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**REMITTANCES AS A CONSEQUENCES  
OF LABOUR MIGRATION OF CENTRAL AND EASTERN  
EUROPE (CEE) CITIZENS IN 2004–2013**

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**Key words:** remittances, labour migration, EU enlargement, Central and Eastern Europe (CEE).

**A b s t r a c t**

Migration is a very important socio-economic issue in the contemporary world. One of the interesting research problems worth considering concerns the scale and consequences of migration from the countries which joined the European Union in 2004 and in the later years. As a result of integration with European communities, citizens of the new member states acquired citizenship of the European Union. The right of free movement caused a significant increase in the number of temporary migrants. According to statistical data, the number of emigrants from the Central and Eastern European Countries (CEE) to the more prosperous European countries increased from 1.7 million in 2004 to 5.6 million in 2012. In the context of the scale of economic migration from the CEE, important questions should be asked about the economic consequences of the mobility.

The main objective of this article is a diagnosis and evaluation of the size of migration and remittances in the CEE countries. An analysis of the statistical data from Eurostat concerning the transfer of financial means due to working abroad made it possible to assess the economic consequences of labour migrations of the CEE-10 inhabitants. It turned out that, as regards the amount of those transfers, the biggest beneficiaries are Poland, Romania and Hungary. Throughout the period under analysis (2004–2013) Poland saw a joint inflow of EUR 44.8 bn, Romania – EUR 31.9 bn, and Hungary – EUR 15 bn due to their citizens working abroad.

**TRANSFERY ŚRODKÓW FINANSOWYCH Z TYTUŁU PRACY ZA GRANICĄ  
JAKO KONSEKWENCJE EMIGRACJI ZAROBKOWEJ MIESZKAŃCÓW  
EUROPY ŚRODKOWO-WSCHODNIEJ W LATACH 2004–2013**

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**Słowa kluczowe:** transfery, migracja zarobkowa, rozszerzenie UE, Europa Środkowo-Wschodnia.

### Abstrakt

Migracje są ważnym społeczno-ekonomicznym problemem współczesnego świata. Kwestiami wartymi uwagi są skala i konsekwencje emigracji z krajów, które przystąpiły do Unii Europejskiej w 2004 roku i następnym. W rezultacie integracji państw europejskich obywatele nowych krajów członkowskich uzyskali obywatelstwo UE, a tym samym nabyli prawo do swobodnego przemieszczania się, co skutkowało znaczącym zwiększeniem się skali migracji czasowych. Według danych statystycznych liczba emigrantów pochodzących z krajów Europy Środkowo-Wschodniej przebywających w krajach UE-15 zwiększyła się z 1,7 mln w 2004 roku do 5,6 mln osób w 2012 roku. W kontekście skali emigracji zarobkowej z krajów Europy Środkowo-Wschodniej istotne wydaje się pytanie o ekonomiczne skutki tej mobilności.

Głównym celem artykułu jest diagnoza i ocena rozmiarów migracji oraz wysokości zarobków z emigracji transferowanych przez obywateli krajów Europy Środkowo-Wschodniej. Analiza danych statystycznych Eurostatu w tym zakresie pozwoliła na ocenę ekonomicznych konsekwencji migracji. Największymi beneficjentami wśród krajów Europy Środkowo-Wschodniej w zakresie wysokości środków z tytułu pracy za granicą, transferowanych do kraju pochodzenia, są Polska, Rumunia i Węgry. W latach 2004–2013 do Polski napłynęło łącznie 44,8 mld EUR, do Rumunii – 31,9 mld EUR, a do Węgier – 15 mld EUR.

## Introduction

Migrations are an important economic and social issue in the contemporary world. The integration of European countries contributed to the radical growth of international migrations of people within the area of the Community. This mobility is caused mainly by economic factors and its goal is to satisfy the financial needs of the migrants and members of their households as well as to improve the quality of their lives (RAVENSTEIN 1889, p. 167–235). This type of migration is referred to as labour migration.

The enlargement of the European Union with new member states in the 21<sup>st</sup> century was of key significance as regards the share in labour migration of the inhabitants of the Central and Eastern European countries. The newly implemented EU legislation guaranteed freedom of movement and residing freely within the territory of EU Member States (art. 21, Treaty on the Functioning of the European Union, Journal of Laws. EU, C 83, 30 March 2010), including the right to take up employment there (art. 45, Treaty on the Functioning of the European Union). Although as a result of pre-enlargement negotiations the „old” EU-15 countries were allowed to apply transition periods to regulate access to the labour markets for the citizens of the new member states, since 2004 the number of citizens of the Central and Eastern European countries emigrating temporarily has increased steadily. Taking into account the economic aspect of mobility, it seems very important to assess the amount of remittances which are transferred to the migrants’ countries of origin. From the macroeconomic perspective these remittances are an important part of the domestic finances. As regards the household level, the transfers of emigrants’

compensations and remittances play an important role in the income structure, which contributes to the improvement of living standards of the members of these households (RAJKIEWICZ 2005).

The present article is devoted to the problem of remittances transferred by inhabitants of the 10 countries of Central and Eastern Europe (CEE-10) which joined the European Union in 2004 (i.e. Czech Republic, Estonia, Lithuania, Latvia, Poland, Slovakia, Slovenia, Hungary) and in 2007 (i.e. Bulgaria and Romania)<sup>1</sup>. The aim of the article is to diagnose and evaluate the size of emigration from the CEE-10 countries from the point of view of the value of remittances transferred to these countries. In the first section of the article stages of opening the labour markets of the „old EU-15” to the new member states will be identified as well as the size of foreign migrations of CEE-10 inhabitants in the years 2004–2013. In the subsequent part attention will be focused on the differentiation of the inflow of financial funds to the CEE-10 countries from long-term and short-term emigrants.

### **The impact of the EU enlargement on the migration flows in Central and Eastern Europe**

The flows and scale of migrations within the territory of Europe are conditioned by the integration processes of the countries on this continent. In the 21<sup>st</sup> century the first enlargement of the European Union took place on the 1<sup>st</sup> of May 2004. 10 new countries joined the EU-15 then, namely Czech Republic, Estonia, Cyprus, Lithuania, Latvia, Hungary, Malta, Poland, Slovenia and Slovakia (European Union... 2003). Three years later, in 2007, Bulgaria and Romania were accepted, and in 2013 Croatia joined the community of European countries. In the newly accepted member states single market rules came into force, among other things, free movement of persons, services, goods and capital.

The free movement of persons was of key importance for the migration flows of populations within the territory of the countries belonging to the Community. Its fundamental operating principle is balancing surpluses and shortages on the labour markets of individual countries, and, in the longer run, equalizing the wage level. The principle of the freedom of movement, residence and taking up employment within the EU territory offered an opportunity to

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<sup>1</sup> Croatia, which joined the EU in 2013, tends to be treated as one of the Central and Eastern European countries, too (GABRIELCZAK i in. 2015). However, the country has not been taken into account in the present analysis due to lack of full data as regards the size of migrations and transferred funds.

choose optimal employment conditions, aimed at improving migrants' financial situation (ORGANIŚCIAK-KRZYKOWSKA 2013, p. 11).

The mobility of labour force within the EU is supported and promoted by the community institutions. The European Commission perceives labour migration as a strategy for reducing the disparities between demand and supply on the European labour markets, which has been laid down, among other documents, in the *Agenda for the New Skills and Jobs* of the Europe 2020 strategy (Communication from the commission... 2010) and *Employment Package* (Communication from the Commission... 2012).

The implementation of the principle of free movement of persons (Directive 2004/38/EC) was, however, combined with the necessity of respecting transition periods as regards opening national labour markets and systems of social protection to workers from the new member states<sup>2</sup>. The transition periods were established for 7 years, taking into account the so-called „2+3+2 formula”, which meant the possibility of applying a 2-year transition period (from 1 May 2004 to 30 April 2006), a 3-year transition period (from 1 May 2006 to 30 April 2009), and a 2-year transition period (from 1 May 2009 to 30 April 2011). The decision to apply these temporary restrictions was left to each of the EU-15 countries (ŻUKROWSKA 2004, p. 43). 1 May 2011 was the cut-off date for lifting the restrictions concerning access to the labour markets of these countries. Only Great Britain, Ireland and Sweden fully applied the principle of free movement of persons towards the citizens of the new states which joined the EU in 2004. The stages of opening individual labour markets of the EU-15 countries to the inhabitants of those countries which joined the EU in 2004 (with the exception of Cyprus and Malta), i.e. EU-8, are presented in Table 1.

Table 1

Stages of acquiring the right of free access to employment in the EU-15 countries by the citizens of the EU-8 countries

Year	Member state
2004	Ireland (1 May), Sweden (1 May), Great Britain (1 May)
2006	Finland (1 May), Greece (1 May), Italy (1 May), Portugal (1 May), Spain (1 May)
2007	Luxembourg (1 November), The Netherlands (1 May)
2008	France (1 July)
2009	Belgium (1 May), Denmark (1 May)
2011	Austria (1 May), Germany (1 May)

Source: SPRENGER (2013).

<sup>2</sup> The transition periods did not apply to the citizens of Cyprus and Malta, who gained full freedom of movement within the EU simultaneously with joining the Community.

The enlargement of the EU with the Central and Eastern European countries led to the increased volume of international migrations of the inhabitants of these countries. In 2003 it was predicted that the influx of immigrants from the CEE-10 countries to Great Britain until 2010 would be relatively small and would amount to 5–13 thousand persons. As regards the total number of immigrants from Central and Eastern Europe who would stay in the „old EU” countries until 2015, the estimates oscillated between 700 thousand to 2.6 mln persons (DUSTMANN 2003, p. 6).

Table 2  
The number of Central and Eastern Europe citizens residing in EU-15 in the years 2004–2012  
(in thou.)

Country	Year				
	2004	2005	2008	2010	2012
Bulgaria	171	229	333	437	482
Czech Republic	74	71	113	105	108
Estonia	28	34	45	59	68
Latvia	23	32	57	80	128
Lithuania	50	99	167	193	254
Hungary	92	92	131	152	184
Poland	580	776	1,328	1,497	1,798
Romania	541	882	1,640	2,218	2,400
Slovakia	66	99	150	166	158
Slovenia	34	36	38	41	43

Source: DUSZCZYK, MATUSZCZYK (2014).

The data aggregated in Table 2 show that the actual size of migrations from the CEE-10 countries far exceeded British researchers' predictions. As a matter of fact, in 2012 5.6 mln citizens from the CEE-10 countries resided within the territory of the old 15<sup>1</sup>. The largest group of the CEE-10 countries immigrants are the citizens of Romania (in 2012 over 2.4 mln persons), and it should be remembered that this country joined the EU later, in 2007. Poland ranked 2<sup>nd</sup> as regards the number of inhabitants residing within the territory of the EU-15 countries. In 2012 the number of emigrants living temporarily outside their country of origin amounted to 2.13 mln persons, out of which over 1.7 mln resided within the territory of other EU countries. The currently available data show that in 2015 the immigration influx from Poland was the highest since the country joined the EU and it amounted to 2.4 mln persons (including 2 mln residing in the EU-27 countries) (*Informacja o rozmiarach...* 2016, p. 3).

The size of emigration from the CEE-10 individual countries looks a bit differently in reference to the populations of the emigrants' countries of origin. The analysis of the number of emigrants per 1000 inhabitants shows that the largest population outflow in 2012 took place in Romania (119 persons/1000 inhabitants), Lithuania (85 persons/1000 inhabitants), Bulgaria (66 persons/1000 inhabitants) and Latvia (63 persons/1000 inhabitants). Poland ranked 6<sup>th</sup> among the CEE-10 countries in this respect (47 persons/1000 inhabitants).

### **The transfer of remittances to the Central and Eastern Europe countries**

An important reason for international migrations of populations is the wish to improve the financial situation on the part of the persons who decide to emigrate. Among the economic determinants which encourage labour migration, there are push factors (e.g., high rate of unemployment, low wages) and pull factors (e.g., low rate of unemployment, the prospect of higher earnings than in the country of origin). The above mentioned determinants were the core of E. Lee's theory of *push-pull factors* (LEE 1966, pp. 47–57).

From the economic point of view, the measurable effects of international migrations are the financial means obtained due to working abroad. In relevant sources and international statistics the term *remittances* is used to define the incomes of households earned as a result of temporary or permanent residence abroad. Remittances comprise financial means and goods transferred officially (e.g. electronic banking transfers) and unofficially (for instance, goods, financial means in cash) (*International Transactions in Remittances...* 2009, p. 291).

In accordance with the recommendation of the International Monetary Fund (included in the Balance of Payments Manual), the standard components of emigrants' earnings transfers (remittances) include:

- compensation of employees, i.e. remunerations or other benefits (in cash or in kind) of seasonal workers or other short-term migrants (residing abroad for less than 12 months) and frontier workers, whose economic interests are tied to the countries of their origin;
- workers' remittances – i.e. current transfers from migrants who are employed and reside abroad for more than one year (the long-term migrants);
- migrant transfers – i.e. goods and financial resources (savings), brought by emigrants while crossing international borders (*Balance of Payments Manual* 1993, pp. 70, 75).

The information about the value of transfers made by migrants is systematically aggregated by Eurostat. In table no 3 data are presented concerning the total amount of transfers of money to the Central and Eastern Europe countries earned by their citizens due to working abroad in the years 2004–2013 (i.e. transfers understood as the total inflow of compensation of employees and workers' remittances) and also the share of remittances in GDP. On the basis of data available it can be concluded that in the whole period under analysis Poland, Romania<sup>3</sup> and Hungary were the biggest beneficiaries among the CEE-10 countries. In the years 2004–2013 Poland registered an inflow of EUR 44,8 bn, Romania – EUR 31.9 bn, and Hungary – 15 bn EUR. In the first ten years after the biggest enlargement of the EU, the 10 Central and Eastern European countries saw a total inflow of EUR 131 bn from their citizens' work abroad. The year 2007 was a record-setting one in terms of the highest level of transferred means in the period under discussion. EUR 6.43 bn was then transferred to Poland, EUR 5.76 bn – to Romania, EUR 1.59 bn to Hungary.

In the following years the level of financial transfers decreased considerably. In 2013 transfers to Romania constituted merely 35% of their value from 2007, while Polish citizens' transfers in 2013 constituted 70% of the transfers made in 2007. As regards the amount of transfers by Hungarians in the years 2007–2013, it remained at a relatively stable level.

To evaluate the economic significance of emigration in the context of the inflow of remittances from migrants, one can use the indicator remittances in relation to GDP (KWIATKOWSKI 2010, p. 209, 210, KWIATKOWSKI 2013, p. 47). In 2013 the highest ratio of the value of remittances to the value of GDP was observed in Lithuania (2.49%), in Bulgaria (2.22%) and in Slovakia (2.08%). On the other hand, for Poland and Romania (i.e. countries which benefit the most from the remittances as regards their real value) it amounted to merely 1.17% and 1.40% of their GDP, respectively. It turns out, then, that the remittances constituted a relatively low percentage of the total supply in the economies of the CEE-10 countries.

The analysis of the structure of financial means transferred by emigrants according to the length of stay abroad (Tab. 4, 5) makes it possible to observe the following tendencies. Firstly, as regards the type of transfers to Lithuania, Romania and Bulgaria in 2013, long-term migrants' earnings constituted the largest share: as much as 87.14% of the remittances transferred by the citizens of Lithuania, 84.25% by the citizens of Romania and 62.58% by the citizens of Bulgaria. The transfer of funds by Polish emigrants residing abroad for longer than 1 year amounted to slightly more than a half of the value of all the

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<sup>3</sup> It should also be noted that Romania joined the EU only in 2007.

Table 3  
Inflow of workers' remittances and compensation of employees in the Central and Eastern European countries 2004–2013 (in EUR mln)

Country		Year										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Bulgaria	remittances in mln EUR	1,190.30	1,071.20	1,183.70	872.3	985.2	843.4	707.6	741.9	793	888.1	
	share of remittances in GDP (in %)	5.84	4.61	4.47	2.83	2.78	2.41	1.96	1.93	1.99	2.22	
Czech Republic	remittances in mln EUR	514.3	982	1,147.10	1,172.50	1,172.00	1,208.80	1,296.70	1,262.80	1,371.90	1,484.20	
	share of remittances in GDP (in %)	0.56	0.94	0.97	0.89	0.76	0.85	0.86	0.81	0.90	0.99	
Estonia	remittances in mln EUR	115.5	177.5	287.5	275.5	c	c	c	c	c	272.3	
	share of remittances in GDP (in %)	1.19	1.59	2.15	1.71	nd	nd	nd	nd	nd	1.46	
Latvia	remittances in mln EUR	na	na	na	c	c	na	na	na	na	na	
	share of remittances in GDP (in %)	nd										
Lithuania	remittances in mln EUR	5.2	7.8	15.4	17.6	18.6	651.6	889	673.3	501.7	860.9	
	share of remittances in GDP (in %)	0.03	0.04	0.06	0.06	0.06	2.44	3.21	2.17	1.52	2.49	
Hungary	remittances in mln EUR	1,290.30	1,427.10	1,556.10	1,589.80	1,571.60	1,434.30	1,499.10	1,512.30	1,554.20	1,592.00	
	share of remittances in GDP (in %)	1.57	1.61	1.74	1.60	1.49	1.57	1.56	1.53	1.60	1.63	
Poland	remittances in mln EUR	3,056.60	4,412.70	5,543.40	6,431.30	5,975.60	5,031.30	4,979.30	4,798.10	na	4,550.00	
	share of remittances in GDP (in %)	1.50	1.81	2.04	2.07	1.65	1.62	1.40	1.29	bd	1.17	
Romania	remittances in mln EUR	1,175.30	3,131.60	4,201.90	5,758.20	5,874.50	3,044.40	2,393.00	2,174.00	2,188.50	1,995.20	
	share of remittances in GDP (in %)	1.92	3.92	4.30	4.62	4.20	2.58	1.92	1.65	1.66	1.40	
Slovenia	remittances in mln EUR	202.9	205.6	216.3	225.1	249	223.7	249.4	331.1	485.7	501.6	
	share of remittances in GDP (in %)	0.75	0.72	0.70	0.65	0.67	0.63	0.70	0.92	1.38	1.42	
Slovakia	remittances in mln EUR	457.6	797.4	910.2	1,132.70	1,400.10	1,263.10	1,269.60	1,253.50	1,478.20	1,501.40	
	share of remittances in GDP (in %)	1.35	2.07	2.05	2.07	2.17	2.01	1.93	1.82	2.08	2.08	

na – not available

c – confidential data

nd – no data

Source: Eurostat data (<http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>, access: 20.04.2016).

transfers from working abroad in 2013. At the same time it should be noted that since Poland joined the EU, the share of remittances from long-term emigrants has steadily increased (in 2004 it constituted only 24.5% of the joint value of transfers, but in 2008 the share grew to 48.83%). This trend is caused by the growing scale of emigration from Poland and the simultaneous lengthening of the stay abroad, which is confirmed by the analyses conducted by the National Bank of Poland (CHMIELEWSKA 2015, p. 17).

Table 4  
Inflow of emigrant workers' remittances in European Union countries in the years 2004–2013  
(in EUR mln)

Country	Year									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bulgaria	225.2	236.7	211.2	407.0	455.4	476.3	463.2	497.0	519.0	555.8
Czech Republic	0.0	314.5	354.5	375.1	380.9	377.5	395.3	402.4	415.0	450.9
Estonia	8.8	6.4	6.4	20.2	–	–	–	–	–	42.8
Latvia	–	–	–	–	–	–	–	–	–	–
Lithuania	2.6	4.6	11.8	15.5	16.2	525.2	684.8	492.6	399.8	750.2
Hungary	34.8	46.3	40.6	39.1	30.1	31.7	36.0	38.3	38.8	39.8
Poland	749.2	1,317.8	2,134.7	2,859.6	2,917.9	2,406.7	2,494.6	2,409.6	–	2,336.8
Romania	1,105.2	2,534.2	3,490.8	4,637.2	4,792.0	2,661.4	2,003.2	1,844.0	1,801.4	1,681.0
Slovenia	5.4	2.9	2.8	2.0	16.5	16.8	17.0	17.0	16.4	16.4
Slovakia	38.3	49.7	55.8	74.2	99.8	81.1	76.2	179.2	351.7	0.0

Source: Eurostat data.

Table 5  
Inflow of compensation of employees in the EU countries in the years 2004–2013 (in EUR mln)

Country	Year									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bulgaria	965.1	834.4	972.5	465.3	529.8	367.1	244.4	244.9	274.1	332.3
Czech Republic	514.3	667.5	792.7	797.4	791.1	831.2	901.3	860.4	956.8	1,033.3
Estonia	106.7	171.1	281.1	255.3	185.4	159.3	181.4	224.8	226.2	229.5
Latvia	134.9	255.7	324.6	340.0	335.8	342.9	376.7	410.7	476.1	471.9
Lithuania	2.5	3.3	3.6	2.1	2.4	126.4	204.2	180.7	102.0	110.7
Hungary	1,255.5	1,380.8	1,515.5	1,550.7	1,541.5	1,402.6	1,463.1	1,473.9	1,515.3	1,552.2
Poland	2,307.4	3,094.9	3,408.7	3,571.6	3,057.7	2,624.6	2,484.8	2,388.5	–	2,213.3
Romania	70.1	597.4	711.0	1,121.0	1,082.5	383.0	389.8	330.0	387.1	314.2
Slovenia	197.4	202.6	213.4	223.1	232.5	206.9	232.4	314.0	469.3	485.2
Slovakia	419.3	747.7	854.4	1,058.5	1,300.3	1,182.0	1,193.4	1,074.3	1,126.5	1,501.4

Source: Eurostat data.

However, it should be remembered that in the long run the longer stay abroad may lead to a decrease in the amount of remittances transferred by emigrants to their countries of origin. When migration processes enter the maturity stage (which entails reduction and stabilisation of the number of emigrants), the amount of transfers decreases. Those emigrants whose residence abroad is transformed into settling emigration tend to be less willing to transfer remittances to the country of origin (CASTLES, MILLER 2009, p. 84, AVCI, KIRISCI 2008, DASGUPTA 1981, p. 47).

On the other hand, the second group, in which the inflow of compensation from short-term emigrants was dominant, comprised Hungary, Slovenia and Estonia. The share of this sort of transfers from employees residing abroad for less than 12 months in the total inflow of compensation from working abroad in 2013 reached the level of 84–97% in the above mentioned countries.

## Conclusions

The spatial mobility of the citizens of Central and Eastern Europe is conditioned first and foremost by the processes of European integration. The implementation of the EU principle of free movement of persons created the opportunity to move freely and take up employment in EU countries. As a result of opening labour markets of the EU-15 countries, the size of foreign labour migrations of the inhabitants of the Central and Eastern European countries (i.e. Czech Republic, Estonia, Lithuania, Latvia, Hungary, Poland, Slovenia, Slovakia, Bulgaria, Romania) grew considerably, far exceeding researchers' prognoses. On the basis of data analysis it can be established that in 2012 5.6 mln CEE-10 inhabitants moved to the EU-15 countries, and the most numerous group of emigrants were citizens of Romania and Poland.

The analysis of Eurostat statistical data concerning the transfer of financial means from taking up employment abroad made it possible to assess the economic consequences of labour migrations of the CEE-10 inhabitants. It turned out that, as regards the amount of those transfers, the biggest beneficiaries are Poland, Romania and Hungary. As far as remittances to Lithuania, Romania and Bulgaria are concerned, they are dominated by long-term emigrants' earnings. Conversely, transfers to Slovenia, Estonia and Hungary came almost entirely from the emigrants residing abroad for less than 1 year.

However, the comparison of the remittances with the GDP made it obvious that in 2013 the highest ratio index was registered in Lithuania, Bulgaria and Slovakia, rather than in the countries which benefit most from the transfers as regards their real value (i.e. Poland and Romania). The share of the remittan-

ces in the GDP of the CEE-10 countries ranged from 0.99 to 2.49%. It can, therefore, be concluded that the economic importance of remittances is not too high.

To sum up, as a result of the EU enlargement, citizens of the Central and Eastern European countries gained the opportunity to choose optimal employment conditions within the territory of the Community, as a result of which in the years 2004–2013 a total amount of EUR 131 bn in remittances was transferred to those countries. The distribution of those financial funds at the individual level will have an impact on the improvement of living conditions for members of migrant households, and, indirectly, also on the socio-economic situation of individual Central and Eastern European countries.

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## **LIBERTARIAN PATERNALISM AND SELF- -GOVERNMENT HOUSING POLICY IN POLAND**

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**Key words:** libertarian paternalism, behavioral informed interventions, housing policy, Poland.

### **A b s t r a c t**

The article pertains to the issue of libertarian paternalism in relation to public housing policy in Poland. Libertarian paternalism is an idea developing on behavioral grounds, the main task of which is ensuring paternalistic protection and social care by the government and local self-government administrative organs, while at the same time maintaining the society's freedom of choice and increasing social-economic well-being. In the article, the issue of libertarian paternalism is described, a set of instruments of the described concept is implemented for purposes of working out solutions to problems connected with the housing policy of territorial self-government units in Poland (communes), and the proposed solutions validated in a post-socialist country. The work is of a conceptual-remedial character. Within it, selected tools in the scope of behaviorally informed interventions, serving to implement solutions that increase the effectiveness, efficiency and economy of operations of public organizations under conditions of dynamic decentralizing changes, have been indicated. The most important conclusions arising from the deliberations carried out make it possible to look at housing policy in Poland through a prism of a modern market economy.

## LIBERTARIAŃSKI PATERNALIZM A SAMORZĄDOWA POLITYKA MIESZKANIOWA W POLSCE

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**Słowa kluczowe:** libertariański paternalizm, behawioralne interwencje publiczne, polityka mieszkaniowa, Polska.

### Abstrakt

Artykuł dotyczy zagadnienia libertariańskiego paternalizmu odniesionego do polityki publicznej w zakresie mieszkalnictwa w Polsce. Libertariański paternalizm jest koncepcją rozwijającą się na gruncie behawioralnym i jej głównym zadaniem jest zapewnienie paternalistycznej ochrony i opiekuńczości społeczności przez rząd i organy administracji samorządowej, z zachowaniem wolności decyzyjnej społeczności, i zwiększenie dobrobytu społeczno-ekonomicznego. W artykule opisano zagadnienie libertariańskiego paternalizmu, wykonano implementację instrumentarium omawianej koncepcji na potrzeby wypracowania rozwiązań zaradczych w polityce mieszkaniowej jednostek samorządu terytorialnego w Polsce (gminy) oraz walidację proponowanych rozwiązań w kraju postsocjalistycznym. Praca ma charakter koncepcyjno-zaradczy. Wskazano w niej wybrane narzędzia z zakresu behawioralnych interwencji publicznych, służące wdrożeniu rozwiązań zwiększających gospodarność, efektywność i skuteczność organizacji publicznych w warunkach dynamicznych zmian decentralizacyjnych. Najważniejsze wnioski płynące z przeprowadzonych rozważań pozwalają spojrzeć na politykę mieszkaniową w Polsce przez pryzmat nowoczesnej gospodarki rynkowej.

### Introduction

Over the recent years, increasing interest in the behavioral approach in social sciences can be observed, which facilitates the implementation of solutions and concepts developed, among others, by this approach in a field of issues which had previously been examined in line with the traditional approach. At the same time, problems with the self-government housing policy in Poland urge one to consider the need to seek contemporary solutions. These solutions should improve social effectiveness, optimize the goals and undertakings of the housing policy, and ensure that the residents' housing needs are fulfilled. The indicated premises encourage one to look at the aims and undertakings of self-government housing policy through a prism of libertarian paternalism, falling within the modern behavioral approach in social sciences.

The subject matter of the article refers directly to the aims of the work which have been formulated as follows: 1) familiarization with the issue of libertarian paternalism (LP) in the context of social sciences, 2) an attempt at implementing solutions proposed by libertarian paternalism for the purposes and tasks of the housing policy of communes in Poland, 3) an attempt at validating the proposed solutions under the conditions of a post-socialist country. The study hypothesis is the belief that the efficiency of a commune's housing policy can be increased by applying the principles of libertarian paternalism.

### **The idea of libertarian paternalism – literature and background**

The concept of libertarian paternalism has been promulgated by two American behavioral economists, i.e. R.H. Thaler and C.S. Sunstein (THALER, SUNSTEIN 2003, 2008, 2012, SUNSTEIN, THALER 2003). Over the course of the past century, a heated discussion regarding the essence and significance of libertarian paternalism has flared up (see, e.g. DESAI 2011, HAUSMAN, WELCH 2010, HILL 2006). In Poland, this approach is not yet well known (see GODŁÓW-LEGIĘDŹ 2013, MARKIEWICZ 2013).

The concept of libertarian paternalism refers to two separate sociopolitical approaches, i.e. libertarianism and paternalism, remaining in what seems to be contradiction to one another<sup>1</sup>. Doubts regarding the seeming contradiction are explained by the very forefathers of the discussed concept, arguing for the benefit of the validity of combining the ideas of libertarian paternalism into one whole. This combination makes it possible to add a new meaning to the elements of both philosophies considered simultaneously, whereas analyzed separately, they may remain in opposition to each other.

The libertarian aspect of the concept sets, as its goal, the liberty of an entity in the political-social context. As THELER and SUNSTEIN (2008, p. 5) indicate, “the libertarian aspect of our strategies lies in the straightforward insistence that, in general, people should be free to do what they like (...). We strive to design policies that maintain or increase freedom of choice. When we use the term libertarian to modify the word paternalism, we simply mean liberty-

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<sup>1</sup> The authors of the present article do not side with either party to the scientific debate. The presented viewpoint regarding the alleged internal contradiction and validity of propagating the idea of libertarian paternalism is in accordance with the viewpoint and approach of the forefathers of the discussed doctrine. Professors THALER and SUNSTEIN (2003) argue that these terms do not remain in opposition to one another. Literature, however, does not lack voices of various forms of criticism targeted at libertarian paternalism (see, e.g. GRÜNE-YANOFF 2012, JONES et al. 2011, MITCHELL 2005, REBONATO 2012).

preserving. And when we say liberty-preserving, we really mean it. Libertarian paternalists want to make it easy for people to go their own way; they do not want to burden those who want to exercise their freedom”.

On the other hand, the paternalistic aspect of the concept aims to protect and assist the interests of entities, through a set of premeditated activities, and sets the borders for the liberty promoted by libertarianism. According to THALER and SUNSTEIN'S (2008, p. 6) conception, “the paternalistic aspect lies in the claim that it is legitimate for choice architects<sup>2</sup> to try to influence people's behavior in order to make their lives longer, healthier, and better”. In order for this aim to be realized, the conscious strive of private and public sector institutions ought to be taken advantage of to direct people's choices in a way that improves the quality of their life.

THALER and SUNSTEIN (2003, p. 175) built the idea of libertarian paternalism by putting it up against three commonly accepted false convictions on the basis of which the spreading of the beliefs of libertarian paternalism is valid and socially desirable. These convictions are: 1) the common belief that people make decisions which are best for them<sup>3</sup>; 2) the conviction that there are viable alternatives to paternalism, and 3) the opinion that paternalism always involves coercion<sup>4</sup>. The first of these emphasizes the behavioral aspect of mankind's decision-making. Studies prove that in some cases individual make inferior choices. They could be better (THALER 2000) if decision-makers were to have: 1) complete information (see TYSZKA 2010, pp. 61–63), 2) unlimited cognitive abilities (KAHNEMAN 2003b, p. 1469), 3) strong will (see JOLLS et al. 1998, p. 1479, MULLAINATHAN, THALER 2000) as well as 4) representing the image of the *economic man*<sup>5</sup> rather than the *real man* (see BRZEZICKA, WIŚNIEWSKI 2014). The second conviction is connected with the postulate of libertarian paternalists. It assumes the organization and presentation of decision options in a way that ensures the decision-makers' freedom, as well as the best variants of choice for them, remaining in agreement with their own judgment of what is best (Conviction 3). The assumption of LP is designing decision options which make it possible to improve the inhabitants' quality of life while maintaining their freedom of choice, as well as by programming impulses, or so-called nudges, which lead the inhabitants to make good decisions. In such a form, libertarian paternalism is a relatively weak form of paternalism. Weak and non-invasive, it does not restrict choices but organizes

<sup>2</sup> A choice architect is such person whose influences the decisions made, e.g. creates variants of choice, creates circumstances, builds the decision context (THALER, SUNSTEIN 2008. p. 3).

<sup>3</sup> THALER and SUNSTEIN (2003, p.175) call this conviction a *false assumption*

<sup>4</sup> THALER and SUNSTEIN (2003, p. 175) refer to the second and third principle as *two misconceptions*.

<sup>5</sup> THALER and SUNSTEIN (2012, p. 17 and onwards) describe the economic man under the term of *Econ*.

decision options (SUNSTEIN, THALER 2003, p. 1162). Such an approach assumes that the housing policy in the commune ought to be concentrated around the idea of creating solutions which, while maintaining the “personal freedom of an entity”, would make it possible to create conscious choices and make “proper decisions” for a given society.

### **Instruments available to libertarian paternalism**

The concept of libertarian paternalism contains its own set of instruments affecting the social-economic-political space by a set of activities directing the decision-makers to making optimal choices. Among the expressions of libertarian paternalism, one can, in practice, list three main activities in particular:

- 1) default option,
- 2) nudge,
- 3) making necessary decisions.

The *default option* can be defined as a predefined variant of choice in the case of a passive (inert) attitude of the decision-maker (THALER, SUNSTEIN 2012, pp. 19, 20). An *nudge* (otherwise understood as motivation) is a factor which significantly changes the behavior of *the real man* (THALER, SUNSTEIN 2012, p. 19). A nudge to making a good decision is such choice architecture which leads the decision-maker to making a good choice without the need to limit his or her freedom of choice. On the other hand, “necessary decisions” are such which need to be made to ensure the decision-maker’s well-being, even if the actual decision-maker is not aware of the existence of a necessity for a decision to be made. They are directed at realizing a goal. These elements can be applied disjunctively or conjunctively, whereas the strength of their influence is inversely adapted to the level of the subject’s decision-making inertia. In the case of a strong passive attitude, stronger instruments will be required, while the strength of their influence can decrease along with increased decision-making activity (see Fig. 1).

In addition to the above-mentioned, there is a series of principles the first letters of which come to form the acronym NUDGES, an exception to this being the first word, the second letter of which provides information and commences the acronym. (THALER et al. 2010, 2013, based on OLEJNICZAK, ŚLIWOWSKI 2014, p. 22 and THALER, SUNSTEIN 2012). A description of the principles has been included in Figure 2. Literature also makes mention of other activities which can be assumed by public organs in the context of libertarian paternalism. GODŁÓW-LEGIEDŹ (2013, p. 38 based on SUNSTEIN 2013, p. 1834, 1835) lists: the disclosure of information, warnings, and the default rule. SCHNEIDER and INGRAM (1990) delineate 5 main instruments

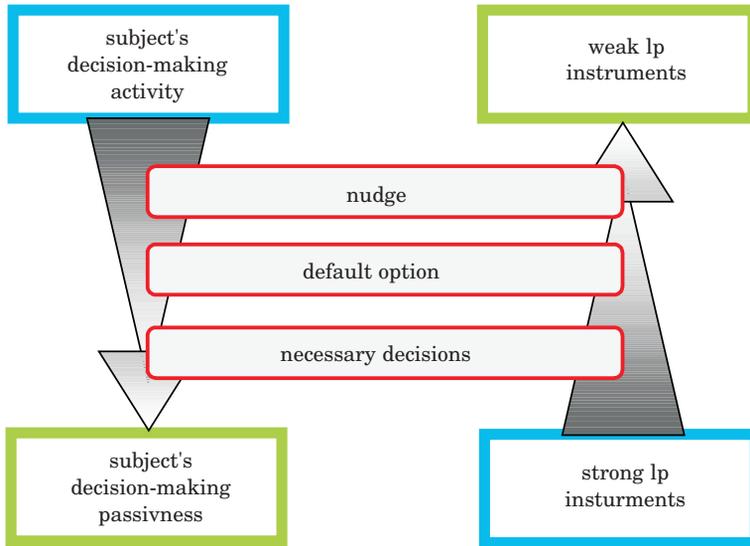


Fig. 1. Set of instruments available to libertarian paternalism in housing policy  
Source: own elaboration.

among the behavioral assumptions of politics: *authority*, *incentive*, *capacity-building*, *symbolic and hortatory* and *learning*. These activities take the form of a softer form of interventionism by the state or administrative bodies. All of the presented variants and possibilities ensure a certain permissible intervention in the individual choices of decision-makers, in a way that does not limit these choices but rather motivates one to make and promotes those choices that will be optimal.

The set of above-mentioned administrative activities is not without significance to the newest achievements of behavioral science. The elements can be classified together as **behaviorally informed interventions** (OLEJNICZAK, ŚLIWOWSKI 2014). These are activities assumed by public administration bodies aimed at achieving a goal in the in terms of improving the population's quality of life and social well-being (DATTA, MULLAINATHAN 2012, p. 10 and onwards). OLEJNICZAK and ŚLIWOWSKI (2014, p. 24, 25) define behaviorally informed interventions by applying them in reference to projects, regulations and programs that are based on the behavioral approach and possess the following characteristics: "they clearly define the addressee – user of the intervention, and assume his/her perspective; they assume that not only the user, but also the actual creators of the intervention, have cognitive limitations: limited rationality, willpower and self-interest; in their construction of the change mechanism, they apply corrective solutions or ones making use of the cognitive

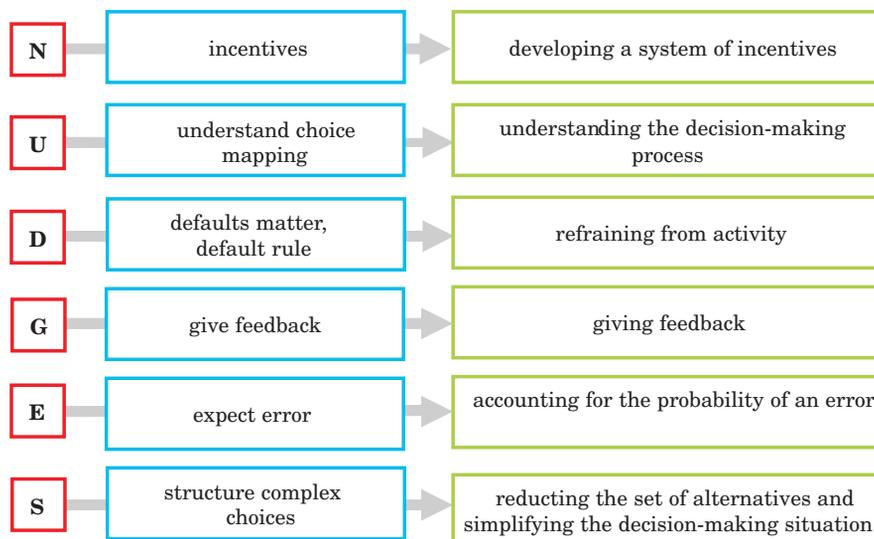


Fig. 2. Interpretation of the concept of NUDGES

Source: own elaboration on the basis of OLEJNICZAK, ŚLIWOWSKI (2014, p. 22), THALER, SUNSTEIN (2012).

mistakes and limitations of addressees; they apply pilot runs, experiments and simulations for testing these solutions before implementing them on a broad scale”.

Behaviorally informed interventions have been gaining importance in the recent years and are being carried out in many highly-developed world economies. The extent of their reach includes different spheres of socio-economic life, e.g. social insurances (see CRONQVIST, THALER 2004, THALER, BENARTZI 2001), the pension system (BENARTZI, THALER 2007, BENARTZI et al. 2007), increasing organ donations for purposes of transpantology (CHILDRESS, LIVERMAN 2006) and decreasing energy consumption by households (SCHULTZ et al. 2007). Research on behaviorally informed interventions is being carried out in many countries; in Great Britain and in the United States, government units have been appointed in order to analyze their efficiency. A new field of behavioral sciences and practical applications referred to as *nudging* is also developing (OLEJNICZAK, ŚLIWOWSKI 2014, p. 21).

## **Aims and tasks of communes in the scope of housing policy**

### **Aims and tasks of housing policy in the context of libertarian paternalism**

Housing policy is one of the policies realized by central and/or local authorities. As LIS (2011, p. 10) points out, housing policy depends on ensuring the functioning of the housing market in those spheres in which it is capable of ensuring the effective production of construction and assembly works, as well as correcting its possible failures by influencing the functioning of the housing market and its result, i.e. the quantity, prices and quality of housing resources, aimed at fulfilling the needs of the population. This means that the housing system is created by the inner-relations of private and public entities involved in the process of creating and using the stock (LIS 2012, p. 89, ZALECZNA 2010, p. 51). In this perspective, the main aim of housing policy is to create conditions that ensure households the possibility of fulfilling housing needs, which will be in agreement with their preferences, aspirations and economic possibilities. Moreover, fulfilling the housing needs of members of the self-government community is a statutory obligation of a commune (NOWAK 2014, p. 1). The indicated activities are examples of behaviors of a paternalistic nature.

The main principles behind how a self-government in Poland operates in regards to housing policy have been determined in the Act of 8 March, 1990 on the Commune Self-Government. Issues concerning securing the housing needs of the commune's residents in Poland are additionally regulated and specified by the Act of 21 June 2001 on the protection of tenants' rights, the communal housing stock and the civil code amendment. According to Art. 4 of the Act, "creating the conditions for fulfilling the housing needs of the local self-government community is among the own tasks of a commune". These acts contain a description of areas of direct influence and the influence of the commune in terms of housing.

Commune authorities in Poland ought to be treated as the main choice architects in self-government housing policy. The commune can propose different solutions depending on its own needs and financial abilities, as well as those of its inhabitants. A series of administrative-legal and economic-social instruments can be used to realize these tasks, at various stages of carrying out activities. This takes place by applying appropriate instruments at the stage of the investment process, during the phase of obtaining right to housing, and at the stage of living in and using the housing stock, which are listed in detail by POLAK (2010, p. 261):

- 1) Instruments at the planning stage – administrative-legal instruments:  
housing development strategies, multi-year programs of managing the

- housing resources of the commune, study of conditions and directions of spatial development, local spatial development plans;
- 2) Instruments at the stage of preparing the investment:
    - a) administrative-legal instruments: legal principles regulating land management in communes, the right of pre-emption to acquire real estate, the exclusion of agricultural and forest land from production, reparation and dividing land, expropriation of real estate, decisions regarding land development and management conditions, decisions on environmental conditions, issuing building permits, and permissions for and conditions of connecting to utilities;
    - b) economic-social instruments: sale of real estate, letting real estate for perpetual usufruct, permanent management, lease, rental and lending, provision of real estate as in-kind contributions to companies, transferring – as the equipment of state-owned companies being created and capital of partnerships being created, transferring real estate within the framework of a public-private partnership being created, mobilization of building land, construction of technical infrastructure equipment, betterment levies;
  - 3) Instruments at the stage of realizing the investment:
    - a) administrative-legal instruments: the law concerning the principles of financially supporting public housing, creating social flats, night shelters, and sheltered housing;
    - b) economic-social instrument: co-financing investments assumed by private entities working to make a profit and housing associations functioning as a non-profit or limited-profit organizations (e.g. Social Housing Associations, pol. Towarzystwa Budownictwa Społecznego – TBS's), the construction of council and social flats, participation in the construction of flats with limited rent payments established in public-private partnership, creating night shelters, homes for the homeless and sheltered housing, taking over former company flats, purchasing flats on the market;
  - 4) Instruments at the stage of using the housing resources:
    - a) administrative-legal instruments: law regulating the responsibilities of communes as the owners of housing stock and as a public utilities management operators, evictions from housing resources;
    - b) economic-social instruments: possessing council housing stock, privatization of council housing, renovations and modernizations of housing resources, rental policy, late payments and their recovery, housing allowances, water and sewage management, taxes and fees on residential real estate.

The mentioned instruments connected with the housing policy of a commune are examples of activities which can be considered as paternalistic. In this case, the commune is subjected to specified paternalistic models connected with: orders and recommendations.

## **Housing problems in the context of libertarian paternalism**

The greatest burden of realizing the aims and tasks of the housing policy is carried communes, which have limited possibilities. Communes have control of limited resources, which are often in deficit and have to be managed in a way that aims to fulfill the needs of the inhabitants of the community. AUGUSTYNIAK et al. (2013, p. 1010) assess that “the largest system dysfunction of the sector is, in fact, housing policy, which does not ensure the availability of housing suitable for the needs of a broad spectrum of society”. AUGUSTYNIAK et al. (2013, p. 1010) also list 3 aspects of housing availability, the optimal management and development of which may affect the stability of the system and fulfillment of housing needs:

- 1) Fulfilling basic housing needs connected with eliminating homelessness. This problem has not yet been solved. Continued activity in this regard ought to pertain to ensuring the stability of protection of the homeless.
- 2) Enabling the mobility of the population. This deals with ensuring housing in the dynamic sense – facilitating the fulfillment of housing needs accounting for various circumstances, including the spatial mobility of the population (see BRZEZICKA, WIŚNIEWSKI 2015). The structural deficiencies in the scope of the availability of housing in the council housing stock allocated for rent significantly decrease the population’s mobility opportunities. A similar role is played by elements connected with the lack of mobility conditioned by the place of work (see AUGUSTYNIAK et al. 2013).
- 3) Adjusting the size of a dwelling to current needs and economic possibilities. In developed economies, this aim is realized by the complex system of verifying housing needs, the forms of fulfilling housing needs, and the housing policy aiding lower income groups. A focus on meeting the needs of various groups of owners and users occurs here: allocation in the context of verified needs of tenants, conditional housing, flats to rent for university students, smaller surface area of flats for the elderly, etc.

The above-mentioned examples of activities are examples of such which can be considered to be libertarian. In this case, the commune is not subjected to specific paternalistic models. The indicated aspects are not connected with: orders (e.g. legal), assignments (e.g. state), or recommendations (e.g. tax). These are free market activities of a libertarian nature.

## Interventions in the scope of the housing policy of a commune

Deliberations to date regarding the problems of the housing sector, libertarian paternalism and aims and tasks in the scope of self-government housing policy can be grouped together in the topic of “behaviorally informed interventions”. It can be assumed that commune housing policy is a public policy in the scope of housing (see SZCZAWIŃSKA 2012, p. 206). This, in turn, leads one to wonder whether the behavioral instruments can be used to increase the efficiency of the housing policy, fulfill housing needs, and increase social well-being, all while maintaining the freedom of choice.

In order to properly identify and adjust the scope of aid, CYRAN (2010, p. 103) proposes grouping housing needs into the following categories:

- 1) Category I – houses for the homeless, whose needs can be realized by placing them in social welfare homes, homeless shelters or night shelters;
- 2) Category II – temporary rooms, for people who have been evicted from occupied dwellings, lacking the right to social flats;
- 3) Category III – housing for people who are temporarily experiencing poverty, and whose needs can be realized by renting social flats;
- 4) Category IV – housing for people whose income does not make it possible for them to pay market rents, and whose needs can be fulfilled by renting council flats;
- 5) Category V – housing for people whose income is sufficient to rent houses at the going market rate, whose housing needs can be fulfilled by renting within the social housing association stock;
- 6) Category VI – housing for people whose income is sufficient for meeting their housing needs on the free market.

Each of the mentioned groups requires applying different instruments of the local authority housing policy as well as the use of mechanisms of behaviorally informed interventions. Each of the mentioned categories is assigned activities which are possible to assume in the scope of libertarian paternalism (default option, nudge, necessary decisions), with the categories and activities compiled in Table 1. Moreover, for each activity in each category, the intensity of this activity was assigned, shown in the table with the use of plus signs (+ + + – very high intensity, + + – high, + low), and in the case of the absence of the occurrence of a specific activity, it was noted that such does not take place (marked as *ne* – non-existent).

Households with low incomes and insufficient economic independency, homeless people, special groups (those leaving orphanages, prisons) (categories I–III) require strong social intervention by the commune in order to fulfill their housing needs at the basic level by the direct allocation of social or council flats from the local authority housing stock. In these groups, applying the “default

option”, understood as the pre-established variants of choice in the case of an observed passive attitude of inhabitants takes on extreme high values (see Table 1). Applying “nudges” can be effective in the case of Category III and partially effective in the case of Category II. “Necessary decisions” do not apply for these categories, due to these people’s temporariness and lack of stability determined, above all, by the level of their incomes.

Table 1

## Public Interventions regarding local authority housing policy

Actions in the framework of libertarian paternalism	Category*					
	I	II	III	IV	V	VI
“Default option” Pre-established variants of choice in the case of a passive (inert) attitude of the decision-maker.	+++	+++	++	+	ne	ne
“Nudge” – factor which motivates the decision-maker to make a good choice, without the necessity of limiting his/her freedom of choice.	ne	+	+++	+++	++	++
“Necessary decisions” – are such which need to be made for the well-being of the decision-maker, even if the decision-maker himself is not aware that such necessity of decision exists.	ne	ne	+	++	+++	+++

\* strength of activity: +++ – very high, ++ – high, + – low, ne – non-existent

Source: own elaboration.

Social groups with average incomes, for which purchasing a flat and its maintenance would be too much of a burden (Category IV), require adequate support which makes it possible to change housing needs into effective demand by using a wide range of nudges (see Table 1) providing the motivation to change their housing situations, including tax breaks, cheap mortgages, as well as direct grants and subsidies. In this group, “necessary decisions”, which depend on supporting the development of cheap social housing construction with moderate costs of rent in the area of the commune, and shaping spatial and environmental policy, have far-reaching application.

Moreover, there are social groups (Category V) which, despite sufficient incomes, do not wish to own a flat for whatever reasons; their housing needs can be fulfilled by supporting the development of the local market by the commune, including renting flats of different standards. “Nudges” are the causal agents in this group, while “necessary decisions” are supportive actions of high significance.

In the case of households which are able to fulfill their housing needs (Category VI) on market terms, the commune should, in turn, ensure a well-functioning housing market, especially in the sphere of access to building land, preparing spatial development plans, creating a network of technical infrastructure, housing construction, and efficient turnover and financing

(MUCZYŃSKI 2011, p. 44). In this group, “nudges” hold less importance – households do not need to be particularly motivated to take action connected with the housing economy. On the other hand, it is imperative to intensify “necessary decisions”.

In areas of ensuring access to public goods, which housing undoubtedly is a part of, choice architecture ought to be especially developed, enabling (or even making it easier for) those interested to make decisions that are important to them. The individual importance of a decision is the basis for preparing and creating decisions of a wider – social character.

Entities which create various options and solutions in the scope of choice architecture communes along with the statutory duties placed on them and possibilities of carrying out these tasks and responsibilities.

The instruments of housing policy used in activities undertaken by the commune in the scope of housing policy carried out are to ensure, at the same time, the increased efficiency of managing the council housing stock as well as the development of residential construction. They can be considered as both – “necessary decisions” (in the scope of own tasks) and “nudges”.

Necessary decisions include, above all, actions regarding spatial planning, providing access to utilities, and preparing long-term plans and strategies (e.g. multi-year program for managing the local authority housing stock). Necessary decisions also include investments in the construction of social flats and flats intended for rent, maintaining the housing stock in satisfactory technical condition, rationalization of rents or the verification of contracts with tenants.

From the point of view of realizing the housing needs of inhabitants, nudges directed towards the inhabitants, aimed at mobilizing local communities to obtain flats, appear to be more important. As had been mentioned, the role of the nudges is also fulfilled by a part of necessary decisions. These are mainly actions enabling the initiation of the investment process, which implies zoning land in local plans for residential construction along with providing access to the necessary utilities. Additional nudges for persons working towards obtaining a flat can be the result of assisting the development of residential construction realized within in the form of social housing associations. The commune, in the case of co-financing investments from its own funds, can propose flats that are part of the social housing association stock to tenants of council flats, in exchange for freeing up the currently rented ones. Another motivation (nudge) can be the created system of exchanging flats, aimed at optimally matching tenants to dwellings in terms of location, rented surface area, costs of maintenance and the standard of the inhabited dwelling.

At the same time, all decisions and actions assumed by the commune in order to increase the efficiency of housing policy are provided with safeguard instruments – buffers, resulting mainly from the Act on the protection of

tenants' rights..., e.g.: there is no legal possibility to bring the lease to an end with immediate effect (with the exception of a social flat); if the lease is to be brought to an end by the landlord, the tenant must first be notified and warned in writing.

## Summary

The above deliberations made it possible to present the conditions of applying libertarian paternalism in local authority housing policy. In this perspective, libertarian paternalism makes it possible for there to exist, within a commune, a point where two groups of stakeholders whose rights and responsibilities as well as interrelations may lead to a situation of conflict can meet and reach an agreement. Libertarian paternalism is an area which connects:

- 1) the economic-legal plane, connected with using the limited resources of a commune (meeting the aims of the commune), carrying out conscious housing policy under conditions of limited housing stock, counteracting social exclusion;
- 2) the social plane, connected with fulfilling the basic needs of the inhabitants (meeting the aims of the inhabitants), assuming own investment undertakings, counteracting own exclusion.

Undoubtedly, the very determination and formulation of the scope of own tasks carried by the commune, including those pertaining to housing policy, falls strictly within the principles of libertarian paternalism. Creating conditions by the commune for ensuring housing to its citizens is characterized, above all, by the paternalistic aspect, similarly to the observed accelerated decentralization tendencies, resulting in powers and financial resources being carried over to lower levels of territorial division.

In order to achieve the assumed objectives, however, self-governments must introduce a managerial approach to managing the public sector, or so-called new public management, which is characterized by a strong aspect of libertarianism. This model of management is to ensure the efficient, effective and economic operation of public organizations (ZALEWSKI 2005, p. 66).

In addition to activities connected with spatial management, if the commune is to achieve its aims in the scope of housing policy, increasing the housing stock, both council and social flats, as well as private ones intended for rent, is of key importance to achieving the aims of a commune in the scope of housing policy. When the financial resources of the commune are limited, this is difficult to carry out without the cooperation and increased involvement of

private entities, which is the main reason behind introducing new public management and, at the same time, libertarianism.

Such a viewpoint makes it possible to look at Poland from a different perspective in the context of its post-socialist nature. The observed changes which have and are taking place indicate that the era of post-socialism has passed, and a new era of managerial economics has begun.

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**THE FRANCO-GERMAN ALLIANCE AND ITS ROLE  
IN THE PROCESS OF EUROPEAN MONETARY  
INTEGRATION, 1944–2010 – LESSONS FOR TODAY**

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**Key words:** Franco-German alliance, EU institutions, EMU debt crisis.

**A b s t r a c t**

The aim of this paper is to assess the evolution of the Franco-German alliance and the likely directions in its development. In particular, the question of whether the two countries' close relationship would survive the current economic and political obstacles is addressed. Emphasis is placed on the way the alliance facilitated the creation of European Monetary Union. Therefore, the signing of the Treaty of Rome, the establishment of the European Monetary System, the creation of the Single European Act and the Maastricht Treaty are evaluated within this perspective. An underlying assumption throughout the analysis is that the prospects of the alliance and EMU will proceed in tandem. If the alliance continues to evolve successfully then the process of European economic integration will also progress, whereas if the two countries relations increasingly attenuate then the process of economic integration would at best stagnate. The main conclusion is that, following the Eurozone debt crisis the Franco-German alliance has been, replaced by "German Hegemony". This has rendered the main driving force of the European Union ineffective and as such has undermined the evolution of its institutions.

**SOJUSZ FRANCUSKO-NIEMIECKI I JEGO ROLA W PROCESIE EUROPEJSKIEJ  
INTEGRACJI WALUTOWEJ, 1944-2010 – WNIOSKI NA DZIŚ**

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## A b s t r a k t

Celem pracy jest ocena ewolucji sojuszu francusko-niemieckiego i prawdopodobnych kierunków jego rozwoju. Szczególnie omówiono kwestię, czy dobre stosunki między obydwojma państwami przetrwają, mimo obecnych trudności gospodarczych i politycznych. Nacisk położono na sprawdzenie, w jakim stopniu zawarcie sojuszu przyczyniło się utworzenia europejskiej unii walutowej. Pod tym kątem oceniono podpisanie traktatu rzymskiego, utworzenie europejskiego systemu walutowego, zawarcie jednolitego aktu europejskiego i traktatu z Maastricht. Podstawowym założeniem całej analizy jest to, że rozwój sojuszu oraz europejskiego systemu monetarnego będą iść w parze. Jeśli sojusz z powodzeniem nadal się będzie rozwijać, to proces europejskiej integracji gospodarczej będzie również postępował, jeżeli jednak stosunki między dwoma wspomnianymi krajami się pogorszą, to proces integracji gospodarczej w najlepszym razie ulegnie stagnacji. Główny wniosek jest taki, że w następstwie kryzysu zadłużenia strefy euro sojusz francusko-niemiecki zastąpiono „niemiecką hegemonią”. To spowodowało, że główna siła napędowa Unii Europejskiej stała się nieskuteczna i jako taka osłabiła rozwój tej instytucji.

## Introduction

The “Great Recession” has irreversibly changed international monetary relations. The United States no longer enjoys a hegemonic position in international monetary arrangements whereas China has emerged as one of the world’s most powerful economies. The UK and Japan are significantly weaker while Russia seeks to rebuild its status as a major international power. Other developing economies like Brazil and India are aiming to achieve similar international recognition while France and Germany are still trying to coordinate their policy responses within the European Monetary Union (EMU) framework. This unstable international balance of power places international monetary relations under immense strain. France and Germany are no exceptions. Despite the fact that the process of European monetary integration, leading to the creation of EMU on January 1, 1999, was, facilitated by the Franco-German alliance, the two countries interests are not necessarily convergent. The aim of this paper is to assess the evolution of the Franco-German alliance and the likely directions in its development. Focused effort is given on the way the development of the alliance’s characteristics facilitated the establishment of the EMU.

The rest of the paper is organised as follows. In section 2, the principal question of whether the success of the Franco-German alliance can be attributed to the converging economic interests or to the institutional approach adopted, is put in a wider context. In section 3, the Franco-German relations between 1944 and 1956 are assessed. Section 4 examines the building and the evolution of the Franco-German alliance from 1957 to 1975. Section 5 draws on the way the alliance facilitated the process of European monetary integration from 1976 to 1989. The collapse of the Eastern European Communist regimes and its impact on the alliance is evaluated in Section 6. Finally, in section 7 the main conclusion and lessons for today are presented.

## **The Franco-German alliance**

The history of Franco-German relations following WWII is characterised by initiatives that have shaped the European continent. The creation of the EMU alongside the European Central Bank (ECB) on January 1<sup>st</sup>, 1999 is an example. However, the two countries' relations over the last seventy years were not immune to conflict and most of its achievements were the outcome of tough, lengthy negotiations, which involved mutual compromises.

In evaluating the success of the Franco-German alliance the converging interests of France and Germany have received attention (GOODMAN 1992, ANDREWS 1993, GROSS, THYGESEN 1998, HENNING 1998, MCNAMARA 1998, MORAVCSIK 1998). Others stress the importance of the Franco-German leadership model within the EU and the EMS (DE GRAUWE 1990, GIAVAZZI, GIOVANNINI 1989, FRATIANNI, VON HAGEN 1990a, b, ARROWSMITH 1996). On the other hand, others emphasise geopolitical developments such as the collapse of Eastern European Communist regimes and the security implications for both France and Germany as the primary factor for the strengthening of the alliance in the last twenty-five years (GARRETT 1993, BAUN 1996, MAZZUCELLI 1997). Lastly, there are those that view the success of the Franco-German alliance, as reflecting the promotion of specific interest groups in both countries such as banks and financial institutions, epistemic communities or the European Commission (DYSON, FEATHERSTONE 1999, JABKO 1999, VERDUN 1999).

These explanations make a significant input in the assessment of the Franco-German alliance and its role in establishing EMU. In this paper, an institutional approach is put forward to account for the success of the alliance in terms of facilitating the realisation of the EMU. It is argued that it was the institutions established, that strengthened the alliance and facilitated the realisation and evolution of the EMU. Four different periods are identified in terms of the alliance's internal balance, reflected in the establishment and evolution of new EU institutions.

The first period covers the years from 1944 to 1956. French-German relations in this period were formulated within the framework of a divided Europe and the reconstruction process in the aftermath of WWII. During the second period, from 1957 to 1976, the two countries relations rapidly improved and the countries' leaders laid the foundations for the Franco-German alliance. During the third period, from 1976 to 1990, there was a shift in the internal balance of the alliance towards West Germany due to its successful economic performance in the 1970s. The gradual adoption of the German anti-inflationary paradigm by France, led to Germany enjoying a leadership status in the alliance in the 1980s. The European Monetary System (EMS) and

the dominant position of Deutschmark in it reflected this changing balance of power in the alliance. The fourth period, from 1990 to 2010, begins with the collapse of the Eastern European Communist regimes and the reunification of Germany. In the initial stages of this period, reunified Germany is weakened economically while France sought to restore its parity status in the alliance by committing Germany irrevocably to EMU. The completion of the Common Market with a single currency was not in line with German interests. However, Germany eventually accepted EMU participation in order to preserve its commitment to European integration, as long as EMU would not compromise the objective of price stability. The creation of the ECB was a compromise France conceded to, in order to secure the creation of EMU. Despite this compromise, the structure of ECB does not guarantee decisions coinciding with German interests. To that extent, EMU and the ECB reflect a changing internal balance in the Franco-German alliance in favour of France.

The “Great Recession” had a major impact on the alliance. The EU response to the EMU debt crisis in particular in Greece, Ireland, Portugal, Spain and Cyprus exposed the alliance to its weaknesses. The bailouts to the first three provided a short-term answer to the debt crisis. However, they did not resolve the long-term differences of the alliance and neither do they offer a way forward to EMU. The alliance’s formation and evolution does not reflect permanently converging interests but institutions created in periods of converging interests that sustained EU in times of crises. The European Payment Union (EPU) in the first period was part of the overall reconstruction effort. The European Economic Community (EEC) and the Common Agricultural Policy (CAP) in the second period reflected the parity terms of the alliance. The EMS reflected the leading status of Germany, whereas EMU and the ECB reflect the challenging of this dominant German status by France. Institutions have therefore maintained the alliance even in periods of divergent interests such as the 1992–1993 EMS crisis. Next, an assessment of each of the four periods identified is presented.

### **The Early Years: 1944–1956**

The end of WWII saw France and Germany in one of the most difficult situations they had ever been to. France was at the edge of financial collapse and political chaos. This dramatic situation was matched by a low morale and a massive Communist party with its prestigious resistance record. There were also a plethora of additional problems, involving colonial wars and social unrest. On the other side of the Rhine, things were even worse. The country was largely destroyed, its fate uncertain and its people devastated. Germany

stood partitioned as it was, divided into four sectors, with eighteen million Germans under Soviet authority. It had no formal representation and its fate was lying in the hands of the occupying countries. Thus by 1945 both countries had nothing in common with the two powerful European nations of the early twentieth century.

Despite this immensely difficult environment, Germans were still determined to rebuild their country. However, recovery did not get under way until 1948 when the currency reform, according to which ten old marks were replaced by one mark, took place. The outcome of the reform was spectacular. In 1948, production was increased by 50% and in 1949 production was once more increased by 25%. During the course of the next year, the volume of foreign trade doubled, whereas in the next year it was increased by another 75%. The efforts of the German authorities to rebuild the German economy were also boosted by the devaluations of the European currencies in 1949 against the dollar. The devaluation rates for West Germany, the Netherlands, Sweden and the UK together with the increase in the prices of the USA dollar, wholesale prices, the increase in the cost of living and the wage rates are presented in table-1. As it can be observed the Deutschmark was devalued by 20.6% in relation to the USA dollar. This was followed by an increase in wholesale prices by 70% in Germany, far higher than any other country in Table 1, and an increase in the cost of living by 13%. Nominal wages increased by a staggering 54%.

Table 1  
Currency Devaluations and increase in prices by March 1952 in relation to 1948

Countries	Percentage rate of devaluation (-)	Corresponding increase in the price of the US dollar (+)	Increase (+) in Wholesale prices	Increase (+) in cost of living	Increase (+) in Wage rates
	in %	in %	in %	in %	in %
United States	-	-	8	11	25
West Germany	-20.6	26	70	3	54
Netherlands	-30.2	43	44	29	22
Sweden	-30.5	44	52	26	33
United Kingdom	-30.5	44	53	24	22

Source: Bank for International Settlements, Twenty Second Annual Report (1952, p. 81).

On the other hand, reconstruction in France was based on the adoption of indicative planning. By the early 1950s, recovery was well under way and by 1954 industrial production was 50% higher than in 1939. Unprecedented high growth rates made France the fastest growing economy in the world. Again,

this recovery was facilitated by the devaluation of the French franc. The 1952 rates of devaluation for a selected group of countries, from their 1945 and 1949 benchmarks are presented in Table 2. As it can be observed the rate of depreciation of the French franc equalled 22.1% and exceeded the 20.6% rate of the Deutschmark.

Official exchange rates 1945–1952

Table 2

Countries	U.S dollar middle rate				
	31st December 1945	15th September 1949	31st March 1951	31st March 1952	% change 15 Sept. 1949 to March 1952
France	119.1	272.495	350	349.95	-22.1
West Germany	10	3.33	4.2	4.2	-20.6
Greece	500	10.010	15.000	15.000	-33
Ireland	0.2481	0.2481	0.3571	0.3555	-30.3
Italy	100	575	624.85	624.88	-8
Netherlands	2.65	2.653	3.8	3.8	-30.2
U.K.	0.2481	0.2481	0.3571	0.3555	-30.2

Source: Bank for International Settlements, Twenty-Second Annual Report (1952, p. 133).

Indicative planning was based on five-year plans. These offered the element of stability in a period of political uncertainty and colonial wars. Full employment, steady increases in real wages together with high growth rates were the distinctive features of the French economy up to the 1960s (CRAFTS, TONIOLO 1996).

It was also during this period that the three non-Soviet sectors of occupied Germany emerged as a unified state. In 1952, the “new country” became a member of the European Coal and Steel Community. However, by that year, the situation in international relations had changed dramatically and the cold war determined international relations. The deteriorating relations between the USA and the USSR up to 1949 and the division of the world into the Western and the Eastern camps signalled a drastic change in the USA’s foreign, military and economic policies.

The revision of the American policy resulted in the Marshall Plan (MP) in 1948 with the Foreign Assistance Act, granting the European Cooperation Administration (ECA) to take charge of the implementation of the program. France and West Germany were the two major beneficiaries of the Plan. Initially the aid targeted the improvement of basic needs such as food. Later on, the emphasis shifted to industrial reconstruction with machinery import-

ation playing the dominant role. By 1950, the aid had amounted to \$11.5 billion (YEAGER 1965).

The MP contributed immensely to the reconstruction of the Franc and West German economies. The recipient countries experienced an average of 40% increase in their industrial production during 1948–1952. The physical volume of exports more than doubled, the volume of imports increased by about one third and inflation rates had been, maintained at modest levels. In addition to these developments, France and West Germany had managed to restore their reserves, something that was accompanied by losses of the USA gold reserves. Gold reserves in Western Europe increased from \$8.4 billion at the end of 1949 to \$17.2 billion in 1956. This partly reflected the impressive economic recovery in both countries throughout the 1950s (SOLOMON 1982).

In order for the MP to be effectively administered, the OEEC was established in 1948. Whilst the European countries were provided with sufficient dollar reserves to pay for imports from the USA, substantial deficits were building up in intra-European trade. In addition, trade in Europe was restricted by bilateral arrangements as each country was seeking to gain access to US dollars. The solution to these problems was provided by the creation of the EPU in 1950, paving the way to convertibility of the main European currencies by 1958 (TEW 1988, MOLLE 1997, WILLIAMS 1999, DINAN 1999).

## **France and Germany in the European Community: 1957–1975**

In 1958, Charles De Gaulle assumed the French Presidency. De Gaulle perceived indicative planning as a means of facilitating the realisation of his vision, the lifting of his country to the status of a global power, participating in the international decision-making. This policy came to imply the engagement of France in developing nuclear weapons and its commitment to an integrated Europe. In this way France was presented as a credible military ally and thus as a suitable partner to Germany. This matched the existing potential for strengthening the Franco-German relations arising from the successful economic cooperation within the EPU and the Suez crisis in 1956. Indeed, in the late 1950s and early 1960s De Gaulle and Adenauer laid the foundations for the Franco-German alliance (SERFATY 1968, DORMAEL 1978, SOLOMON 1982).

However, the status quo established in Western Europe in the late 1940s started to show signs of disintegration in the 1960s. The engagement of the USA in the South East Asia provoked an unprecedented French attack on the American policy. This French offensive made the Americans seeking to improve their relation with West Germany. The end of the USA's monopoly over the protection of West Europe together with De Gaulle's intransigence in

demanding an exclusive relationship with Germany placed German foreign policy in a very difficult position and senior German politicians were split into Gaullists and Atlanticists. Adenauer's conviction was that only the close cooperation between France and West Germany could facilitate the reunification of Germany. Chancellor Erhard did not accept President De Gaulle's invitation to form a closer alliance not because he intended to inflict a blow in the Franco-German relations, but because he was not prepared to go that far as to renounce the USA military protection (HILDEBRAND 1989).

It was the Berlin crisis in 1960–1961 that changed German perceptions of President De Gaulle. West Germans were deeply disappointed with the American response to the escalation of the crisis, which was limited to the condemnation of the Wall. However, the 1966 De Gaulle's visit in the USSR and the German doubts on whether France possessed the military capability to counter the Soviet nuclear arsenal implied that the time was not ripe for the launching of an even closer alliance between the two countries. Within this fragile policy framework President De Gaulle's decision to depart from the military section of NATO created more tensions.

In addition to these problems in the late 1960s, economic issues started to attract growing attention from the European policy makers. The inherent instability of the IMF system was pointed out as early as 1960. The fact that the MP beneficiaries could not resort to the IMF resources, effectively implied that the American balance of payments was imposed as the main source of international liquidity. A deliberate policy to reduce the American deficit therefore would create a shortage of international liquidity. If on the other hand the USA government did nothing to cure the deterioration in its balance of payments, confidence in the dollar would weaken, as the ratio of US gold holdings to US liabilities would steadily decline (TRIFFIN 1961).

The reluctance of the American authorities to remedy the growing balance of payments deficit and disputes between France and the US undermined the system as it became evident in late 1967 when the British government devalued the pound by 14.3%. This provided the excuse for President De Gaulle to reject the second British application for joining the EEC on the grounds of a weak UK economy. This put the German foreign policy once more under pressure.

The solution was provided by the ascent to power of Georges Pompidou. France adopted a less hostile policy towards NATO and the USA and it stopped opposing the British entry into the Community. This drastic change in the French foreign affairs came as a result of the German attitude during the Bonn Currency Conference in 1968. Germany having realised her relative economic strength, demanded that their national interests be respected at the expense of the interests of the deficit countries, which at the same time were her

protectors against Communist threat. The same year the separation of the official from the private market of gold took place. As the creation of this two-tier system did not provide a solution soon after speculative attacks resumed as indicated by the devaluation of the franc in August 1969 by 11% and the revaluation of the mark later in the year (SOLOMON 1982, GROS, THYGESEN 1998).

These three realignments put pressure on the CAP. As a result, another means of maintaining the existing system of agricultural policy had to be, invented. The only solution could be, provided through the adoption of different price levels for the countries (GISCARD D'ESTAING 1994). In order for this system to be sustained, a complex system of Monetary Compensatory Amounts (MCA) was created. However, this system contradicted the Community's objectives and intended to be only a temporary one.

The efforts to reduce the growing USA balance of payments deficit led to the 1968 agreement concerning the creation of the Special Drawing Right (SDR) as a major source of international liquidity, following a debate between American and French authorities concerning the asymmetry of the system. The main motivation behind the introduction of the SDR was its potential contribution in reducing the role of the US dollar as an international reserve currency. However, the USA's global commitments in relation to the cold war and the maintenance of the existing status quo in the western alliance made the elimination of the USA deficit highly unlikely (WILLIAMS 1991). By 1969, it was evident that the EEC might have to design its own mechanism facilitating exchange rate coordination. The presentation of the Werner Plan in 1970 called for the creation of such a mechanism with the decision to establish a monetary union in the EEC within a decade. However, the Werner Plan assumed that its objectives would be met within the framework of the IMF system, as regardless of its malfunctioning, its collapse could not have been foreseen (SYRRAKOS 2010). When eventually the introduction of the SDR took place on January 1, 1970 it could not replace the dollar as the main reserve currency and thus ensure the viability on the IMF system. The inevitable result was the devaluation of dollar with the automatic suspension of its fixed price relation to gold in 1971, which led to the collapse of the IMF system in 1973.

The collapse of the IMF system implied that the Werner Plan's guidelines were, effectively, left aside. Within this framework, France and West Germany failed to agree on a common stance to the international monetary crisis. The situation deteriorated even further with the occurrence of the first oil shock in 1973/74. France did not wish to abandon its growth-orientated policies whereas Germany could not compromise its long-standing anti-inflationary record. However, Brandt's West Germany was a lot stronger than, Giscard D'Estaing's

France, despite Pompidou's efforts aiming to boost growth. This was reflected with "Ostpolitik", a truly independent West German foreign policy.

### **German Dominance: 1976–1989**

The international monetary turmoil of the 1970s leading to unilateral decision-making in exchange rate policies and the inability of the French and West German governments to adopt a common stance to the problems accelerated divergences in economic policies. Had the divergences persisted they would eventually undermine all early endeavours seeking to promote monetary integration (GROS, THYGESEN 1998). The initiative undertaken by the French and the German governments in 1978 to establish a European system of collectively managing monetary affairs was the way forward for the EEC.

However, the decision to create the EMS in 1978 was politically driven. In the late 1970s the relative economic decline of the USA in relation to Japan and West Germany, the converging economic and political interests of France and Germany and the fading war memories, provided the necessary impetus for both countries to raise jointly their objections to the policies adopted by the Carter Administration. This reflected the growing confidence of both France and West Germany. Given the general scepticism of the British officials towards the overall EMS effort, it was again the Franco-German consensus that gave the impetus for the promotion of monetary stability in the EEC (SUMNER, ZIS 1982, GEORGE 1996).

Indeed, the instability of the dollar during 1978 accelerated the acceptance of an economic and a political rationale for the need to stabilise intra-European exchange rates through the creation of an independent European exchange rate mechanism (UNGERER 1983, GROS, THYGESEN 1998). The creation of the EMS reflected the revival of the Franco-German alliance. After almost a decade both countries seemed determined in pursuing policies aiming to safeguard their common interests and as such lead the way for the Community as a whole.

The successful performance of the EMS during the 1980s implied that the Franco-German alliance entered a new period characterised by a series of initiatives whose outcome was highly successful. The Single European Act (1986) and the Delors Report (1989) were the most significant ones matched by an impressive EMS record. However, it was the decision of the French Socialist government in 1983 to embark upon an anti-inflationary policy that facilitated the success of these initiatives (VANTHOOR 1996, CRAM 1997, DINAN 1999, SZASZ 1999, WALLACE, WALLACE 2000).

The Single European Act implied one more step towards monetary union, as it became apparent in June 1988 when the European Council formed an Expert Committee consisting of the Central Banks' governors with the aim to submit proposals concerning the realisation of EMU. The Delors Report on Economic and Monetary Union in the European Community contained specific proposals concerning the realisation of economic and monetary union in three stages. The most important proposal put forward by the Report was the need for the creation of a single European currency (DAVIDSON 1996, DINAN 1999). No formal deadlines were set but it recommended that the first stage would start together with the full liberalisation of capital movements in July 1, 1990. A common monetary policy was to be assumed by the independent ECB (CRAWFORD 1996). However, short after the Report's publication, events that led to the collapse of the Communist regimes in Eastern Europe were under way, signalling the impending change in the "world order" (TSOUKALIS 1996).

The reunification of Germany was thus seen as a sufficient reason for strengthening the Community as a whole, so as it would not alarm the rest of the Community members and in particular France. French officials were highly sceptical and feared that these events could undermine Germany's willingness to maintain its position in the Franco-German alliance, as Germany could seek to develop new political and economic ties with Eastern European countries, in particular Poland.

### **An Attempt to Restore Parity: 1990–2010**

Helmut Kohl was aware of the fears associated with German unification across Europe. Thus, his initiatives aiming to promote further political integration in EU came soon after the unification of his country (DYSON, FEATHERSTONE 1999). Along the same lines, was the French desire for the establishment of a single currency into the early 1990s (SZASZ 1999). In France, the launching of the EMU project was seen as acquiring leadership in the EU and the international sphere. French officials saw the engagement of Germany in an irreversible agreement concerning the launching of monetary union as the best way of aligning her demands with the needs of the Community (TSOUKALIS 1996, UNGERER 1997, SZASZ 1999).

On the other hand, Germany feared that such a development could lead to the erosion of monetary independence (TSOUKALIS 1996, SZASZ 1999, DINAN 1999). Thus, Germany's consent had to be accompanied by the establishment of an independent central bank whose prime objective had to be the maintenance of price stability (PELKMANS 1997, HIX 1999). The acceptance of these proposals came as the French policy makers saw Central Bank independence

as a sacrifice France had to make for the survival of the process of European integration, prepared the grounds for the signing of the Maastricht Treaty (BINI-SMAGHI et al. 1994, SZASZ 1999).

However, the exchange rate turbulence of June 92–July 93, raised questions as to whether the agreement signed in Maastricht will be implemented or not. At a time, it almost seemed that the Treaty was abandoned. Following the collapse of Communist regimes in Eastern Europe, it was as if the alliance existed only in words. This feeling of the impending end of the two countries partnership gave rise to mounting criticism on the willingness of the European governments to proceed with the implementation of what was agreed in Maastricht. Given that the political commitment towards the fulfilment of the Maastricht criteria was questioned, so was the ability of the EMS to facilitate the realisation of the EMU, as the road to the EMU was itself inextricably dependent on this political commitment. The natural consequence of all this were the difficulties encountered by the system culminating in the 1992–1993 EMS crisis.

Yet, the EMS crisis managed to unleash new forces pertinent to the process of monetary integration, as by the end of 1994 it appeared to emerge more powerful than ever. This was the case, as the imperatives of the new era required the exercise of a unique, meaningful German foreign policy. Such a vision could not take shape in the absence of a military background. Germany could instead commit herself further towards an even more integrated Europe that could then assert its foreign policy autonomy. France was also lacking the economic capacity necessary for the formation of an independent French foreign policy. The two partners had realised that their alliance was too important to miss and as a result, confidence in the process leading to the EMU was boosted (COBHAM 1994, COLE 2001).

Indeed, from August 1993 to December 1998 member countries did not exploit the increased monetary independence afforded by the wider Exchange Rate Mechanism (ERM) bands as not a single country used them after the 92–93 crisis. The Franco-German alliance soon after the crisis resumed its potential and there was a resurgence of the political willingness to move towards the creation of the EMU as demonstrated by the decision of Austria, Finland and Sweden to apply for EU membership in 1994. Intra-EMS exchange rates returned within the narrow band rapidly, national inflation rates continued to converge and progress towards the implementation of the 1992 programme was maintained (SYRRAKOS 2010).

The successful outcome of this progress was the creation of EMU on January 1<sup>st</sup>, 1999 and the establishment of the ECB. Despite concerns relating to the viability of EMU, given the lack of progress towards a European Political Union, its evolution with the addition of eight more countries since its

inception and its smooth functioning from 1999 to 2009 have paved the way to an even closer alliance between France and Germany. The diagnosis that EMU cannot be sustained as EU is not an Optimum Currency Area (OCA) and economic pressures would, sooner or later, lead to its collapse, or, the claim that EMU cannot endure without European Political Union seemed to have lost their validity in the light of its successful performance up to 2009 (EICHENGREEN, WYLPOSZ 2016).

Even the “Great Recession” was initially perceived as a strictly “Anglo-Saxon” phenomenon attributed to the mismanagement of the USA and the UK financial systems, that would have a limited impact on France and Germany. Only when the full scale of the crisis unfolded itself and its international implications became apparent, the French and German governments responded to it. However, this response was limited to both countries’ domestic economies with emphasis placed on fiscal expansion and financial support to French and German financial institutions and industries. This created a leadership gap at a Eurozone and EU level, and the replacement of the Franco-German alliance by “German Hegemony” from 2011 to present. This took place on the background of French deficits in the bilateral balance of trade between the two countries, as depicted in figure 1 that covers the period from 2001 to 2010. As it can be observed in figure 1, following the Great Recession France accumulated a trade deficit in excess of € 23.604 million (€ 23.6 billion) with Germany. This change in the alliance’s internal balance in favour of Germany, allowed the country to gain the upper hand in the policies put forward by the EU, in response to the EU debt crisis from 2010 to 2015.

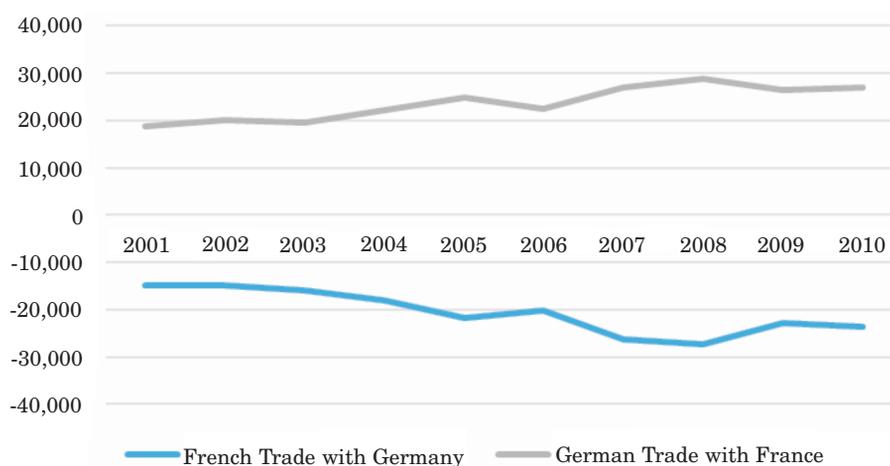


Fig. 1. Trade Balance France-Germany (Mio €)

Source: Eurostat, European Commission.

These policies based on bailouts in return to fiscal consolidation programmes in Greece, Ireland, Portugal, Spain and Cyprus, were accompanied by the ECB's assistance. By extending its Emergency Liquidity Assistance (ELA), the ECB participated in the "secondary" bond market of EMU member countries since 2012 and fully engaged in quantitative easing since March 2015. However, as the recent turmoil indicates, these initiatives have not restored confidence in EU financial markets, prompting a review by the ECB of its accommodative monetary policies in March 2016.

The assessment of the two countries' alliance would suggest that the origins of the ongoing problems in EMU can be traced back towards the end of the second period (1957–1975) and in particular, on the problems between surplus and deficit countries in the IMF system. Germany's growing reluctance and frustration with USA pressures to carry the burden of adjustment in the IMF system, as the major surplus country alongside Japan, via the appreciation of the mark provided an additional external motive to successive German governments to further engage in European monetary integration. The same problem, as developed within the EMU, has led to "German Hegemony", as a reunified, economically powerful Germany, free from security concerns, has simply no incentive to share the adjustment costs of fiscal consolidation in the EU, by reducing its current account surpluses. There is a need therefore to create new mechanisms/institutions that could deal with different growth performances and variable debt ratios in the EMU member countries by committing and transferring resources to the countries in need. The creation of an EMU fiscal union is vital to that end (GROS 2010, GROS, MAYER 2010).

### **Conclusion-Lessons for Today**

The Franco-German relations have suffered many drawbacks since the early post war period. However, the alliance has successfully paved the way to the realisation of many projects (Single Market, EMS, EMU). In trying to assess the evolution of the characteristics of the alliance and the impact that the two countries relations had in European monetary integration, four periods are identified since the end of WWII and their key features evaluated. This has led to the post-2010 period. Since 2011, Germany has acquired a hegemonic status in EMU and EU due to its financial supremacy over other EMU countries and in particular France. The latter unable to restore competitiveness losses accumulated since 1999, has assumed a semi-symbolic role in the alliance.

As it is unlikely that France will restore these losses in the near future, it is legitimate to assume that the alliance, at present, exists only in words, but not

at deeds. From an institutional point of view, the alliance's features today resemble those of the early-1970s, with divergent economic interests. The solution to this divergence was provided by the creation of the EMS in 1978. However, it took twelve years for the EMS to be integrated in a new European Treaty at Maastricht in 1991/92. Currently, this time is simply not available. Security concerns and the immigration influx to EU countries present challenges that push EU to its institutional limits. There is an urgent need for the ESM or a modified version of it, to be embedded in a new European Treaty, paving effectively the way to European economic governance, via the creation of a fiscal union. Further, the ECB should re-design its policies, with a view of adopting flexible inflation targeting (ODENDAHL 2014, 2015). This would allow wage bargaining processes in all Euro-zone countries within an environment that allows for, at least, modest increases in nominal wages (SCHMITT-GROHÉ, URIBE 2013, BIBOW 2015, GAFFEY 2015, MODY 2015). This would complete the process initiated in December 1991. Agreement in Maastricht was reached as Germany sacrificed the Deutschmark and France accepted full ECB independence. However, agreement on new European Treaty involving European economic governance is not within reach, as long as Germany is not willing to compromise, at least in the short run, on the ECB's policies, and France does not accept strict fiscal policy rules as part of that governance. The other two alternatives include a continuous EU leadership gap, or the continuous split between EMU north and south, leading potentially to the disintegration of the EMU that could also jeopardise the viability of EU.

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**WHERE AND WHY IN THE UK?  
THE CASE OF POLISH MIGRANTS**

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**Key words:** international migration, migrant workers, salary, unemployment rate, Polish people in UK.

**Abstract**

This article focuses on one of the most controversial issues frequently discussed by many including politicians, academics and the media in the UK and Poland: migration of Polish people to Britain. The main aim is to identify the important factors causing migration of Poles within the UK. In this article, the authors seek to study the pull factors, i.e. level of wages or employment rate, for Polish people between different regions within the UK. By using the data from “Labour Force Surveys” collected by the UK government; and data from Główny Urząd Statystyczny (GUS) in Poland, this paper analyses where and why the Polish migrants live in the UK.

The most important factor determining the fraction of Polish people in a given region is the fraction of Polish people in that region in the past. When Polish people move within UK, they tend to choose a region with a higher level of gross pay, and they don’t seem to consider the risk of unemployment.

The authors are grateful to providers of survey data discussed in the “Data and methods” section of this paper. LFS data are made available by the UK Data Service. Views reported in this paper do not necessarily reflect opinions of organisations which commissioned or provided access to these surveys.

**GDZIE I DLACZEGO W WIELKIEJ BRYTANII? PRZYPADEK POLSKICH EMIGRANTÓW****Grażyna Kowalewska<sup>1</sup>, Anna Rutkowska-Ziarko<sup>1</sup>, John Simister<sup>2</sup>, Yontem Sonmez<sup>2</sup>**<sup>1</sup> Katedra Metod Ilościowych

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Słowa kluczowe: międzynarodowe migracje, pracownik-emigrant, wynagrodzenie, stopa bezrobocia, Polacy w Wielkiej Brytanii.

**A b s t r a k t**

W artykule skupiono się na jednym z najbardziej kontrowersyjnych i najczęściej omawianych przez polityków, naukowców i media w Wielkiej Brytanii i w Polsce zagadnień – migracji Polaków do Wielkiej Brytanii. Głównym celem jest zidentyfikowanie istotnych czynników powodujących migrację Polaków na terytorium Wielkiej Brytanii. Autorzy starają się zbadać czynniki przyciągające Polaków do różnych regionów Wielkiej Brytanii, jak poziom płac czy wskaźnik zatrudnienia. W pracy analizowano gdzie i dlaczego polscy emigranci mieszkają w Wielkiej Brytanii, na podstawie danych z *Labour Force Surveys*, zebranych przez rząd Wielkiej Brytanii oraz danych udostępnionych przez Główny Urząd Statystyczny (GUS) w Polsce. Najważniejszym czynnikiem wpływającym na osiedlanie się Polaków w danym regionie Wielkiej Brytanii jest liczba Polaków w tym regionie w przeszłości. Polacy, przemieszczając się w obrębie Wielkiej Brytanii, mają tendencję do wyboru regionu o wyższym poziomie wynagrodzenia brutto. Wydaje się jednocześnie, że nie biorą pod uwagę zagrożenia bezrobociem.

Autorzy są wdzięczni organizacjom wymienionym w rozdziale *Dane i metody* za udostępnienie danych ankietowych. Dane LFS zostały udostępniane przez UK Data Service. Poglądy przedstawione w opracowaniu nie odzwierciedlają opinii organizacji, które udostępniły dane.

**Introduction**

The free movement of persons is one of the major rights guaranteed by EU. Although the free movement of labour is one of the four freedoms of the EU<sup>1</sup>, member states are able to delay this process by seven years. For example, countries such as Austria and Germany used their national policies to manage their labour markets until 2011 when the transitional period of 2+3+2 years came to an end. Since the UK was one of the countries who did not impose such restrictions, there has been an increase in migration to the UK from the Central and Eastern (CEE) European countries following their EU accession (Office for National Statistics, 2015).

<sup>1</sup> Free movement of goods, services, labour and capital.

In Poland, international migration is a phenomenon of socio-economic development, which intensified after the accession of Poland to the EU in 2004. Hence, in the initial period of Polish membership in the EU, we observed a significant increase in immigration from Poland. The EU accession treaty stipulated a transition period of up to seven years before free movement of people was allowed. Only three countries of the EU15: the UK, Ireland and Sweden, agreed to free their labour market: the whole potential flow of emigrants from Poland was now directed to only three of them. Otherwise, migration could have dispersed across 15 countries. The UK was the largest labour market, hence it became the main target migration from Poland (OKÓLSKI, SALT 2014). The number of people leaving Poland varied from year to year; this is a growing trend.

This article focuses on migration of Poles to Britain. The main aim is to identify important factors causing migration of Poles in the UK regions. In this paper, the authors are looking for the answer to what economic factors pull Polish people to different areas in the UK: the level of wages, or unemployment rate.

This paper analyses the location of Polish migrants in Britain. Data from “Labour Force Survey” collected by the UK government, and data from Główny Urząd Statystyczny (Central Statistical Office in Poland) are used.

## **Literature review**

There are different definitions of migration and migrants; the simplest and the most well understood is the definition of UN from 1998. It defines the international migrant is defined as a person who changes country of residence (usual residence, or the place where he usually in resides, i.e. he/she lives and spends most time). Migration is divided into long- and short-term. Long-term migration concerns a person who changes country of residence for at least 12 months; short-term migration concerns movements of more than 3 months but less than 12 months (excluding recreational or medicinal trips, visits to relatives and friends, business travel, or pilgrimage).

Academic research on migration has many aspects: sociological, geographical, political, historical, economic, demographic, and psychological (BRETTELL, HOLLIFIELD 2007, p. 3–21). Due to the complexity of the phenomenon of migration, the literature is very rich. Migration of Poles to the UK is often discussed: sometimes in a broader context, for example BAUERE et al. (2006, p. 7–19) and MCCOLLUM and FINDLAY (2011, p. 1–13) analysed data on A8 migration to the UK during the recessions – describing spatial, temporal and sectoral trends. They noticed the decline has been uneven, with demand for

migrant labour being most persistent in agriculture. Conducting research on the phenomenon of migration is important because of the increase in its scale.

In the literature, migration is classified as temporary or permanent. This is important, because statistical data in Poland contain information about temporary migration. Temporary migration is when migrants scheduled to return to their country of origin; migration is permanent if the migrant intends to remain permanently at the destination. A key difference is that temporary migrants keep a residence in the source country, whereas permanent migrants do not (OKÓLSKI, 2005, p. 82–83, ORGANIŚCIAK-KRZYKOWSKA 2015). ORGANIŚCIAK-KRZYKOWSKA and MACHNIS-WALASEK (2014, p. 82) refer to a specific form of temporary migration: seasonal, where the migrant works in UK during certain times of year – for example, associated with agricultural work. OWEN, FIEHL and GREEN (2007, p. 1, 2) analyse where Polish workers live in UK.

Neoclassical economic theory regarding migration is a relatively simple approach, focusing on wage differences and probability of obtaining work as the motive for migration; it considers costs, as well as benefits, of migration (KUREKOVA 2011, p. 5).

Previous migration literature can be divided into the “disequilibrium perspective”, popular before the late 1970s, which assumed migration can increase utility as migrants increase their own income; and the “equilibrium perspective”, in which higher-wage locations are associated with higher costs of living, and hence migration may not make a migrant happier (GREENWOOD 2005, p. 726–727, BODVARSSON, VAN DEN BERG 2013, p. 34). OKÓLSKI (2005, p. 231–233) considers migration to be caused by imperfections in the market mechanism within a country – labour mobility between countries improves the allocation of labour, thereby equalizing inequality on a global scale.

Some writers (e.g. ESPÍNDOLA et al. 2006, p. 603–609) use a more complicated model, based on ideas of Harris and Todaro: it assumes each person acts rationally, attempting to obtain the maximum expected income – for example, a person might move to a location with a higher wage, or a lower unemployment rate.

We can consider a number of extensions to the model: such as, people are more likely to move to a country with a relatively low cost of living (ORGANIŚCIAK-KRZYKOWSKA 2015). However, there are practical problems with such models: there are thousands of possible factors which might seem relevant, such as the availability of local churches; access to schools considered suitable; and quality of housing. Public goods such as parks may also affect a decision to migrate, according to the “Tiebout hypothesis” (BODVARSSON, VAN DEN BERG 2013, p. 35). Many of these factors are difficult or impossible to measure.

Analysis by LEE (1966, p. 47–57) is based on the “gravity model”: taking into account the positive correlation between the intensity of migration, and the power of attraction of the target territorial unit he formulated a sociological theory of the “push-pull theory”;

According OKÓLSKI (2005, p. 232), the flow of migrants is a function of push factors (which encourage people to leave one location), and pull factors (which attract migrants to a new location). In addition, there are so-called indirect obstacles (intervening obstacles); they may be minor, or decisive in preventing mobility; this is mainly related to political aspects (GÓRNY, KACZMARCZYK 2003, p. 40). An example of “push-pull theory” is variation of wages in the destination and the town of immigrant origin.

ORGANIŚCIAK-KRZYKOWSKA (2013, p. 16–17) suggests six “push factors” (which encourage migration from a country) and six “pull factors” (which encourage migration to a country); this sheds light on why so many Poles move to UK: for example, people are more likely to move to a country with a relatively low cost of living.

Information on the experiences of relatives, neighbours and friends are also relevant to migration. A person is more likely to migrate from one country to another if there is a network of people from the sending country, who live in the receiving country (KUREKOVA 2011, p. 10). Polish migration to UK is an example of “spill-over” of migrant from London, due to the development of migrant networks, which consist of informal contacts: between migrants, and between migrants and employers, as well as recruitment agencies and transport companies. The development of migrant networks is made possible by the existence of demand for foreign workers – demand met by Poles (FIEHEL, PIĘTKA 2007).

The theory of migration networks (networks migration theory) assumes that the greatest influence on the decision to migrate is interpersonal relationships between former migrants and future migrants. Previous migrants are the best source of information about the benefits of migration, and on ways to avoid problems (JANICKI 2014, p. 8, 9). They can also provide financial assistance to help find a job and get acclimatized, and thus reduce the costs of migration in all its dimensions: economic, social and psychological (ARANGO 2000, p. 283–296). Each successive wave of migrants can provide similar assistance to the next wave. Migration is therefore a process which itself is self-sustaining. Migration network theory helps to explain migration between countries, irrespective of the reasons that led to the existence of the first flow. The mere existence of former migrant communities in the country can be the basis for forecasting the direction of future cash flows, and migration should be seen as a chain of feedbacks – not as a collection of individual, mutually independent flows (HANNERBERG, HÄGERSTRAND 1957, p. 223–224). Awareness

of such links combines theory with economic migration networks world-system theory, assuming maintaining ties among countries by forming ties on an individual basis. This theory can explain differences in the size of migration to the centres of identical attractiveness, as well as explain the existence of intense migration to countries with restrictive immigration policy of family reunification (ARANGO 2000) and return migrations. The disadvantage of this theory is the inability to identify the causes of initial migration. Migration networks arose before the Polish accession to the EU. After 2004 there is a greater freedom of movement. Despite this, as evidenced by studies conducted by EADE, DRINKWATER and GARAPICH (2006, p. 12–14), migration networks continue to play a vital role in the host country. In the context of the pull and push theory the developed migration network can be regarded as a pull factor.

BURRELL et al. (2009) described both the Polish and British aspects of migration. They analyzed the migration flow, what its causes and effects are, and how these migrants' lives have changed by moving to the United Kingdom.

Economists often use regression to assess such factors; but assessing the effects of relative wages would be complicated because wages vary over time (in response to periods of recession, for example), and the appeal of another country's wage-rate is affected by exchange-rates – which vary all the time. There are practical problems with regression in such cases, because various variables interact – for example, if a large number of people moved from Poland to UK, this may raise the average wage-rates in Poland and reduce the wages in UK, because supply of labour varies; but Polish workers would take skills with them, which would tend to make the UK more productive and hence could increase UK exports and the demand for labour in UK.

## **Data and methods**

This paper uses “Labour Force Survey” (LFS) data, collected by the UK government (ONS 2015; and earlier LFS surveys). LFS surveys are carried out each quarter, and are nationally representative of the UK. The data refers to the 11 “standard regions” of UK, excluding Northern Ireland. In this paper, “London” refers to Greater London (inner and outer London); all regions in this paper are in England, except Scotland and Wales. The data concern the fraction of people who are born in Poland from the previous year, unemployment rate and gross pay. Data for 2010 to 2014 are analysed.

## Empirical results

International migration is a socio-economic phenomenon permanently inscribed in modern Polish history. After a drop in 2008–2010 in the number of Poles living temporarily abroad, 2014 saw another increase in the emigration of Poles to other countries – where growth was higher than in the previous year.

Data presented by the Central Statistical Office (Poland) apply to people who are permanent citizens of Poland, but reside outside the country. Because these people have not moved out of permanent residence in Poland, it can be assumed that the departure is not final.

The number of emigrants amounted to 18 thousand in 1990; 22 thousand in 2005; and reached a peak of 47 thousand in 2006. The global financial crisis in 2007 caused a noticeable drop in the number of Poles temporarily residing abroad (35 thousand in 2007; 30 thousand in 2008; 19 thousand in 2009; 17 thousands in 2010), but there was another increase after 2010 (20 thousand in 2011, 21 thousand in 2012, 32 thousand migrants in 2013) (Central Statistical Office 2016, p. 21).

According to data from the Central Statistical Office in 2014, about 2.320 milion Polish people stayed temporarily outside Poland. This is 124 thousand (5.6%) more than in 2013. In 2014, approximately 2.013 milion Poles were staying outside the country, with the vast majority about 1.901 million resident in the EU. This number increased by 112 thousand compared to 2013 (Central Statistical Office 2016).

The main directions of departure in 2014 from Poland are to developed EU countries such as Germany, United Kingdom and the Netherlands. Among EU countries, most people still were in the UK (685 thousand), Germany (614 thousand), Ireland (113 thousand), the Netherlands (109 thousand), and Italy (96 thousand) (*Informacja o rozmiarach i kierunkach...* 2014, p. 2). In the UK, there were 642 thousand Poles in 2013 (*Informacja o rozmiarach i kierunkach...* 2014, p. 2). In 2014, the main destination countries of migration of Poles were United Kingdom and Germany; United Kingdom remains in first place. In the United Kingdom, there was an increase of 43 thousand (6.7%) compared to 2013 (see Fig. 1) (*Główne kierunki...* 2014). The data are shown in Figure 1, which also shows the growing trend of permanent migration from Poland to the UK from 2002 to 2014.

Figure 2 reports the prevalence of Polish people in standard regions of Britain: Scotland and Wales, then English regions listed approximately from south to north. London has the highest fraction of residents who were born in Poland. In choosing where to live in a foreign country, migration networks play an important role; London is the region with a strong historical migration

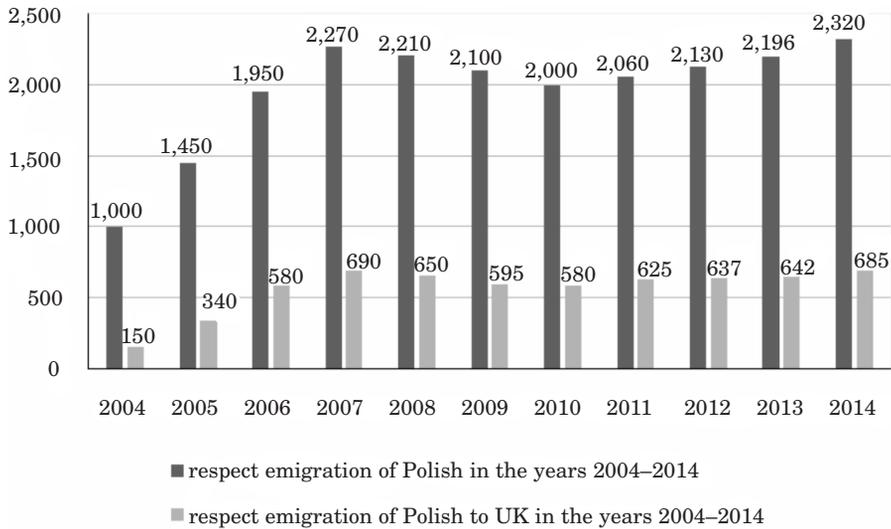


Fig. 1. Numbers of migrants (in thousands) from Poland in years 2004–2014

Data refer to the number of people staying abroad temporarily: for the years 2002–2006 – more than two months, for the years 2007 to 2014 – over 3 months

Source: based on Central Statistical Office of Poland (*Główne kierunki...* 2014).

network of Polish people since the Second World War. In recent years, this migration network developed because there were cheap and convenient flight and bus connections.

Figure 3 shows the average pay of people in different UK regions (for all people in that region, not just Poles). The mean gross pay in London is distinctly higher than in other regions; this is a pull factor for migrants. The regions with the highest unemployment rate were Northern England, London, and Yorkshire/Humberside. The next highest pay is South-East England, the region near London. Figure 3 compares wages in different UK regions, assuming one motive for Polish migrants to settle in a region is because it that region's jobs tend to be highly-paid. The average pay shown in Figure 3 is based on people who are employed.

Figure 4 shows a different reason to choose a particular region: unemployment. For a Pole choosing where to live, Figure 4 shows a very different motivation to Figure 3: a region with high pay (e.g. London) does not always have low unemployment. As shown in Figure 4, London had the second-highest unemployment (except in 2014, when Yorkshire & Humberside had slightly higher unemployment). We are left with a question: do Polish migrants choose regions with higher pay, or lower unemployment? To answer this question, we turn to regression analysis.

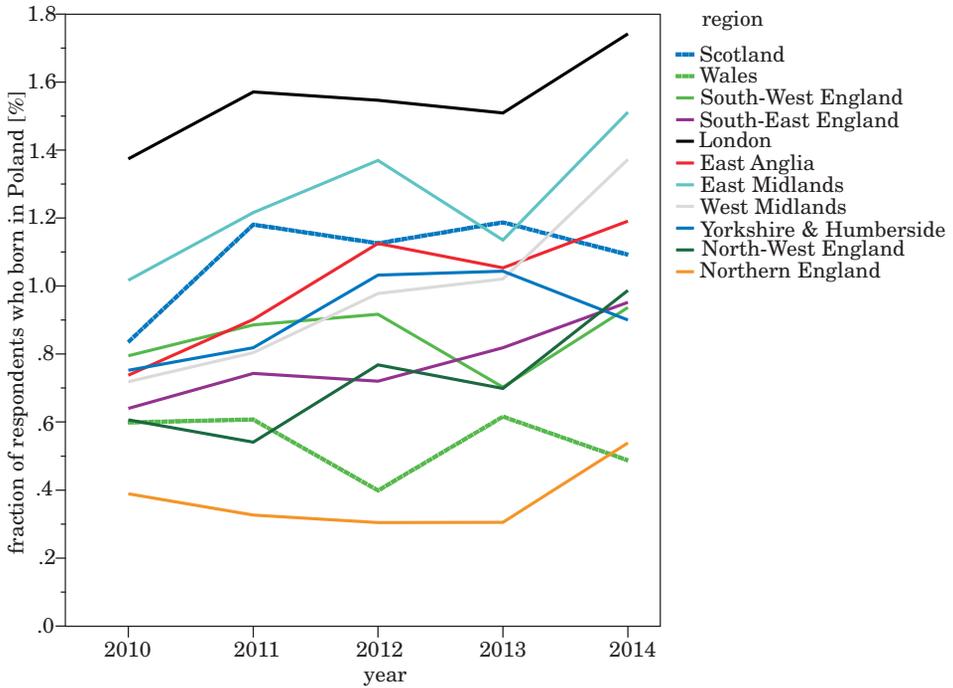


Fig. 2. Immigration from Poland to UK by year and region, 2010 to 2014

Source: the authors, based on LFS data.

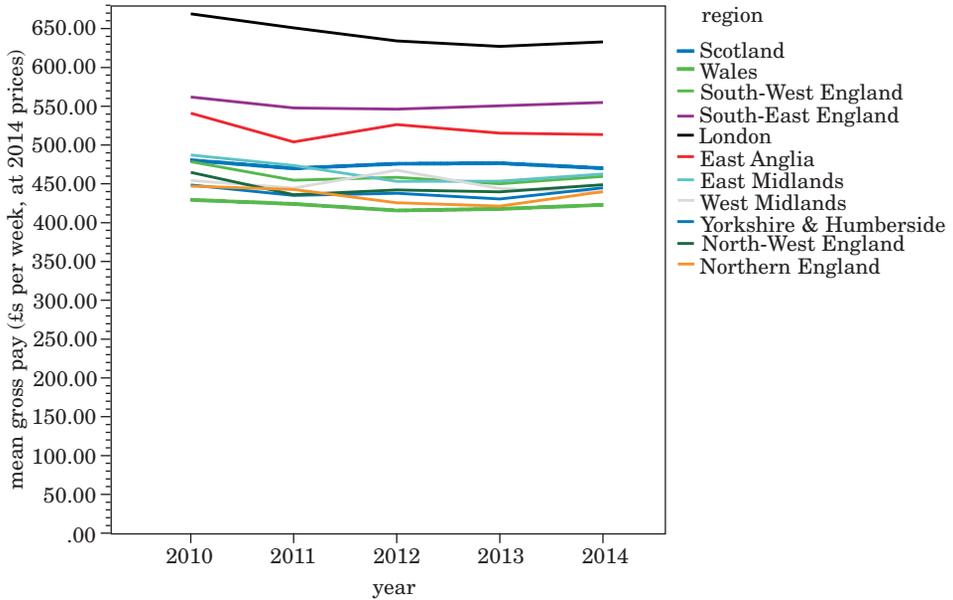


Fig. 3. Gross pay per employed person, by year and region

Source: the authors, based on LFS data.

Similar conclusions can be read in Work Service (2015), which shows that the main reason for emigration is the opportunity to find much better work: 84 percent of Poles indicated higher salaries as the reason for migration.

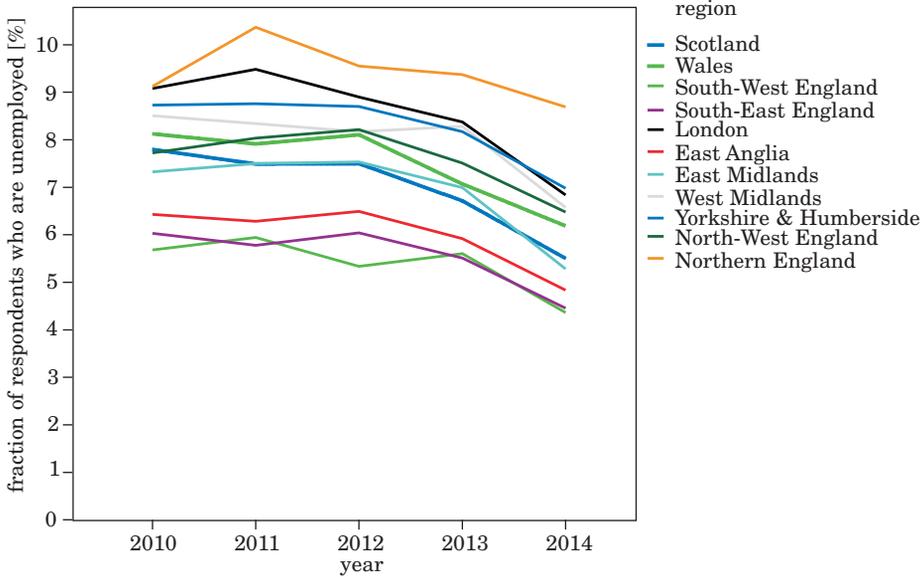


Fig. 4. Unemployment rate, by year and region

Source: the authors, based on LFS data.

To find the main factors determining the UK region chosen by Polish People, cross-sectional regression was used. The left-hand side (LHS) variable was fraction of people who were born in Poland and resident in UK ( $bp_i$ ). The potential right hand side (RHS) variables were:

- fraction of people born in Poland this and previous year, living in  $i^{\text{th}}$  region of UK ( $bp_{-1,i}$ );
- unemployment rate in  $i^{\text{th}}$  region of UK ( $un_i$ );
- unemployment rate a year before in  $i^{\text{th}}$  region of UK ( $un_{-1,i}$ );
- gross pay in  $i^{\text{th}}$  region of UK ( $gp_i$ );
- gross pay a year before in  $i^{\text{th}}$  region of UK ( $gp_{-1,i}$ ).

The unemployment rate used here is the fraction of LFS respondents who were unemployed. Gross pay was measured by average level per week, at 2014 prices. As a first step, the correlation matrix between all considered variables for given year was calculated. The chosen correlation coefficients are presented in Tables 1 and 2.

One can see that in analysed periods, unemployment rate has no significant influence for fraction of Polish people. The most important right hand side variable was the fraction of Polish people a year before. A significant variable is gross pay. All analysed variable are strongly autocorrelated. Analysing all years, one can see that the main factor describing the fraction of Polish people in given year is the fraction of Polish people in that region a year before. The unemployment rate has no significant influence on dependent variable. There is quite a strong correlation between the fraction of Polish people in a region, and gross pay in that region.

Table 1  
Serial correlation coefficients

	Year			
	2011	2012	2013	2014
$bp_i$ and $bp_{-1,i}$	0.9541***	0.9203***	0.9299***	0.8564***
$un$ and $un_{-1,i}$	0.9592***	0.9683***	0.9266***	0.9674***
$gp_i$ and $gp_{-1,i}$	0.9896***	0.9677***	0.9806***	0.9891***

\*\*\* indicates significance at 0.01 level.

Source: own calculations. based on LFS data.

Table 2  
Correlation coefficients

	Year			
	2011	2012	2013	2014
$bp_i$ and $un_i$	-0.1082	-0.0982	-0.0640	-0.2278
$bp_i$ and $gp_i$	0.6404**	0.6044**	0.6190**	0.6043**

\*\* indicates significance at 0.05 level.

Source: own calculations. based on LFS data.

The cross sectional regression was estimated for each year: models with different independent variables were taken into consideration. We assumed that the fraction of people who are born in Poland a year before ( $bp_{-1,i}$ ) depends on lagged variables such as: gross pay, unemployment rate and people who are born in Poland. We can write the regression function in general form:

$$bp_i = a_0 + bp_{-1,i} + un_i un_{-1,i} + gp_i + gp_{-1,i} + \varepsilon$$

where:

$\varepsilon$  – random term.

In each year, the gross pay a year before ( $bp_{-1,i}$ ) and unemployment rate a year before ( $un_{-1,i}$ ), have no significant influence for fraction of People born in Poland (Tab. 3).

Regression equations show that the fraction of people born in Poland is characterized by huge inertia ( $bp_{-1,i}$  coefficients are statistically significant); the most important factor determining the fraction of Polish people in a given region is the fraction of Poles in that region in the past.

Table 3

The regression coefficients

Year	$a_0$	$bp_{-1,i}$	$gp_{-1,i}$	$un_i$	Adjusted $R^2$
2011	-0.0013	1.2680 [0.0001]	0.0000 [0.7164]	-0.0131 [0.6432]	0.883
	-0.0024	1.2598 [0.0001]	0.0000 [0.6670]		0.893
	-0.0015	1.3098 [0.0000]			0.901
2012	0.0006	1.0873 [0.0009]	0.0000 [0.9021]	0.0016 [0.9653]	0.790
	0.0007	1.0858 [0.0004]	0.0000 [0.8996]		0.813
	0.0003	1.0694 [0.0000]			0.832
2013	-0.0032	0.7387 [0.0005]	0.0000 [0.2927]	0.0211 [0.5051]	0.846
	-0.0014	0.7357 [0.0000]	0.0000 [0.2963]		0.855
	0.0017	0.8211 [0.0000]			0.851
2014	-0.0045	0.8610 [0.0103]	0.0000 [0.4092]	0.0024 [0.6681]	0.668
	-0.0022	0.0083 [0.0063]	0.0049 [0.4253]		0.698
	0.0013	0.0095 [0.0004]			0.707

\* the  $p$ -value is shown in brackets.

Source: own calculations.

## Conclusion

The biggest fraction of Polish people in UK lives in London. This region is characterized by quite a high unemployment rate, but also by the highest gross pay. A migration network from Poland to London has developed since The Second World War; this could be one of the reasons that the fraction of Polish people is biggest in London.

In 2011–2014, the regions with the lowest rate of Polish people were Wales and Northern England. In these regions, the mean gross pay was the lowest. In Northern England, there was the highest unemployment rate; but in Wales, unemployment rate was at an average level.

The correlation analysis shows that gross pay is a more important variable for describing the fraction of Polish people than the unemployment rate. Polish people choose a region with a higher level of gross pay, and they don't consider the problem of unemployment.

The regression equations show that the fraction of people born in Poland is characterized by huge inertia. So the most important factor determining the

fraction of Polish people in a given UK region is the fraction of Polish people in that region in the past.

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## MINIMUM WAGE AND ITS IMPACT ON THE JOB MARKET IN GERMANY

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Key words: minimum wage, branch, employment, Germany.

### Abstract

The introduction of the national minimum wage in Germany in 2015 is an important yet controversial instrument of labour market policy. This paper represents an attempt to define the scope of influence it has on companies and employees in respective branches of economy (accommodation and food services business, retail trade, manufacture of food products, transportation and warehouse management). In order to accomplish it the method of analysis and criticism of literature has been applied. It allowed to conduct an evaluation of the discussed dependence. The preliminary findings indicate that interference is especially high in the low wages sector. To show the consequences the national minimum wage has on the job market, positive changes in employment and unemployment levels in the given period (the increase in the first and the drop in the second one) were presented. This meant that the fears concerning a few thousand job losses, as a result of introducing the minimum wage, were unjustified. In this paper articles and analyses published by German research institutes were used. The statistical data comes from the databases of these institutes and of the Federal Employment Agency. The research period considers the years 2014–2015, specifically one year before and half a year after the introduction of the minimum wage in Germany with the aim of highlighting the changes in the employment size caused by the minimum wage.

### PLACA MINIMALNA I JEJ WPŁYW NA RYNEK PRACY W NIEMCZECH

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Słowa kluczowe: płaca minimalna, branża, zatrudnienie, Niemcy.

## A b s t r a k t

Wprowadzona w 2015 roku ogólnokrajowa płaca minimalna w Niemczech stanowi ważny, choć kontrowersyjny instrument polityki rynku pracy. W artykule podjęto próbę określenia zakresu jej wpływu na przedsiębiorstwa i pracobiorców w poszczególnych branżach gospodarki (zakwaterowanie i usługi gastronomiczne, handel zagraniczny, produkcja artykułów spożywczych, transport i gospodarka magazynowa). Aby zrealizować ten cel, zastosowano metodę analizy i krytyki piśmiennictwa, która umożliwiła ocenę omawianej zależności. Ze wstępnych ustaleń wynika, że wpływ płacy minimalnej jest szczególnie duży w sektorach niskopłatnych. Aby ukazać konsekwencje jej oddziaływania na rynek pracy, zaprezentowano zmiany w poziomie zatrudnienia i bezrobocia w badanym okresie, których efekty wypadły pozytywnie – wzrosło zatrudnienie i zmniejszyło się bezrobocie. Tym samym nie zostały potwierdzone obawy sformułowane na podstawie wcześniejszych prognoz co do utraty kilkuset tysięcy miejsc pracy w następstwie wdrożenia płacy minimalnej. W tym opracowaniu wykorzystano artykuły i analizy opublikowane przez niemieckie instytuty badawcze. Dane statystyczne zaczerpnięto z baz tych instytutów i Federalnej Agencji Pracy. Okres badania obejmował lata 2014–2015, a konkretnie rok przed i pół roku po wprowadzeniu płacy minimalnej w Niemczech, aby lepiej ukazać zmiany jakie spowodowała płaca minimalna w wielkości zatrudnienia.

## Introduction

The statutory minimum wage in Germany, which was implemented on 1 January 2015 finished a long-standing political dispute between trade unions, confederations of employers and political parties concerning the issues of “whether” and if so “how” the law should be introduced. From the trade unions’ viewpoint it was perceived to be “a historical social reform”, while according to many employers’ representatives it infringed the tariff autonomy<sup>1</sup>. On the other hand, in the scientific debate the main question is still the issue of the effects of the minimum wage may have on the employment, as many economists predict a few thousand job losses<sup>2</sup>.

The aim of this publication is to present on one hand the political, economic and social circumstances in which the minimum wage in Germany was introduced and on the other hand the scope of companies and employees that were affected by the minimum wage, mainly in cross-section of industries.

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<sup>1</sup> The term “tariff autonomy” is used to describe the right to agree on conditions of employment contracts. The right is not being affected by third parties, particularly by the state. In the Federal Republic of Germany the legal structure of the tariff autonomy is being formalized in the Collective Agreement Act (Tarifvertragsgesetz). Based on this law the entitled parties for bargaining are trade unions, not individual employees, on one side and employer organisations and individual employers on the other side (FRANZ 2009, p. 39, 40).

<sup>2</sup> The change of the moods in Germany lasted so long due to the attitudes of the majority of economists (not as in many other countries) as well as due to German Council of Economic Experts (Sachverständigenrat) which in its annual report for the year 2013/2014 presented the minimum wage as a “devil’s tool” (Teufelszeug) and was constantly warning against job losses to a greater or lesser extent (BOSCH, WEINKOPF 2014, p.12). In its forecasts concerning development of employment, the Council assumed that the minimum wage would prevent creating about 140 thousand jobs (Sachverständigenrat... 2015, p. 249).

From this perspective the companies can be identified that are referred to as the low-paid employment sector. In this context it was relevant to establish the transitory results of the introduced uniform national minimum wage for both employment and unemployment, that were elaborated based on the statistical data published by the top German research institutes and Federal Employment Agency. These results were the base for an initial verification of the earlier forecasted consequences of the uniform national minimum wage.

### **The circumstances accompanying the introduction of statutory minimum wage in Germany**

Principles governing the operation of German labour market have changed from the mid- 1990s. Traditional connections between economic efficacy and social solidarity have become highly erodible or broken. There was a growth in insecure and low-paid employment and the low-wage sector reached the level which was considered to be high in international comparisons<sup>3</sup>. There were no positive effects which were expected to appear, neither the chances to employ the worst qualified workers increased, nor the precarious work became the “pipeline” to regular employment (BOSCH, WEINKOPF 2014, p. 12).

As the introduction of the minimum wage in Germany raised justified concerns, it was advised to be done with great caution treating the project itself as “an experiment conducted under naturalistic conditions” (Feldexperiment). From a research perspective, the initial level should not be established too high and its influence should be attentively observed. If it turned out to be harmless for the employment, it could be increased. However, it would have to be ensured that the regulations, while introducing the minimum wage, could not be easily circumvented, for example by unpaid overtime work (BRENKE, MÜLLER 2013, p. 3).

Those in favour of overall minimum wage want to avoid wage dumping, ensure fair wage, decrease the household poverty with their low earning

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<sup>3</sup> While high income brackets showed a slight increase of real wages between 1995 and 2006, the average wages (time rate) positioned in the lower quartile of income and without inflation have declined. Even during the period of economic recovery in 2004 there was an increase in low-paid employment. The fact that there was an increase in the proportion of the employees receiving low wages, which comprise less than 50% or even 1/3 of the median of wages, rises various concerns. As a result, more and more people in Germany work for the wage which is not enough to make a good living even for working full time single people (BOSCH and others. 2009, p. 1). The low wages rate, determined based on the hourly wage, indicates for Germany the highest value (24.1%) among comparative countries, except Lithuania (27.5%). It indicates an advanced level of wage equality in Germany. Cyprus, Bulgaria, Great Britain and Poland follow Germany with low wages rates between 21.5% and 18%. Relatively low values of the low wages rate can be found in France, Italy, Belgium and the Scandinavian countries (12–10%) (RHEIN 2013, p. 3).

members, replace unemployment benefit with earned income, reduce existing wage inequality, generate additional state fiscal revenue and facilitate purchasing power of consumers. However, the opponents of the minimum wage perceive it as a regulation which inevitably leads to job losses and makes simple work too expensive<sup>4</sup> (BRENKE, MÜLLER 2013, p. 3, 4).

For many years, the minimum wage was thought to be unnecessary as in Germany there were regulations concerning respective minimum wages in given sectors which, thanks to high percentage of companies subject to pay wages according to collective bargaining agreement, ensured (in the main branches of industry and public services) a lower earnings limit<sup>5</sup>. However, for the last two decades there has been a slow erosion of the German system of collective agreement, which is highly developed in the sector of private services, and has both social and economic consequences. Over these years the German low wage sector has developed to one of the biggest sectors of low wages in the European scale. Currently almost one of four people employed works in the German low wage sector while in 1998 it was one in five people (KALINA, WEINKOPF 2013, p. 1). The developing sector of low wages had a huge impact on the changes of the level of overall wages which were the lowest in the whole Euro zone. Low domestic demand and untapped growth potential were its consequences. Furthermore, low wage growth had an impact inside the Euro zone as it caused the process of lowering the value of money, which missed the target concerning the policy of pan-European price stabilisation. There was a surplus in balance of trade flow which shares the responsibility for the European crisis. (SCHULTEN, HORN 2014, p. 396).

The level of interference of the minimum wage into the employment structure was reduced by so called special regulation (*Ausnahmeregelung*) which consists in identifying groups of employees who have difficulties integrating into the labour market. One of those groups are the long-term unemployed, who are excluded from the minimum wage law for the period of six months so as to make reintegrating into the employment easier. Wage below the reference value of minimum wage is supposed to be a strong encouragement for the employers as it minimises the costs of work (LESCH et al. 2014, p. 401). What is more, long-term unemployed are not able to replace other

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<sup>4</sup> Various political parties' views on this matter are especially interesting. CDU/CSU coalition made the minimum wage secondary to the effects of negotiations between trade unions and employers' confederations. On the other hand SPD, Bündnis 90/Die Grünen, German Trade Union Centre and a few individual trade unions advocated the level of wage rate of 8.50 euro, but Die Linke demanded 10 euro per hour (BRENKE, MÜLLER 2013, p. 3).

<sup>5</sup> In the early 1990s slightly more than 80% of the employees were employed on the basis of a collective agreement but in 2014 it constituted less than a half of employees. In the typical branches of low wage sector collective agreement was in decline. In the lowest quintile of all workers only one in three is employed in a company on the basis of collective agreement (SCHULTEN, HORN 2014, p. 395, 396).

employees and as a result they are less competitive. However, there is still a danger that employers would employ the workers for the transitional period and then the employees would be replaced by other unemployed (Mitnahmeeffekt).

Another group excluded from the minimum wage law are apprentices and people under the age of 18 who have not finished vocational education. The intention of the legislator in this case was to encourage them to earn professional qualifications and not to take up a job. It is fully justified as young people while taking their life decisions are not always guided by economic rationality and do not compare with each other the expected value of their potential income arising from vocational training with the one without any education (LESCH et al. 2014, p. 401).

The third group excluded from the minimum wage law are teenagers taking part in internships and vocational practice taken into account in vocational education syllabus or plans of studies. Also people taking part in vocational courses lasting at least 6 months or courses allowing to take up studies and the participants of induction trainings aimed at choosing most suitable vocational education profile are not entitled to benefit from the new statutory regulation concerning the minimum wage (ARNI et al. 2014, p. 404).

Another exception in the minimum wage act was establishing the transitional period to adjust branch-specific minimum wages to the statutory, generally applicable pay. During this time the sides of collective agreement can agree on the way to increase those wages which are below minimum wage reference value. It can be done till the end of 2016<sup>6</sup>.

### **Companies and employees covered by national minimum wage (branch approach)**

Research concerning the influence of the minimum wage on the employment size and structure started in Germany long before the legislative framework was introduced. At this point in time consequences of the formal introduction of minimum wage were very hard to anticipate, therefore it has been thought that its real effects would be visible only in the future. Currently, it can only be examined how many companies and employees come within the purview of the minimum wage act<sup>7</sup>.

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<sup>6</sup> Supply-side policy pursued by Germany had and still has negative effects on European economy as it caused real reduction of the value of money against member countries of the eurozone. Slight wage growth in Germany which appeared as a result of the policy did not lead to the increase in employment in comparison with other countries (HERZOG-STEIN et al. 2013, p. 10, 19).

<sup>7</sup> It is also important what the determinant factors at the time of employing new workers are as employment effects of the introduced minimum wage are determined not only by redundancies (job losses) but also by the changes accompanying new recruitment (KUBIS et al. 2015, p. 1).

The following analysis is based on the valid results of panel based research made by the Institute for Employment Research in Nürnberg. The perspective of companies is of crucial importance here as finally they decide about the employment strategies. The extent of the minimum wage impact is measured on the basis of the number of people who, before its introduction, earned less than 8.50 euro gross per hour. It is a clear indicator in which economy sectors more or less extensive adaptive actions on their part should be expected.

According to the results of the research, about 12% of the surveyed companies in Germany had at least one employee who earned less than the minimum wage rate, while about 7% of them responded they have already adapted their wages to the new law. German companies were affected by the above mentioned regulations with different and changing intensity depending on the economy branch. This intensity is measured by the share of employees earning below the minimum wage. That is why, the implementation reference for the IAB research are the companies and their workforce included in this perspective. Firstly, the interest of companies in which at least one employee earned less than 8.50 euro per hour and at least one was covered with compulsory social security was established (Fig. 1).



Fig. 1. The percentage of companies in which at least one employee earned less than 8,50 euro per hour before the introduction of the minimum wage and at least one of them was covered with compulsory social security (according to economy branches, in %)

Source: BELLMANN et al. (2015, p. 5).

Relatively minor percentage of companies was observed in such branches as construction, public administration or financial and insurance activities. However, comparatively high percentage was observed in accommodation and food services business, retail, manufacture of food products, other services, transportation and warehouse management. While in agriculture, forestry and fishing there were also many companies covered with the minimum wage, but the current collective agreement allows transitory wage rate lower than the statutorily guaranteed. On the other hand, in construction, where in 1997 a higher minimum branch wage was introduced, the share of companies paying wage rates lower than statutorily guaranteed was minor (BELLMANN et al. 2015, p. 5).

Subsequently, the employees' share in companies covered with new regulations, who before the introduction of the minimum wage earned less than 8.50 euro per hour, has been investigated. In branches shown in Figure 2 almost three quarters of companies employed over 30% of people earning below the reference value of minimum wage. There was also their high share in all branches amounting as much as 45%. In-depth analysis have shown that this

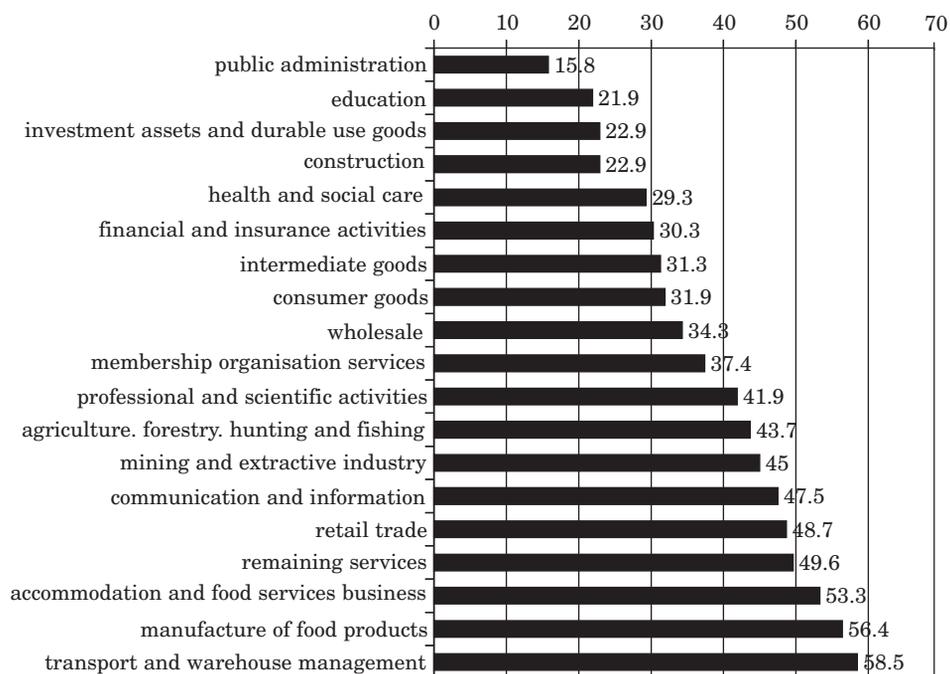


Fig. 2. Percentage share of employees earning less than 8,50 euro per hour in companies employing at least one such worker and in which at least one was covered with compulsory social security (according to economy branches, in %)

Source: BELLMANN et al. (2015, p. 6).

high share is not caused by small enterprises but rather by medium-sized and large enterprises and this is where special adjustment measures (pay rise or redundancies) should be expected. It means that the respective companies would either have to rise the wages or lay employees off, if they will adjust their wages to the statutory minimum wage (BELLMANN et al. 2015, p. 6).

The third stage of the research aimed at determining the percentage of employees who were covered by the minimum wage. In this regard some substantial differences between them were also identified (Fig. 3).

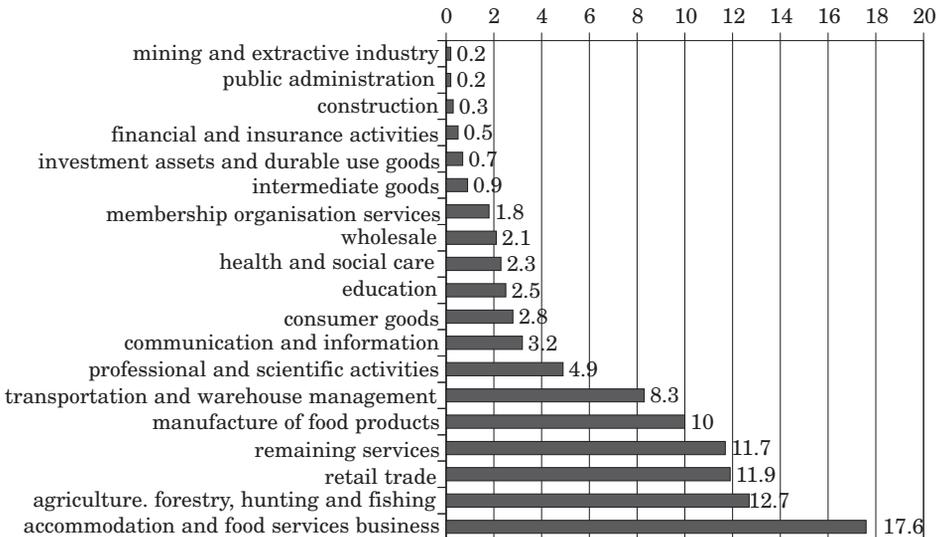


Fig. 3. The percentage of workers employed in various branches who earned less than 8,50 euro per hour before the introduction of the minimum wage and at least one of them was covered with compulsory social security (according to economy branches, in %)

Source: BELLMANN et al. (2015, p. 7).

If the criteria is the number of employees earning less than the minimum wage the branches enlisted above can be divided into three groups. The first group consists of those branches in which the mentioned share amounted 10% and more. In the second one the share varied between less than 10% and more than 1% and the third group includes those branches in which the share of the workers earning less than the minimum wage is lower than 1%. The analysis of the current evaluation of the IAB Establishment Panel from 2014 shows that overall 4.4% of the employed people in Germany are affected by the minimum wage.

## Estimated and ad-hoc employment effects of introducing the minimum wage

Employment in Germany has been continually rising since 2012 and the trend is towards increase even after introducing the minimum wage. Research concerning this topic carried out to date showed the temporary nature and fragmentation of the available data for the researchers<sup>8</sup>. They cannot replace broad evaluation of the employment effects of the minimum wage especially in medium and long period (BERGE et al. 2016, p. 7).

The main issue mentioned in the scientific debate about the minimum wage is its influence on employment. German scientific communities, unlike international research, agree on the fact that the minimum wage can have negative repercussions on the employment size and structure. Numerous research conducted immediately before the introduction of the minimum wage in which researchers “outdid with calculating its allegedly negative effects” (SCHULTEN, WEINKOPF 2015, p. 79) confirm this thesis. The following Table 1 shows the employment results estimated in the research.

Table 1  
The results of the research concerning forecast employment effects of the minimum wage of 8.50 euro gross per hour in Germany

Researcher	Forecast employment effects
SCHNEIDER (2013) (Deutsche Bank Research)	from 450 thousand to 1 million job losses
ARNI et al. (2014) (IZA)	570 thousand job losses
HENZEL/ENGELHARDT (2014) (Ifo-Institut)	from 56 thousand to 470 thousand full time job losses, 38 thousand to 306 thousand part time job losses and 863 thousand minor jobs
KNABE et al. (2014) (Ifo-Institut)	from 425 thousand to 910 thousand job losses including 270 thousand to 490 thousand within marginal employment
KNABE/SCHÖB (2014) (Ifo-Institut) for The Initiative New Social Market Economy (Initiative NeueSozialeMarktwirtschaft)	from 250 thousand to 570 thousand job losses including 150 thousand to 300 thousand within marginal employment
German Council of Economic Experts (2014) (Sachverständigenrat)	in 2015 there will be 100 thousand work places less within minor jobs and about 40 thousand work places covered with social security
PETERS (2015) (Deutsche Bank Research)	800 thousand medium term job losses

Source: SCHULTEN, WEINKOPF (2015, p. 80).

<sup>8</sup> In Germany many research papers referring to the influence of minimum wage on the employment size were published. The focus of these papers was mainly on sector-specific minimum wages. Either individual industries or regions (eastern and western federal states), where the minimum wage was introduced, were researched. Not only the research approach, but also the research periods were differing. Thus the elaborated research results were often enough contradictory and they were evaluated as not sufficient. In order to draw a more detailed picture on minimum wage more research efforts are necessary (BELLMANN et al. 2015, p. 3).

Information presented in the table leads to the conclusion that Munich Ifo-Institut was particularly active when it comes to projections. It presented a very broad spectrum of redundancies as a result of introducing the minimum wage, between 250 and 1600 thousand. Deutsche Bank Research was placed second. The company estimated that the number of redundancies accounts for about 450 thousand to one million (in 2013), in the medium term 800 thousand (in 2015). In this context the forecast of German Council of Economic Experts appears to be a conservative estimate. According to them, the number of redundancies will amount only about 140 thousand, 100 thousand of which will be minor jobs and the rest will be those which are covered by compulsory social security.

The fact that in spite of the introduction of the minimum wage there was a growth in employment on the German labour market confirms the statistical

Table 2  
Changes in employment covered with obligatory social security in Germany in April 2015 in comparison with April and December 2014 (in absolute terms and in %, seasonally adjusted data)

Specification	Compared to December 2014		Compared to the previous year – April 2014	
	in absolute numbers	in %	in absolute numbers	in %
Accommodation and food services business	26,000	2.8	50,000	5.5
Temporary job	20,000	2.6	34,000	4.4
Remaining business services	25,000	1.9	61,000	4.8
Nursing homes and social welfare	29,000	1.4	69,000	3.4
Transportation and warehouse management	21,000	1.3	39,000	2.5
Real estate, liberal profession, scientific and technical services	25,000	1.1	89,000	4.2
Remaining services, private households	9,000	0.8	14,000	1.3
Trade, conservation repair of vehicles	29,000	0.7	59,000	1.4
Communication and information	6,000	0.6	18,000	2
Health care	11,000	0.5	38,000	1.7
Agriculture, forestry, hunting and fishing	1,000	0.4	3,000	1.3
Education	3,000	0.3	12,000	1
Processing industry	18,000	0.3	57,000	0.9
Construction	4,000	0.2	9,000	0.5
Financial and insurance activities	-2,000	-0.2	-4,000	-0.4
Public administration, defence, social security	-9,000	-0.5	-16,000	-0.9
Mining and extractive industry, Electricity and water supply, waste management	-3,000	-0.6	-9,000	-1.6
In total	216,000	0.7	517,000	-1.7

Source: SCHULTEN, WEINKOPF (2015, p. 82).

data of the Federal Employment Agency. According to it, in the first four months of 2015, 216 thousand jobs covered by compulsory social security appeared, which is the equivalent of 0.7% (Tab. 2). Compared to the previous year in March 2015 there were more than 500 thousand additional positions and the highest increase in employment occurred in typical low income jobs, namely in accommodation and food services business, temporary employment and other business services while redundancies were recognised in water and electricity supply, public administration, defence, social insurance and in financial and insurance activities, where the minimum wage plays a subordinate role. Summing up, in respect of increasing employment covered with obligatory social security there were not any negative tendencies in the given period (SCHULTEN, WEINKOPF 2015, p. 4).

The analysis of the data concerning the unemployment level also provides information on the effects of the minimum wage on employment. Since its introduction, the level of unemployment has decreased (Tab. 3). According to Federal Employment Agency the number of unemployed in June 2015 when compared to December 2014 has decreased by 55 thousand, an equivalent to a decline by around 2%. On the other hand, according to data from June 2014 the decrease was even higher than 4%. Taking into consideration the division of Germany into western and eastern federal states quite a diverse picture of both parts can be seen.

Table 3

The number of unemployed in Germany between 2014–2015 (seasonally adjusted data)

Specification	Germany in total	Western federal states	Eastern federal states
06.2015	2,786	2,016	770
12.2014	2,841	2,044	793
06.2014	2,912	2,083	829
The change in 2015 in thousand			
12.2014	-5,5	-28	-27
06.2014	-126	-68	-59
The change in 2015 in %			
12.2014	-1.9	-1.4	-3.4
06.2014	-4.3	-3.2	-7.1

Source: SCHULTEN, WEINKOPF (2015, p. 81).

In the east, where due to high number of employees in low-pay sector the influence of the minimum wage was stronger, the level of unemployment has fallen since the beginning of 2015 by 3.4%, which is almost twice as much as in the west, as there it has fallen only by 1.4% (in total in Germany 1.9%). In comparison with June 2014 the numbers look even more expressive as in all the analysed aspects the decreases in unemployment were almost twice as high.

## Conclusion

The introduction of the minimum wage in Germany is one of the most important reforms of the labour market policy in the recent decades which required far-reaching consensus on the part of political parties, confederation of employers and trade unions. The act enjoys the support of employees but it is a matter of particular concern to employers and economists. Many of them would like to maintain the status quo, pointing to already existing nominal branch wages. However, the long lasting process of erosion of German collective bargaining agreement system causes their considerable decrease. As a consequence, one of the biggest low wage sectors on a European scale appears. Regulations in the area of the minimum wage are expected to prevent the spread of the low wage sector and even contribute towards its decrease. The legislator also envisaged exceptional situations in which on the one hand teenagers/young people are protected from taking haphazard, irrational decisions concerning taking up work too early, on the other those regulations are supposed to facilitate the unemployed the start on the labour market.

The scope of the minimum wage interference is visible in the number of employees earning less than the reference value before the introduction of minimum wage. According to the results of the research conducted by IAB, this scope is best visible in the particular branches of German economy, particularly in the low wage sector. This aspect determines the direction of the scientific studies, especially while assessing the situation of employers and employees at the time of the minimum wage introduction. Three key indicators were taken into account. The first one was the share of companies in which at least one worker earned less than 8.50 euro per hour. The second one was the share of those workers in the companies covered by the regulations and finally the percentage of employees impaired by the minimum wage in individual branches. Those indicators had the highest values in such branches as: accommodation and food services business, retail trade, manufacture of food products, transportation and warehouse management and other services. In those branches there was an urgent need to take appropriate adaptive activities.

The employment effects of the minimum wage in Germany can undergo ex-ante and ex-post evaluation. In the first case there were many studies conducted before the act was in effect. The results showed huge disproportions concerning the number of redundancies caused by its introduction. On the one hand, there are references about loss of about 1 million jobs. On the other hand, the number was estimated to be about 140 thousand. However, quite an unequivocal picture emerges from the ex-post evaluation. During the period from December 2014 to April 2015 over 200 thousand workplaces appeared

with an unemployment decline by 55 thousand people (which constitutes about 2%) during the period from December 2014 to June 2015. This data is in contradiction with the forecasted negative effects of the introduction of the minimum wage. However, it should be pointed out that this positive trend can, but not necessarily has to persist in a long term.

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## THE IMPACT OF EU FUNDS ON THE DEVELOPMENT OF A BUSINESS MODEL FOR SMALL AND MEDIUM-SIZED ENTERPRISES

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Key words: business model, micro, small and medium-sized enterprises, grant.

### Abstract

The increased interest in business models can be observed in the second half of the 90s of the last century. The research objective of this study is to assess the impact of grants received by companies on the formation of the business model. The study used the “Canvas” model proposed by A. Osterwalder and Y. Pigneur and covered micro, small and medium-sized enterprises based in rural areas, which received support in the form of investment grants under the Regional Operational Programmes between 2007–2013 for northern Poland. The results indicate that investment grants clearly influenced the modification of the business model elements, which are located on the left side of the “Canvas” template.

## WPLYW FUNDUSZY EUROPEJSKICH NA KSZTAŁTOWANIE MODELU BIZNESU W MAŁYCH I ŚREDNICH PRZEDSIĘBIORSTWACH

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Słowa kluczowe: model biznesu, mikroprzedsiębiorstwa, małe i średnie przedsiębiorstwa, wsparcie finansowe.

### Abstract

Wzrost zainteresowania modelami biznesu przypada na drugą połowę lat 90. ubiegłego wieku. Celem badań prezentowanych w artykule jest ocena wpływu uzyskanego przez przedsiębiorstwa wsparcia ze środków publicznych na kształtowanie modelu biznesu. W badaniu posłużono się

szablonem modelu “Canvas”, zaproponowanym przez Osterwaldera i Pigneura. Badania obejmowały mikro, małe i średnie przedsiębiorstwa funkcjonujące na obszarach wiejskich w północnej Polsce, które otrzymały wsparcie w ramach regionalnych programów operacyjnych na lata 2007–2013. Wyniki badań wskazują, że uzyskana pomoc w wyraźny sposób wpłynęła na modyfikację tych elementów modelu biznesu, które znajdują się po lewej stronie szablonu “Canvas”.

## Introduction

One of the most often mentioned market limitations, which disproportionately affects the smaller sized enterprises is the insufficient supply of financing. This problem particularly concerns small entities, which are known as subjects of “increased risk” and bear a much greater possibility of failure or collapse. This is mainly caused by barriers to investment activities due to difficulties in accessing external capital. Therefore, on the basis of twentieth century post-war economic thought, the idea of credit discrimination with regards to small businesses appeared (GALBRAITH 1957, p. 124–133). Łuczka points out that: “despite the different ways of analyzing discriminatory practices in small businesses, at its base lies a common belief that in the modern market economy, company size is an important stratification factor of economic entities, opening or limiting access to certain factors of production (capital) and creating structural prerequisites of State economic interventionism” (ŁUCZKA 2001, p. 97). Audretsch, Grilo and Thurik indicate that a lack of access to finance for small businesses is an example of a market imperfection. This is especially often presented as a factor in economic theories and empirical research (AUDRETSCH et al. 2007, p. 8). Investment grants represent financial support instruments anticipated by small entrepreneurs, which are an especially valuable type of assistance due to their non-returnable nature. Therefore, the research part of this study was limited only to this kind of support.

## Methodology of research

The study covered companies that reside in rural areas, which received support in the form of investment grants within the Regional Operational Programme 2007–2013 for the northern part of Poland (warmińsko-mazurskie, kujawsko-pomorskie, pomorskie and zachodniopomorskie voivodeship). All activities involving the awarding of grants to micro, small and medium-sized enterprises were analyzed<sup>1</sup>.

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<sup>1</sup> According to the Central Statistical Office of Poland – rural areas are located outside the administrative borders of cities- areas of rural communes and part of the urban-rural communes (Rural areas in Poland 2011). However, in relation to the concept of micro, small and medium

The study was conducted in 2014 with the use of the direct survey method (business owners and/or managers of these entities were surveyed). Due to the fact that studies analyse the effects of the support involving changes in business models, only the entities which received the earliest support were chosen (in these enterprises the effects of the aid can be observed). According to the  $n+2$  rule, entities have a maximum of two full years to implement the project to which the grant agreement was signed. Given this fact and the rule of project sustainability (three years after completing the project), companies that have signed agreements in 2008–2010 (2008 was the first year of signing the agreement) finished the entire investment process in 2014 (obviously it may have finished earlier if the agreement was signed before 2010). There were 196 records which met these criteria, which means that 196 grants for SMEs in rural areas were awarded. The intention, therefore, was to conduct the research for all such enterprises. The number of records is not the same as the number of companies, because some companies benefited from more than one grant (there are even cases of firms submitting multiple applications for the same contest and achieving more than one grant by enterprise). After excluding these types of multiple applications, the number of companies decreased from 196 to 181. The next problem was the refusal to cooperate in the survey. These studies were directly related to the economic performance of enterprises, and this is sensitive data that entrepreneurs are reluctant to reveal. Therefore, the necessity of selecting entities that had signed contracts in 2011 occurred as well (a total of 42 enterprises). These are entities whose sustainability of projects is not completed, but the investment process has come to an end. In this case, the effects of economic support could also be seen. A total number of 155 companies from northern Poland completed the questionnaire. Given the fact that the studies included rural areas, it was dominated by enterprises from Warmia and Mazury, where the relative number of urban communes is quite low. In the case of the pomorskie and zachodniopomorskie voivodeship, a large group of surveyed companies had their head-office in close vicinity to the Gdańsk and Szczecin agglomeration. A detailed list of tested enterprises by province and the nature of their projects are presented in the Table 1.

The main objective of the study was to assess the impact of grants received by the company on the development of the business model, based on the concept proposed by Osterwalder and Pigneur. These authors have drawn up a comprehensive elaboration, in which they show the elements of the business model and what types of these models occur. The starting point is to under-

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entrepreneurs, a definition was adopted in accordance with the Act on Freedom of Business Activity of 02/07/2004, Journal of Laws no. 173/1807 of 06/08/2004 which is also adopted in the Regional Operational Programmes as the criteria for granting the support of this category of enterprises.

Table 1

Characteristics of the Surveyed Companies

Voivodeship	The size of the enterprise			Nature of the project	
	microenterprises	small	medium	innovative	non-innovative
Warmińsko-mazurskie	22	27	25	22	52
Kujawsko-pomorskie	8	12	10	11	19
Zachodniopomorskie	6	15	5	13	13
Pomorskie	8	10	7	15	10
Total	44	64	47	61	94

Source: Own on the base of conducted research.

stand the business model as a rational structure serving to create, deliver and capture value. The authors built a scheme – methodical model, consisting of such items that can be used in the characterization of each company (DUCZKOWSKA-PIASECKA 2013a, p. 135).

The direction of the established objectives has been marked by the following hypotheses:

1. Implementation of projects with an innovative nature favoured deeper modifications in the business model,
2. There is a positive relationship between the level of grants and changes in the business model,
3. The type of investment as part of the grant awarded, mainly caused changes in the “logic” part of the business model.

## The business model – core and constituents

For the purposes of this study, the definition of a business model referring precisely to the popular “Canvas” concept established by Osterwalder and Pigneur was adopted. Quote: “The business model is a description of the premises behind the manner in which the organization creates value and benefits from the generated value”. This definition emphasizes its two major functions, i.e., creating value and capturing value.

Another theoretical problem with serious practical implications is to define and establish the relationships between specific constituents of the business model. Most frequently, one can distinguish from between a few to a dozen elements of the business model, taking into account different criteria and the logic behind the grouping of the elements. This study used the “Canvas” model proposed by the above-mentioned OSTERWALDER and PIGNEUR (2010, p. 16–19). Within their model, they distinguish the following nine building blocks of the

business model: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners, and cost structure.

key partners	key activities	value proposition	customer relationships	customer segments
	key resources		channels	
cost structure		revenue streams		

Fig. 1. Osterwalder and Pigneur’s “Canvas” business model

Source: Own source based on OSTERWALDER, PIGNEUR (2010).

The placement of individual elements in the model is not accidental. The right section is focused on the customer and, according to Osterwalder and Pigneur, is based primarily on emotions. The most extreme element on the right side are customer segments, these are selected groups of consumers, businesses or other organizations, on which the company focuses its activities in the range of offering and delivering value. In the lower part of the model on the right side appear the revenue streams, which can be considered the “arteries”, assuming that the “heart” is the client. Revenue streams can take different forms, i.e. sale, user fee, mediation fees, licenses, etc. The next two elements on the right side of the model are the relationship with the client, which is usually the company’s activities targeted at customer acquisition, maintenance, and distribution channels understood as a set of network elements consisting of: source, intermediate components, and the outlet of the streams of products and services. There is a value proposition in the centre of the model, represented by a set of products or services with value for a specific client. The left part of the model contains elements associated with the company that the customer does not even need to be aware of. Osterwalder and Pigneur defined it as part of a “logic” model (as opposed to the right side based on feelings). The first element from the right is key partners (primarily a network of suppliers and contractors). The next element is key resources, which is the most important asset necessary for the proper functioning of the business model. Another constituent of the model is the key activities that describe the most important steps that a company has to perform to create and deliver value, establish a relationship with the client and determine the source of revenues. The last element of the model is associated with the cost structure, which describes all of the costs which the business model generates.

## The findings

The results of the research indicate that received support influenced the enterprise business model mainly in the area related to its left “logic” part. This includes key partners, key activities, key resources and cost structures. In all analyzed enterprises, at least one of these elements changed. As a result of the financial support, slightly more than 25% of enterprises had changed between 6 to 8 elements of the left side of the model (Surveyed companies could indicate more than one factor being a specific constituent of the business model). Importantly, in this group were both companies that received a relatively small financial contribution, and enterprises where the value exceeded half a million euros. It can be concluded that the grant amount has little effect on changes in the way the business model constituents were utilized (at least on the left side). In turn, significant relationships can be observed between the elements on the left side of the “Canvas” model, the innovative nature of the projects and the size of the company. Among 155 surveyed enterprises, more than 39% realized that the investment had an innovative character<sup>2</sup>. Of the enterprises that changed between 6 to 8 elements on the left side of their business model, nearly three-quarters of the implemented projects had an innovative character as a result of the received support. This means that the tendency of enterprises to undertake innovative activity usually signifies changes implemented in the business model.

Only 6 of the 155 surveyed enterprises were in the group where no more than 2 constituents making up the left side of the model were changed. Within this group, only microenterprises were included, and the realized project was characterized by having a non-innovative nature. Therefore, the results of the study show that microenterprises changed the left side constituents of the “canvas” business model to a much less extent. By far, the largest group of enterprises were those with 3 to 5 changes on the left side of the business model, as a result of received grants.

Key resources represented the left side constituent of the “Canvas” business model, which was subject to the most frequent modifications as a result of support. It should be emphasized that generating value for the customer is only possible when an enterprise has a set of capabilities for creating it. This set of capabilities is referred to in different ways and formed by a plurality of components (in the academic literature one may run across terms such as critical success factors, tangible and intangible assets, skills, or resources

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<sup>2</sup> In research, an innovation has been defined as implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations, used in the enterprise for the first time.

which consist of everything that the organization knows and has). The results indicate that over 90% of companies changed the quality of resources in their financial, human and physical resource areas as a result of received support. Such a state indicates the positive impact of the grant for this component of the model. Importantly, 88% of companies had changed at least three elements comprising their key resources.

The last element of the left side of the business model is related to the cost structure. The study distinguishes between fixed costs and variable costs. Respondents had to indicate whether the grant could result in the reduction of specific operating costs. The results indicate that these companies were few. Less than 12% of entities indicated a reduction in the level of variable costs and 16% in a reduction of fixed costs. At the same time, 40% of the surveyed companies reduced both variable and fixed costs, which pointed to a change in this element of the business model.

In contrast to the left side, the right side of the business model included elements such as customer relationships, customer segments, channels and revenue streams that changed under the influence of received grants to a much lesser extent. Among surveyed companies, more than 36% did not change a single element included in the right side of the model (in the case of the left part of the model at least one of its constituents had been transformed). Less than 4% of enterprises indicated more than 6 elements that had changed in the right side of the “Canvas” business model (surveyed companies could point to more than one factor being a specific constituent of the business model). Interestingly, these enterprises were also characterized by a strong degree of change in business model components placed on the left side (Out of the 6 most active companies that modified their customer relationships, two of them had transformed more than six elements on the left side of the model, and four companies from 3 to 5 elements on that side). The largest group was made up of companies which redefined no more than two elements on the right side of the business model. Such an answer indicated almost 32% of all surveyed entities.

The results of the research highlighted the fact that the outermost element in the right side of the model, i.e. customer segments was subject to very slight changes (out of 4 constituents comprising that part of the model). Only 5 companies that received grants made the decision to reshape “customer segmentation” and change that constituent of the “Canvas” business model. The impact of grants on the diversification of activities understood to handle an additional segment of customers was slightly more often emphasized by surveyed companies (29% of surveyed companies had indicated this option).

In the study, respondents had to indicate whether the existing type of relationship with the customer was strengthened or if a completely new

relationship was introduced as a result of grants. This element of the “Canvas” Business Model often corresponds with another component of the model; i.e. the distribution and sales channels. Relationships with customers and channels in certain situations conceptually overlap each other, especially where a direct distribution channel functions without any intermediate levels. The results of the research show that beyond the co-creation of products with customers, the remaining elements of the customer relationship structure were rarely indicated. This fact may seem surprising, especially when customer relations account for a very important competitive instrument (UNGERMAN, MYSLIVCOVÁ 2014, p. 179, 180).

Similar results were obtained in terms of the next component (block) of the “Canvas” Business Model, i.e. the already mentioned channels. It involves supply logistics, production logistics and distribution logistics (DYCZKOWSKA 2012, p. 19–28). On the basis of the business model, of particular interest is the distribution logistics which include flows of finished goods from point of origin to point of consumption in order to meet the needs and requirements of clients. The respondents had to indicate whether the received support affected the channels used. Only 14% of enterprises had modified or created new channels, for example in the form of the organization’s own internet sales or in the involvement of new sellers.

An even fewer number of the companies (12%) had modified contacts with partners as a result of the grant; e.g. wholesalers, affiliate shops, etc. The causes of this phenomenon should be seen not only by the grant nature, but also in the characteristics of the channels used by the surveyed companies. More than 68% of the surveyed companies operate in the manufacturing industry, mostly in low technology segments (especially in Warmia-Mazury) with the dominance of indirect channels (producer-agent-client) and long channels (large number of intermediaries). Therefore, a direct relationship with the customer may be less relevant. The last component on the right side of the “Canvas” business model is revenue streams. Changes in this component were marginal with only 3 out of all the companies surveyed indicating changes in this area. These were only medium-sized enterprises operating in the pomorskie voivodship.

The central element (block) of the model developed by Osterwalder and Pigneur is the value proposition. In the academic literature, it is the most frequently indicated component of the business model. Many authors regard it as the most salient, accepting its key role in the construction of models both at the industrial level and at the organizational level as well (e.g. KINDSTROM 2010, p. 479–490, TEECE 2010, p. 172–194, CHESBROUGH, ROSENBLUM 2002, p. 529–555). In terms of value creation for the customer, the most important aspect is to identify those actual values that someone will desire to buy, thus

leading to the purchase of a product and/or service. In the academic literature, a plethora of approaches in this area can be indicated (BOWMAN, AMBROSINI 2000, p. 1–15, CAMERON, QUINN 2015, p. 40–85, WOODALL 2003, p. 1–42, FALENCIKOWSKI 2013, p. 56–60).

Of course, it should be remembered that the very fact of producing value for the customer will not benefit the company. Only capturing value in its favour will give the firm a tangible advantage. In the market, a plethora of companies compete for customers, therefore, capturing value takes place under conditions of competitive struggle. Each party in a transaction attempts to capture for themselves the largest part of the value produced, and the resulting measure is company profit. Thus for the clients, the value added is: the product and its features, brand image, quality of service guarantees, etc. (and this is the value generated for the customer). For the companies, the importance of customer value plays a key role (the value captured by the company) which is formed by the streams the customer brought: financial flows, profit, information, image (opinions, advice, informational needs and competitor offers) (DUCZKOWSKA-PIASECKA 2013b, p. 208, 209). The respondents had to indicate which elements in the proposed values have changed as a result of financial support. The results indicated a slight advantage element of a quantitative nature, which were modified after receiving the grant. Slightly more than 65% of the surveyed companies had indicated such a response. In this group, 80% of companies emphasized technical values such as stability, efficiency and ease of use; and only 20% emphasized economic values as a result of receiving support. Elements of a qualitative nature were indicated by slightly more than 58% of the surveyed companies as a result of receiving support. What is very important is that only 28 companies had not changed their value proposition in a quantitative or qualitative nature as a result of the grant (17% of surveyed companies). Within this group, more than 89% of the companies implemented a project with no innovative character, in which the amount of the grant did not exceed 250 thousand euros. At the opposite extreme were the companies that had changed elements of both a qualitative and quantitative nature as a result of the financial support. Of all companies, 35% indicated such an option. This fact should be assessed positively; this indicates that the financial support for SMEs brings tangible benefits in the form of significant modifications in the value proposition for customers. Interestingly, the number of such enterprises was larger than those which pointed to a change of only one element in the value proposition (26% of the surveyed companies indicated only changes in the quantitative elements and 21% in qualitative elements). Among the companies that had changed both elements of the value proposition, less than 47% implemented undertakings of an innovative nature and 33% of entities received grants in the amount of more than 250 thousand

euros. In this group, a relatively large number of entities that had received a grant of less than 100 thousand euros (43%) were included. So we can risk the statement that changes in the value of the proposal offered to the customer were initially decided by the innovative nature of the project and not by the amount of financial support.

## Conclusions

The results indicate that received grants clearly influenced the modification of the business model elements, which are located on the left side of the template. Key resources accounted for the component on the left side of the business model, which was by far the most frequently modified element as a result of support. The right side of the Canvas Business Model comprises elements such as customer relationships, customer segments, channels, and revenue streams that changed under the influence of grants; however, to a much lesser extent. The second hypothesis has not been confirmed, because only to a small extent did the amount of grant influence the changes in the components of the “Canvas” business model. Firms that were strongly represented included groups of companies that changed more than eight model elements, which changed between six to eight elements, which obtained less than 250 thousand euros in grants and firms which obtained significantly higher amounts. Positive changes realized by the company’s business model did not necessarily involve large financial expenditures for the purchase of technology or carrying out research and development programmes. As Chesbrough rightly observes, better business models often beat better ideas or technologies (CHESBROUGH 2007, p. 12). In turn, hypotheses number 1 and 3 have been positively verified. The tendency of enterprises to undertake innovative activity usually means changes in their business model both on the left and right side. Also the nature of the grant, mainly related to the purchase of advanced technological lines, innovative and efficient machinery and equipment or other investments for modernizing the manufacturing processes, resulted in significant changes in the realized business model.

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## IDENTIFICATION AND MONITORING OF INSTABILITY IN FINANCIAL SYSTEMS

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### Abstract

Financial instability is often the result of a positive feedback loop, which is an inseparable element of the functioning of the financial system. The task dealing with identification, modeling and analyzing the causes and effects of such feedback loops requires assuming a systems' engineering perspective, which is rarely taken into consideration when designing remedial solutions. The aim of the study was to evaluate how it is possible to identify and monitor the susceptibility of a financial system to potential threats. The popular method of data modeling known as signed directed graphs (SDG) was used. The method is able to pick up information which is not taken into account by a traditional network model of the financial system. It provides essential information about the direction of impact and control between the nodes. Thanks to this technique, it is possible to analyze the potential instability spots of the system.

### IDENTYFIKACJA I MONITORING NIESTABILNOŚCI SYSTEMU FINANSOWEGO

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Słowa kluczowe: system finansowy, niestabilność finansowa, inżynieria systemowa.

## Abstrakt

Niestabilność finansowa często wynika z pętli dodatniego sprzężenia zwrotnego, które jest nieodłącznym elementem funkcjonowania systemu finansowego. Zadanie polegające na identyfikacji, modelowaniu i analizowaniu przyczyn i skutków takich pętli sprzężeń zwrotnych wymaga przyjęcia perspektywy inżynierii systemów, które rzadko jest uwzględniane podczas projektowania rozwiązań sanacyjnych. Celem badania była ocena możliwości identyfikacji i monitoringu podatności systemu finansowego na potencjalne zagrożenia. Wykorzystano popularną metodę modelowania danych, określaną jako etykietowane grafy skierowane (*signed directed graphs* – SDG). Metoda ta jest w stanie wychwycić informacje, które są nieuwzględniane przez tradycyjne modele sieciowe systemu finansowego. Dostarcza istotnej informacji o kierunku wpływu i kontroli między węzłami. Dzięki temu możliwe jest analizowanie potencjalnych punktów niestabilności systemu.

## Introduction

Modern financial systems are characterized by a complex set of interdependencies among a great number of institutions. Tensions in one part of the system can quickly spread to other parts of the system, which is currently constituting a critical mechanism of the formation of threats for the stability of the entire financial system. Therefore, there is a need to understand the fundamental structures and dynamics of the financial system. One of the conclusions drawn by market regulators from the crisis of 2008 is the conviction that the quality of mutual connections between institutions constitutes the key to the identification of threats (CAPIGA 2010).

Financial instability results from positive feedback loops inherent to the processes and phenomena happening in the financial system. More precisely, the instability comes from uncontrolled responses to market shocks that enhance and expand the effect of the primary shock (SOLARZ 2010).

Moreover, actions taken by a single institution at the moment of danger in order to diminish the influence of the systemic risk, may become a source of positive feedback, which destabilizes the other institutions owing to the interactions that take place. Such actions may be described as a local stabilization reached at the expense of global destabilization. It is best reflected by the phenomenon of a bank run, when the thrifty mass behavior of customers trying to avoid risk by withdrawing their deposits results in accelerated destabilization and the bankruptcy of a bank. In other words, a prolonged queue in front of a bank causes a growing incentive for other people to join it, which means the strengthening of a feedback loop which results in the bankruptcy of the bank.

Of particular importance for the stability of the financial system in Poland is maintaining the stability of the banking sector, whose assets account for two thirds of the total financial system. Banks play a key role in financing the economy and monetary settlements (OSIŃSKI 2016).

The problem of the bank run in its classical form has been notably limited due to the deposit guarantee; however, similar dynamic processes take place in the entire financial system. For instance, when a bank experiences restrictions to the access of liquid funds, the reaction of its board may be limited lending towards hedge funds. As a result, hedge funds, actively managing their own risk, close positions outstripping specified classes of financial assets. This chain of actions, reasonable from every market participant's point of view, becomes the cause of global instability. It leads to a fall in asset prices, which lowers the value of securities. This, in turn, increases the bank's problem of access to liquid funds and accelerates the sale of assets by hedge funds, who are forced to supplement the margins. Similar phenomena or schemes are called fire sales (SHLEIFER, VISHNY 2011).

The understanding of these key phenomena that take place in the financial system requires the skill of identifying such feedback in the global functioning of institutions in the financial system. For this reason, one should precisely get to know the channels of information transmission and control mechanisms used by various financial institutions. A further complication is the fact that the character of the feedback that is occurring is based on the scale of the process. Small changes in the price of assets, funds or the financial situation of a bank are easily absorbed by the system; however, large-scale price shocks may induce a disastrous domino effect.

The aim of this article was to evaluate how it is possible to identify and monitor the susceptibility of a financial system to potential threats. Using directional graphs for this purpose would result in the possibility of establishing automated warning systems identifying potential threats through regular testing of crisis scenarios.

### **Graph theory, systems engineering and the identification of threats to the financial system**

Financial stability analysis needs to cover all of the above sources of risks and vulnerabilities. This requires systematic monitoring of individual parts of the financial system and the real economy (house-holds, firms, the public sector). The analysis must also take into account cross-sector and cross-border linkages, because imbalances are often caused by a combination of weaknesses from different sources (SCHINASI 2005).

In order to understand the effect of feedback in the financial system, labeled directed graphs were used. It is a tool used in systems engineering to specify the mechanisms of the processes which take place. Using the directed graph allows observers to capture the flow of information, the environmental

conditions and the relations which underlie the feedback. With its help, one may picture the supervisory rules and the ways of reacting to threats used by individual participants in the system. It facilitates the regular observation of the interactions happening and the recognition of positive feedback loops, which are difficult to observe. In this way, one may define the areas of potential instability (GAI, KAPADIA 2010).

Directed graphs may serve to highlight the information overlooked by traditional network models referring to the interactions inside the financial system. Traditionally, the amount of liabilities and flows are the most frequently described, which is useful to define the value and complexity of relations between the financial institutions (ALLEN, BABUS 2009).

Usually the financial institutions are described in such schemes as having nodes, with the flows between them known as edges (lines). Most frequently, they are used to define which network scheme will ensure the reliability of the financial system structures. In traditional network models, the flow of information and responses to the information are often not included. Due to this, it is difficult to use these models to explain how the information pulses, and how the supervision over a great number of subjects shapes the interactions inside the system.

The key criterion for engineering these systems within systems is designing their safety and stability. However, the financial system is a self-organizing system. Individual financial institutions have their own procedures of risk management which allows them to remain stable, whereas the system itself as a whole has never been designed in terms of stability and safety. For this reason, it is necessary to understand the configurations generating positive and negative feedback and learn the alternative flow paths between funds, institutions and financial instruments in case of shocks. In a more general view, it is important to know how the interactions between institutions shape the system's susceptibility to threats and, consequently, how these threats contribute to its instability (*Systemic failures: Challenges...* 2011).

In this article, graph theory and systems engineering were presented to manage the systematic risk, and in particular to monitor the dynamic phenomena such as the forced sale of assets or a bank run. In these cases, unique interactions take place, during which the locally stabilizing activities contribute to global instability. Feedback means there is an influence of the output on the input. When we deal with the subtraction of the output from the input, it is defined as negative feedback. It has the effect of stabilizing the relation. In the case of adding the output to the input, it is defined as positive feedback which results in the destabilization of the relation. An example of negative feedback may be the following economic interaction: an increase in prices leads to an increase in the supply of goods (in the directed graph it is marked as a solid

line, the change progresses in the same direction, i.e. an increase triggers an increase), then the increase in the supply of goods leads to a drop in prices (in the directed graph it is marked as a dotted line, the feedback interaction progresses in the opposite direction, i.e. an increase triggers a decrease). The positive feedback would take place if the increase in prices caused an increase in the supply of goods, which on the other hand would cause further increases in prices (in the graph it was marked with two solid lines with opposite arrowheads).

## **Modeling the network of connections in a financial system**

One step in modeling the network of connections in the financial system would be to move away from model-consistent (“rational”) expectations. Modeling the build-up and unwinding of financial imbalances while retaining the assumption that economic agents have a full understanding of the economy is possible, but artificial. Heterogeneous and fundamentally incomplete knowledge is a core characteristic of economic processes. As we all see in our daily lives, empirical evidence is simply too fuzzy to allow agents to resolve differences of views, and this fundamental uncertainty is a key driver of economic behavior (BORIO 2012).

In drawing 1 a simplified scheme of the financial system was presented, with a banking institution (financial) as a mediator between the fund givers and fund recipients. An analogy was used for presenting the processes in production systems, defining the streams at the system;s entrance and exit. Bank customers are investors, hedge and pension funds and other banks. Inside the banking institution, there are unique business units which are responsible for providing funds and financial instruments for the needs of the products offered to the customers.

In Figure 1 the activity of the banking institution was simplified to two types of processes:

- borrowing funds and securities – bank uses the sources for funds (money market) and securities (eg. pension funds);
- providing liquidity to the market as a market-maker – the bank carries out transactions in the market of financial instruments in order to occupy the position in securities on which the demand is reported by bank customers; it also includes securitization, which requires transformation of liquidity and risk.

Within service selling, the bank offers loans for hedge funds in order to purchase securities. With the use of a financing platform, the bank decides on strategies to acquire external funds using safe securities as protection.

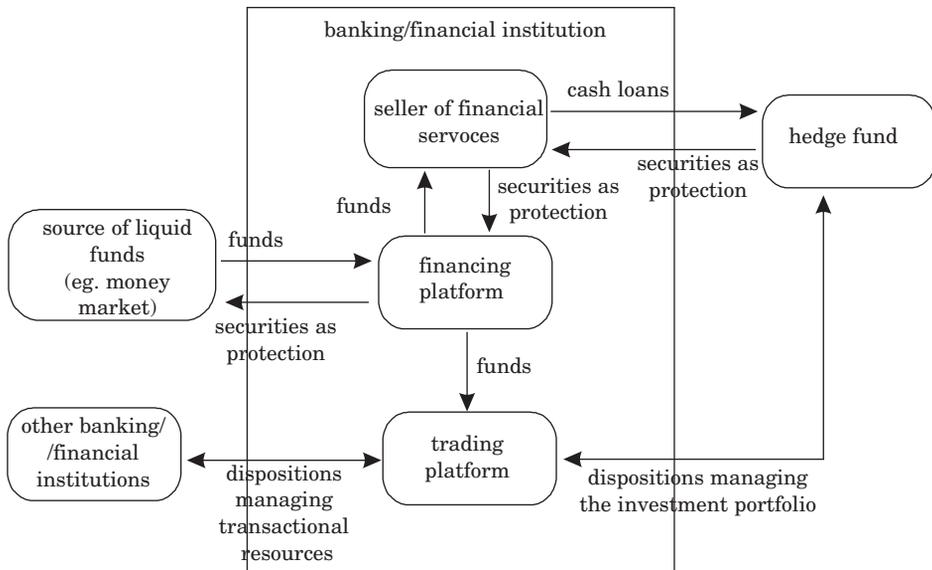


Fig. 1. Flow scheme in a simplified model of the financial system

Source: own study.

The bank's trading platform manages the resources (investment portfolio) through transactions in financial markets, which are the funds accumulated by the financing platform.

The bank interacts with the suppliers of liquid funds (the money market) who the money market funds belong to. With other banks, the interactions are carried out through the OTC (over the counter) market. The last subject category are the hedge funds which use the technical services offered by banks (prime brokerage) to implement long and short positions in the market. In this case they represent a bigger group of institutional customers, which include asset management companies, pension funds, wealth management companies and insurers.

Owing to the interactions between the components of a banking institution, various types of transformations are formed. The financing platform raises short-term loans in the money market and the money obtained in that way is offered as loans of longer term to customers with lower creditworthiness. In that way, the transformation of deadlines and risk is made. The trading platform keeps the securities until it is not able to protect them, neither based on customer demand nor on the open market (liquidity transformation).

The network of interdependences being created around a banking institution is even more complicated. Institutional customers (eg. hedge funds) may act in a dual role, as both buyer and seller of financial instruments.

In Figure 2 the same institutional layout was presented, however the labeled directed graph was used for this purpose. The difference is in embracing the cause and effect relationships.

For simplification, the existence of one type of financial asset (shares) was adopted. Its price is defined by the RB1 node, whereas its level is simultaneously being shaped and is shaping the other components of the system. The volume of securities designed for turnover, which are stock by the bank;s trading platform, is marked as PT3 and in the case of hedge funds as HF3. Both hedge funds (HF) and trading platforms (PT) need cash provisioning in order to finance the owned securities (assets). The fund provider in this case is the money market (RN), the seller of financial services (SUF) and the financing platform (PF).

In each case, the accessibility to financing depends on a given unit;s possibilities of protection (HF or PT), whereas the protection is in the form of securities (financial assets). The changes in the market price of securities leads to a change in the value of protection, which, on the other hand, translates into the funds' availability. The level of brokerage fee for the loan for buying the securities and the margin of profit (SUF3, RP1) influence the relations of the available loan funds (SUF2, RP3) and the value of protection (SUF1, RP2). The level of leverage (HF2, PT4) influences the relation of borrowed funds (HF1, PT1) and the volume of transactional securities (HF3, PT3) in the case of hedge funds and trading platforms.

In particular, the hedge fund is shaped by the value of loans (HF1), based on their availability from the seller of financial services (SUF1) as well as being based on the comparison between the supply of owned securities (HF3) and the accepted level of leverage (HF2).

The loan action of the seller of financial services (SUF2) is determined by the ability to finance the financing platform (PF2) and the brokerage fee from the loans raised for the purchase of securities (SUF3).

The trading platform functions as a market maker, and is able to handle transactions for every amount of securities ordered by a hedge fund. However, under certain conditions it may mean a significant increase in the volume of shares designed for turnover (PT3). When the border point of the leverage (PT2) set by the level of available funds of the financing platform (PF2) is crossed, the control mechanism is activated, and it consists of an excessive flow of securities into the market ( $PT1 = PT4 - PT2$ ), which on the other hand makes the prices of assets drop (RB1). The control mechanism of the trading platform that is a market maker is different from its equivalent in the hedge fund. The trading platform depends on the financing platform in financing securities. Decreasing the inflow of funds (lowering the border point of the leverage at PT2) can make the trading platform get rid of a part of securities in the banking market.

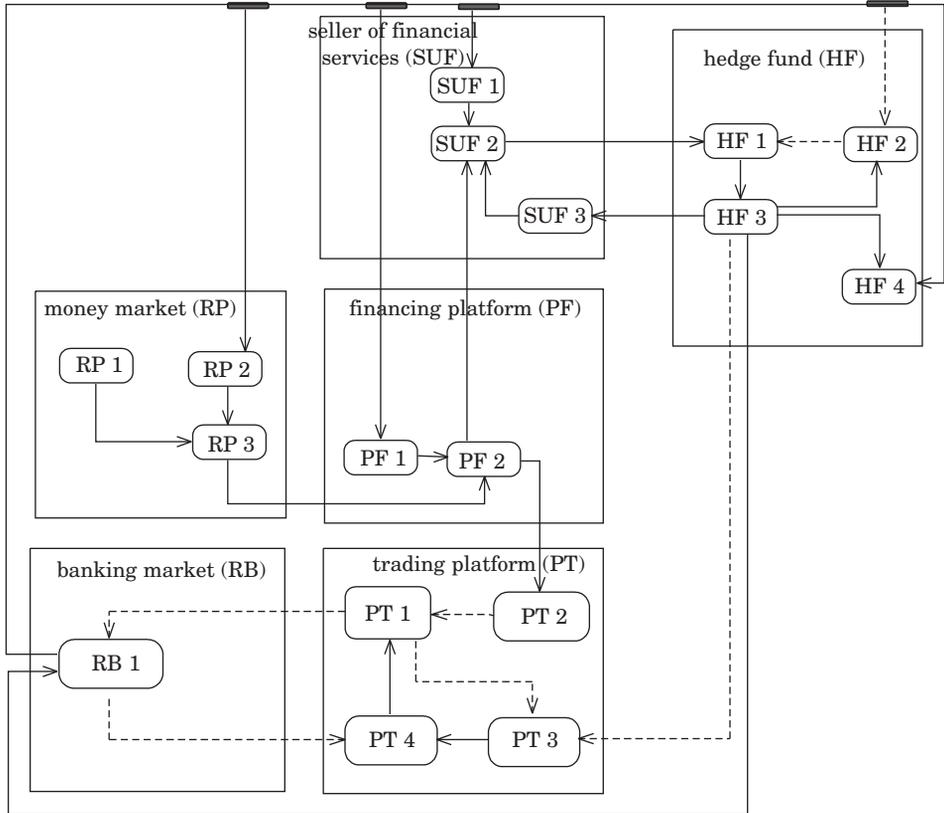


Fig. 2. Directed graph illustrating a simplified model of the financial system  
Source: own study.

The money market provides funds for the trading platform and hedge fund through the financing platform. Changes in the availability of funds for the financing platform result in a change in the amount of securities held by the trading platform and hedge fund, which leads to a price change of the financial assets as a consequence.

The whole system is controlled by the price level of the assets in the banking market. In turn, it is determined by the activity of the trading platform and the hedge fund. The prices of assets are shaping the value of protection, which translates to the brokers' tendency to provide funds.

The directed graph defines the reasons why in the financial system, financial crises appear one after another. Almost all the paths shown in drawing 2 constitute positive feedback. In such a configuration, the shock referring to one node produces positive feedback and can spread to the others. Not all positive feedback is important, due to the fact that the directed graph

defines the direction of spreading, but does not refer to the intensity of these changes.

A single node is the effect of the influence of various effects, and the final net effect depends on the range of the positive feedback loop. In Table 1 a list of types of feedback (known as feedbacks) for the presented directed graph was shown. The positive feedback loop Mia takes place when the result of multiplying the signs placed on the feedback path is positive. Whereas when it is negative, we deal with the negative feedback loop.

Table 1

Comparison of feedbacks in the analyzed systemic model

No.	Positive/negative	Feedback loop
1	positive	RB1, RP2, RP3, PF2, SUF2, HF1, HF3, PT3, PT4, PT1, RB1
2	positive	RB1, PF1, PF2, SUF2, HF1, HF3, PT3, PT4, PT1, RB1
3	positive	RB1, RP2, RP3, PF2, SUF2, HF1, HF3, RB1
4	positive	RB1, HF2, HF1, HF3, PT3, PT4, PT1, RB1
5	positive	RB1, PF1, PF2, SUF2, HF1, HF3, RB1
6	positive	RB1, HF2, HF1, HF3, RB1
7	positive	RB1, SUF1, SUF2, HF1, HF3, PT3, PT4, PT1, RB1
8	positive	RB1, SUF1, SUF2, HF1, HF3, RB1
9	positive	RB1, PF1, PF2, PT2, PT1, RB1
10	positive	RB1, RP2, RP3, PF2, PT2, PT1, RB1
11	positive	SUF3, SUF2, HF1, HF3, SUF3
12	negative	PT1, PT3, PT4, PT1
13	positive	RB1, PT4, PT1, RB1
14	negative	HF2, HF1, HF3, HF2

Source: own study.

Only the feedbacks number 12 and 14 are negative. They are a reflection of the internal systems of risk management for a bank’s hedge fund and trading platform. The parameter controlling the size of engagement in securities is the level of leverage. However, building these internal controlling loops in bigger loops between the institutions leads to the creation of positive feedbacks which constitute a potential threat for the financial system.

In Table 2, positive feedback loops connected with the sudden sale of securities (a fire sale) are presented. It appears when the disruption of a system occurs that will cause the closing of the position by a hedge fund. This disruption may occur in three ways: a price drop, which leads to the fall of the value of assets, an increase of the fee taken by the seller of financial services for the loans on shares, which leads to bearing additional costs, or a decrease in the possibility of giving loans on shares by the seller of services.

Table 2

Comparison of feedbacks in the analyzed systemic model

Sale of financial assets		
6	positive feedback	RB1, HF2, HF1, HF3, RB1
4	positive feedback	RB1, HF2, HF1, HF3, PT3, PT4, PT1, RB1
Bank run		
3	positive feedback	RB1, RP2, RP3, PF2, SUF2, HF1, HF3, RB1
10	positive feedback	RB1, RP2, RP3, PF2, PT2, PT1, RB1

Source: own study.

The first of the loops (No 6) presented in the table indicates the increase of leverage (HF2) induced by the price shock (RB1). The hedge fund reduces its positions then, which results in a further price drop. The second loop (No 4) has the same mechanism (price drop, leverage increase, closing positions), but it covers the range of the bank's trading platform. The amount of securities sold by the hedge fund (HF3) increases the stock of securities held by the trading platform (PT3), which causes an increase of the leverage (PT4). Later, the trading platform sells out the securities (PT1) with the aim of decreasing the leverage, which in consequence leads to a further price drop (RB1).

It is worth noticing that every unit attempts to maintain its stability. The seller of financial services keeps the level of creditworthiness (SUF2) within the limits defined by the value of protection (SUF1). The hedge fund determines the referential level of leverages (HF2) in order to control its risk, while the trading platform manages the deposit of securities (PT3) by selling out the excess of securities (as market-maker) at the moment the optimal size of the assets owned is exceeded (PT2, PT1). Despite these activities, global instability is not neutralized. It shows a fundamental feature of the financial system, meaning that global instability of the system is possible even when its individual components are attempting to limit their own risk.

Another manifestation of this system instability is a bank run (table 2). It usually begins as a result of the disruption of a bank's provisioning flow in liquid funds coming from the money market. It may be caused by the growth of uncertainty about the quality of protection (securities), a drop in the value of protection (RP2) or by a change in profit margins carried out at the trading market (RP1), this results from diminishing trust.

Diminishing of cash flow (RP3) influences the drop of possibilities to handle the transaction of securities through the trading platform (PF2, PT2), which translates into selling the excess of securities on the market (PT1). The dynamics of the phenomenon happens in such a way that the forced sale lowers the prices of assets, which, on the other hand, causes a decrease in the value of

protection, limiting further provisioning from the money market. The first loop referred to as a bank run (No 3 in table 2) continues the course of dependencies in the direction of a substantial reduction of the possibilities of financing the hedge (SUF2, HF1), which leads to closing the positions (HF3) and lowering the prices of RB1. In loop nr 10 the influence of the mechanism of diminished provisioning of funds available for the trading platform (PF2, PT2) was shown, which decreases the stock of owned securities owing to their selling out (PT1) and leads to a further price drop (RB1).

All the dependences above constitute scenarios from a group of possibilities. Taking into consideration that real processes are much more complicated, one should be aware of how difficult it is to identify and monitor the instability of a financial system.

## **Conclusion**

The process of organizing system processes in the financial system is independent. This means that it is possible to design a financial system in detail taking into account its stability as the main aim of the interactions taking place. Because of this, it seems vital to identify the feedback loops which form inside the system and may result in its instability. It also helps to define the previously unknown possibilities of cash and securities flow, which may be activated in case of price shocks.

It was determined that system engineering provides useful tools in the form of directed graphs. The presented simplified model of the financial system, due to the use of directed graphs, revealed additional analytical possibilities, with the goal of identifying and monitoring the system instabilities.

Based on examples of such phenomena as the selling out of financial assets or a bank run, the possibilities of the formation of positive feedback were highlighted, which are a source of danger. It was proven that even the existence of internal systems of risk management inside an institution does not prevent the global instability of the system. Quite the opposite situation may occur where in some cases of highly intense dynamic processes taking place, these processes increase the instability and lead to a system crash. Due to this fact, it has become important to understand the broad implications of the solutions introduced to limit the risk, as well as to understand the mechanisms of feedback which contribute to the formation of instability.

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## **GUIDELINES FOR TEXT PREPARATION FOR THE “OLSZTYN ECONOMIC JOURNAL”**

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– Papers presented for publication should be written in the Word text editor in Times New Roman font, size 12 points, 1.5 line spacing (A4 page holds 25 text lines, right hand margin 3 cm). The paper length may not exceed 12 pages of typescript).

– Polish authors deliver paper text in Polish and English (the English language version should present the name and surname of the translator). Correction of the English text should take place after receiving the positive review and/or responding to the reviewer’s comments.

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- 3) response to the review,
- 4) author’s statement.

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1) At least two independent reviewers from outside the scientific unit affiliated by the publication author are appointed for evaluation of every publication.

2) At least one of the reviewers is affiliated in a foreign institution other than the nationality of the author.

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4) There are no:

a. direct personal relations (kinship, legal relations, conflict),

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**Collective papers:** Dbajmy o właściwe suszarnictwo ziarna. Red. K. Lewin 1982. T. 1. PWN, Warszawa.

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Tomczyk Z. 1996. *Wynalazczość i racjonalizacja źródeł postępu technicznego*. Gosp. Narod., 6: 21–25.

**Unpublished papers:** Malicki K. 1990. *Ubój świń*. Instytut Żywnienia Zwierząt ART, Olsztyn (typewritten text).

Kowalski H. 1992. *Wychów cieląt*. Katedra Hodowli Bydła ART, Olsztyn (doctoral dissertation).

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