

6 Labor cost level in relation to the inflow of foreign direct investment – analysis based on the European Union countries

Introduction

The effects of the financial crisis that shook the global economy a little less than a decade ago have without a doubt been felt until the present day. Difficulties with maintaining a stable economic growth rate, clear deceleration of integration processes, universal criticism of a liberal economic policy, social and demographic problems or increasingly more frequent questioning of the sustainable development policy are but only few phenomena that the affluent countries of the North have recently grappled with and which have been significantly limiting their role in the contemporary global economy. In turn, armed conflicts that have been continuing in many regions of the world, the migration crisis, increasing social or environmental problems, as well as other negative consequences of the economic growth rate maintained at any cost have also forced Asian economies to reorient the main objectives and tools of their economic policy. The purpose of the paper is to analyze the level of labor costs in the European Union countries in the last two decades, and then express a position regarding the proposition on the impact of those costs on the abilities of attracting foreign direct investment. The basis for conducting the analyses were provided by the statistical data from 1995–2015 published by international institutions, such as the International Labour Organization, Eurostat, OECD, the World Bank, UNCTAD, as well as government agencies (U.S. Bureau of Labor Statistics). The tools of descriptive statistics were used in the paper (in particular dynamics and trend analyses), while certain discrepancies in the selection of the countries included in the analysis arise from the unavailability of data for a relatively long research period.

1. Changes in the level of labor costs in the European Union countries

In the literature of the subject a fairly frequent proposition appears that it is human capital that constitutes one of the most significant factors determining the influx of foreign direct investment (FDI) to the economies of host countries – particularly developing countries. For instance, Lucas argues that human capital deficit encourages foreign investors to allocate investment capital in the form of FDI in less developed countries (1990). Zhang and Markusen present an econometric model, in which the availability of qualified workers in the host country is a direct requirement determining the decision of transnational corporations (TNCs) to conduct FDI and the scale of capital inflow in that form (1999). On the other hand, Dunning claims that workers' qualifications and education level may influence both the volume of FDI inflow as well as the nature of the operations undertaken by TNCs in a host country (1993).

It needs to be emphasized that the impact of human capital is frequently analyzed in the literature of the subject, chiefly the impact of work quality and legal regulations on the national labor market, as well as the impact of local authorities policy in terms of shaping investment climate on TNC's decision to allocate FDI in a given country (Dunning, Narula, 1995; Hanson, 1996; Fields, 2011). Relatively little thought is given to the deliberations on the significance of labor costs for attracting foreign direct investment to host countries (Cushman, 1987), which may partly result from insufficient statistical data, particularly for developing countries, as well as their incomplete comparability. Another research area, frequently raised in the literature refers to positive and negative consequences of FDI to the economy, while those issues are largely analyzed in terms of developing countries and those under transformation (Brewer, 1993; de Mello, 1997; Hunya, 1997; Buckley, 2010; Wong, Tang, 2011; Hale, Mingzhi, 2016). It is worth mentioning that the studies of FDI inflow determinants, as well as the nature of TNC activities are also frequently investigated with regard to the above mentioned groups of countries (Asiedu, 2002; Bevan, Estrin, 2004), whereas the popular areas of analyses with respect to highly developed countries include the subject

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of TNCs undertaking FDI as well as the results of their outflow from the economy of the country of origin (Narula, 1996; Dunning, 1998; Slaughter, 2000; Mody, 2007). On account of the above, it seems justified to research the impact of labor costs, and especially their changes, on the inflow of foreign direct investment.

Owing to the transformations in the global economy and the international trade over the course of the last two decades, unit labor costs in USD terms were subject to significant changes, which the data presented in Table 1 confirm. Among the group of the “old EU” countries (the upper part of the Table), Luxembourg, Greece, United Kingdom, Denmark

Table 1
Unit labor cost change in EU countries in 1995–2015 (1995 = 100)

Countries	1995	2000	2005	2010	2015
Austria	100	100	102	112	123
Belgium	100	100	107	120	129
Denmark	100	109	124	143	148
Finland	100	101	108	123	138
France	100	103	113	125	131
Greece	100	129	159	188	164
Spain	100	112	131	148	142
Netherlands	100	109	119	131	135
Ireland	100	105	126	125	105
Luxembourg	100	109	129	154	167
Germany	100	101	100	104	114
Portugal	100	123	142	147	139
Sweden	100	107	114	128	141
United Kingdom	100	115	129	152	157
Italy	100	108	128	144	148
Czech Republic	100	141	166	178	183
Estonia	n/a	100	124	177	211
Lithuania	100	145	159	188	217
Latvia	100	132	164	230	280
Poland	100	170	170	194	201
Slovakia	100	145	175	191	200
Slovenia	100	130	160	189	186
Hungary	100	189	255	294	316
EU-28	100	112	119	127	135

Source: own calculations based on CEIC Data; OECD.

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and Italy recorded the greatest increase, whereas for the entire European Union that change was at the level of 35%. Although it would be difficult to present explicit reasons of that trend, it can be assumed that it was partly caused by the integration processes in Europe, changes in the international specialization towards production based on advanced technologies and highly qualified work force, as well as an increasing role of services in the economies of those countries.

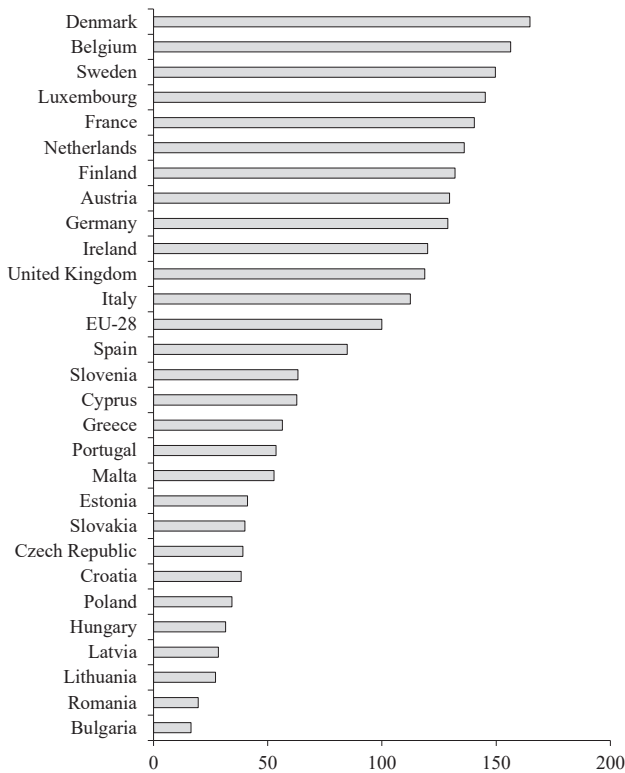


Figure 1. Average hourly labor cost comparison in EU countries in 2015 (EU-28 = 100)

Source: own calculations and preparation based on Eurostat.

In turn, in the bottom part of Table 1 selected Central and Eastern European countries were presented, which *in gremio* recorded a far higher growth in unit labor cost than the old EU member states. A record, 3-fold rise of that indicator occurred in Hungary and Latvia, while in the remaining countries it grew approximately two-fold. The phenomenon partly results from the low base effect, but it needs to be emphasized that the dynamics of the changes in the analyzed indicator was much higher in that group of countries before their accession to the European Union (with the exception of the Baltic states).

It is reflected in Figure 1, in which average hourly labor costs in the European Union states in 2015 were compared. As expected, in the majority of the old EU member states labor costs were significantly higher than the average for the EU-28, with the countries that the crisis of 2008 hit the hardest being the only exception, i.e. Spain, Greece and Portugal. Hourly labor costs in the new member states were considerably lower – in 2015 they usually oscillated between 35–60% of the EU average. This means that they may be considered as a significant factor in building a competitive advantage of the countries in this group.

In Table 2 variations of costs and labor productivity in selected countries were compared for the period between 1996 and 2015. In the majority of the old EU countries hourly compensation costs in real terms showed nearly no change and the greatest increase of that indicator was noted in Ireland (as high as 43%). For comparison, in the analogous period hourly compensation costs in the Japanese industry fell by nearly 30%, while in the American industry – they rose by merely 8%.

As far as labor productivity was concerned, it improved in all the countries of the group without exception, with the greatest improvement witnessed in Ireland, Sweden, Austria and Finland (and to a similar degree in Japan and the USA). Consequently, the index demonstrating a change in compensation costs in relation to the changes of labor productivity (the last column in Table 2) assumed values lower than 100 in all those countries (with the exception of Greece). That means that in those countries labor productivity was growing faster than compensation costs, which is particularly evident in the case of Greece, Germany,

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France, Austria and Sweden. Although in Greece the low index value may be attributed to the previously mentioned economic crisis and the accompanying decline in compensations, rapidly rising labor productivity in the remaining countries was most likely owed to significant investments in modern production technologies, more efficient management and specialization in technologically highly advanced sectors (it may also explain the low values of that index for Japan and the USA).

Table 2

Changes of manufacturing hourly compensation costs and labor productivity in selected EU member states, Japan and the USA in 1996–2015 (real values in 2015 US dollars)

Countries	Manufacturing hourly compensation costs			Labor productivity			Index
	1996	2015	1996 = 100	1996	2015	1996 = 100	
	a	b	c	d	e	f	(c : f) × 100
Austria	37.61	39.19	104	44.56	58.61	132	79
Belgium	43.67	46.56	107	58.54	69.35	118	90
Denmark	35.79	44.44	124	55.45	66.66	120	103
Finland	33.76	38.46	114	41.52	54.73	132	86
France	37.54	37.59	100	51.58	65.80	128	78
Greece	17.53	15.48	88	28.90	34.82	120	73
Spain	21.06	23.65	112	44.90	51.14	114	99
Netherlands	33.90	36.53	108	53.48	66.97	125	86
Ireland	25.20	36.02	143	40.65	72.59	179	80
Germany	44.03	42.42	96	51.90	65.23	126	77
Portugal	9.75	11.08	114	27.38	33.87	124	92
Sweden	37.78	41.68	110	43.76	61.22	140	79
United Kingdom	29.16	31.44	108	40.70	51.54	127	85
Italy	29.84	31.48	106	48.60	51.61	106	99
Czech Republic	4.91	10.29	210	22.88	37.04	162	130
Poland	4.76	8.53	179	16.13	30.78	191	94
Slovakia	4.29	11.26	263	20.37	40.72	200	131
Hungary	4.61	8.25	179	20.93	31.42	150	119
Japan	33.20	23.60	71	31.81	44.28	139	51
United States	34.79	37.71	108	46.29	67.83	147	74

Source: own calculations and preparation based on U.S. Bureau of Labor Statistics; International Labour Organization.

In new member states of Central Europe¹ compensation costs in industry rose by a considerably greater degree. However, despite more than a twofold increase in Slovakia and in the Czech Republic as well as only slightly smaller improvement in Poland and in Hungary, hourly compensation costs in real terms were nearing the level recorded only in Portugal. Thereby, manufacturing hourly compensation costs remained on average 4–5 times lower in those countries than in the majority of West European states.

The second positive phenomenon in the new EU member states involved increasing labor productivity, particularly in Slovakia and in Poland. Yet, owing to a substantially lower dynamics than in the case of compensation costs, the index of change in compensation costs in relation to the changes of its productivity was at the level higher than 100 in most of those countries. In other words, in Slovakia, the Czech Republic and in Hungary the rise of labor productivity was more than neutralized by a far quicker compensation increase, with the sole exception of Poland, where the dynamics were comparable.

2. Foreign direct investment inflow in relation to the level of labor costs

Labor costs and the availability of qualified workers are one of the elements of investment climate, the analysis of which impacts on the decisions taken by TNCs with respect to locating foreign direct investment. Low labor costs are frequently treated as a significant factor attracting foreign investors, however in the long term maintaining such low labor costs as the main bargaining chip in negotiations with potential foreign investors may result in multiple adverse phenomena in the host country's economy, for instance, having attracted a majority of investors lured by low labor costs (in comparison to the level of such costs in the country of their origin) as well by tax allowances financed from the state budget. The motivation of such entities operation typically entails

¹ Due to insufficient data, only four new EU member states are presented in Table 2.

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efficiency-related benefits, while the host countries in which chiefly production facilities are located, generating low added value, face the problem of the so-called middle income trap (Aiyar, Duval, Puy, Wu, Zhang, 2013; Eichengreen, Park, Shin, 2013).

Table 3
FDI inflow stock in developed and developing countries in 1995–2015

Country group	Period	FDI inflow stock (billions of current US dollars)		FDI inflow stock <i>per capita</i> (current US dollars)		FDI inflow stock as % of GDP	
		value	DC = 100	value	DC = 100	value	DC = 100
Developed countries (DC)	1995	2,711.0	100	2,861	100	11.1	100
	2005	8,504.7	100	8,514	100	24.1	100
	2015	16,019.7	100	15,315	100	37.1	100
Developing countries	1995	843.4	31	189	7	14.1	127
	2005	2,680.3	32	515	6	24.1	100
	2015	8,579.8	54	1,437	9	29.7	80

Source: own calculations and preparation based on UNCTAD.

In this context, the flows of foreign direct investment are relatively frequently equated with the inflow of capital in this form from highly developed countries, from which transnational corporations usually originate, to developing countries. However, from the beginning of the 1990s, when the expansion of TNCs to foreign markets gained momentum, developing countries had a distinct advantage as host countries, which the data presented in Table 3 confirm. It is worth stressing that in the last decade the interest in developing countries rose significantly (particularly in the Asian economies), which is evidenced by the fact that in 2015 FDI inflow stock of this country group exceeded 50% of that indicator for developed countries. One needs to bear in mind that Central and Eastern European states, so attractive to foreign investors (particularly after the European Union expansion in 2004), are categorized as developed countries in international statistics, therefore, the improvement of indicators for this group (cf. Table 3) is partly owed to the economic success of the new EU member states.

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Table 4

FDI inflow stock per employee in EU countries, Japan and the USA
in 1995–2015 (real values in 2015 US dollars)

Countries	1995	2015	Dynamics 1995 = 100
Austria	7,194	36,952	514
Belgium	39,309	90,795	231
Denmark	12,307	34,148	277
Finland	4,735	30,040	634
France	12,866	22,935	178
Greece	3,588	4,897	136
Spain	9,182	24,154	263
Netherlands	21,895	79,969	365
Ireland	43,823	394,346	900
Germany	11,418	18,376	161
Portugal	5,664	22,445	396
Sweden	10,047	57,849	576
United Kingdom	10,183	41,856	411
Italy	4,169	13,298	319
Bulgaria	172	12,835	7,442
Croatia	344	13,863	4,032
Cyprus	1,163	281,640	24,214
Czech Republic	2,079	21,922	1,054
Estonia	1,402	27,831	1,985
Lithuania	287	10,017	3,489
Latvia	748	14,554	1,946
Malta	5,557	855,802	15,399
Poland	659	9,929	1,506
Romania	103	7,490	7,283
Slovakia	764	15,974	2,090
Slovenia	2,749	12,444	453
Hungary	3,960	18,582	469
Japan	734	2,603	355
United States	10,755	34,595	322

Source: own calculations and preparation based on UNCTAD; World Bank.

It finds a partial reflection in the data and the calculations presented in Table 4. In the years 1995–2015 the FDI inflow stock per employee increased in most of the old EU states by merely 2–3 times (in the similar scale – also in Japan and the USA), with the exception of Ireland,

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Austria, United Kingdom, Portugal and Scandinavian countries. In turn, in new member states, Slovenia and Hungary recorded the worst results, while the dynamics of the indicator in those countries was still much higher than in the first group. On the other hand, small countries, such as Cyprus and Malta, were the unquestionable record-holders, whereby a significant proportion of FDI flow into these economies could have been directed to the services sector. In the remaining countries of the group the increases of the analyzed indicator were not as spectacular, but the low base needs to be mentioned again on that occasion. Against this background, it is hard to recognize a 15-fold increase of FDI inflow stock per employee in the case of Poland as a particular achievement, considering that also in terms of their values the FDI inflow in Polish economy was one of the lowest (in 2015 only Greece and Romania noted worse results, and among the non-EU countries – Japan).

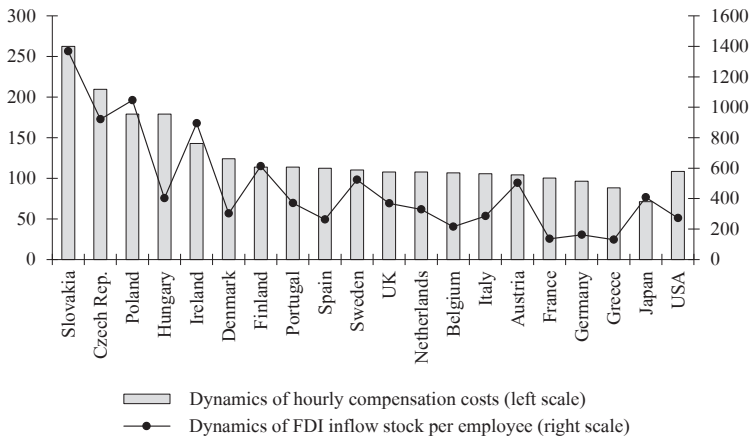


Figure 2. Dynamics of manufacturing hourly compensation costs vs. dynamics of FDI inflow stock per employee in 1996–2015 (1996 = 100, real values in 2016 US dollars)

Source: own calculations and preparation based on UNCTAD; World Bank.

When the dynamics of labor costs is compared with the dynamics of FDI inflow, it becomes evident that in the last two decades the greatest

growth was recorded in the new EU member states (cf. Figure 2). Only Ireland experienced comparable trends out of the old EU states, while in the remaining countries included in the study similar hourly compensation costs were accompanied by slightly more varied, but typically approximately two-fold increase in FDI inflow stock per employee. It may be an indication that low labor costs in the countries of Central Europe were and still remain a major factor encouraging transnational corporations to allocate direct investment in them.

Conclusions

On the basis of the conducted research the following final conclusions can be formulated:

1. Although there is a connection between labor costs and the inflow of foreign direct investment, when making a decision on allocating a new investment in a given country, transnational corporations take into account also other investment climate components, the impact of which may distort the obtained results.

2. Persistently high labor costs in developed countries make the transnational corporation investing in them reach more and more readily for scientific and technical advances, for instance industrial robots replacing the work of human workers.² Progressing robotization may thus result in costs and human work productivity losing their significance for the purpose of taking these types of investment decisions.

3. In the conducted research, services were not taken into account, which is due to the fact that the data concerning labor costs in services are not widely published. Moreover, for the same reason it is difficult to specify what proportion of the inflowing FDI is addressed to the services sector. However, on the example of Poland it may be assumed that the share of this sector in total FDI flow may be considerable (inter alia, on account of the development of service outsourcing).

² More information on the subject can be found in the reports of the International Federation of Robotics, <https://ifr.org/worldrobotics>.

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4. The decisions of allocating FDI in the old EU states are rather affected by the evaluation of labor productivity and unit labor costs. It may result from the fact that the investments made in those countries refer to modern, technically advanced manufacturing industries and service sector, while the main motivator is seeking for the so-called strategic assets.

5. In the analyzed period the costs of labor grew significantly in new member states, but in many cases the phenomenon was not accompanied by an analogous productivity growth, comparable to the one noted in developed countries. As far as Poland is considered, the wage pressure observed particularly in recent years (intensified by unfavorable demographic changes and a deepening problem of employee shortage experienced by many industries) may translate to the deterioration of Polish economy competitiveness. In order to prevent that, while simultaneously avoiding the middle income trap, further labor productivity growth will become necessary, which can be achieved, inter alia, through the implementation of modern management and work organization methods, greater investment into high technologies, as well support of the investments resulting in manufacturing and service robotization and automation. Although the last postulate may be politically problematic, it seems that in the context of the afore-mentioned unfavorable socio-demographic phenomena, more intensive automation, digitisation and robotization of manufacturing processes will allow attracting direct investments to Poland, generating higher added value and ensuring greater long-term economic benefits.

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Summary. This paper's objective is to analyze changes in labor costs in the context of foreign direct investment (FDI) inflow to selected countries. Statistical data covering the period 1995–2015 published by some international organizations have been utilized, and research based on descriptive analysis methods has been conducted. General conclusion resulting from the conducted research is as follows: labor cost level is in fact one of several factors influencing FDI location decisions, and its importance should be assessed having also in mind labor productivity and target industry. Labor costs can be more important for FDI in labor-intensive industries with lower value added, but estimation of this phenomenon goes far beyond this research paper's framework.

Keywords: labor costs, foreign direct investment

JEL classification: E24, F21, F23

Poziom kosztów pracy a napływ bezpośrednich inwestycji zagranicznych – analiza na przykładzie krajów Unii Europejskiej

Streszczenie. Celem artykułu jest analiza zmian poziomu kosztów pracy w kontekście napływu bezpośrednich inwestycji zagranicznych do krajów Unii Europejskiej. W pracy wykorzystano dane statystyczne z lat 1995–2015 publikowane przez organizacje międzynarodowe, a do ich analizy użyto metod statystyki opisowej (zwłaszcza analizy dynamiki i trendu). Na podstawie badań należy stwierdzić, że poziom kosztów pracy jest jednym z czynników wpływających na decyzje o lokalizacji i wielkości BIZ, a jego znaczenie należy raczej rozpatrywać w kontekście wydajności pracy oraz branży docelowej. Koszty pracy mogą odgrywać większą rolę w przypadku inwestycji w branżach pracochłonnych, o mniejszej wartości dodanej, lecz oszacowanie skali tego zjawiska wykracza poza ramy niniejszej pracy.

Słowa kluczowe: koszty pracy, bezpośrednie inwestycje zagraniczne

Klasyfikacja JEL: E24, F21, F23

