

Impact of foreign direct investment in advanced business services on host economies¹

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Abstract

The main objective of the paper is to investigate the extent to which inward foreign direct investment in advanced business services (ABS) contributes to the structural change of employment in regions. The research problem is important particularly for the economies that are still in the process of transformation. The question arises whether FDI in the sector will be the source of sustainable long-term development, or whether it will contribute to curb future prospects. The main characteristic of the FDI in ABS is providing employment for a large number of people with higher education. In other words, this type of investment is in general skilled-labour intensive. It has a great impact on the labour market in a host country, so the main element of our analysis is the structural change using indicators pertaining to employment. In doing so, we estimate fixed-effect regression model using cross-regional panel data for Hungary and Poland for the period 2005-2014.

JEL Classification: F21; F23

Keywords: foreign direct investment, advanced business services, regions, Central and Eastern Europe

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1. Introduction

Middle-income countries of Central and Eastern Europe (CEE) are now at the decisive moment when it comes to their strategic orientation towards stable growth and higher level of development. In so doing, the governments focus - at least in terms of declarations - on the knowledge-driven economy. As the endogenous sources of knowledge are not sufficient, they try to use foreign sources. This was the case from the very beginning of transformation processes in 1990s. First, foreign investors significantly influenced the level of technology in manufacturing industries (see e.g. (Damijan, et al. 2003) (Meyer and Peng 2005)). However, as the CEE represent higher level of development, they focus on different sources of comparative advantage. Foreign direct investment (FDI) in advanced business services (ABS) are supposed to mitigate the limitations of middle-income countries in their convergence towards highly-developed economies. This issue is crucial because foreign investors have created hundreds of thousands of highly-skilled jobs in the region. The process, which started around year 2000, is still very dynamic and there are no signs that the region would lose its attractiveness. The governments provide incentives and specific support tools designed to give them edge in attracting FDI in services, as they are treated as priorities in their development strategies.

Foreign direct investment (FDI) are associated with substantial impact on home and host economies. In general, the inflow of FDI is praised for bringing positive change to a host country. However, the majority of empirical analyses fail to find conclusive evidence for these impacts. The most underlined elements associated with the impact on a host economy are changes in productivity, wages, employment and trade (Blomström and Kokko 1997).

The impact of FDI on employment of a host economy may be very limited, and even negative when we add indirect effects associated with crowding out indigenous firms (Jenkins 2006). Such question is also justified in the case of ABS in CEE regions. This is important because we analyse the former economies in transition, where the skills are still scarce. If they are exploited by MNCs then local firms are in a disadvantageous position. This may be the case when we add the evidence that foreign-owned enterprises are more productive thus tend to pay higher wages than domestic ones, therefore the flow of workers towards those firms can occur (Mayer and Ottaviano 2007). On the other hand, the evidence suggests that without MNCs the scarce skills would be wasted, as the local demand is not sufficient (Markusen

1997). However, from the economic point of view this is a transfer of workers from less productive units to more productive ones. We could also interpret this process in the context of structural change – the transfer may also occur between sectors thus induce a structural change. It may take of form of movement of workers from a domestic agriculture firm to a foreign-owned manufacturing, or from a domestic manufacturing entity to a foreign-owned service firm.

Are there many spillover effects from ABS FDI? Conceptually we assume that the knowledge created in the offices of multinational firms located in peripheral regions is very specific to the firm and cannot be easily transferred outside the organisation. This may be underlined by the fact that multinational firms in CEE countries rather exploit existing knowledge not contribute to its creation (Capik and Drahokoupil 2011). However, the authors underline that foreign firms contribute to creating new jobs and demand for skilled labour. Anyway, there is another channel of transferring skills: when (former) employees of these firms set up their own businesses, which is especially present in the IT industry (Sass 2011). So, the picture is again not straightforward.

The concept of ABS is not precisely defined and properly understood, especially from the statistical point of view. While there is a widespread use of ABS in the literature, there is no standard definition available. Business services in a wide sense are those service activities, which are mainly traded in business-to-business transactions, they are usually delivered to companies and government agencies. They can be as diverse as software development, temporary-labour agencies, equipment rental, legal consultancy, translation services or the management of complex engineering projects (Kox and Rubalcaba 2007). ABS is perceived as the subset of business services, representing and related to state-of-the-art technology and containing (to a different extent) creative activities. According to (Perulli and Garavaglia 2010) advanced business services are for example design, advertising, research and development, ICT, management consulting and accounting, financial assets, logistics and other activities. (Spiller 2009) uses the following definition of ABS: “Enterprises providing a largely customised, problem solving service to other businesses, where the services in question require application of significant intellectual effort or capital”. We rely on this definition. However, this should be translated into statistical data in order to be able to use it in our quantitative analysis.

This is hindered by the fact that the statistical problems surrounding ABS are also significant. The difficulties of measurement and data collection in the service industries are considerable. It is pointed out by (Sass and Fifeekova 2011) specifically for business services in the Visegrad countries. Data on services FDI and services export are not exceptions (Pindyuk and Wörz 2008); (Francois, Pindyuk and Wörz 2009). Furthermore, the statistical classification of business services and advanced business services is especially problematic. The proliferation of global value chains, which contain services activities as well, and the related increased tradability of services, as well as the inability of traditional statistical categories to “grab” the actual business service activities all contribute to this problem. Nowadays, in statistics, most business services are allocated to the residual category Other Business Services (NACE 74) (Kox and Rubalcaba 2007).

The main idea of the paper is to investigate the extent to which inward foreign direct investment in ABS contribute to the structural change of employment in regions. We measure the impact of inflow of FDI in ABS on selected areas of host regions. The main characteristic of the investment is providing employment for a large number of people with higher education. In other words, this type of investment is skilled-labour intensive. Actually the main input are skilled individuals. Such characteristic has large impact on the labour market in the host country, so the main element of our analysis is the structural change using indicators pertaining to employment.

We want to contribute to the literature in three areas. First, we want to introduce in the discussion of structural changes the role of narrowly defined category of services. Generally, the topic of FDI in services and its impact has been neglected or analysed only in general, and we plan to shed further and more detailed light on the topic. Second, thanks to the regional perspective we can account for uneven spatial distribution of FDI, what was confirmed by e.g. (Casi and Resmini 2011) for general FDI or (Klimek 2018) for FDI in ABS. Applying a more detailed approach increases the problems with the access to data, as regional statistics are scarcer than the national-wide. However, overcoming the issue will bring substantial profits to understanding the impact of FDI on economies. Third, we want to focus on the impact of a recent wave of FDI projects in ABS in former transition economies of Central and Eastern Europe, another relatively rarely analysed area, especially through quantitative methods.

2. Previous theoretical and empirical contributions

The core to understanding the impact of FDI is to introduce the notion of structural transformation. It is understood as a prominent change in the structure of economies is the shift of capital and labour from primary sector (agriculture) towards secondary sector (manufacturing) and then to the tertiary one (services) (Jorgenson and Timmer 2011). Due to globalisation and development of integrated production chains the structural change has also been occurring in developing countries (Timmer, de Vries and de Vries 2014). The impact of FDI on structural change in an emerging economy, that is, Mexico was documented by (Escobar and Mühlen 2017). Importantly, they considered the structural change on the regional level and according to their preliminary results, FDI in agriculture and services positively affected the host economy. Their other important finding concerned the influence of the country of origin of MNEs on the type of impact on Mexico's economy.

The main role in productivity performance and economic growth is prescribed to structural change in employment. If the changes are from less productive to more productive sectors, then there is a positive contributions to growth. However, there might also be the opposite situation, when labour moves from more productive to less productive activities. Such results were documented for Africa and Latin America by (McMillan, Rodrik and Verduzo-Gallo 2014).

Wykorzystaj Peneder “Structural Change and Aggregate Growth”

Exposure to foreign competitors in the own turf of firms also induces them to modernise and increase their efficiency, what influences the growth of productivity in the sector (McMillan, Rodrik and Verduzo-Gallo 2014). Anyway, according to their findings, more important for the overall productivity is reallocation of resources between industries.

Structural changes in an economy and the role of FDI were frequently analysed with respect to structural change in exports (e.g. (Hausmann, Hwang and Rodrik 2007)). Indeed (Andraz and Rodrigues 2010) argue that export specialisation leads to better reallocation of resources from non-tradable low productive sectors to export-oriented sectors. However, there is one important element, which has to be taken into account – services has been considered non-tradable for centuries, but now have to consider a new category of services easily transferred

across borders – ABS. Moreover, the sector is highly productive and offers significant development potential.

There are also very unequivocal statements about the role of FDI and development level. “Inward FDI might, over sufficiently long periods of time, affects the level of economic development of destination countries by promoting the production of more complex goods and services” (Amendolagine, Coniglio and Seric 2017).

The structural change may also occur not only between sectors, but also within them. From the point of view of this paper the change in services is particularly relevant. The change is induced by revolution in information and communication technology (Greenhalgh and Gregory 2001). Crucial element of the change were linkages between industries, particularly between various general services and business services. Successful transition from low-skilled activities to advanced services that can be internationally traded was presented by (Grimes and White 2005). Their study is valuable in the context of our research as Ireland was once perceived as the location of labour intensive and low value added activities, what is also the case for CEE economies.

The impact of advanced services has been investigated mostly using qualitative approach. (Sass 2011) provided a thorough overview of the ABS sectors, its development and policy approach in the case of Hungary. (Bird and Ernst 2009) analysed multiple cases from the Philippines. They considered the impact of offshoring on the country employment. (Hardy, Sass and Fifeekova 2011) also used the case study approach and analysed 25 companies in three Central and European Countries. (Micek 2015) focused on FDI in business services in Poland and concluded that in spite of dynamic growth of the sector there is a threat of being locked by less advanced business services. This in turn would not bring the expected benefits to the economy. His study was based on aggregated data, thus not all trends in the sector were comprehended.

Moreover, earlier contributions need current update. The biggest wave of publication was in the end of the first decade of 21st century (see e.g. the above cited papers: Capik, Drahekoupil 2011; Hardy et al. 2011). Afterwards, we could observe a significant growth of the ABS sector in the V4 economies and peers in Asia.

An important additional element, when we analyse European Union regions is the differences between Western and Eastern Europe. There were many empirical contributions investigating the influence of FDI on such division. However, they mostly focus on manufacturing. Cases when services or business services were objects of analysis are rather scarce and do not consider the recent developments either in the CEE regions, which are very different than they were in 2004, when there was the large extension of EU, or the changes in the situation in the services sector over time. The differences between the various groups of EU regions was analysed by (Marelli, Resmini and Signorelli 2014). They confirmed high and positive impact of FDI in Western or Northern Europe, but their absence in Southern Europe and CEE. The last group is particularly intriguing as MNC located in lower costs CEE carry out high labour intensity tasks. When it comes to the sectoral pattern, services and manufacturing were positively affected by the inflow of FDI.

There is also a theoretical approach to knowledge transfer and the international flows of production factors. According to (Dasgupta 2012) the entry of MNC increases learning possibilities of employees resulting in their higher salaries, but also influences the international firms' ex-workers of making the firms they found larger than firms under autarky.

Overall, based on the above mentioned gaps in the literature, our aim is to investigate the role of foreign-owned ABS firms in the structural change of employment in Hungary and Poland at the level of the regions.

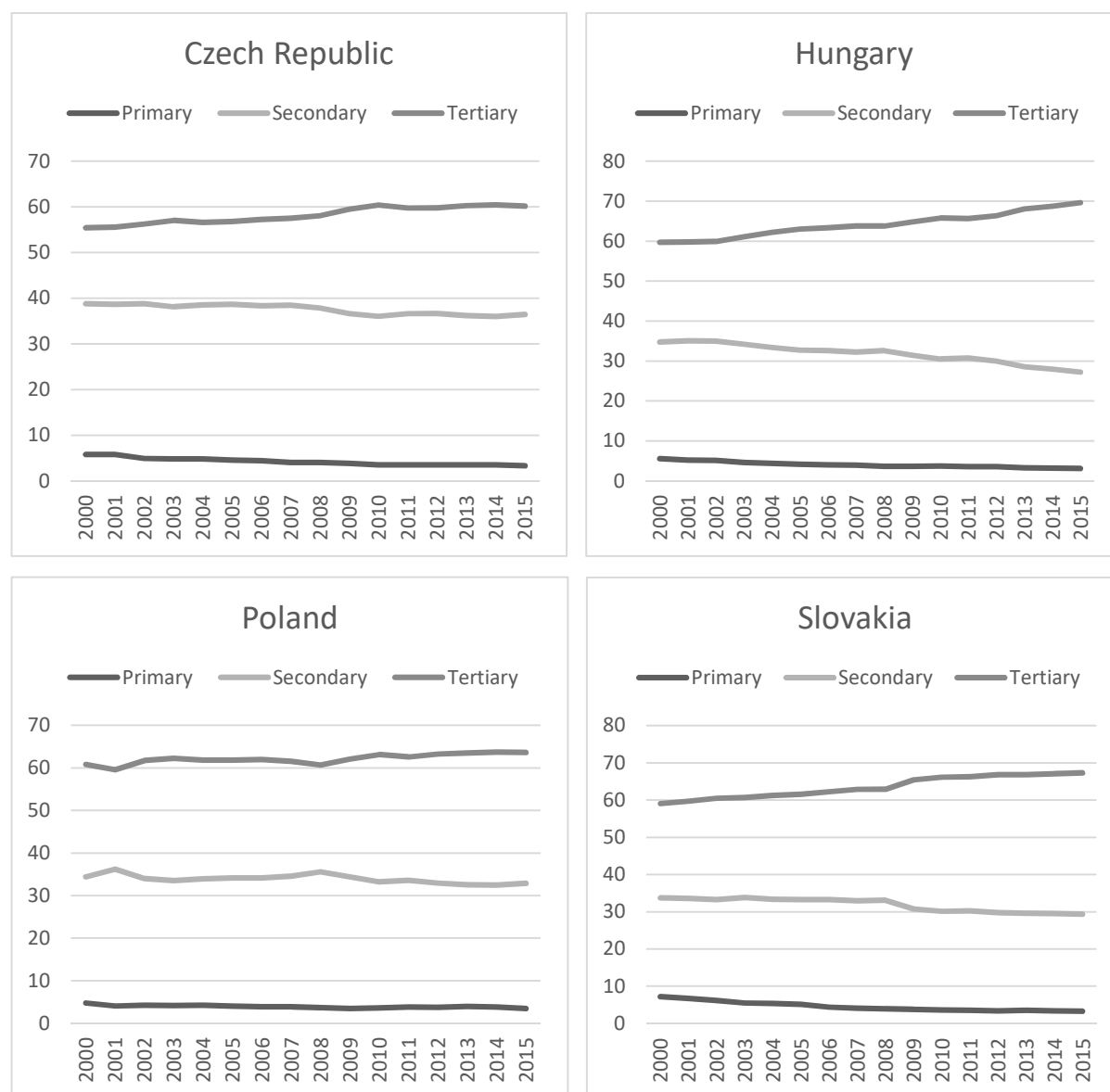
3. Stylized facts

The process of structural change can be observed in all V4 economies even in quite a short period since year 2000 (figure 1). Although the V4 economies are frequently analysed as homogenous countries of similar level of development, significant differences are perceived in their employment structure. As the economies represent middle level of income, the employment in agriculture is on a low level not exceeding 5%. Importantly over the analysed period the employment in primary sector dropped significantly.

The shares of the secondary sector in employment were in the range 27-39% with a decreasing trend over time. Anyway, there are differences between particular countries. The

analysis of structural change actually takes place between the secondary and tertiary sectors. In the case of Czech Republic, the role of secondary sector was the highest, around 10% points higher than in other V4 countries. This went together with a relatively lower level of tertiarisation at around 60%. The share of the secondary sector in Czech Republic was quite stable over the analysed period. Similar situation can be observed in the case of Poland. The economies mostly dependent on employment in the tertiary sector are Hungary and Slovakia. In the latter cases the employment was at around 70% resembling the values of highly developed economies. Such an initial analysis revealed that Poland and Hungary are distinctive cases to analyse the structural change among the 4 economies.

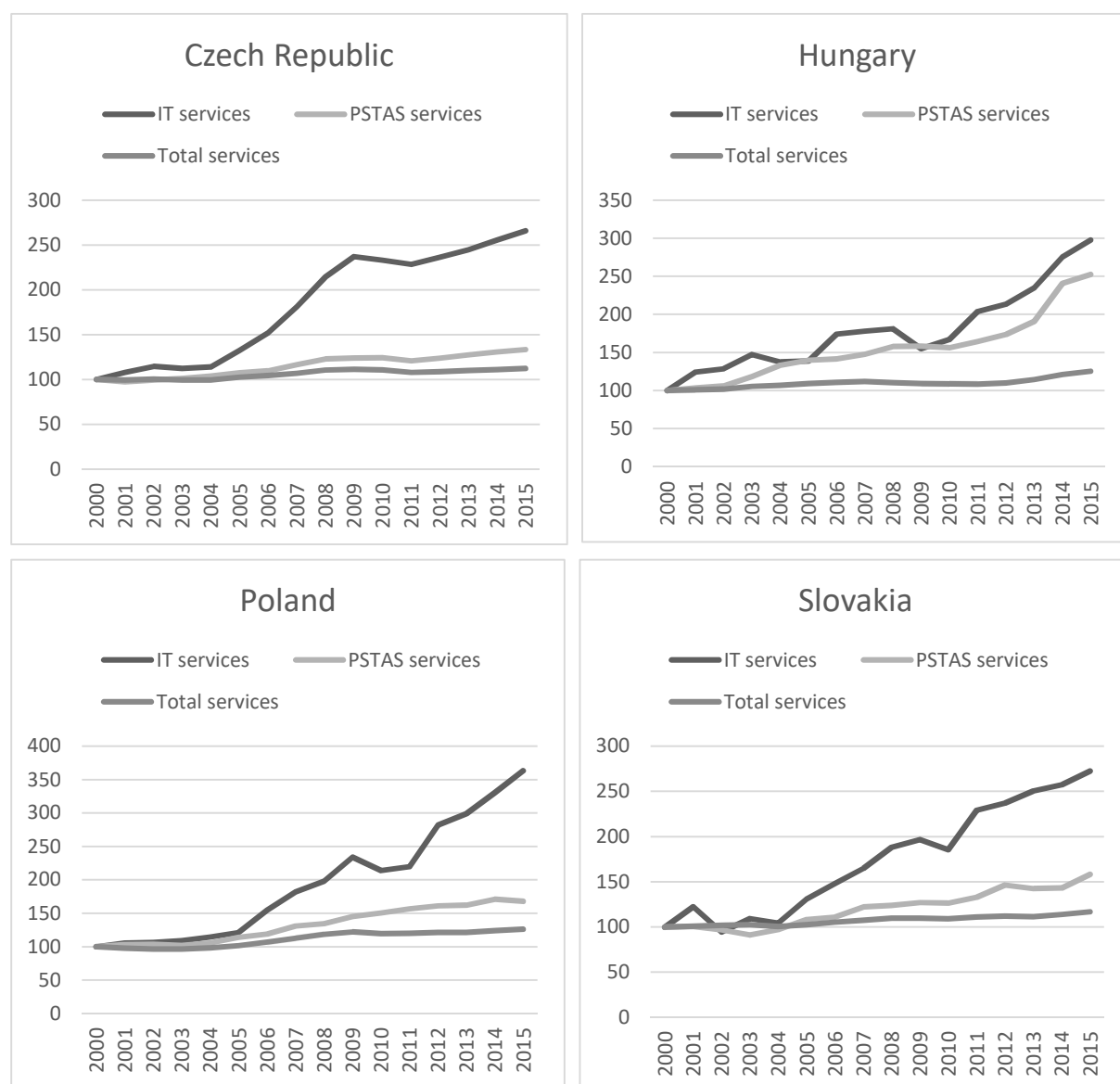
Figure 1. Sectoral change in employment in V4 countries (2000-2015)



Source: own elaboration based on Eurostat data

To fully understand the role of ABS in the transformation of Central and Eastern European economies it is crucial to analyse the dynamics in the selected knowledge-intensive services (figure 2). The most important conclusion is that growth of employment in services requiring skilled labour outpaced markedly the change in employment in overall services. Two categories of services were included in this part of the analysis: information technology (IT) services and professional service activities. The most dynamic category were IT services which grew of around 200% in the analysed period. More diverse picture is for professional services with growth of around 50% in Czech Republic, Poland and Slovakia. However, Hungary reported very dynamic change of around 150% making it distinctive in the group. For Hungary, we should also note the significance of the tertiary sector in total employment.

Figure 2. Dynamics of employment in selected groups of services in V4 countries



Source: own elaboration based on Eurostat data. Note: PSTAS - Professional, Scientific, Technical, Administrative And Support Service Activities

4. Econometric strategy

Our aim is to investigate the role of foreign-owned ABS firms in the structural change of employment in Hungary and Poland. Generally, we will analyse the changing share of service sector employment in the total employment with respect to the number of foreign-owned firms operating in ABS.

We estimate cross-regional panel using the Equation 1:

$$SC_{it} = \alpha + \beta ABSfirms_{it} + \delta X_{it} + \mu_i + \varepsilon_{it} \quad (\text{Eq. 1})$$

where SC_{it} is the structural change in employment in a region i in a period t . The higher is the share of tertiary employment the more profound structural change occurs in a region. In other words, we measure the role of explanatory variables (table 1) on the employment in services. $ABSfirms_{it}$ is an explanatory variable representing the number of foreign-owned ABS firms in a region i in a period t . The regional distribution of ABS firms is still not equal. We can distinguish the tier one group of regions with high number of ABS firms. The membership in the group is quite constant over time as key regions for location of ABS firms have not changed. There are new trends in regional localisation emerging in each of the CEE countries, however their role is still minor and can be described as tier two localisations.

X_{it} represents a vector of control variables. The variable describing the level of development in a region is the value of GDP per capita. This measure is commonly used for this purpose, in spite of its imperfections. The higher is value of GDP per capita, the more developed is the region and this in turn should positive influence the level of tertiarisation. We also use here the stock of foreign capital instead of flows of FDI in a particular period, because we want to measure the change in the employment structure as a result of cumulative operations of foreign firms, not only occurrence in a particular year. Such an approach is more meaningful from the main objective of the paper. The advantage of using stock of FDI instead of flows of FDI was confirmed by (Wacker 2016). We generally focus on the development of particular

measures over time, not their temporary values. Another variable related to the role of foreign-owned firms in a region is employment in foreign-owned companies (*FDIempl*).

We also want to investigate if there is an impact of FDI on skills in the economies. In doing so we will utilize data on education attainment in particular regions. This is done for two main reasons. First, the higher the education level, the better are workers prepared to work at jobs requiring higher skills. It should translate into changing occupations among workers and facilitate structural change in employment. Second, we analyse the ABS employment, which require high skills. According to survey by industry association ABSL almost 100% of employees in ABS firm in Poland have a university diploma (ABSL 2018).

The constant term is expressed as α , μ_i represents regional fixed effects and ε_{it} is the error term.

In the future we would also like to include data on internal and external immigration as factors influencing the supply of employees in the region. Internal immigration presents the information about flows between regions. The most prosperous regions should attract mobile workers from less prosperous regions. According to the data it was the case as the most attractive regions had positive net value of migrations, whilst remaining regions report larger outflows than inflows of migrants. When it comes to external migration it is important to include it as both Hungary and Poland experienced in the period after accession to the European Union large outflows of citizens, especially those with high skills. This could significantly influence the supply of workers in particular sectors.

Table 1. Description of independent variables

Variable	Description
tertiary	Share of employees in tertiary sector in a region. Unit: %. Source: Main Statistical Office of Poland and Eurostat.
ABSfirms	Number of foreign ABS firms a region. Source: Amadeus database.
FDIempl	Number of employees in foreign-owned firms in a region. Unit: person. Source: Hungarian Central Statistical Office and Main Statistical Office of Poland.
lnGDPcapita	Natural logarithm of gross domestic product (GDP) at current market prices by NUTS 2 regions. Unit: EUR. Source: Eurostat.
lnFDIstock	Natural logarithm of value of stock of FDI in a region. Unit: thousands of PLN
edu	Tertiary educational attainment, age group 25-64 by NUTS 2 regions. Unit: %. Source: Eurostat.

We analyse the period of time 2005-2014 as is it crucial to understand operations of ABS firms in the countries. We can distinguish two sub-periods 2005-2009 and 2010-2014. We can treat period 1 as an initial phase of ABS development and period 2 as a maturity period. These 2 periods are clearly visible in Figure 2.

5. Results of econometric estimation

We investigate whether there is a structural change in employment caused by foreign companies operating in ABS. We estimated the Equation 1. using three sets of data. The baseline estimation was for all NUTS 2 regions in Poland and Hungary (1). As a robustness check we also estimated data for Poland (2) and Hungary (3) separately.

The variable of interest (*ABSfirms*) pertains to the impact of the subsector on the tertiary employment. As expected, it has positive impact on the employment in the tertiary sector and is highly statistically significant in all three estimations (table 2). It can be

interpreted as the higher number of ABS firms increases the employment in the service sector. Anyway, there are significant differences in the value of coefficient for Hungary and Poland. As it might have been expected taking into consideration the employment structures in the two economies, the influence of ABS firms in Hungary was around 6 times higher than in Poland. This is an important finding as it confirms the impact of ABS firms both on quantitative values concerning employment in particular regions, but also on the quality of employment in services as ABS are knowledge intensive activities.

In line with the results for the previous variable come coefficients for *FDIempl*. They are highly significant and positive. It means that employment by foreign-owned firms increases the level of tertiarisation in a region. We assume, this increase can come through direct (creating jobs in the tertiary sector) and indirect channels (inducing the creation of other jobs in the tertiary sector, which are suppliers or buyers of the output of the foreign-owned ABS firms). The impact of employment by foreign-owned firms was again greater in the case of Hungary than Poland.

Interestingly, the third variable pertaining to the role of foreign investors in the economies is somehow inconclusive. The coefficients for the stock of foreign capital are negative, but also insignificant in two cases. Only in the estimation for Hungary they are significant. Explanation of such value may be threefold. First, FDI is considered an incomplete measure of the foreign activities of MNCs (Lipsey 2007) or the activities of MNCs in a host country. However, this is still the best available statistical indicator for trying to trace the presence and characteristics of MNCs in foreign host countries. Second, measuring the activities of foreign-owned firms using value of FDI is more appropriate for manufacturing sector than for service sector, because the value of the service investment may be disproportionally low compared to the number of people employed. Similar conclusion is drawn by Sass and Fifekova (2011). Third, regions that are important localisations for manufacturing FDI are not always important for services investment. This is the case of Silesia region in Poland or Western Transdanubia in Hungary.

The coefficients for economic growth are also in contrary to expectations. For the entire sample of regions and Polish regions, there is a negative impact of economic growth on the level of tertiarisation. The variable for education attainment has positive and highly significant impact in all cases. This is especially important from the point of view of knowledge-intensive services. But also confirms the positive relationship between services and development of skills in a region.

Table 2. Results of fixed-effects regression

Independent variable	Entire sample (1)	Poland (2)	Hungary (3)
ABSfirms	0.03726 *** (0.01139)	0.03132 *** (0.01083)	0.19111 *** (0.05679)
lnGDPcapita	-3.75915 *** (0.06668)	-2.82509 *** (0.74308)	-1.77930 (1.57562)
FDIempl	0.23029 *** (0.05666)	0.12590 ** (0.05671)	0.67251 *** (0.16130)
lnFDIstock	-0.15654 (0.21142)	-0.13889 (0.31453)	-0.56511 ** (0.23517)
edu	0.28491 *** (0.03363)	0.25589 *** (0.03630)	0.29538 *** (0.07232)
Obs	215	160	55
No. of regions	23	16	7
R-sq	0.5285	0.5227	0.8013

Notes: Standard errors in parentheses, *** - significance at 0.01, ** - significance at 0.05, * - significance at 0.1

6. Conclusions

FDI in advanced business services discovered new host locations in the Visegrad countries mainly after they have become members of the European Union. There have been many new jobs created in the service sector due to these investments. This FDI differs considerably from the previous capital inflows, as almost all the activities are highly skill-intensive, thus they use highly-skilled – and relatively cheap – local labour intensively.

We investigated whether FDI in ABS contributes to structural changes in these economies, in terms of changes in the breakdown of employment between tertiary and other sectors, relying on region-level data. According to our knowledge, the impact of FDI in ABS on the Visegrad host economies was analysed only qualitatively, through company case studies up till now. We have selected two Visegrad economies, Hungary and Poland, partly due to data availability, partly due to the fact that these two countries are major hosts of ABS FDI in the region.

Our findings reinforce the structural impact of ABS FDI: employment in foreign-owned firms increases the share of the tertiary sector in a region directly and indirectly, through inducing other tertiary activities as well.

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