

LABOUR SHARE IN THE DOMESTIC INCOME COMPARED TO DIFFERENT LABOUR MARKETS

Anna Szymczak
Małgorzata Gawrycka¹

Abstract

The purpose of this paper is to examine the changes in the share of labour in the domestic income in the years 1995–2010 in the Visegrád Group states, taking into account the level of development of the domestic labour markets. The study involves a review of the literature relating to the labour market issues, collecting sources and their use in the empirical part. The study used the induction method, the elements of descriptive statistics and taxonomy.

Keywords: economic development, globalization, labour share.

Introduction

In most countries with developed market economies, the share of labour in domestic income steadily decreases. World literature points to a variety of causes behind that phenomenon. The intensifying globalization process are one of the reasons behind the observed trend. They affect the level of income obtained from labour; thus, influencing the share of labour in domestic income. What is more, factors that determine the share of labour also include: slow increase of wages and low, employment flexibility.

The marketization of the economies of the Visegrád Group allowed them to open to and broaden cooperation in the international market. Therefore, it seems important to examine to what extent the process transforming these economies influenced changes in the share of labour in the domestic income as well as the functioning of respective domestic labour markets. Are the newly emerging trends concurrent with those observed in other economies around the world?

The goal of this article is to examine the fluctuations of the labour share in the domestic income in the years 1995–2010 in the Visegrád Group states, accounting for the level of development of the local labour markets.

¹ Politechnika Gdańska/Gdańsk University of Technology

The scope of the study includes an overview of literature referring to labour market issues and the collection of sources, which have been used in the empirical part. The study uses induction, elements of descriptive statistics and taxonomy.

Labour share in the domestic income

In the world literature of the last decade numerous economists, including: S. Bentolila, G. Saint-Paul (2003), A.E. Harrison (2000), K. Lee and A. Jayadev (2005), X. Raurich, H. Sala, V. Sorolla (2011), M. Lawless, K. T. Whelan (2011) reinitiated studies on the share of labour in the domestic income. The neoclassical theory of enterprise defining the path of expansion states that the optimal combination of production factors takes place when the marginal rate of technical substitution of capital in relation to labour is equal to the relative price of labour (labour-capital). Decrease in the relative price of capital (*ceteris paribus*) leads to an increase in demand for capital and a decrease in labour demand (depending on the flexibility of substitution). An increase in the rate of production will generally result in an enhanced use of labour and capital, provided they are treated as equal factors, Ch. I. Jones (2005), H. S. Houthakker (1955).

Many economists observed that the assumptions of the previously exposed neoclassical theory of economics, which states that every factor of production determines domestic income in accordance with its marginal productivity, ignored many important indices affecting the importance of work in the growth of domestic income.

According to S. Bentolila, G. Saint-Paul (2003) versatile capital intensity of production and the price of imported materials explain differences in the share of labour in the domestic income. What is more, the role played by the bargaining power of labour associated with the growing globalization processes is also vital. Those processes were investigated by A.E. Harrison, who researched models showing the determinants of labour share in the domestic income. For instance, in her opinion, financial openness that allows for the flow of capital between countries (inflow of foreign direct investment), reduces the importance of labour (Demirhan, Masca, 2008). This means that in the domestic income capital is more important than labour. The restrictions on capital flow result in the enhanced share of labour. Currency fluctuations also proved to be an important factor that leads the labour share in the domestic income being reduced. The research carried out by A.E. Harrison (2000) on a sample of more than 100 countries shows that before 1993 the share of labour in the domestic income had been decreasing on average by 1% point over a decade. These statements were formulated for countries of lower level of development. After that period the share of labour in the domestic income was declining at a faster pace, about 3% points over a decade. On the other hand, in countries more economically developed, the labour share grew on average by 2% points during the decade preceding 1993. Then, during the following decade the share of labour in the domestic income of the



surveyed countries fell by 4% points. These data indicate reversal of the trend after 1993 for countries with higher level of development as well as acceleration of the downward trend for countries with low development level. Moreover, divergences between particular countries belonging to the same group were observed.

Basing on the research conducted from 1973–1995, K. Lee and A. Jayadev (2005) stated that country's financial openness diminishes the share of labour, both in most economically developed countries, as well as in developing ones. This effect is independent of the impact of financial crises. During financial crises, and a short period following, the share of labour lowers and sustains at this low level even when the national income "recovers" to the pre-crisis level. All empirical studies show that financial openness as well as financial crises depreciate the share of labour in the domestic income.

Empirical research also provide an explanation for the changes of labour share in the domestic income in relation to specific workers protection policies. Procedures conducive to work protection allow to maintain the importance of labour in the domestic income. At the same time wages and employment do not keep pace with the economic growth. The labour share being stable (not decreasing), the economic growth would have an impact on salary rise or employment drop (or both). It is both the slow wage growth and low employment flexibility that result in the declined labour share in the domestic income.

The measurement of income from labour may be difficult to assess in countries, where many people obtain income from self-employment or work in family businesses. The research by D. Gollin (2002) shows that in different countries, self-employment and the level of development have a big impact on the share of labour in the domestic income. Therefore, the presented results should be approached with caution. Studies on the participation of labour in the domestic income were also carried out by Guscina A. (2006). Research on a sample of 18 OECD countries showed that the share of labour was the highest in the 60's and 70's of twentieth century, only to decrease later by 5% points. This confirms the observed sharp trend of decline.

The available world literature defines that the labour share indicates what proportion of domestic income is attributed to the labour factor. The share of labour is calculated as the ratio of the total compensation of employees (gross remuneration and related costs of work such as social security contributions) in relation to the gross national product (GDP or GNP). On the downside, this measure does not recognize income from self-employment. In order to eliminate this problem, the OECD statistics estimated, in the measurement of the labour share in the domestic income, that the income of self-employed was an equivalent of the income of employees in business entities. This simplification can affect the credibility of the source data comparison. Despite these reservations, it is worth examining the share of labour in the domestic income in the countries of the Visegrád Group (VG) in the years 1995–2010.



In the research only countries forming the Visegrád Group were admitted. They share similar geopolitical backgrounds and foundations for building democratic structures. Out of all the post-communist economies, only VG countries have been members of the OECD in the investigated time period. They have simultaneously undergone major system changes, which contributed to marketisation and openness of their economies. It is the membership in the OEC, that conclusively determined the implementation of these processes, as it commits countries to follow the principles of democracy and open market economy. Moreover, the OECD membership enabled national business entities to launch international trade, as barriers in the flow of goods and capital between member states have been reduced or eliminated to a large extent. Additionally, through entering the OECD, countries have benefited from stimulation of foreign direct investment, improved credit accessibility and greater access to products of OECD members' markets. Interestingly, VG countries joined the OECD in different time periods. Czech Republic, for example, joined the OECD in 1995, Poland and Hungary in 1996, whilst Slovakia in 2000. Consequently, each of the countries set off the entrance to the OECD in a distinct manner. Czech Republic and Hungary experienced the highest inflow of FDI during that period. For instance, in Poland between 2000–2005 the share of FDI in relation to GDP ratio was almost two times smaller than in the above-mentioned countries. The low share of FDI was also recorded in Slovakia (Zamrazilova, 2007). The variation in the inflow of foreign direct investment is best illustrated by a relative measure – FDI per capita. The data are shown in Table 1.

Table 1. Inflow of FDI per capita in the countries of Visegrád Group (in USD)

Year	Poland	Czech Republic	Hungary	Slovakia
1995	95.6	247.9	435.3	36.4
1996	117.5	138.3	193.9	46.8
1997	128.2	125.9	203.8	33.0
1998	134.0	245.9	189.2	86.9
1999	189.9	610.8	193.3	72.7
2000	244.2	485.6	162.6	356.4
2001	149.4	548.9	241.1	292.4
2002	107.8	913.5	84.1	745.8

Source: Author's calculations based on: Poland compared to the world and Europe in the years 1995–2011 (2011).

The highest level of foreign direct investment per one inhabitant in 1995–2002 was recorded in the Czech Republic. It was particularly high in 1999 and 2002. Since joining the OECD in 2000 Slovakia recorded a systematic increase in foreign direct investment. Furthermore, the EU accession has brought an even greater open-



ness of the economies under study as well as a free flow of capital, labour, goods and services. Table 2 presents data on intra-EU direct investment in the countries of Visegrád Group.

Table 2. Intra-EU direct investment inflows registered by member countries (in euros per 1 inhabitant)

Year	Poland	Czech Republic	Hungary	Slovakia
2003	84.8	79.6	254.4	324.2
2004	10.3	54.3	71.1	-9.8
2005	30.3	-10.3	63.2	15.0
2006	162.0	119.1	118.6	72.7
2007	52.6	95.6	188.5	73.7
2008	38.5	274.2	-113.3	61.2
2009	61.4	44.4	1.6	45.0
2010	77.9	111.8	10.9	32.4

Source: Own calculations based on: Poland compared to the world and Europe in the years 1995–2011 (2011).

The EU accession of the VG countries did not contribute to an elevated intracommunity direct investments. In the first year of membership a decrease in the inflow of investments in all countries of Visegrád Group was observed. High level of intracommunity direct investments in those countries was noted in 2006. The highest inflow of investments was recorded in Poland. It was higher by almost a quarter in comparison to the Czech and Hungarian economies, characterized by a similar level of foreign investment influx at that time. Simultaneously, the lowest inflow of intracommunity foreign direct was recorded in Slovakia. However, in Poland in the years following 2006, decline in the inflow of the intracommunity foreign direct investments was noted.

In reference to the research by A.E. Harrison as well as K. Lee and A. Jayadev it should be considered whether the financial openness of the economies surveyed could have an impact on reducing the share of the labour in the domestic income. Figure 1 presents the share of labour in the domestic income in the countries of the Visegrád Group in years 1993–2010, i.e. the period before and after the accession of the countries surveyed to the OECD and to the EU.

The share of labour in the domestic income in the VG countries was considerably diversified. In the first period researched, i.e. 1993–1996, three of the surveyed countries recorded the systematically growing share of labour in the domestic income, the exception being Hungary. In 1993 Hungarian economy recorded the highest share of labour in the domestic income, i.e. 0.75, value much higher (by 27%



points) than in Slovakia. The labour share in the domestic income of Hungary was also the highest compared with the Polish and the Czech Republic economies.

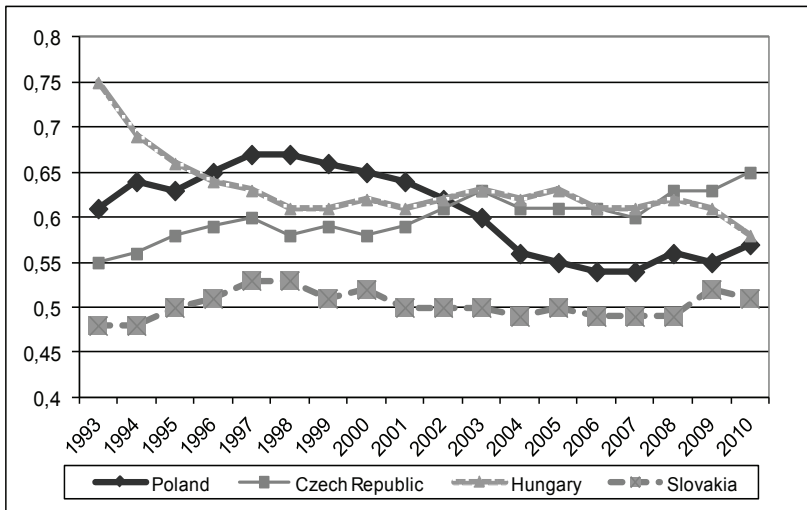


Figure 1. The share of labour in the domestic income in the countries of the Visegrád Group in years 1993–2010

Source: Author's calculations based on OECD data (2010)

In Poland, until 1998, labour share had been increasing to reach the value of 0.67. Similar situation developed in Slovakia. Despite the significant growth, Slovakia continued to have the smallest share of labour in the domestic income among all surveyed countries of Visegrád Group.

In the first year of Polish OECD membership, the share of labour in the domestic income had been rising steadily, yet in subsequent years – it decreased. Therefore, findings of the researches by AE Harrison as well as K. Lee and A. Jayadev, regarding the reduction of the importance of labour in domestic income, have been confirmed. Also in Hungarian economy after the initial increase in labour share in domestic income, a decline was recorded. In 2002 the share of this factor in the domestic income was comparable to the share reached in Poland and the Czech Republic.

In the case of the Czech Republic, the accession to the OECD did not contribute to the reduction in labour share in the domestic income. Still, in Slovakia, characterised by the lowest share of labour in the domestic income, the accession to the OECD structures minimally reduced the labour share in national income. Hence, it is worth considering to what extent the EU accession of these countries in 2004 had an impact on the changes in the labour share in the domestic income.

As far as Poland is concerned, since our accession to the EU economy, a further decline in labour share in the domestic income is being observed. On the other hand, after a period of slight decline in 2004–2007, Czech economy experienced an

increase in labour share in the domestic income. In the case of Hungary, a decrease in labour share in the domestic income was not recorded until 2010. In Slovakian economy the share of labour in the domestic income remained unchanged.

The current research shows that the share of labour in the domestic income in each country varies. It results mainly from the availability, utilization of labour and capital labour substitution. Thus, it appears interesting to investigate the degree of differentiation of labour markets in the economies of the Visegrád Group.

Versatility of Labour Markets in the Visegrád Group States

In theoretical approach, labour market is analysed primarily in terms of the relationships between labour supply and demand. Those relations refer to the numerous and actively changing dependencies between labour supply and demand, which largely derive from the economic conditions of management (Bosworth, Dawkins, Stromback, 1996).

Labour supply is influenced by the behaviour of households, while labour demand includes the activities of business entities operating in the market. It is defined as the number of employees willing to work for the real wages offered in the market representing the employee's income. Labour demand is reported to the market by business entities. Companies report the labour demand, taking into account the level of real wages, defining the labour cost. This simple characterization of the labour market is the starting point for the assessment of national labour markets. The labour markets are a characteristic feature of particular economies. Despite numerous similarities, they are not identical. The national laws as well as diversified economic conditions confirm their specificity. Labour markets reflect both the contrast between employees' and employers' interests in terms of desired, real wages, but also the wide variety of factors that determine their behaviour. Hence, they require separate analyses for specific participants of the labour market. Due to the significance of business entities in the labour market, their actions can be considered as primary. Through creating jobs, they can provide the employed individuals a chance to satisfy their basic needs, which include: work (obtaining income in return for work, which allows catering for material needs), self-fulfilment and development. In order to maintain high competitiveness in the market, companies take more and more complex actions, which may lead to creating new jobs or closing down redundant ones, merging or splitting the existing ones, as well as to changing the scope of duties at different vacancies. Therefore, the contemporary labour resources existing in the labour market may be insufficient or inadequate in relation to the company's agenda as well as changing scopes of tasks at given jobs. Moreover, changing the hierarchy of objectives can affect types and labour intensities of performed tasks, and may consequently, have an impact on the status and structure of employment, the need for employees' retraining, the need to cut jobs or for additional hiring, which could require skills not previously used.



The identification of factors determining the behaviour of enterprises in terms of shaping the labour demand, both at the micro and the macro level, enables determination of universal measures, describing the level of development of national labour markets. Still, it must be noted that only the measures that can be used in any given enterprise are universal. They are considered as the so-called fundamental determinants.

The size and structure of employment in the national labour markets depends on the activity of enterprises. By building their own competitive advantage in the domestic and the international markets, they also consolidate the competitive position of a given region. Addressing the growing competition requires enterprises to prepare and implement specific employment policies, which determine its market share.

The significance of the properly prepared labour resources, their qualifications and skills should be emphasized in relation to adapting effectively to the changing labour market conditions.

Contemporary literature describes human capital as one of the most important factors of the economic growth. The availability of this resource determines the development of individual countries, their potential and competitive position in the market. The quality of human capital is conditioned by the levels of education of the society, health care, situation in the labour market, availability of new technologies (Wronowska, 2006). In modern economy, high educational level and professional qualifications favour the development of new jobs. Therefore, the labour market should be examined in terms of both labour demand and its supply. There are currently no clearly applicable indicators, which would characterize the potential of human resources and the conditions stimulating employment-conducive business activity. Thus, it can be concluded that the labour market is not homogeneous, yet variable due to the specificities of a given country – the structure and level of its development. In order to investigate the competitive advantages of national labour markets the factors determining labour demand and supply should be characterised. The multitude of those constituents entails a difficult choice of measures, which would fully illustrate diversity of labour markets. The accuracy of the chosen measures influences the potential assessment and the conclusions drawn from it. The present study was limited to static measurements only, expressing the state of the surveyed market in two years (2004 and 2008).

The assessment of national labour markets can be done using taxonomic methods. They allow ranking the examined objects in the order “from best to worst” based on a synthetic measure. Objects describing numerous diagnostic variables are ordered in a linear manner using one synthetic variable which is a synthetic measure of development (Łuniewska, Tarczyński, 2006; Pluta, 1986). The stages of structuring a synthetic measure of development can be brought down to (Hellwig, 1968; Pawlas, 2009; Wojarska, Czeszejko-Sochacka, 2007):

1. normalisation of the value of diagnostic variables (x_{ij}) presented in the form of stimulants,



2. creating a pattern, i.e. an object that has the optimum value of the diagnostic variable $z_{0j} = \max_i \{z_{ij}\}$, where z_{ij} means normalized values observed in the entire set of data,
3. determining the distance of each object from the pattern (d_i).

The distance of each object from the pattern can be determined using the Euclidean distance according to the following formula (Łuniewska, Tarczyński, 2006; Biegun, 2007):

$$d_i = \sqrt{\frac{1}{m} \sum_{j=1}^m (z_{ij} - z_{0j})^2}$$

where: i – number of objects, j – number of variables, z_{ij} – normalised value of j -variable for i - object, z_{0j} – a pattern normalised value of j - variable, m - number of variables.

In order to normalise the synthetic measure (so that the greater values correspond to the higher level of the examined phenomenon), the distance d_i must be translated according to the following formula (Jahn, 2008):

$$z_i = 1 - \frac{d_i}{d_0}$$

where z_i – synthetic measure of development for i - object, d_0 – a norm ensuring that z_i assumes values from 0 to 1, which can be determined as the maximum value of d_i :

$$d_0 = \max_i \{d_i\}$$

It is the controversy and importance of the selection of diagnostic variables that should be particularly stressed. Components of the set of diagnostic features should characterize the studied phenomenon to the best extent possible. They must be features of the highest diagnostic capacities. It should be emphasized that this is the most subjective phase of research, as the researcher personally composes the list of diagnostic features. The selection based on the subjective evaluation of the author can raise a lot of discussion, as a study of the same phenomenon carried out on a slightly different set of diagnostic features will bring different results. Therefore, the conclusions of researches based on taxonomic methods should be approached with caution.

In the present study, the selection of variables was guided by the availability of comparable statistics data and their significance from a perspective of the examined phenomenon. Some of the variables characterize the demand side of the labour market (X_1, X_4, X_5), the remaining ones describe the side of supply (X_2, X_3, X_6, X_7, X_8). Consequently, 8 diagnostic variables were used, describing the situation in domestic labour markets. The above indices have been calculated in accordance with the following formulas:

- X_1 – labour (workforce) productivity- calculated as % of PKB per one employed individual, (EU 27=100),
- X_2 – employment-to-population ratio- calculated as the share of employed individuals in the number of population aged 15 and more (data source: LFS, given in %),
- X_3 – unemployment rate- calculated as the share of the unemployed in the number of professionally active population (data source: LFS, given in %),
- X_4 – tax on labour – defined as the total of direct and indirect taxes plus the employers' and employees' premium for healthcare insurance, charged on the income for work, divided by the employees' wages, increased by taxes on the labour fund and on salaries (data source: LFS, given in %),
- X_5 – R&D investments – the sum of investments for research and development activity in a, given year, expressed as % GNP,
- X_6 – activity rate – the number of professionally active individuals in the number of population aged 15 and more (data source: LFS, given in %),
- X_7 – lifelong learning for adults – calculated as the share of learning individuals aged 25 to 64 in the total number of population in the same age group (data source: LFS, given in %),
- X_8 – gross enrolment ratio- the ratio of the total number of students at particular levels of education to the total population in the age group corresponding to the grades of education (the study assumed the highest level of education, given in %).

The indicators adopted are objective, measurable, and reliable in terms of their source (statistics data produced by the CSO / LFS). The study was conducted for years 2004 and 2008, defining the accession of the states forming the Visegrád Group the EU and the period prior to the financial crisis, respectively. Selection of the studied features was preceded by the labour market literature review. The examined variables are in causation with the main elements of the labour market. In case of taxonomic methods, it is important to determine the nature of the variables describing labour markets (objects). Depending on the impact on the examined phenomenon, variables can be classified as stimulants, destimulants and nominants. Stimulants are diagnostic features, whose growth indicates the improvement of the utilization rate of the domestic labour market potential. Destimulants act in the opposite direction. In this study, most of the examined features – except for the unemployment rate and tax on labour – are stimulants.

The set of synthetic indicators used to analyse the Visegrád Group states is presented in Table 3. The presented values of indicators for each country vary, forming the basis for comparisons of the examined objects.

Table 3. Variables used in the study

2004								
COUNTRY	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈
Poland	61.5	51.7	19.0	32.7	0.6	56.1	5.0	42
Czech Republic	68.0	64.2	8.3	41.8	1.3	60.4	5.8	29
Hungary	67.3	56.8	6.1	38.3	0.9	49.8	4.0	28
Slovakia	65.6	57.7	18.2	34.5	0.5	60.1	4.3	29
2008								
COUNTRY	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈
Poland	63.3	59.2	7.1	35.0	0.6	53.8	4.7	51
Czech Republic	71.8	66.6	4.4	41.4	1.5	59.1	7.8	50
Hungary	69.3	56.7	7.8	41.2	1.0	51.0	3.1	45
Slovakia	79.0	62.3	9.5	30.9	0.5	60	3.3	52

Source: own study based on CSA data: Polish Statistical Yearbook 2010, (2011) and International Statistical Yearbook 2009, (2010)

In 2004 the highest labour productivity (X_1) was observed in the Czech Republic, whereas in 2008 – in Slovakia, which increased its productivity in the examined period by 13.4 pp. In Poland and Hungary growth by approx. 2 pp. was noted, whereas in the Czech Republic – productivity rose by approx. 4 pp. In Poland, both in 2004 and 2008 labour productivity was the lowest among the examined countries.

The employment-to-population ratio for the population of 15 y.o.a and more (X_2) was the highest in the Czech Republic both in 2004 and 2008. In Poland in 2004 this index was the lowest among the examined countries. Still, in 2008 Poland observed the highest increase of the employment-to-population ratio – by 7.5 pp. compared to 2004. The lowest increase was observed in the Czech Republic (2.4 pp.). In Hungary the employment-to-population ratio dropped by 0.1 pp between 2004 and 2008.

The unemployment rate (X_3) in 2004 was the lowest in Hungary, while in 2008 – in the Czech Republic. In Poland and Slovakia in 2008 there was a significant drop in the unemployment rate compared to 2004 (by 11.9 pp. and 8.7 pp respectively.).

The highest tax burden (X_4) in both examined periods was noted in the Czech Republic. In 2004 the burden was the lowest in Poland, whereas in 2008 – in Slovakia. Therefore, the most favourable conditions for hiring in 2004 occurred in Poland, whilst in 2008 – in Slovakia.

In terms of R&D investment (X_5), in 2004 and 2008 the highest values were observed in the Czech Republic. In Poland, the index, both in 2004 and in 2008, was more than 2 times lower than that in the Czech Republic. It was also low in Slovakia, although it was insignificantly lower than in Poland.



Again, the activity rate (X_6) in 2004 was the highest in the Czech Republic, whereas in 2008 – in Slovakia. In case of Hungary, less than half of the population aged 15 and more was professionally active in years 2004 and 2008, leaving significant labour resources in the Hungarian economy not utilised. The scope between the activity rate in Hungary and in the Czech Republic in 2004 reached 11.2 pp. Poland during the period demonstrated a decline in the activity rate by 2.3 pp.

The highest percentage of people involved in lifelong learning (X_7) was recorded in the Czech Republic both in 2004 and 2008. Moreover, the value of the index grew only in the Czech Republic (by 2.2 pp.) during that period. Thus, the scope between the highest and the lowest value of this index among the surveyed countries increased in 2008 compared to 2004 by 4.7 pp.

The highest gross enrolment ratio (X_8) for the highest educational level in 2004 was recorded in Poland. In the remaining countries the ratio was lower by 13 pp. than in Poland. In 2008 the highest gross enrolment ratio was recorded in Slovakia. In comparison with 2004, rise by 23 pp was noted. Also, the rest of the countries experienced high growth of this index. In 2008 the lowest enrolment ratio was observed in Hungary. It was lower than that recorded in Slovakia by 7 pp.

Table 4 shows the classification of the Visegrád Group states by the level of development of the labour market achieved in 2004 and 2008.

Table 4. The ranking of the Visegrád Group states on the basis of a synthetic measure of labour markets development

No.	2004		2008	
	1	Czech Republic	0.197	Slovakia
2	Slovakia	0.037	Czech Republic	0.399
3	Poland	0.018	Poland	0.099
4	Hungary	0.000	Hungary	0.000

Source: own study

Results of the calculations, provided in Table 4, show the highest level of development of the domestic labour market for 2004 in the Czech Republic (the synthetic index of development was 0.197). It should be emphasized that all synthetic indices of labour market development calculated for Visegrád Group states for 2004 were considerably low (below 0.2, on a scale from 0 to 1). These low values may indicate a low level of development of those markets.

In 2008 the ranking values grew, with the highest development rate of labour market being recorded in Slovakia. During the surveyed period, Slovakia also experienced the highest growth of the index. On the other hand, Poland and Hungary demonstrated the lowest synthetic rates of development of their labour markets in

2008. In Hungary, in both examined years, the index reached the lowest possible value in the scale adopted for the study.

From the Figure 2 it can be deduced that the level of labour market development reflected measured synthetically does not determine the share of labour in domestic income. Thus, research of other factors influencing the share of labour in domestic income appears vital.

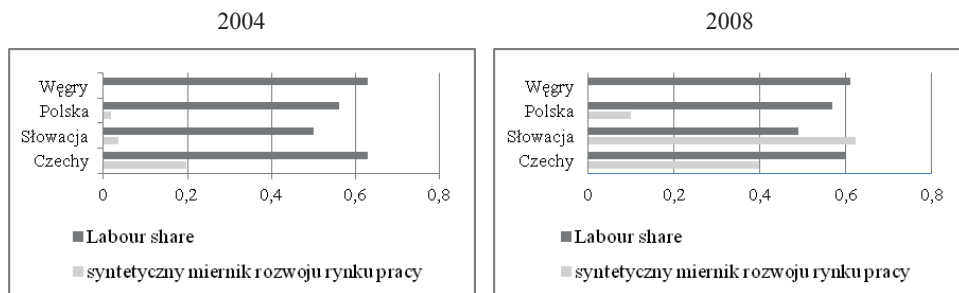


Figure 2. The share of labour in domestic income compared to development rates of labour markets in years 2004 and 2008

Source: figure based on Table 4 and Figure 1

Conclusions

The study shows that in case of Poland, Czech Republic and Hungary, the openness of economies, resulting from their accession to the OECD, contributed to the decline in share of labour in the domestic income, which concurs with conclusions of A.E Harrison as well as K. Lee and A. Jayadev. In Slovakia, where the share of labour in the domestic income was the lowest, the accession to the OECD minimally reduced the share of labour in domestic income.

Following the accession to the EU, the degree of change of the share of labour in the domestic income in the examined economies varied. Poland reported a continuing drop. In the Czech Republic economy, after a slight decline in 2004–2007, the share of labour in the domestic income began to grow. Still, in the Hungarian and Slovakian economies no decline in the share of labour was noted. Overall, in the researched period, the scope between extreme values of the share of labour in the domestic income decreased from 0.27 in 1999 to 0.14 in 2010.

Given the calculated synthetic measures of the level of development of domestic labour markets, the study shows that the position of the Polish labour market against the rest of the Visegrád Group states was relatively low both in 2004 and in 2008. The measure allowed to rank all the domestic labour markets of the VG group. The research demonstrates that in 2008, compared to 2004, synthetic measurement in the Czech Republic and Slovakia significantly improved, while in Poland the observed change was insignificant. In the general classification, Poland took the 3rd

(penultimate) place, whereas Hungary was placed last in the group, in both examined years. Therefore, it can be concluded that the development of the labour market determines the share of labour in the domestic income only to a small extent.

References

1. Bentolila, S.; Saint-Paul, G. (2003), *Explaining Movements in the Labour Share*. In: *Journal of Macroeconomics*, 2003, No. 3 Issue 1, pp. 650–670.
2. Biegun, K. (2007), *Infrastruktura techniczna a konkurencyjność regionów*. In Klamut, M. (ed.). *Ekonomia i międzynarodowe stosunki gospodarcze*. Akademia Ekonomiczna, Wrocław 2007, p. 280. PL ISSN 0324-8445.
3. Bosworth, D.; Dawkins, P.; Stromback, P. (1996). *The Economics of the Labour Market*. Harlow, Essex, Longmann 1996, p. 3. ISBN 978-0582443778.
4. Demirhan, E.; Masca, M. (2008), *Determinants of Foreign Direct Investment Flows to Developing Countries: A Cross-Sectional Analysis*. In: *Prague Economic Papers*, 2008, No. 4, pp. 356–369.
5. Gollin, G. (2002). *Getting income shares right*. In: *Journal of Political Economy*, 2002, No. 110, pp. 458–474.
6. Central Statistical Office GUS. (2010), *Rocznik Statystyki Międzynarodowej 2009*. GUS, Warszawa 2010, pp. 49–50, 155, 262, 561–610.
7. Central Statistical Office GUS. (2011), *Rocznik Statystyczny RP 2010*. GUS, Warszawa 2010, pp. 245–285, 364–401.
8. Guscina, A. (2006), *Effects of Globalization on Labour's Share in National Income*. Washington, D.C.: International Monetary Fund, *Working Paper*, 2006, No. 06/294. pp. 1103–1113.
9. Harrison, A.E. (2000), *Has Globalization Eroded Labour's Share? Some Cross-Country Evidence*, CA: University of California at Berkeley and NBER, Berkeley 2000, pp. 1–26.
10. Hellwig, Z. (1968), *Zastosowanie metody taksonomicznej do typologicznego podziału krajów ze względu na poziom ich rozwoju oraz zasoby i strukturę wykwalifikowanych kadr*. In: *Przegląd Statystyczny*. 1968, no. 4.
11. Houthakker, H.S. (1955), *The Pareto Distribution and the Cobb-Douglas Production Function in Activity Analysis*. In: *Review of Economic Studies*, 1955, No. 23(1), pp. 27–31.
12. International Statistical Yearbook 2009, (2010) http://stat.gov.pl/cps/rde/xbcr/gus/PM_rocznik_stat_miedzynarodowy_2009.pdf [as accessed online on:] 10.01.2010.
13. Jahn, J. (2008), *Wzrost gospodarczy w Unii Europejskiej w przekroju regionalnym*. In: Pancer-Cybulska, E. (ed.). *Spójność społeczna, gospodarcza i terytorialna w polityce Unii Europejskiej*. Uniwersytet Ekonomiczny, Wrocław 2008, p. 177. PL ISSN 1899-3192.
14. Jones, Ch. I. (2005), *The Shape of Production Functions and the Direction of Technical Change*. In: *Quarterly Journal of Economics*, 2005, No. 120 (2), pp. 517–549.
15. Lawless M., Whelan K.T. (2011), *Understanding the dynamics of labor shares and inflation*, *Journal of Macroeconomics*.
16. Lee K.; Jayadev, A. (2005), *The Effects of Capital Account Liberalization on Growth and the Labour Share of Income: Reviewing and Extending the Cross-Country Evidence*.

- In: Esptein, G. (ed.). *Capital Flight and Capital Controls in Developing Countries*, Cheltenham Edward Elgar, 2005, pp. 15–50. ISBN 978 1 84376 874 6.
17. **Łuniewska, M.; Tarczyński, W.** (2006), *Metody wielowymiarowej analizy porównawczej na rynku kapitałowym*. PWN, Warszawa 2006, p. 46–54. ISBN 830114646X.
 18. Ministry of the Economy. 2011. *Polska na tle świata i Europy w latach 1995–2011*. Warszawa 2011, pp. 1–2, p. 37.
 19. OECD. (2010), http://stats.oecd.org/OECDStat_Metadata, [as accessed online on:] 10.01.2010
 20. Pawlas, I. (2009), *Wykorzystanie taksonomicznej miary rozwoju Z. Hellwiga do określenia poziomu rozwoju polskiej gospodarki na tle krajów należących do Unii Europejskiej*. In: Noga, M.; Stawicka, M.K. (ed.). *Modele rozwoju gospodarczego dla Polski*. CeDeWu, Warszawa 2009, pp. 68–69. ISBN 978-83-7556-095-4.
 21. Pluta, W. (1986), *Wielowymiarowa analiza porównawcza w modelowaniu ekonometrycznym*. PWN, Warszawa 1986, pp. 19–24. ISBN 8301060859.
 22. Polish Statistical Yearbook 2010, (2011) http://stat.gov.pl/cps/rde/xbcr/gus/sy_statistical_yearbook_of_the_rep_of_poland_2011.pdf [as accessed online on:] 10.01.2010.
 23. Wojarska, M.; Czeszejko-Sochacka, M. (2007), *Polska i jej regiony na tle eubejskiej przestrzeni społeczno-ekonomicznej*. In: Klamut, M.(ed.). *Ekonomia i międzynarodowe stosunki gospodarcze*. Akademia Ekonomiczna, Wrocław 2007, pp. 207–209. PL ISSN 0324-8445.
 24. Wronowska, G. (2006), *Czynniki kształtujące kapitał ludzki w krajach Unii Europejskiej – analiza porównawcza*. In: KOPYCIŃSKA, D. (ed.). *Kapitał ludzki jako czynnik rozwoju społeczno-gospodarczego*. Katedra Mikroekonomii Uniwersytetu Szczecińskiego, Szczecin 2006, p. 15. ISBN 83-60065-88-8.
 25. Zamrazilova, E. (2007), *Prime Zahranicni Investice V Ceske Ekonomii: Rizika Duality A Role Thru Prace*, In: *Politicka Ekonomie*, May 2007, No. 5, pp. 579–602.

UDZIAŁ PRACY W DOCHODZIE NARODOWYM NA TLE ZRÓŻNICOWANYCH RYNKÓW PRACY

Celem niniejszej pracy jest zbadanie zmian w zakresie udziału pracy w dochodzie narodowym w latach 1995–2010 w krajach Grupy Wyszehradzkiej, biorąc pod uwagę zróżnicowanie rozwoju krajowych rynków pracy. Badanie obejmuje przegląd literatury dotyczącej zagadnień związanych z rynkiem pracy, udziału czynnika pracy w dochodzie narodowym oraz materiałów źródłowych niezbędnych do przeprowadzenia badań w części empirycznej. W badaniach zastosowano metodę indukcyjną, elementy statystyki opisowej i taksonomii.

