GDP per capita indicator. Unfortunately, from this viewpoint, all the countries of the Visegrad Group, to which Poland is often and willingly compared, left Poland far behind.

5. Conclusions

The conducted research allows to formulate the following conclusions:
Within the period of 2004-2020 the world FDI inward stock almost tripled in real terms, but the allocation of investment is deeply uneven – the EU-15 member states hosted about 30% of the global FDI inward stock, while post-communist EU-11 members attracted just 3% of it.
The annual growth rate of FDI inflows showed deep fluctuations in the analyzed period, ranging from -36% to +45% for the world and from -74% to +170% for the EU-15.
As a result of system transformation in the post-communist countries and further accession to the EU, new recipients of FDI have emerged – the total FDI stock in these economies just doubled in years 2004-2020.
However, the allocation of FDI to the EU-11 was deeply uneven – just four countries (Poland, the Czech Republic, Romania and Hungary) attracted about 70% of foreign capital, both in terms of FDI inward stock as well as FDI annual inflows. Poland ranks first, gathering about 30% of the total FDI located in the EU-11.
The leadership in attracting FDI looks completely different if we take into account the relativized values:

- The highest per capita FDI inward stock was reported in Estonia. The next three places were taken by: Czechia, Slovakia and Hungary. Poland was at the bottom of the ranking, ahead only of Romania,
- As far as FDI inward stock per sq. km is concerned, the Czech Republic left other countries far behind. The next two places were taken by Slovakia and Hungary which also significantly overtook other countries.

The relationship of economic wealth and FDI expressed by the similarity of per capita GDP and per capita FDI demonstrated further deep differentiation between the countries analyzed. Four economies, these are Bulgaria, Hungary, Czechia and Estonia showed themselves as positive outliers (having higher than average FDIpc Stock related to GDPpc). Negative outliers (Romania, Poland, Latvia, Lithuania and Croatia) attracted less FDI than their development level would allow.
Poland 's FDI inward stock per capita was significantly too low as related to its size in terms of the GDP per capita indicator. Unfortunately, from this viewpoint, all the countries of the Visegrad Group, to which Poland is often and willingly compared, left Poland far behind.

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ARTICLES

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Wojciech Sońta*

Influence of the organisational and legal changes in the Municipal Sports and Recreation Centre on effectiveness of the provided services

Abstract

The author of the article makes the research hypothesis that the local governments should join the restructuration programs of the municipal companies with more engagement because there are too less changes which would allow more efficient, cheaper and more competitive their management. Privatization is one of the restructuration methods recommended by the local governments which already have executed it. These are the actions which many local governments needlessly refrain and postpone them in time being afraid of sizes and scale of the changes in a company after their implementation. The local communities lose on such proceeding as they are forced to use expensive low-quality services. The purpose of the article is evaluation whether the change of the organisational and legal form from the budget unit to the limited liability company is effective. There will be used analysis of literature studies and source data concerning the Municipal Sports and Recreation Centre limited liability company in Radom to solve the created research problem. Results of the conducted research were included in the summary in points from 1 to 9, which prove that the assumed research's goal in the article's introduction has been achieved.

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Key words: *budget unit, municipal company, restructuration, privatization, services*

JEL Classification Codes: *P43, R53*

Paper type: *Theoretical research article*

Introduction

Let us quote what some contemporary researchers of services included in the literature of the subject. Thus, (Lange, 1967, p. 46) thinks that the services are activities related to satisfying of human needs and they do not serve to satisfy direct production of materials goods. While Kotler in his work *'Marketing'* writes that a service is any action which one part can offer to another, it is intangible and does not lead to any property (Kotler, 1994, p. 53). Finally, (Chmielewski, 2001, p. 13) claims that the services are the third emerging sector of business activity which aim is to satisfy growing material and non-material needs.

In summary, it can be generally stated that the term service originates from economic theories and means all useful activities related to non-productive work in contract to the activities leading to production of material goods. Taking into account non-material nature of the social services it is worth to remember about demarcation of a service from material tool of its provision (for example, swimming pool and swimming, tennis court and playing tennis, football pitch and playing a match on it). The distinction presents two essential levels of provision and consumption of the services:

- level of the services' infrastructure analysis,
- level of the services' satisfaction.

However, classical theorists coming from the property school claimed that public property of a land (or other permanent resource) inevitably means dispersion of responsibility and lack of constant aspiration to its smart using, taking care of it and keeping for further users. Aristotle, among other things, wrote about it: 'the more people are entitled to something, the less effort it can count on', that it becomes a team property (Aristoteles, 2006, p. 133). It can be confirmed by observations regarding the use of communities, which are devastated, overexploited because they can be used for free. The opinion can be confirmed by experiences of the local government authorities with parks and recreational devices (Hardin, 1968, p. 1243).

In the 1980s, a new public management's concept appeared in the western countries' literature (Now public management – NPM), which was a kind of managerial revolution in the public economy. The model is aimed to release of the public sector's initiative by using funds from the private sector (Grzymała, 2010, p. 33). The new public management in a commune is reflected in the managerial management's model in which the NPM instruments can be used, such as for example the communal property's privatization, contracting services outside or public-private partnership. The model is based on the formula which brings benefits. It can be expressed by the equation: Privatization + Market + Competition = Efficiency + High Quality (Rosen , Gayer , 2008, p. 66).

In relation to the above mentioned, the local governments should become more involved in restructuring programs of the municipal enterprises. There are still too less changes realized which would allow to manage of the municipal enterprises in more effective, cheaper and more competitive way. One of the restructuring methods is the privatization what not only the Treasure Ministry and experts encouraged to but also the local governments which have already realized it. There are the actions which many local governments needlessly defend themselves and postpone them being afraid of extends and scales of the changes in an enterprise after its implementation. The municipal enterprises are often unprofitable and require investments. Mainly, local communities which are forced to use expensive services with low quality lose on it.

It has passed more than 30 years since the act of the local government was established and more than 20 years since the act of the municipal government. Hence, the normative regulation of economic activity which is subject of the research in this article is dispersed in numerous legal acts (mostly in the 90s of the last century). It caused that many researchers of the issue have focused on this problem trying to sort out the existing terminology in the literature. The commentary of the municipal economy act which analyses the most important issues related to its interpretation and related legal acts deserves special attention. It is based in major perspective on experiences deriving among others from practice. The study takes into account changes resulting from the act of commercialization modifying regulation relating to the municipal companies created from transformation of the municipal enterprises (Banasiński, Jarosiński, 2017, p. 103)

On the other hand, in the normative texts and the literature there are three the most common terms in this field. The terms include: 'municipal economy', 'public utility', 'economy activity'. The problematics of categorization of the concepts related to the communal property and the relation between them was dedicated the fifth chapter about the act of the municipal government (Cern, 2019, p.120) writes more about it in his monograph. However, M. Stec pays attention that a basic regulator and a factor having significant importance in consideration of the inconsistencies and incompleteness of the legal solutions is judicial decisions which must be analysed and used in the course of business research of the local government (Stec, 2017, p. 33- 46).

Taking into account the above considerations in this article and time censorship, the investigated communal entity determines up to the moment of the transformation as a budget unit being part of a legal person which is a commune and after the transformation as a municipal company having a separate legal personality.

An instrument that allows to test effectiveness and efficiency of the operation are measures which usefulness depend on correctness of their selection. The properly selected measures allow for a constructive assessment of the unit's functioning and as a consequence on increasing of the effectiveness of the incurred expenses. The measures provide information on both about degree of achievement of the assumed goals and the costs of their achievement in order to influence the decision-making process. Accordingly, the requirements for their construction become important. Emphasis on the effectiveness caused separation of the measures in terms of product, result and impact (Hałaburda, 2017, p. 18).

The product measures reflect execution of a task in the short term. They indicate on specific products (i.e., goods and services) obtained in the process of tasks' realization. Their task is evaluation of the achieved results (e.g., number of complaints about provided services, sales volume, etc.).

On the other hand, the result measures estimate direct effects obtained as a result of implementation of the tasks also in the short term (e.g., monthly number of working hours, number of employees).

Whereas, the impact measures describe long-term effects. They measure long-term consequences of the actions (Lubińska and others, 2011, 33), therefore they are the most difficult to construct because there must be considered the risk problem in them (e.g., surveying opinions of users of the goods and the services, safety of the provided services, etc.)

The aim of the article is to estimate whether change of the organizational and legal form of the entity from a budget unit to a limited liability company is rational and effective. Perhaps, it is according to the classical principle of economics, where it is claimed that actions will be rational if there is maximizing of an effect having given expenses. There can be used an analysis of literature studies and analysis of the source data concerning the Municipal Sports and Recreation Centre limited liability company in Radom, hereinafter referred MSaRC to solve the mentioned research problem. The community of Radom has 100% shares in the entity's company providing physical education and tourism services as well creating organizational conditions conductive to development of sport.

Specifics of communal services provision – theoretical approach

The local communities want to live in communities which are friendly and take care about them. This is usually reflected in prices and quality of the provided communal services which affect the standard of living. This is a purpose of competition which leads to lowering prices and favours increasing services quality. Changes in the municipal economy sector have just such market mechanics to be implemented in this area. It is necessary, because most of the communal companies although they act in the situation of natural monopoly, they also must take care of costs reduction and solicit of customers' satisfaction. Initiator (the commune), consumer (the local community) and manufacturer (MSaRC) are connected by some streams: reporting demand, delivering services and payments. The relations between the three participants of the services are presented on the figure 1.

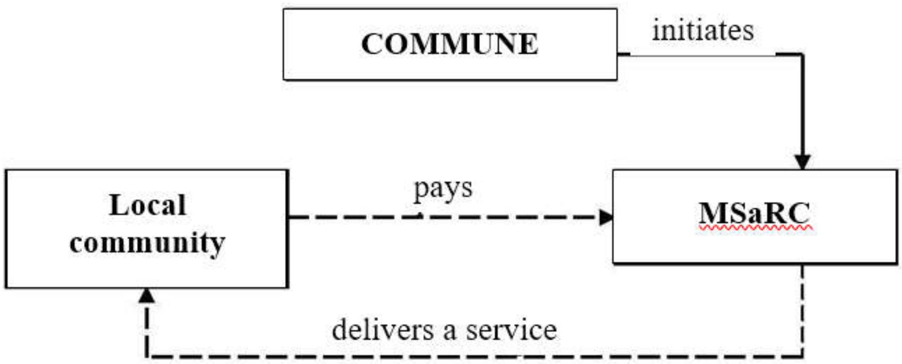

Figure 1. Relations between the initiator of the services, the local community and the manufacturer.
Source: own study based on [Gruber, 2016, p. 73]

The municipal sector is a specific area of economic ac t. The services due to existence of expensive infrastructure creating often by all residences of a commune cannot be subjected of a competitive struggle. The communities' authorities providing the services through their own business entities occur in a double role – the entrepreneur who should be oriented towards profit's maximization as well to be a representative of the local communities' interests and therefore they must take care of a competitive price and good quality.

Separation of the entrepreneur's role from the market regulator's role is a solution of the situation. The community should not run a business activity but only focus on being an initiator (the regulator) making sure that the procedures and services quality which are interests of their residents are followed. The municipal economy includes mainly tasks of public utility nature which purpose is continuous and uninterrupted meeting of collective needs of the population through providing the commonly available services. The commune is responsible for ensuring adequate services supply but it does not have to realize them by themselves.

According to the constitutional acts among others, matters in the field of physical culture and tourism as well as creating of organizational conditions conductive to the development of sport belong to own tasks of the communes. In accordance with the municipal economy act the local government bodies can realize their tasks through own organizational units, including companies or organizing operation conditions for other entities. Choice of a form of the municipal services' organization is an element of a community's policy.

The simplest operation is to appoint a unit or a budget institution in a commune. It also allows keeping a full control over the entities. Decisions in the area have been left to the communities which were searching optimal models by trails and errors method on its own account. Form of the unit or the budget institution should be used exceptionally and only to a certain range of matters. The formula proves itself as it was presented in the literature in the units of small size activities, mainly with non-profit character.

However, it is related to some danger consisting of difficult situation of families anda large unemployment on a given area what can cause that the business activity of the local government will convert into a specific form of social help. The formula of the budget institution or the unit would then allow delivery of the services at lower prices than market ones and complement of financial shortages in the budget with a subsidy from the commune. However, it can distort financial transparency of the company and cause that the unit or the budget institution will not be interested in modernization of the production and reduction of the costs. Due to lack of competition, there will not be any motivation to lower the prices. There will also not be any interest to improve its profitability. It is caused by the fact that budget institution's financial surplus is not located in its fund. Management of the unit cannot allocate itself the funds on investments. In case of lack of profitability possible shortages are also covered from the commune's resources. It is also much harder to take a decision about employment rationalization.

However, the municipal companies operating on the basis of commercial law have more efficient modernization of the public utility services. They also enable establishing a partnership between the communes and acquiring external investors. At the same time with such solution the local government does not lose control over the company's operation.

As it appears from the above mentioned significant and effective role can play companies in the commune's activity. Their advantage is first of all that they are flexible form of organizing business activity including also communal by partners and in case of a sole proprietorship – by its founder it means the commune (Brol, 1993, p. 53).

The next step after transformation into a company is decision to acquire an investor and resale of parts of its shares. The resale package usually does not exceed 49% of the company's value. There are already many solutions in Poland where the local government decided to partial resale of the existing municipal companies. Advantage of the solution is acquiring of know-how from an ordinary foreign investor specialized in a given field and also funds for future investments (Žarska, 2007, p. 72).

The public utility's services are characterized by high share of fixed costs what affects a small possibility to lower the price. On the other hand, they operate in a stable demand environment what makes possible to lead a long-term planning and realization of the investment. Providing the public utility's services through the companies established by the communes brings more effective and rational use of the own property. Comparison of the employment's efficiency in the commercial law companies and in the form of the budget institutions presents definitely more effectiveness of the companies. In the municipal enterprise work efficiency is mainly determined by factors which are independent of an employee including in particular through implementation of mechanization and automation of many activities and it is much lower in comparison with other fields. Hence, it has limited cognitive value because it is mostly determined by demand's variability (Bachor, 2009, p. 103). In relation to the above mentioned, appears a question: whether transformation of the units and budget institutions into commercial law companies is a future of the municipal sector?

Organizational and legal changes in 1990 – 2019

In relation to the time censorship during the considered period from 27th May 1990 (the moment of the local government's reactivation in Poland) till 3rd June 1997 which is the date determined by the municipal economy's act ordering the local governments by the power of law to transformation of the municipal enterprises applying regulations concerning the state enterprises into the commune companies. The changes first of all were forced on the municipal enterprises which till 30th June 1994 did not perform the transformations by themselves what they were obliged by the regulations (The regulations putting into practice the act of the territorial local government,1990). However, it is worth to notice that there were companies which previously felt the need of transformation and they realized it, e.g. The Municipal Communication Companies, The Municipal Waterworks Companies, etc.

The second period, it means from 1st July 1997 till now includes changes of the organization and legal from of carrying out the municipal services and type of the restructuring which belongs to the competences of the TLGU (territorial local government units), however participation of the state in creating of the process seems to be advisable, especially in terms of co-creation, formal and legal, economical, educational or research environment. It is justified by a specific contradiction which takes place during the implementation of the municipal services by the TLGU, because the TLGU has here a double role, as an ownership authority of the enterprises and at the same time as representatives of local societies' interests. As a condition to overcome of the contradiction can be implementation of the market's mechanisms to the municipal economy, inter alia through ownership transformations, mainly commercialization and privatization of the municipal entities. The scale of the transformation seems to be insufficient, as in 2014 in the examined group of 1475 budget institutions:

- created 5 new budget institutions;
- created 4 budget institutions after transformation of the budget units;
- transformed 1 budget institution into limited liability company;
- liquidated 2 budget institutions (Information about the transformations, 2014)

The functioning economic entities can be categorized from different points of view and for different purposes. One of the criteria is the method of counting (connections) with the budget. From this point of view the organizational units are divided into units connected with the budget by gross and net method.

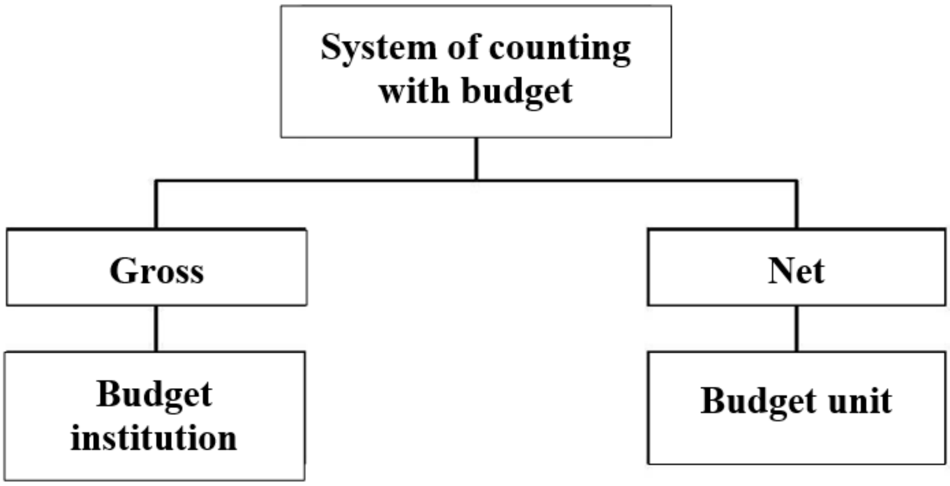

Figure 2. The system of counting with the institution's budget and the budget unit
Source: own study based on the (public finance act from, 2009).

The system of the net connections is divided into two types. The first is more typical and it relies on including to it the general difference between sums of the incomes from sales and sum of expenses to maintain a given unit. In case to keep a positive result, an enterprise makes payments to the budget, in the opposite case, it means a negative result the enterprise can be supplied in the form of a budget subsidy. Sometimes instead of the simple solution the connection system with the budget can be more complex, namely there are several balances including in the budget economy resulting from compensation of the sums of a different kind of incomes and expense. It should be noted, that within the net system some special resources functioned till 30th June 2005 but they did not matter too much.

The gross system is the second method of connections of the entities with the budget (full amount of the incomes and expenses). It finds usage in relation to the budget institutions. A characteristic feature of the units is that their expenses are covered by the budget; it means they are budget expenses. The obtained by them incomes are fully paid to the budget i.e., they are budget incomes. Therefore, it can be said that the budget institutions only administer incomes of a given budget institution. The method of the entities and budget's connections means that the whole sum of each income and each expense is a component part of the budget economy.

The public finance act from 27th August 2009 had one main purpose to improve the public finances, among others by limitation of the organizational and legal forms of the sector and also to strengthen of the precaution norms in the TLGU budgets. Based on the new act, as it was mentioned the auxiliary farms were liquidated and the scope of the activities of the budget units limited to a specific catalogue of the own tasks (Sońta, 2010, p. 88). The transformation procedures in the capital companies differ fundamentally from the procedures in the entities of the local government's sectors both in terms of legal regulations as well organizational and legal ones. They are focused on the fact that the newly created entities were more effective in their activity and to exclude the risk related to their future functioning. In the study concerning the privatization pilot program 150 municipal enterprises it was claimed that majority of the municipal enterprises after the change of the organizational and legal form, mainly from the unit or the budget unit into the commercial law company – improved its profitability (Majewski, 2005, p. 66).

The essence of the corporate procedure of merger of the companies comes to that fact that from two separate economic structures and wealth masses is created one entity – an acquiring company or a newly established company.

Effectiveness of providing services after the transformation of the Municipal Sports and Recreation Center (MSaRC) into a company

The entities providing goods and services subordinated to the local government should operate according to the principles of efficiency and effectiveness which are often marginalized in practice (Szołno, 2016, p.10). The public finance act in its content repeatedly indicates importance of the efficiency and effectiveness imposing them on the public sector entities in terms of functioning and spending of the public funds 'with respecting the rules of obtaining the best results from the given expenditures and optimal selection of methods and means aimed to achieve the set aims' (Ustawa, 2009).

The effectiveness of spending the public funds should be considered as searching for savings in terms of application of the solutions which will maximize the effects (Matwiejczuk, 2006, p. 43). However, the savings should not be perceived as a mechanical reduction of the expenses and desisting of performing of some public tasks but as spending of resources in such a way to bring the greatest benefits. The effectiveness depends on achieving the set aims having the best ration of the incurred costs to the achieved results, hence the classic input-effect relation (Kachniarz, 2012, p. 23). On the other hand, the effectiveness means achieving the set aims what somehow marginalizes the cost's side. In the public finance sector, the effectiveness should refer to direct aims, tasks and activities. Management of the effectiveness is based on monitoring of the relation between the costs and the achieving results. Precise and ongoing monitoring becomes a chance to obtain satisfactory results in realization of the entrusted tasks.

An instrument which allows to test the effectiveness and efficiency of the operations are measures, which usefulness depends on correction of their selection. Properly selected measures allow for a constructive assessment of a unit's functioning and, as a consequence, increasing of efficiency of the incurred expenses. The measures provide information both about level of the set aims' realization and costs of their achievement in order to influence on the decision-making process. Therefore, their construction's requirements become important. Emphasis on the effectiveness and efficiency resulted in separation of the measures in terms of product, result and impact.

The product measures reflect execution of a task in a short time horizon. They indicate specific products (i.e., goods and services) obtained in the tasks' process execution. Their task is to evaluate the achieved results (e.g., number of complaints about the provided services, sales value).

On the other hand, the result measures measure direct effects obtained as a result of the tasks realization also in a short time horizon (e.g., monthly number of working hours, employment's level).

While, the impact measures describe long-term effects. They measure long-term consequences of actions (Lubińska et al., 2011, p. 50-69) therefore they are the most difficult to be constructed because the risk problem should be assessed in them (e.g., surveying opinions of users of the goods and services, safety of the provides services).

The Municipal Sports and Recreation Centre limited liability company in Radom was established in 2004 as a result of liquidation of the budget institution with the same name. Sport facilities of the MSaRC are: Orka, Delfin and Aquapark Neptun swimming pools; playground with artificial surface; athletics and football stadium; sports hall; Borki recreation centre; artificial ice rink. As it results from the above it is a significant property which assets reach 85 million PLN. Moreover, the MSaRC has many investments and among them construction of a football stadium at the Struga street which is dedicated for 15 thousand viewers. The residents of Radom can use the City Bike program since April 2017.

Entities using the services provided by the MSaRC were divided into four categories, they are:

- organizational units of the City Radom commune conducting sports trainings (e.g., physical education, sports classes), non-governmental organizations with public benefit activities and volunteering,

- non-governmental organizations conducting statutory activities in the field of dissemination of the physical culture,
- other non-governmental organizations including sports clubs which do not run a business;
- individuals.

The basis to charge a fee for using the public services provided by the MSaRC is a statute specifying type of an object and price (Directive no. 1165/2016 of the President of the Radom City). There are 45- and 60-minutes time diversity of using the services affecting the price what is presented in the price list. The services provided until 4 p.m. are cheaper and after 4 p.m. the prices are higher. The type of a category using the services has also influence on the price. Finally, the fact whether the service is provided in a weekday, Saturday, Sunday or holiday has an impact on the price. From the above mentioned it follows that the main factor affecting the price is a demand for it in a given time and standard of the provided services. It is worth to add, that children up to 3 years use free of charge, while students, schoolchildren, disabled people, pensioners, retired people pay a reduced price.

This part of the thesis will be focused on evaluation of effectiveness of the provided services after the transformation of the MSaRC into a company. Operational efficiency measures of the MOSiR functioning were presented in the table 1. There was performed evaluation of effectiveness and verification of the assumed research hypothesis based on them that change of the organizational and legal form from a budget unit into a limited liability company has improved functioning of the MOSiR.

The research sample consisted of 30 employees employed in the audited company and in the supervisory body of the City Hall of Radom. There were people who were well informed regarding the studied issue. Selection of the sample relied on selecting of the employees employed before and after the performed changes. The study covered period of 6 years i.e., from 2014 (the year of transformation of the budget unit into the limited liability company) till 2019. The year 2020 was excluded from the research due to the financial turbulence related to the pandemic and thus other conditions of the company's functioning.

Scale of the effectiveness' evaluation was set from -2 to +2 of each criterion included in the table 1. Next, the number of the obtained points from the survey was multiplied by a criterion factor included in the description under the table. Moreover, in the 'no-change' column there was given in brackets a number of respondents who have chosen such evaluation. It is surprisingly high amounting even 164. Taking into account too short period of the company's functioning in the new organizational and legal form; such phenomenon should be considered as normal.

Table 1. Evaluation of the effectiveness of the provided services of the MSaRC after the transformation into a company

No.	Evaluation in the range	Much better	Little better	Without changes	It is worse	Much worse
1	Sales increase	+20	+8	0 (4)	- 6	-4
2	Increase in profitability		+5	0 (10)	- 10	-10
3	Decrease of costs			0 (15)	- 10	-10
4	Improved flow		+ 10	0 (10)	- 5	-10
5	Increase in investment expenditures	+ 30	+15	0		
6	Improvement of the services' quality	+ 10	+15	0 (5)	- 5	
7	Improvement of profitability index of the equity capital	+ 40	+ 5	0 (5)		
8	Improvement of management's effectiveness	+20	+10	0 (10)		
9	Better relations with the commune	+20	+10	0 (10)		
10	Employment growth		+5	0 (25)		
11	Increase of employees' wages		+5	0 (25)		
12	Increase of fees' tariff			0 (25)	- 5	
13	Safety of the services' provision		+ 5	0 (20)	- 5	
14	Total	+ 120	+ 93	0(164)	- 46	-34

Description: much better + 2, little better +1, without changes 0, it is worse - 1, much worse - 2.
Source: own study based on the carried out survey.

After the transformation of the MSaRC into the limited liability company and performing evaluation of the basis economical and financial indexes, it should be noted that the sales increased, however the fact did not cause increase of the profitability. It is also worse in terms of the cost's reduction. However, the situation in terms of quality of the provided services has been slightly improved. It was also noticed a slight improvement of the company's financial solvency. The situation is much better in terms of increase of the investment expenditures what the company has influence in terms of access to the financial resources (bank loans, leasing, aid funds from the UE). The significant improvement of the profitability index of the equity capital deserves attention. During the considered period, both the wages as well the employment's level remained unchanged. There was observed a slight increase in the wages among the least-paid people what was related to legal regulations concerning the minimum wage.

The effectiveness of the company's management has been improved what resulted better relations with the commune. Finally, another problem is a level of the tariffs. The budgetary institution did not have to charge the depreciation, so the tariffs were relatively lower in comparison with compered to the ones agreed by the MSaRC. On the one hand there is assumed that the enterprises should be profitable, on the other hand they realize a social mission to meet basic and necessary needs. They should not strive to maximize the profits what would be quite easy to implement with monopolistic position on the local market. Reconciliation of the economic function with the social one would make impossible automatic applying of the market price (Sadowy, 2010, p. 65).

It must be noted that the MSaRC was not a dominant company on the Radom market in the field of the swimming pool and artificial ice rink services and it had a competitive commercial company operating on the Slonecza Housing Estate. The swimming pool was put in service recently, so standard of its equipment is more modern and thus the provided services are diversified and at a higher level. In the initial period of its functioning the fees were comparable with the municipal company to attract the customers and next when they have been gained the prices were increased. It is worth to notice that the swimming pool is located in the city centre close to the Slonecza Housing Estate and it has a large parking as well convenient access by the public transport communication what is an additional advantage influencing usage of its services.

The conducted survey according to the age groups in different sports facilitates of the MSaRC took 100 people of the local community[**]. The respondents could give more than one possibility; hence sum of the points can be more than the surveyed population in the given age group.

Table 2. People who used the services of the MSaRC by age

Age	Mass events*	Swimming pool	Water Sports	Winter Sports
0 - 17	25	25	16	14
18 - 30	35	20	10	15
31 - 50	20	22	5	6
50 +	15	15	2	3

* matches and sports competitions

Source: own study based on the carried out survey.

[**] The survey was conducted by students of the UTH in Radom as a part of physical education subject.

It results from the survey that the greatest interest in all the age groups had the mass events and on the second position was located the swimming pool. The water and winter sports had similar interest among the age groups because they are sport which can be played in summer or winter season. The times when swimming pools were built outdoor and they were used only in summer season gone forever. The motives why the respondents used the services are willingness to spend free time actively what declared 50% of the surveyed people, improvement of physical fitness 30%, promotion of attitudes to improve health 20% (especially in the age group plus 50). There were met disabled people with their cares among the respondents what should be considered as a positive phenomenon because it prevents their social exclusion. Analysis of the effectiveness of the MSaRC services provision after the transformation into the company is presented in the table 3.

Table 3. Evaluation of the effectiveness of the provided services of the MSaRC after the transformation into a company by the recipients

Evaluation in the range of	Much better	Little better	Without changes	It is worse	Much worse
Quality of the services	+ 58	+ 30	0 (20)	- 15	- 12
Tariff	+ 70	+ 20	0 (23)	- 12	- 20
Safety	+ 78	+ 25	0 (22)	- 10	- 8
Total	+ 206	+ 75	0 (65)	- 37	- 40

Description: much better + 2, little better +1, without changes 0, it is worse - 1, much worse - 2.
Source: own study based on the carried out survey.

The analysis shows that quality of the services increased but there was also observed increase of the tariffs. There are also people who are sceptical about the fact. Referring to the safety on the stadiums and the swimming pools the evaluation was positive. However, after one of the lost football matches by Radomiak a group of hooligans invaded a nearby Lesniczowka park and there they released their negative emotions by destroying benches, overturning waste bins, breaking young trees. It was hard to believe that heavy concrete bins were scattered all over the park. It happened because the police had been protecting the streets while the park was unsecured. It should be noted that the occurrence was incidental, because since then passed four years and there were not observed any similar situations.

An important aspect for the MSaRC is the fact that the company conducts a lot of investments and therefore it has a status of an internal entity authorizing it to provide public services and neglecting a tender procedure what has quite important significance. The case was a subject of the NSA judgement (Act signature II GSK 105/05, 2005). Moreover, according to the jurisdiction of the European Court the internal entity must meet the following criteria together.

- it is a different legal unit than a purchaser from a formal point of view,
- the purchaser performs in relation to the unit control permissions analogical like against to its own organizational units,
- the entity performs a significant part of its activity instead the purchaser.

The test of verifiability whether the MSaRC is an internal entity requires answers on the above questions.

- the MSaRC is other separate legal unit than the Radom Commune stakeholder,
- the Radom Commune stakeholder performs control permissions in relation to the company what is based on the defined statute by above all unanimous taking resolutions in the most strategic decisions regarding the company's operation,
- the MSaRC will perform activities for the Radom Commune which will be ordering tasks according to its needs.

Answers for all the premises are affirmative and therefore there is no doubt the MSaRC is an internal entity.

The fact of entrusting the own task will allow the Radom Commune to perform an effective control of the way of the own task's realization what is a matter of fundamental importance for the city and its residents. There will be provided in this way, high quality services which are not focused on realization of commercial purposes but social ones. In case of entrusting a commitment to provide services for the internal entity, a price which the Radom Commune pays for realization of the services is only a reflection of the incurred costs by the company including a reasonable profit allowing the company to maintain an appropriate quality standard of its facilities. The reasonable profit understood as a return of capital which is considered as normal in a given member country has not been defined in a rigid way. The amount up to 6% was a proposal of the Ministry of Regional Development in the area of financing from operational programs of the entities realizing the obligation to provide the services (version from 16th January 2009).

A detailed regulation of conditions for the company to perform an entrusted task and mechanism of financial calculation between the Radom Commune and the company are a subject of arrangements made on the basis and within limits resulting from the execution contract.

Table 4. Advantages and disadvantage of the MSaRC functioning as an internal entity

ADVANTAGES	DISADVANTAGES
- quick and easy realization of the services - favourable condition of the services' realization - saving time - possibility of focusing the communes on other tasks	- no pressure from competitors - lack of motivation from the MSaRC - lack of rationalization on the expenses' side - greater supervision from the commune's side

Source: developed based on the research carried out in the MSaRC limited liability company in Radom

Anyone should be aware that the advantages and the disadvantages of the internal entity's functioning can be considered from the company and the owner point of view as well as the recipient of the service what means a consumer. Therefore, the formulated advantages and disadvantages can be debatable it means that what is an advantage for one side; it can be a disadvantage for the other. It was proved based on the results of the carried out survey included in the tables 1, 2 and 3.

Summary

It results from the carried out analysis that the changing legal regulations which were targeted on the forms more effective at the given time had influence on the organizational and legal changes of the MSaRC. In the studied period there was observed the changes starting from the municipal enterprise functioning on the basis of the regulations of the state enterprises' act to the commercial law companies. The situation has been changed when Poland jointed the EU. The public aid which in the EU as a rule is prohibited to the member states according to the act 107 paragraph 1 of the Treaty about functioning of the EU, the C 326/49, 2012 Official Journal of the European Union also in relation to the municipal sector what is an essential element of proceeding of the competition on the market was limited. There was implemented a new form of the internal entity for a transitional period. Whether the time will be properly utilized by the municipal enterprises and local governments, will be shown in the future?

The arguments for creation of the M.S.a R.C. limited liability company to manage the sports and recreation facilities comparing to the commune's budget institution are:

1. Running a business in the form of a company increases autonomy of the unit and motives to search additional possibilities on the market.

2. Management of the company as ‘on its own’ and it is interested in reduction of the costs, because the savings’ effects remain in the enterprise and they are not transferred to the commune’s account as it is in case of the commune’s budget institution.
3. Possibility of extending the scope of the activity outside the commune and beyond the range of public utility at the same time maintaining the rules of providing the sports facilities to the commune’s residents.
4. Possession of legal personality thanks to which it has possibility to individually gain capital, for example taking loans, leasing, entering into a public-law partnership or applying for aid funds; the budget institution does not have a legal personality what causes that in a certain sense it is an ‘invalid’ economic entity.
5. Separation of the obligations resulting from the company’s operation beyond the commune’s budget does not increase of the general budget debt.
6. The company offers opportunities of independent investment’s activities (among others building of a sports and entertainment hall).
7. Quicker responding on the customers’ needs even due to independence in management of the company’s resources.
8. Possibility to calculate depreciation.
9. Possibility of further VAT deduction what with the current legal status regarding the budget institutions become impossible.

It was claimed that the NPM tools like contracting services, leasing of property, managerial contract agreement is not much used by the company. As a result of transformation of the budgetary institution into the company it was found improvement of the effectiveness of some economic and financial indicators (OECD, 2019, p. 123). An important matter in the management of the municipal company is a skilful connection of social problems with the financial performance criteria. Factors affecting the model of the company’s management are size of a city, territorial range of provided services and quality of staff. In relation to the above mentioned some researchers of the issue claim that there is not one the best universal model of management of a municipal company (Grzymała, 2010, p. 74). However, the commune should remain a unit controlling municipal activities on its area independently of the accepted model. The presented evaluation of the efficiency is a general nature. It was carried out on a small sample of respondents and therefore it will require further in-depth research.
The current pandemic situation does not have a positive effect on the changes which were made in the years prior to 2020 in the municipal sector. As a result of the lockdown, there was a significant decrease of provided services and thereby revenues. Some of the budgetary financial resources in 2020 were moved to fight with the coronavirus.

For this purpose, the city resigns among others from further operation of the Radom City Bike.

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Katarzyna Kalinowska*

Overcoming the consequences of financial crisis on the example of Island and Ireland

Abstract

Will Ireland share the fate of Iceland? Is this open, small economy with a debt-to-GDP ratio of above 130% on the verge of bankruptcy? Economists argue that if public debt is greater than national income, then smaller economies, heavily involved in the international division of labor are at risk of becoming insolvent.

The bankruptcy of Ireland, whose prosperity is based on its reputation for being a good place to do business, could be a catastrophy. Contrary to the countries of southern Europe, the economy of the Green Island has never had problems with paying its liabilities and with solvency. While Greece has gone bankrupt five times since gaining independence in 1826 and Spain as many as thirteen in the past two centuries, Ireland's history in this area is impeccable (Reinhard, Rogoff, 2009, p. 3-6).

Since the beginning of the 21st century Ireland's economic development has been based mainly on construction industry and not exports, as it used to be in the 1990s when the country was nicknamed the Celtic Tiger. The boom resulted in a budget surplus and a positive balance in current settlements. But it also resulted in higher prices - the Irish no longer had to accept slow wage growth to stay internationally competitive - which, combined with the low nominal interest rate of the European Central Bank, provided fertile ground for the build-up of the real estate bubble.

The aim of the article is to identify the factors that led Ireland to the brink of bankruptcy and to try to answer the question whether the action of recapitalization of failing banks by the government and international financial institutions will bring the expected results in the form of healing the financial system and returning Green Island to the path of economic growth.

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***JELL Clasification Codes**: F340, H620,*

***Key words**: Ireland, housing bubble, public debt, budget deficit, moral hazard.*

***Paper type**: Theoretical research article*

1. A road to nowhere ...

"Crises rarely paralyze a completely healthy economy, in general the economic collapse is due to fundamental systemic weaknesses and flaws" (Roubini, Mihm, 2011, p.144).

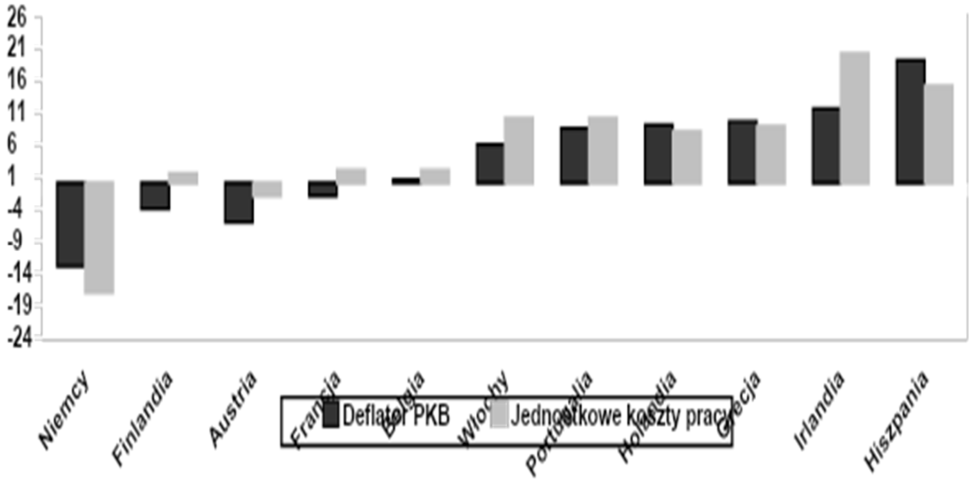
The views of economists on the causes of crises and the actions to be taken when they occur are divergent, often contradictory. Both liberals (J. S. Mill, C, Menger, L. von Mises, F. Hayek) and advocates of state intervention agree that sudden economic downturns are caused by huge asset and credit bubbles. However, there is no consensus on the source of these instabilities. Some argue that it is the fault of the institutions that create capitalism, and others that the interference of the state in the economy is the obstacle to the efficient functioning of markets. Regardless of the causes, the effect is the same - there is a crash causing shock in all spheres of economic life.

The dynamic development of the real estate industry and related markets can be linked to the adoption of the common European currency by Ireland. Monetary integration - a process that was to constitute the basis for economic security and macroeconomic stability of its participants turned out to be the beginning of problems for the economy of the Green Island. The country, as a member of the euro area, was among the top economic leaders, generating budget surpluses and occupying leading positions in prestigious rankings in the field of competitiveness, innovation and ease of running business.

However, there was an allegation that the level of inflation exceeding the reference values puts this economy in a privileged position in the context of development opportunities, due to it generating negative real interest rates (Under the conditions of monetary integration, this allegation has a much broader dimension, as a higher inflation rate at a given ECB reference rate may lead to conflicts between the members of the EMU against the background of unequal benefits obtained from participation in the common currency area in the context of disproportionate costs associated with maintaining a low level of prices). The reason for the relatively high inflation could be, on the one hand, the dynamic development of the real estate market, which resulted in the transfer of labor to the non-tradable segment, favoring the rise in prices in this sector and on the other - the high degree of openness of the Irish economy, which by intensifying competition and increasing pressure labor productivity growth has an impact on the price level in the tradeables sector (Kalinowska, 2011, p. 93).

To compare the competitiveness of the countries that constitute the common currency area, one needs to compare the level of the real, effective exchange rate (Effective means based on a currency basket, and real - adjusted to inflation).

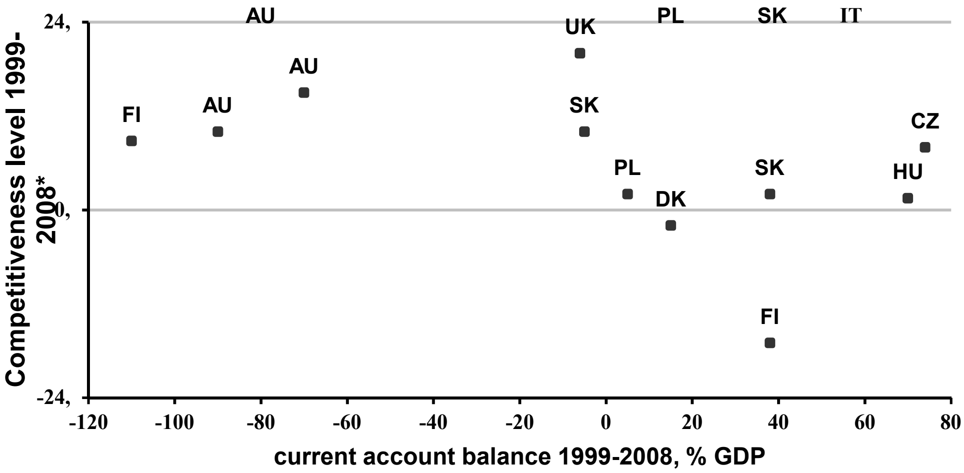
Figure 1. Competitiveness of the euro area economies in 1998-2008.



Source: Data quoted from UniCredit (2010).

Figure 1 shows that the main reason for the loss of Irish competitiveness in the analyzed period was not the change in the prices of all goods that make up the GDP (GDP deflator) but the increase in unit labor costs. Another very important conclusion drawn from the data analysis concerns the significant disproportions in the levels of inflation among the members of the EMU, which precludes the effectiveness of the single monetary policy implemented by the European Central Bank.

Figure 2. The relationship between the current account balance and the level of competitiveness in the EMU countries in 1999-2008.

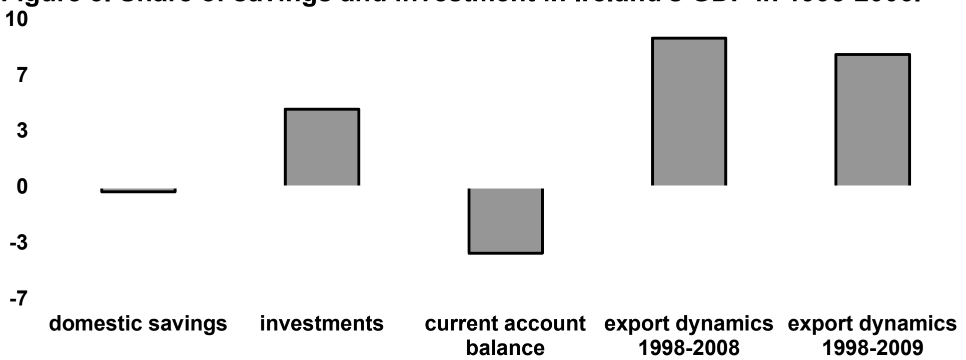


* Measured as change in unit labor costs.
Source: EC (2009), UniCredit (2010).

The analysis of the data in Figure 2 shows that countries that have problems with a structural deficit in the current account balance have lost the most in the competitiveness of their economies. In the group of countries whose price competitiveness deteriorated significantly, only the Netherlands managed to maintain a surplus in the current settlements, and Ireland recorded the highest export dynamics in the EMU. This means that what has been responsible for the deficit in this country's current account are capital flows, mainly from Germany and Great Britain.

The current account balance is a reflection of the difference between domestic savings and domestic investments.

Figure 3. Share of savings and investment in Ireland's GDP in 1998-2006.



Source: as above

A low savings rate and a high investment rate mean that the current account balance is moving towards negative values. This means that the property boom in Ireland was financed by savings made by other countries. In order to meet the demand for mortgage loans Irish banks massively borrowed (mainly short-term) from other banks in the euro area. It is estimated that between 2003 and 2008 the foreign debt of Irish banks increased from 10 to 60% of GDP.

The collapse of Lehman Brothers meant an almost complete disappearance of speculative demand, and banks drastically limited lending due to liquidity difficulties on the interbank market. To restore stability to the financial system in September 2008 Ireland had to raise the guarantee limit and insure deposits with a value of up to EUR 100,000, and then it provided unlimited guarantees on all deposits made in the six largest banks. The situation was temporarily improved, but in order to keep the word, in December 2008 the state recapitalized the banks. In January 2009, the government took control of Anglo Irish Bank, fully covering from the budget its systematically accumulating losses.

The Irish government allocated the equivalent of 4% of GDP for capital injections to capital institutions, which affected the condition of public finances. This coincided with a collapse of budget revenues, and the recession triggered an increase in social spending. In 2008, after many years of budget surpluses, the share of the budget deficit in GDP exceeded 7%, a year later it increased to around 12.5% and currently it is higher than 30%. The relatively low public debt began to increase dramatically - it is forecasted to exceed 155 billion euro in 2011, i.e., 100,000 euro per each household (www.ft.com).

2. Moral hazard

The level of public debt in period t depends on nominal economic growth, budget balance and on the level and average nominal interest rate of debt in period t-1 (IMF 2010).

Dept. = $\beta 1 + \beta 2X1 + \beta 3X2 + \beta 4X3 + \beta X4 + \varepsilon$

DPt - public debt in period t;

$\beta 1$- equation constant;

X1 - average nominal interest rate of the debt held in the period t-1;

X2 - nominal GDP growth;

X3 - the difference between budget revenues and expenditures;

X4 - public debt level in period t-1

ε - random fluctuation;

The aim of the study is to estimate the significance level of factors that determine the amount of public debt in Ireland in the years 2000-2011. The adopted time frame correlates with the adoption of the single currency by this country, which lowered the cost of raising capital and provided a fertile ground for inflating the speculative bubble on the real estate market.

The study used annual statistical data published by the European Central Bank, Eurostat the International Monetary Fund.

The methodology used in the first stage of the study concerned the estimation of the multiple regression equation. Using the classical method of least squares, the regression function was estimated:
$DPt = -1.43 - 0.92X3 + 0.97X4$
All the necessary calculations were made using the GRETL software and are presented in table 1:

Table 1. Classical least squares method estimation, observations used 2001-2011 (N = 10), dependent variable: public debt.

	factor	**standard error**	**t-Student**	**value p**
const	-1,46380	5,32249	-0,2750	0,7895
X3	-0,920971	0,197279	-4,668	0,0012 ***
X4	0,969161	0,156532	6,191	0,0002 ***

*** Variable significant at the 1% significance level.
Source: Own compilation based on GRERTL.

The basic statistics for the analyzed data are presented below:
Arithmetic mean of the dependent variable - 32.62392
Standard deviation of the dependent variable - 28.55 174
Residual sum of squares - 975.3650
Residual standard error - 10.41028
Coefficient of determination R-squared - 0.891230
Corrected R-square - 0.867059
Log-likelihood - -43.41469
Akaike's Information Criterion - 92.82939
Schwarz's Bayesian criterion - 94.28411
Crit. Hannan-Quinn - 92.29080
First order residual autocorrelation - -0.677606
Durbin-Watson test statistics - -2.629486

The assessment of the diagnostic usefulness of the estimated function was conducted on the basis of analysis of the coefficient of determination R2 and the adjusted coefficient of determination R^2. The statistical significance of individual parameters of the equation was determined using the Student's t-test at the significance level α = 0.05.

The relatively high level of the coefficient of determination proves that the model was well adjusted to empirical data. Independent variables explained the dynamics of GDP in the analyzed period in almost 90%.

To make sure that the assumptions of classical least squares method estimation are met after the model estimation, the following statistical tests were additionally carried out:

1. Normality of the random component distribution - Doornik-Hansen test

p value: 0.02659

p value > assumed significance level, therefore there are no grounds to reject the hypothesis of the normal distribution of the random component.

2. Multicollinearity testing (VIF test)

X3 - 1.037

X4 - 1.037

If VIF> 10, the variable should be treated as an important causative factor of multicollinearity.

In the analyzed model, there is no occurrence of any confounding multicollinearity between the distinguished explanatory variable and other explanatory variables.

3. Detection of autocorrelation - Durbin-Watson test for autocorrelation of the order of 1

The value of the D-W statistics for the model is approximately 3.1192.

With the number of observations n = 12 and the model variables k = 3, the critical values of dL and dU take the values of 0.6577 and 1.8640 respectively. Therefore, at the adopted significance level D-W> dU, there are no grounds for rejecting the null hypothesis (no positive autocorrelation of random component disturbances).

4. Heteroscedasticity of the random component - White's test

The value of the White’s statistic is approximately 11,018.

The critical value of chi square at 5 degrees of freedom is approximately 11.0705. Due to the fact that the value of the White statistic is lower than the critical value, there are no grounds to reject the null hypothesis and it should be assumed that the random component is homoscedastic.

5. Testing the ARCH effect in a residual process

The test results indicate that the ARCH effect did not occur in the examined residual process, because the critical value of chi square at 1 degree of freedom is approx. 3.84146 and is higher than the value of the LM test statistic (approx. 2.05405).

6. Conclusions:

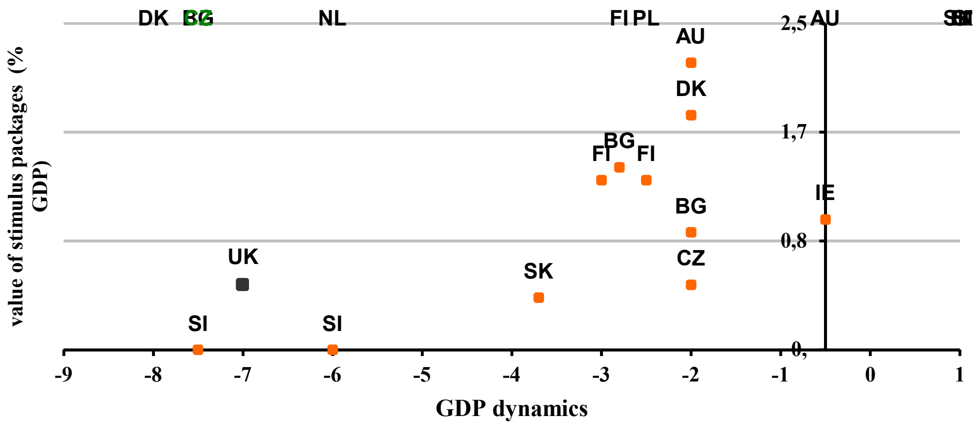
- Irish public debt in the analyzed period depended on the level of the budget deficit and the amount of debt in the period t-1;

- the level of public debt was not affected by the production dynamics and the interest rate on Irish bonds;

- in 1999-2007, the macroeconomic conditions for Ireland's debt were very favorable: the dynamics of GDP growth was higher than the nominal interest rate on treasury securities, and the budget balance was positive;

Ireland was plunged by an undisciplined and over-leveraged banking sector that was the origin of the boom in corporate loans and the property price bubble. The main reason for the over thirty percent share of the budget deficit in GDP were costs related to recapitalization of banks at risk of bankruptcy, and not stimulus packages aimed at limiting the effects of the crisis.

Figure 4. The value of stimulus packages and the economic collapse in selected EU countries in 2009



Source: Prepared on the basis of: European Commission, Public Finances in EMU-2009, p. 68.

The data in Figure 4 shows that Ireland was the country in which the value of the recovery package was one of the lowest, especially if one takes into account the scale of the decline in production dynamics. In contrast to many European governments, Dublin could not afford to stimulate the economy with fiscal stimulus. Not being able to count on currency correction, Ireland cut unit labor costs in the manufacturing sector by over 20% since 2008, which had a comparable impact on competitiveness to a 20% depreciation of the currency.

It is worth recalling that the creation of foundations for the development of the Irish economy was based on the doctrine of the free market and had little to do with state intervention. Hence the question: is the large-scale action to recapitalize financial institutions the result of political decisions at European level? Is 85 billion euro under the three-year EU-IMF aid plan not a relief for foreign investors who misjudged their exposure to Irish systemic risk?

The campaign to recapitalize and rescue the banking sector cost the Irish government nearly 50 billion euro (www.ft.com), i.e., more than 1/3 of the national income in 2009 and nearly 1/3 of the value of net public debt of 2011. If the costs of supporting banks were not taken into account, the budget deficit today would amount to less than 12% in relation to GDP (www.ft.com).

If Ireland allowed its banks to go bankrupt and distanced itself from the EU and IMF bailout, depositors and foreign creditors would suffer losses, but an unprecedented level of budget deficits and public debt would be avoided. In real terms, the rescue plan of the EU and the IMF has little to do with the repair of Irish public finances: EU decision-makers decided to lend money to the government in Dublin that wanted to cover the liabilities made to German and English banks and those in their own country.

Recapitalization of banks - without forcing any consequences of engaging in excessively risky transactions - certainly does not reduce the moral hazard in the future. This means that the government as the lender of last resort for all financial (and non-financial) institutions: both those that lost liquidity due to the freezing of the interbank market as well as those that became insolvent as a result of excessive risk-taking, encourages further speculative bubbles and banking crises.

The new regulations of the financial system, which are created in response to the recent crisis, are to be more thoughtful and tighter, especially with regard to securitization. It is worth wondering as to why they should be more effective than the existing ones. Perhaps the only regulation that should be imposed on financial institutions would prohibit governments from recapitalizing failing banks? Their lack of responsibility is the cause of the recent economic downturn - in order to prevent such crises in the future, this cause must be eliminated.

The collapse of insolvent banks, even the large ones, may not only not harm the economy but help it, because it will strengthen and heal the banking system. Ultimately, it is a much cheaper solution than government support: should taxpayers lower their standard of living by 20 years to pay off the mistakes of a small, elite group (Stiglitz 2009)? The costs of saving banks from the 1990s are borne by Japan to this day. Functioning only thanks to state subsidies, zombie banks suck in cash, accumulating it in safes, thus limiting lending and, consequently, economic growth. On the other side there is the example of Iceland that 3 years ago, having no resources to guarantee the liabilities of its banks, allowed them to collapse, and today is on the path of economic growth, with a relatively low level of unemployment and the condition of public finances that many EU countries can only dream of.

Conclusion

Since the beginning of the 21st century, Ireland's economic development has been based mainly on construction and not exports, as it used to be in the 1990s when the country was nicknamed the Celtic Tiger. In the long term this growth model proved to be unstable. When the price bubble in the real estate market burst, the government in Dublin decided to rescue the bankruptcy threatened banking sector. About 4% of Irish GDP was allocated to support financial institutions, which had a drastic impact on the condition of public finances.

In 2009, it was joked that the difference between Ireland and Iceland was only one letter and six months between the moment of their bankruptcy. Before the crisis, both countries were characterized by similar GDP dynamics. Both economies have been destroyed by an undisciplined and over-leveraged banking sector. Economists say the reason Iceland emerges faster than Ireland is because, on the one hand, it has let its banks collapse and, on the other, it has devalued the krona (It is estimated that the Icelandic krona has lost around 30% against the dollar since September 2008). According to the estimates of the European Commission, the pace of economic growth in 2011 in both countries is to be similar. However, this does not translate into the degree of involvement of the labor factor: the unemployment rate in Iceland will be 8%, while in Ireland it will be over 13.5%. The largest disproportions are reflected by the state of public finances: the ratio of the budget deficit to GDP in Iceland will be just over 6%, and in Ireland around 32%, the corresponding values of public debt are 80% and 120%. It is worth noting that in Iceland the Scandinavian model of social policy has not been abandoned.

Were it not for the political pressure that prompted the government in Dublin to accept aid from the EU and the IMF, the path to stable economic growth and consolidation of public finances would undoubtedly be shorter and less costly. The more so as the financial turmoil in this country was accompanied by solid economic foundations and two key advantages that constituted this country's advantage over others: a qualified workforce and business-friendly regulatory and tax conditions. Moreover, the fiscal policy pursued before the crisis gave a lot of room for a counter-cyclical economic policy: in 2007, public debt was 25% in relation to GDP, and the budget was balanced.

Currently, Ireland is trying to return to the growth model of the 1990s. The success of this return depends on the global prosperity and the economic condition of trading partners. In the face of the second wave of the crisis, achieving this goal may turn out to be difficult and time-consuming.

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The European Union fiscal policy framework and fiscal sustainability - challenges for the post-crisis environment

Abstract

The fiscal policy framework in the European Union was originally agreed upon in the Maastricht Treaty 30 years ago. In the following years it has been supplemented (Stability and Growth Pact) and modified, influenced by the experience of its application practice and external shocks, such as the financial crisis. However, the essence of this framework remained the same - member states are obliged to conduct a disciplined fiscal policy, which, in a nutshell, is assessed by comparing the ratio of budget deficit and public debt to GDP in a given country to the reference values.

Even before the outbreak of the Covid-19 pandemic, the need to change the mechanisms for disciplining fiscal policy was widely recognized. High and persistent levels of public debt, pro-cyclicality of fiscal policy, shortage of public investment and the complexity of fiscal rules and their weak enforceability are indicated as unfavorable features of public finance.

In 2019 the COVID-19 pandemic came as the biggest shock to the world community since World War II. In the context of the provisions on fiscal discipline, in May 2020 the Commission and the Council activated the general escape clause of Stability and Growth Pact, for the first time ever. This has allowed member states to take the necessary fiscal measures to deal with the crisis.

On 19 October 2021, the European Commission adopted a Communication relaunching the public consultation, put on hold in March 2020, on the EU's economic governance framework. The new governance framework should be tailored to the challenges the EU is facing, including the challenge of achieving a fiscal stance that is appropriate for the euro area as a whole.

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There is a fairly widespread belief in the need to move away from rigid reference values, which should be replaced by solutions that ensure the sustainability of public debt in the differing circumstances of member states. The proposed options for the revision of the EU fiscal framework, although justified in theory, have a fundamental flaw - they strengthen the position of supranational institutions and, moreover, open the door to discretion and potentially unequal treatment of member states. These proposals can be seen in a broader context - the federalization of the EU, which would limit the sovereignty of nation states.

***Keywords**: fiscal policy, fiscal rules, deficit, surplus, public debt.*

***JEL Classification Codes**: E62, H60, H62, H63.*

***Paper type**: Theoretical research article*

1. National fiscal policy and the issue of its coordination in the European Union

In formulating the concept of the Economic and Monetary Union (EMU), agreed in the Maastricht Treaty[2], it was assumed that a prerequisite of the stable functioning of the single currency area is the prior co-ordination of the member states' economic policies aiming at convergence of their economic structures. The Treaty stipulated that the advancement level of such convergence, conditioning participation of a given country in the EMU will be assessed by means of the so-called convergence criteria. The said criteria concerned the monetary sphere (inflation rate and long-term interest rate related to the lowest values in the group of candidate countries), the sphere of public finance (maximum budgetary deficit and public debt to GDP ratios) and stability of the currency exchange rate.

In defining the foundations for a future centralized and single monetary policy it was assumed that fiscal policy will remain the responsibility of individual member states. It was mainly due to the political reasons. The member countries have different preferences as far as fiscal re-distribution and the scope and intensity of the "welfare state" idea implementation are concerned which is expressed by the diversified degree of fiscal redistribution and different structures of budget expenditure

[2] Treaty on the European Union, signed on 7 February 1992, after having been ratified in 12 EEC countries came into force on 1 November 1993. The Treaty assumed three stages of the EMU implementation; the last, third stage started on 1 January 1999 by establishing the irreversible conversion rates of national currencies in relation to the Euro and lasted until the end of February 2002, when the last of 12 hitherto national currencies qualified for the EMU lost their status of the legal means of payment.

and revenues. These differences have always been perceived as the ones impossible to eliminate in the foreseeable future. Hence, giving up sovereignty in the sphere of fiscal policy seemed and still seems to be unacceptable both to governments and societies of individual member states.

In the absence, at that time, of any prospects of fiscal federalism that, within the supranational budget, would enable implementation of transfer mechanisms of resources between the Union countries, an important economic argument in favor of retaining fiscal policy as a (relatively) autonomous sphere of decision making for member state governments was a prospect of the necessity of using the tools of this policy to relieve the differences in the course of cyclical conditions and to respond to asymmetric shocks. Adoption of the common currency means not only losing the opportunity of carrying out the country's own, national, discretional monetary and fiscal policy. Another equally important fact is that the single currency area with the centralized monetary policy does not offer financial markets a chance of automatic, "natural" response to economic depression in a given country, the response in the form of decreased interest rates or a drop in the currency exchange rate. As the "common market" is still rather a sum of the relatively separate national markets, on account of such phenomena as low mobility of the working force, poor flexibility of prices and wages, the need to retain an economic "shock absorber" in the form of the autonomous national fiscal policy seemed obvious.

While preserving the decentralized nature of fiscal policy it was deemed necessary to define the rules of this policy and mechanisms disciplining individual member states in such a way as to counteract the existence of an excessive budgetary deficit and the increase of public debt. The motivation behind accepting such rules and mechanisms can be seen on two levels: that of individual countries and of the whole single currency area (Buiter, 2003).

With reference to the national level the ultimate targets of fiscal policy which should be enhanced by the adopted regulations are: retaining the country's solvency, ensuring possibilities of financing public expenditures and ensuring macroeconomic balance by eliminating undesirable fluctuations in the economic activity level. These issues are of essential significance for the stability of individual national budget functioning; therefore defining and observing adopted regulations is in their interest and should be in their competence. While analyzing the national level only it is difficult to find economic justification for adopting supranational regulations.

In the case of the single currency area countries there is, however, one additional aspect. The fiscal policy regulations should enable identification and limitation of a potentially negative impact of the irresponsible policies of individual member states on the functioning of the remaining ones and the euro area as a whole. What is meant here is avoidance of all types of unfavorable externalities of national fiscal policy and the so called "free riding" at the expense of other EMU members while implementing the "national" objectives. These unfavorable externalities can refer to:

- Impact of excessive budgetary deficits on interest rates in the single EU financial market. Increased demand on loan funds, resulting from the necessity to finance the deficit of the country neglecting the public finance discipline creates the pressure to increase interest rates not only in the country in question but in the entire territory of the Union, which results from the nature of the single market. Countries of healthy public finances experience the drainage of savings and increased costs of financing. This means that the expenditures of their private sector are crowded out by the public expenditure of the country revealing an excessive deficit. These redistribution effects lead to reduced effectiveness of economy and slower economic growth in the Union's territory.
- Unfavorable impact of an excessive deficit on the conditions of the centralized implementation of single monetary policy. Fiscal expansion entailing the increase in global demand causes inflation pressure, which makes the central bank to aggravate the monetary policy. This more restrictive monetary policy is applied in all countries, also in those where the budget discipline is not infringed. At the same time, because higher interest rates mean higher costs of the public debt servicing, the central bank is under pressure to adopt a more lenient kind of monetary policy. This worsens the relationships between the central bank and the governments of member states.
- Effects of the higher risk of insolvency or possibility of being insolvent by the member state. On the one hand, what is meant here is the possible effect of "infecting" the other member countries with the crisis; on the other – incurring the costs of preventing such a crisis. Particular significance is attached here to the fact that irresponsible fiscal policy of one member state may undermine credibility of the whole single currency area and lead to the collapse of the common currency value.

The above mentioned reasons resulted in adopting the Treaty regulations which provide a framework for the national fiscal policy in the Economic and Monetary Union.

2. Fiscal policy framework in the EMU

Specific regulations for public finance directed at ensuring the stability of the single currency area[3], were originally contained in the Treaty establishing the European Union – now Treaty on the functioning of European Union TFEU[4] - fiscal convergence criteria to qualify for full EMU membership, then further developed in the Stability and Growth Pact (SGP).

The main provisions of the TFEU, concerning fiscal policy (Art. 126), read as follows:

1. Member States shall avoid excessive government deficits.
2. The Commission shall monitor the development of the budgetary situation and of the stock of government debt in the Member States with a view to identifying gross errors. In particular it shall examine compliance with budgetary discipline on the basis of the following two criteria:

(a) whether the ratio of the planned or actual government deficit to gross domestic product exceeds a reference value, unless:
— either the ratio has declined substantially and continuously and reached a level that comes close to the reference value,
— or, alternatively, the excess over the reference value is only exceptional and temporary and the ratio remains close to the reference value;
(b) whether the ratio of government debt to gross domestic product exceeds a reference value, unless the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace.

Protocol 12 of the TFEU gives details on the EDC, including the reference values on budget deficit: 3% for the ratio of the planned or actual government deficit to gross domestic product at market prices (GDP), and 60% for the ratio of government debt to GDP. The said values are perceived as arbitrary as there is no economic justification that they mark the real border of the public finance stability. However, the reference values are mutually consistent – in light of the formula: $d=g\times b$, where d is the government budget deficit (as a percentage of GDP), g is the growth rate of nominal GDP, and b is the (steady state) level at which the government debt is to be stabilized (as a percentage of GDP). The formula shows that in order to stabilize the government debt

[3] These regulations apply to all members of the EMU, including the countries with a derogation that are obliged to adopt the single currency, but do not apply to Denmark, which has an "opt-out" clause.

[4] From 1 December 2009 (date of entry into force of the Lisbon Treaty, signed 13 December 2007) the title of the „Treaty establishing the European Community" is replaced by the „Treaty on the functioning of the European Union".

at 60% of GDP the budget deficit must be brought to 3% of GDP if and only if the nominal growth rate of GDP is 5% ($0.03=0.05\times0.6$)[5].

The reference values are arbitrary on two counts. Firstly, it is unclear why the debt should be stabilized at 60%. Other numbers, e.g. 70% or 50%, would do as well. In that case, the deficit to be aimed at should also be different, i.e. 3.5% and 2.5%, respectively. The only reason why 60% seems to have been chosen at Maastricht was that at that time this was the average debt-GDP ratio in the EU (Buti, Gaspar, 2021). Secondly, the rule is conditioned on the nominal growth rate of GDP. Lower nominal growth rate require lower budget deficit that stabilize the debt at 60%.

In the event of exceeding the reference value established for the budgetary deficit, the European Commission assesses if the critical situation is exceptional and temporary in nature or what the prospects of reaching the reference value are. The Treaty specified also procedures for the reaction of the European Commission and the EU Council (Ecofin) in the event the excessive budgetary deficit is identified and the sanctions which may be applied towards a given member state. It must be emphasized here that the sanctions stipulated in the Treaty are discretionary in nature – their application is at the Council's discretion. Besides, further steps in the procedure concerning excessive budgetary deficit are not applied automatically – each time a qualified majority of the Council members' votes is required. Consequently, the Treaty regulations have not created a stable, "tough" measure restricting fiscal policy of the .

With reference to the public debt, the Treaty does not contain a provision requiring the public debt to GDP ratio to be close to the reference value. In the event this value is exceeded it is assessed if the debt to GDP ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace. However, the Treaty does not specify the term of "satisfactory pace".

Such an approach to the public debt was conditioned by the fiscal positions of the member states at the time when the criteria of future EMU membership were agreed. In 1991 the public debt exceeding 60% of GDP was reported in Denmark, Netherlands, Greece and Ireland. In two countries it even exceeded the GDP itself: in Belgium (119.9%) and Italy (116.7%). It was difficult then to expect that the period

[5] The growth of nominal GDP, g, can be expressed roughly as the sum of the growth of real GDP and inflation. During the negotiations of the Maastricht Treaty, a reasonable assumption for nominal GDP growth was 5%. That corresponded to a real growth of 3% (or more) and a norm for price stability requiring inflation below 2%.

of few years will be sufficient to reduce the public debt index to the reference value level.[6]

Treaty provisions were of major significance in the mid-term perspective, preceding qualifying for the EMU. The necessity of fiscal adjustments in order to meet convergence criteria appeared in majority of the candidate countries[7] and they took up the challenge. As a result, in spring 1998, 11 countries were qualified (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain). Greece was one of the countries which sought for the membership but was denied it. However, in 2001 Greece joined the euro area[8]. The euro area today consists of 19 members, and the „newcomers" are: Slovenia (2007), Cyprus (2008), Malta (2008), Slovakia (2009). Estonia (2011), Latvia (2014) Lithuania (2015)[9].

"Softness" of the regulations aimed at disciplining public finances and discretionary character of the sanctions provided by the TEC caused that Germany started to fear that after the countries have fulfilled the convergence criteria and qualified for the EMU membership the mechanisms preventing excessively relaxed fiscal policy will prove ineffective. Therefore, in November 1995, the German Minister of Finance presented a proposal for strengthening these mechanisms by the so called Stability Pact. Due to the influence of France, this proposal was officially adopted as the Stability and Growth Pact at the European Council's summit in Amsterdam in June 1997. Its aim was to detail the issue of applying the excessive deficit procedure and principles of imposing sanctions.

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[6] On the determinants of the adoption of public finance benchmarks, see Buiter (2006).

[7] The candidate countries did not include Great Britain and Denmark. Under the Maastricht Treaty both countries obtained the so called "opt-out" clause which gave them the right of choice in the matter of common currency. Sweden at first did not fulfill the exchange rate criterion; then in September 2003, in the national referendum, the Swedish society rejected the idea of the EMU membership. Great Britain left the European Union on 31 January 2020.

[8] The progress in diminishing the budgetary deficit and public debt to GDP ratios in the case of many countries was closely related to the "creative accounting", especially in Greece. The Greek authorities supplied inaccurate data concerning the budgetary deficit to GDP ratio for many years.

[9] Outside the euro area remain: Bulgaria, Croatia, Czechia, Poland, Romania, Sweden, Hungary and Denmark. Four non-members have a monetary agreement with the EU allowing them to make the euro its official currency, and permitting it to issue euro coins: Andorra, Monaco, San Marino, Vatican. Additionally, Montenegro and Kosovo have unilaterally adopted the euro in 2002 as their de facto domestic currency. This means that the euro is not a legal tender there, however it is treated as such by the government and the population.

The SGP is implemented through secondary legislation in the form of Regulation (EC) N° 1466/97 of 7 July 1997 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies and Regulation (EC) N°1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure. Those two Regulations respectively specify the so-called preventive arm and corrective arm of the SGP (with the latter being also known as the Excessive Deficit Procedure).

The SGP has evolved over the years through amendments to the legislation (European Commission, 2018, pp. 12-16).

The first amendment of the SGP occurred in 2005 and involved changes to both the preventive and the corrective arms. The main aim of those changes was to better take into account economic circumstances and country-specific characteristics. In the preventive arm, the horizontal requirement of achieving a budgetary position of close to balance or surplus in nominal terms was replaced by a country-specific objective set in structural terms (net of cyclically-driven expenditure and revenue and of one-offs). Those objectives take into account Member States' gross government debt level and the magnitude of the fiscal challenge posed by population ageing. In the corrective arm, the possibility of extending the EDP deadline was introduced for Member States that had taken effective action but were faced with unexpected adverse economic circumstances with a significant impact on their public finances – a principle labelled "conditional compliance". For both arms, the legislation indicated a benchmark adjustment for the size of the correction to be made for Member States either not at their medium-term budgetary objective – MTO (preventive arm) or with an excessive deficit (corrective arm). Furthermore, in order to enhance the growth-oriented dimension of the Pact, the adjustment path to the MTO could take the implementation of major structural reforms into account, provided that they have a verifiable impact on long-term public finance sustainability, either directly (such as for pension reforms) or by raising the growth potential (and thereby lowering the level of public debt as a percentage of GDP).

Following the onset of the economic and financial crisis in 2008 and the further experience with the implementation of the Pact, the SGP was amended for a second time in 2011, as part of a package of legislation known as the Six Pack. The package amended both Regulations and added a system of graduated enforcement mechanisms (financial sanctions for the euro area Member States), to address the weaknesses in the surveillance framework that the crisis exposed. In particular, the changes strengthened the preventive arm of the Pact to ensure that good economic times were used to pursue policies leading to healthy public finances. A new expenditure benchmark was added, involving an analysis of government expenditure net of discretionary revenue measures, as a complement to the change in the structural balance. Moreover, a key innovation was the specification of when deviations from the adjustment path to the MTO are deemed to be significant, making them a trigger for a corrective mechanism (within the preventive arm) which could lead to sanctions for the euro area Member States. The corrective arm was changed by putting the debt requirement on an equal footing to the deficit one, in light of the damaging impact of sovereign sustainability concerns during the crisis. A key plank of the Six Pack reform is the "operationalization" of the public debt criterion via the introduction of a debt reduction benchmark. When the debt to GDP ratio exceeds the reference value of 60%, the benchmark requires a reduction of the excess at an average pace of 1/20th (5%) per year. The sanctions for the euro area Member States were strengthened and extended to the preventive arm in case of significant deviation.

The amendments to the key Regulations were designed to increase both the economic credibility and the flexibility within the rules of the Pact. At the same time, however, they have made the rules more complex and introduced some room for judgement, so as to adapt to ever-changing and complex economic reality, while avoiding an ex ante over-specification. That inevitable need for discretion within the rules calls, as a necessary counterpart, for further transparency.

3. Budgetary situation in euro area countries

Data in Table 1 indicate that the Pact, as a mechanism for disciplining national fiscal policies, has not been effective - after a period of prosperity lasting since 2004, in 2007, 10 out of 19 of the current euro area countries had budget deficits. The total government budget balance in the euro area was also negative, accounting for 0.6% of the area's GDP. The total government debt (65.9% of GDP) exceeded the reference value, with 8 countries being above it.

Table 1. General government net lending (+) or net borrowing (-) and consolidated gross debt (% of GDP at market prices)

	Budget deficit 2007	Budget deficit 2019	Budget deficit 2020	Public debt 2007	Public debt 2019	Public debt 2020	Change in debt ratio 2019-22*
Austria	-1.4	+0.7	-9.6	65.0	70.5	84.2	14.6
Belgium	+0.1	-5.9	-5.8	87.3	98.1	117.7	20.6
Cyprus	+3.2	+1.5	-6.1	54.0	94.0	112.6	8.8
Estonia	+2.7	+0.1	-5.9	3.8	8.4	17.2	18.0
Finland	+5.1	-1.0	-7.6	33.9	59.3	69.8	13.3
France	-2.6	-3.0	-10.5	64.5	98.1	115.9	21.3
Germany	+0.3	+1.5	-6.0	64.0	59.6	71.2	9.3
Greece	-6.7	+1.5	-6.9	103.1	180.5	207.1	14.3
Ireland	+0.3	+0.5	-6.8	23.9	57.4	63.1	8.7
Italy	-1.3	-1.6	-10.8	103.9	134.7	159.6	24.5
Latvia	-0.6	-0.6	-7.4	8.5	36.9	47.5	8.6
Lithuania	-0.8	+0.3	-8.4	15.9	35.9	47.2	13.6
Luxembourg	+4.4	+2.4	-5.1	8.2	22.0	25.4	6.9
Malta	-2.1	+0.5	-9.4	61.9	42.6	55.2	16.7
Netherlands	-0.1	+1.7	-7.2	43.0	48.7	60.0	17.2
Portugal	-2.9	+0.1	-7.3	72.7	117.2	135.1	10.0
Slovakia	-2.1	-1.4	-9.6	30.3	48.5	63.4	19.1
Slovenia	0.0	+0.5	-8.7	22.8	65.6	82.2	14.2
Spain	+1.9	-2.9	-12.2	35.8	95.5	120.3	28.4
Euro area-19	**-0.6**	**-0.6**	**-8.8**	**65.9**	**85.9**	**101.7**	**16.7**
EU-27	-0.5	-0.5	-8.4	62.2	79.2	93.9	15.6

*European Commission autumn 2020 forecast.
Sources: European Commission (2020, pp. 160-161, 164-165; 2021, p.13).

The global economic crisis, which began in the United States in 2007, has dramatically changed the situation of public finances in the euro area. The total budget deficit amounted to 2.2% in 2008, 6.2% in 2009, and 6.3% of total euro area GDP in 2010. The widening of the deficit resulted from the negative impact of the cyclical factor (economic downturn[10])

[10] While annual GDP growth in the euro area was 5.5% in 2007, it slowed to 2.4% in 2008, and a 3.6% drop in GDP was recorded in 2009. In 2010 there was a return to economic

and discretionary measures – rescue packages supporting both the financial market institutions and the real sphere; the increase in government spending was aimed at sustaining (halting the decline in) economic activity.

Higher budget deficits and the need to finance the unbudgeted costs of bank recapitalization, sovereign guarantees, or concessional loans to the private sector caused a spike in the size of public debt and its ratio to shrinking GDP – public debt represented 86.0% of GDP in the euro area in 2010 and continued to rise until 2014, when it represented 95.2% of GDP.

Once the financial crisis was overcome, growth continued until 2019, when the public debt-to-GDP ratio declined from its 2014 value to stand at 85.9%, still well above the reference value. The most difficult situation was in Greece, Italy, Portugal, France, Belgium, Spain, and Cyprus (Table 1).

In 2019 the COVID-19 pandemic came as the biggest shock to the world community since World War II. Euro-area GDP contracted by 6% in 2020. The crisis' impact has been alleviated by sizeable measures at national level - this reflects both the impact of automatic stabilizers and the substantial discretionary fiscal policy response. The coordinated response at the EU level has complemented the actions taken by national governments.

In the context of the provisions on fiscal discipline, in May 2020 the Commission and the Council activated the general escape clause of Stability and Growth Pact[11], for the first time ever. This has allowed Member States to temporarily depart from their fiscal adjustment paths and take the necessary fiscal measures to deal with the crisis.

The pandemic and the large fiscal policy response have led to higher budget deficits and debts. The average general government deficit in the euro area accounted for 8,8% of GDP in 2020. The impact of the COVID-19 crisis is therefore even greater than that of the global

growth (GDP grew by 2.8%), but the situation varied across economies, with declines in Greece, Latvia and Ireland (European Commission, 2020, p. 22).

[11] On 20 March 2020, the Commission adopted a Communication setting out its view that given the expected severe economic downturn resulting from the COVID-19 outbreak the conditions were met to activate the general escape clause. On 23 March 2020, the Member States' Finance Ministers agreed with the Commission's assessment. The activation of the clause allows for a temporary departure from the adjustment path towards the medium-term budgetary objective of each Member State, provided this does not endanger fiscal sustainability in the medium term. As a result, while the general escape clause does not suspend the SGP and its procedures, its activation provides the Member States with the fiscal space necessary to respond to the pandemic.

financial crisis in 2008. The average level of general government debt represented 101.7% of GDP in 2020 and is forecast to rise by 16,7 percentage points to nearly 103% of GDP in 2022. The projections, however, are subject to significant uncertainty and elevated risks, predominately linked to the evolution of the pandemic.

The public debt situation varied across countries. In 2020, the public debt-to-GDP ratio was over 200% in Greece, exceeded 150% in Italy, and was over 100% in Portugal, Spain, Belgium, France and Cyprus. On the other hand, the lowest debt-to-GDP ratio, below 60%, was recorded in Estonia, Luxembourg, Lithuania, Latvia and Malta. These figures clearly demonstrate the lack of convergence in the state of public finances in EMU, which threatens the ability to formulate and conduct a common monetary policy appropriate for all countries and undermines the stability of the single currency area. The existing differences and imbalances between individual economies may deepen, making the single market less efficient. Growing inequalities may lead to social and political tensions.

Thus, there is an urgent need for reorientation - a revision of the EMU fiscal policy framework.

4. Fiscal policy framework of the EMU - challenges ahead

Even before the outbreak of the Covid-19 pandemic, on 5 February 2020, the European Commission published its review of the EU economic governance framework (European Commission, 2020a). The analysis covers two decades of implementation of this framework with a focus on the last decade.

The report's major findings, regarding the fiscal framework and its implementation, are discussed below.

1. High and persistent public debt levels. While public finances in the euro area improved in the years to 2019, some countries did not sufficiently build fiscal buffers and reduce public debt in good economic times. In 2019, recorded deficits reached their lowest levels since the creation of EMU. This could mean that the 3% of GDP threshold has acted as an efficient anchor. However, a number of countries corrected their excessive deficits thanks to favorable macroeconomic conditions rather than through structural fiscal adjustments. These countries pursued a “nominal strategy” using the 3% reference value as a target rather than a ceiling.
2. Pro-cyclicality of fiscal policy. The amendments of the SGP aimed to ensure that countries adjust their fiscal policies during good economic times. Such adjustments would have allowed to build sufficient fiscal space to allow automatic stabilizers to operate and to provide fiscal support during downturns. However, national fiscal policies remained

largely pro-cyclical after the reforms, both in good and in bad times, respectively by not building sufficient buffers in some periods or not making sufficient use of fiscal space in others.
3. The composition of public finances, which are far too often unfriendly to growth and investment. Public investment has an essential role in delivering public goods and supporting sustainable public finances. The EU has faced a widespread and persistent decline of public investment over the last decade[12]. If not reversed, this fall will result in a substantial reduction of the public capital stock.
4. The complexity of fiscal rules, and their lack of enforcement. The fiscal rules have become increasingly complex[13]. The amendments for the SGP and development of “smarter” rules and a broadening of their focus has come at the cost of increased complexity. There are currently multiple rules, with different indicators for measuring compliance, and various clauses allowing for deviations from the required adjustments. Moreover, the desire to make the framework more adaptable to changing economic conditions has led to a reliance on variables that are not directly observable and that are frequently revised, such as the output gap and the structural balance. This hampers the provision of stable policy guidance.

Conclusions

Thirty years after Maastricht, macroeconomic conditions are fundamentally different than they were then. While in the decade 1991-2000 the average rate of nominal GDP growth in the euro area countries (EA-12) was 4.7%, this declined to 3% between 2001 and 2010 and to 1.6% between 2011 and 2020. The formula defining the relationship between the public deficit and debt (both in relation to GDP) and the GDP growth rate $d=g\times b$ shows that a 3% deficit with a growth of GDP at 1.6% stabilizes the debt at 187.5% of GDP.

Although the budget should be roughly balanced in the medium term, it was quite common to treat the 3% of GDP reference value as a target rather than a hard ceiling. As a result, in the absence of building up savings in good times, fiscal policy became procyclical.

The terms for servicing public debt are also fundamentally different. Due to disinflation and low interest rates, the cost of servicing the growing debt has declined as a proportion of GDP. In 2000 the debt in the current euro area countries was 69% of GDP and interest was 3.8% of GDP,

[12] Gross fixed capital formation in euro area amounted to 3,7% of GDP in 2009, and to 2,8% in 2019 (European Commission, 2020, p. 154).
[13] On the trilemma faced by EU fiscal rules (between adaptability, enforceability and simplicity) see Deroose at al. (2018).

in 2010 the figures were 86% and 2.8% respectively, and in 2020 101.7% and only 1.6% (European Commission, 2020, p. 140). However, since July 2021 inflation (HCPI, year-on-year) has accelerated - while in July it was 2.2% in the euro area, in November it was already 4.9%. This is the highest value since the beginning of EMU. While it is difficult to predict future price developments, like the general economic situation, the conditions for financing public debt will certainly change. Higher inflation will increase the cost of servicing newly issued debt, while on the other hand reducing the share of already issued debt in the increased nominal GDP.

These different macroeconomic conditions make it necessary to revise the fiscal policy framework initiated in Maastricht and evolving in the following years. This necessity also stems from the fact that current regulations are perceived as outdated, complicated, opaque, discretionary and difficult to enforce.

On 19 October 2021, the European Commission adopted a Communication relaunching the public consultation on the EU's economic governance framework (See: Verwey, Monks, 2021). This consultation had been put on hold in March 2020 in order to focus on the Covid-19 pandemic. The new governance framework should be tailored to the challenges the EU is facing, including the challenge of achieving a fiscal stance that is appropriate for the euro area as a whole.

While the need for reform is increasingly recognized, its nature remains vigorously debated. There is a fairly widespread belief in the need to move away from rigid reference values, which should be replaced by solutions that ensure the sustainability of public debt in the differing circumstances of member states. Thus, Martin et al. (2021) propose the use of country-specific debt targets. In this solution, each government sets a medium-term debt target, the appropriateness of which would be first assessed by the domestic independent fiscal institution on the basis of a common methodology, and second endorsed (or rejected) by the EU. This target should be based on estimates of the maximum primary balance and the risks to the interest rate–growth rate differential. Once debt targets have been set, they should serve as anchors for expenditure rules. The path for primary nominal expenditure net of new discretionary tax measures (and excluding automatic stabilizers on the expenditure side) would be determined accordingly. This approach would change the hierarchy of objectives giving priority to a country-specific debt target over the deficit criterion.

Buti and Messori (2021) propose a "vertical" fiscal policy coordination between the national and the EU level. This coordination requires building a central fiscal capacity within a coherent "European budgetary system". Such a central fiscal capacity could provide non-mutually exclusive goals: creating a central stabilization function, increasing the supply of EU public goods and setting up conditional transfers from the EU budget. Such a solution is an expression of a desire to federalize the EU, which is advocated by Olaf Scholz, former Minister of Finance of Germany, from 8 December 2021 German Chancellor. For some member states it is not acceptable.

Blanchard et al. (2021) call for replacing fiscal rules by qualitative standards. They propose to abandon all numerical criteria, to replace them with the sole principle that member states “ensure that their public debts remain sustainable with a high probability”. Qualitative standards mean qualitative prescriptions that could leave room for judgement together with a process to decide whether the standards are met. Central to this process would be country-specific assessments using debt sustainability analysis, led by national independent fiscal councils and/or the European Commission. Disputes between member states and the European Commission on application of the standards should preferably be adjudicated by an independent institution, such as the European Court of Justice (or a specialized chamber).

The proposed options for the revision of the EU fiscal framework, although justified in theory, have a fundamental flaw - they strengthen the position of supranational institutions and, moreover, open the door to discretion and potentially unequal treatment of member states. These proposals can be seen in a broader context - the federalization of the EU, which would limit the sovereignty of nation states.

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