

The Effects of FDI on Regional Employment in Europe

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Abstract

Our paper aims at exploring whether and to what extent FDI is able to affect regional employment. This is a complex issue, often discussed in policy debates, but still scarcely explored in the scientific literature. The paper begins with a brief review of the relevant literature in this area. This is followed by a discussion of the data and then we concentrate on the determinants of regional employment, with particular reference to the role played by FDI.

Our measure of FDI is the number of foreign affiliates per million of inhabitants (one of the very few FDI indicators available at the regional level). We consider about 270 EU regions and the estimations are made for both aggregate economies and separately seven sectors. Thus the data are a three dimensional (unbalanced) panel: across regions, industries and time (we use 3-year averages rather than annual figures between 1997 and 2007 in order to mitigate short-term fluctuations). Some appropriate control variables are included in the regressions. The possible differences according to labour market institutional frameworks are taken into account by considering four sets of regions included in four groups of EU countries (identified on the basis of geographic and institutional characteristics).

The results show interesting differences in the employment impact of FDI, both relative to the sectors (the lowest or even negative impact is in construction, while it is positive in services like financial intermediation and also in industry, but not in all countries in the latter case) and to the regional groups (the highest and most significant impact is found in Central and Eastern European regions while the lowest one is detected in Southern European regions).

JEL: F21, R19, J29

Key words: Foreign direct investment, regional impact of FDI, employment effects of FDI, FDI and EU regions

1. Introduction

The labour market performance and, in particular, the aggregate employment behaviour of a country or region, result from the complex impact of many (economic and institutional) factors affecting job creation and job destruction processes (e.g., Davis et al., 1996). In addition, especially in recent decades, a multifaceted phenomenon of globalization and supra-national economic integration occurred with the following key phenomena: (i) migration of workers in search of better labour conditions (higher wages or probabilities to find a job), (ii) growing international trade in

goods and services, and (iii) FDI, i.e. the movement or off-shoring of companies in search for wider markets and/or lower costs.¹

FDI is a key way of attracting not only inward flows of capital, but also technology and new knowledge in management techniques and in the organisation of work and distributional networks. Thus it is associated with the import of capital, work organisation methods and technological advantages to a host economy, thereby potentially improving aggregate productivity, facilitating the rising skill level of the workforce through the provision of high-skill employment opportunities. As a consequence, FDI is perceived as having potential to improve employment opportunities and promote regional economic development.

Considering the lack in the empirical literature at sub-nation level about the labour market impact of FDI (see Section 2) and the key policy importance of better investigating the factors affecting regional employment, this paper addresses the following research questions:

- i. is regional (sub-national) employment significantly affected by FDI in the EU-27 context?
- ii. are the results significantly different in the main groups of regions (Eastern, Western, Northern and Southern EU regions)?
- iii. is sectoral employment differently affected in the above groups of regions?

We try to answer these questions by investigating about 270 EU regions for the period 1997-2007. The data are a three dimensional (unbalanced) panel: across regions, time, and industries (seven sectors are considered). The grouping of the regions in the mentioned four groups allows for differences in the labour market institutions. Our results could shed some light on the role of FDI in creating (or not) additional jobs in the European regions taking into account possible differences in "labour market features and institutional frameworks" and in sectoral specialisation.

The structure of the paper is as follows. After this Introduction, there is a literature review (Section 2); the empirical analysis follows (Section 3), comprising both data and methodology description, and a discussion of the key results. The final remarks give some hints for the policy implications (Section 4).

2. Literature Review

As for the literature that explicitly considers the labour market impact of FDI, a first distinction is between the studies investigating the employment impact in home country (e.g.,

¹ Pflüger et al. (2010) provide a review of current theoretical advances which pertain to the relationship between trade, FDI and labour markets and, in addition, an overview of the existing empirical work covering the labour market effects of trade and FDI. On the issues of globalisation, multi-national enterprises (MNE) and off-shoring see also Barba Navaretti and Venables (2004), Crinò (2009), Feenstra (2010).

Blomström et al. 1997; Brainard, 1997; Temouri and Driffield, 2009) and the researches addressing the effects on host economies.

The labour market impact of FDI has been largely investigated in the literature, especially in the case of the impact on the countries of origin. The “home country effect” of FDI, on domestic production and employment, has been assessed in empirical estimates. A destructive “export of jobs” has been popularised in many developed countries and associated with FDI, de-localisations and off-shoring. However, even when a partial loss of jobs appears appreciable, it does not seem predominant if compared with other adjustments: technical progress, international trade, migration flows, etc. Some indirect effects, e.g. related to the bargaining power of firms and trade unions, have also been investigated (see Rodrik, 1999). Also in this case the studies on regional economies are quite rare.² A general result³ is that FDI directed to LDCs, that are generally of a “vertical” and labour-saving typology, may cause some “crowding out” of domestic workers in origin countries; FDI targeting to DCs, that are generally “horizontal” and market-seeking in their aim, produce positive or null effects on the domestic country. In more recent studies, there has been a shift of attention to qualitative and composition effects.⁴

In the European context, a wide investigation of the effects of FDI on the labour markets has been realised, especially using micro (firm) and sector level data bases, by a large research group coordinated by Barba Navaretti (e.g., European Commission, 2007). As for the impact on home country, they find a relationship of complementarity and not of substitution between foreign and domestic activities of MNEs: i.e., employment in the home country is not negatively affected by FDI decisions (this result is obtained controlling with similar firms not investing abroad). In addition, fragmentation of production and vertical investments are confirmed to be very important, but the study finds little evidence that these investments have detrimental effects on home employment.

On the other side, there are some studies concerning the impact of FDI on the countries of destination, although the investigations on the labour market effects are not systematic. Some research has been devoted to specific economies and, to a lower extent, to groups of countries, with a prevailing focus on wage dynamics and inequalities, often related to labour and overall

² An exception is Marelli (2006), that not only analyses the impact of globalisation adjustments on the regional labour markets, but further investigates the joint effects of foreign trade, FDI and de-localisations, and migration flows.

³ Brainard (1997) showed that substitution between parent and affiliate employment in response to wage cost differentials is more likely when proximity to the final market is important; furthermore, such substitution effects are more likely when initial factor endowments are similar across locations.

⁴ In fact, an increase in employment of outward FDI's countries is found among the skilled or *white collar* workers in the most qualified areas: management, supervision and co-ordination, marketing, R&D, etc.

productivity changes (including spillovers effects); less frequently the impact on employment has been analysed. In addition, the latter investigations have been often realised using either micro-data or national-level data, while regional (sub-national) studies have been extremely rare.

First of all, it should be noted that a positive effect of FDI on economic growth of host economies is generally found⁵, especially through a better productivity dynamics (also generating spillovers to domestic firms). So, considering the Okun's Law empirical literature and the prevailing evidence on a medium-long run positive relationship between productivity and employment⁶, a first indirect channel of the FDI impact on aggregate employment is passing through the effects on productivity and GDP dynamics.⁷ The size of the growth effect has been attributed to several factors, including the so-called "absorptive capacity" (e.g., Borensztein et al., 1998; De Mello, 1999).

As to research on the labour market impact, many studies investigated the effects of FDI on the wage levels paid in the host country (e.g., Aitken et al., 1996; Budd et al., 2005) and generally found that foreign-owned firms tend to pay, due to several reasons, higher wages than indigenous firms.

Another distinction in the literature is between the FDI directed to developing or developed economies. Lipsey (2004) is an example of the first line of research; he investigated - for the case of US firms - how and through which channels FDI inflows affect employment, wages and labour productivity in developing countries. As for the literature on FDI going to developed countries, Driffield and Taylor (2000) demonstrated - for the case of UK firms - that one effect of FDI is to increase wage inequality and the use of relatively more skilled labour in the domestic firms, without significant positive effects in reducing structural (low skilled) regional unemployment.

In the European context, some interesting results on the impact on the host country are obtained by the Barba Navaretti group (already mentioned); the main results are the following: (i) overall, foreign owned firms are more productive than domestic counterparts, however it is not fully clear if this is due to the fact that multinationals acquire the most productive domestic firms; (ii) foreign firms are shown to adjust fast to any shock affecting labour demand, but less fast than national firms, possibly because they employ a larger share of skilled workers; (iii) as for the spillover effects of inward FDI, they find that FDI plays an important role in strengthening the

⁵ See e.g. Young et al. (1994), Pavlínek (2004), Mullen and Martin (2005). Only in few particular cases a crowding out effect of domestic activities is determined in the empirical literature; see also Driffield and Hughes (2003).

⁶ However, as showed in Marelli and Signorelli (2010a), a short-run trade-off between productivity and employment could exist. In addition, some studies on the FDI literature find that - in some cases - employment declines after domestic firms are acquired by foreign ones (in order to increase productivity, efficiency and profit rate).

⁷ A higher productivity growth is also a key condition for better wage dynamics.

domestic economy of the European countries analysed (positive spillovers are generally larger in R&D intensive industries and when the technological distance between local and foreign firms is relatively small). Finally, this research group found that, in an uncertain business climate, multinational enterprises take into account future exit costs in deciding where to locate a branch plant; both the theoretical analysis and the empirical evidence support the view that flexible labour markets suits MNEs better and that rigid regulations are likely to discourage their investments.

Another large set of studies investigated the role of FDI in the complex process of transition that occurred in Central and Eastern European countries after the fall of Berlin wall⁸. Konings (2004), using company data for the period 1995-2000, studied the employment effects of FDI in home and host countries in Europe and found that, despite high wage cost differentials between East and West in Europe, relocation of employment did not take place; in other terms, labour productivity differences compensated for the wage differences and the employment relocation mainly took place between subsidiaries within Western Europe rather than from the Western countries to NMS.

Hunya and Geishecker (2005) analysed the development of the number of manufacturing jobs in the framework of economic transformation and industrial restructuring in Central and Eastern Europe (CEE). The key findings, concerning the first decade of transition, are the following: (i) domestically-owned manufacturing companies reduced the number of employees while foreign-owned enterprises expanded that number; (ii) job losses due to FDI have resulted from restructuring of privatized state-owned companies; (iii) a reduction of employment has also resulted from foreign companies cutting domestic supplier linkages after taking over state-owned enterprises; (iv) foreign affiliates show higher labour productivity together with better capital endowment and use more up-to-date technology than domestic companies: as a result, they tend to improve the performance of the host economy as a whole; (v) ownership-specific differences in productivity are clearly reflected in relative wages: young skilled workers employed in foreign enterprises have higher wages relative to both their unskilled and skilled older colleagues and also relative to their counterparts in domestic firms; (vi) FDI in non-manufacturing sectors tends to be of a horizontal type (i.e., searching to expand product sales), while this is less the case in manufacturing (where vertical FDI, searching for lower wages, is more important).

An original outcome, contrary to common view, is shown by Lankes and Venables (1996), who pointed out that the main reason why firms invested in CEE countries was the market expansion motive rather than the availability of cheap labour. Marin (2006) investigated the outsourcing and

⁸ As regards the more general studies focusing on transition features and labour market outcomes, see for example Blanchard (1997) and Marelli and Signorelli (2010b).

offshoring to Eastern Europe in the perspective of the new international division of labour. Muendler and Becker (2010) presented a model of multinational labour demand applied to German MNEs investing in Eastern Europe. Some other analyses on the employment impact of FDI in CEE countries⁹ have been realised by Braconier and Eckholm (2001), Radosevic et al. (2003) and Mickiewicz et al. (2000). The latter found evidence that FDI in the restructuring of the CEE economies contributes to employment generation and serves as an important barrier to negative employment shocks; it can operate, however, only as a complement to domestically generated employment rather than as a substitute. Perugini et al. (2008) analysed the complex relationship between FDI, R&D and human capital in EU-27 countries, but highlighting the peculiarities of CEE economies.

While many researches are dedicated to the regional and spatial analysis of the labour markets (e.g. Fischer and Nijkamp, 1987; Huber, 2007), to our knowledge there are no studies focusing on the relationship between FDI and regional employment for the whole EU-27 context. There are few studies that investigate the impact on particular regions or on local labour markets in individual countries. For example, Dinga (2008) investigated the impact of territorially concentrated FDI on local labour market in Czech and found a positive impact of the investment on the local short-run unemployment outflow rate; however, the impact on long-term unemployment resulted negligible. Fazekas (2005) analysed the impact on regional labour markets of Hungary.

In this paper, we try to fill this gap, by analysing in a comprehensive way the impact of FDI on the employment levels of *all* EU regions.

3. The Empirical Analysis

The empirical analysis focuses on the impact of FDI on employment in European regions. First, we explain data and methodology; then we present and discuss the empirical results.

3.1 Data and Methodology

Our empirical analysis makes use of a unique database, FDIRegio, which contains data on foreign affiliates established in all NUTS2 European regions during three different periods of time, namely 1997-99, 2001-2003 and 2005-2007.¹⁰ These data are taken from the Amadeus database of Bureau Van Dijk, which consists of company accounts of 11 millions of firms in all European countries.

⁹ A different topic refers to the determinants of the location of foreign firms within the CEE countries: see for example Pusterla and Resmini (2007). The sectoral dimension has been investigated as well (Resmini, 2000).

¹⁰ We use a 3-year average rather than annual figures between 1997 and 2007 in order to mitigate short-term fluctuations.

Following the international standards, in the FDIRegio database data have been aggregated at regional level when the percentage of assets owned by non residents was at least 10 percent.

Data collection is based on Eurostat Regio database.¹¹ We use as dependent variable the number of employees in the most important sectors of the economic activity, namely, agriculture and fishing, industry, construction and services. Given the importance of the latter in the advanced economies, as most of EU regions can be considered, we then split the services sector into three sub-sectors, i.e. financial services, distributions, and other services.

Our measure of FDI is the number of foreign affiliates per million of inhabitants, since the monetary value of regional FDI inflows is not available, at least for all EU countries. Needless to say, this proxy presents some disadvantages. First of all, it does not allow us to distinguish between sizes of firms; therefore, a big corporation with thousands of employees has the same weight as a small firm with hundreds or even less employees. Secondly, we are not able to consider either sequential FDI or cumulated flows of FDI. Finally, we are assuming that the monetary value of FDI flows is increasing with the number of foreign affiliates. Despite these disadvantages, which imply that the impact of FDI could not be precisely estimated, the most important advantage is the possibility to observe directly the distribution of FDI across EU regions. This means that we do not need to estimate regional FDI flows from national data.¹²

In the empirical exercise we control for other factors that are expected to affect local employment. In particular, we consider fixed investments, proxied by gross fixed capital formation, and value added in each macro-sector since they may have an effect on labour demand.¹³ Following Axaroglou and Pournarakis (2007) we take the deviation of the regional-industry gross value added from the aggregate gross value added as control variable. To control for specific effects due to differences in regions' structural characteristics, we include a dummy variable that identifies those regions with one or more MEGAs (Metropolitan European Growth Areas).¹⁴

We are aware that this specification may not capture some national specificities, like institutions and laws in the labour market. However, our objective is to understand whether and to what extent attracting foreign firms may help regions in improving employment conditions, all other things equal. In order to reduce the bias of the possible omission of institutional variables, we

¹¹ The dataset covers 269 NUTS2 regions, belonging to 25 EU member states. The Baltic Republics and Luxembourg have been considered at country level, while Malta and Cyprus are not included in the dataset because of the lack of data on foreign firms.

¹² Also this strategy would have implied arbitrary assumptions on how to distribute FDI flows over regions belonging to the same country. Regardless of the chosen criterion, the underlying assumption would have been the irrelevance of region specific effects in attracting FDI, a hypothesis which is not supported by the theory (Dunning, 2009; Cantwell, 2009).

¹³ Details on the variables included in the regression analysis and sources of data are reported in the statistical annex.

¹⁴ MEGAS are selected according to several indicators, among which population, accessibility, manufacturing specialization, and headquarters of top European corporations. Regions hosting MEGAS are 66 over 269.

add to the regression equation some dummy variables controlling for groups of countries that share similar labour market features and institutions, because of cultural or social similarities. In particular, we consider four groups of regions: (i) Northern regions, which include regions belonging to the Scandinavian countries, Denmark and The Netherlands (i.e. two countries representative of the “flexicurity model”); (ii) Southern regions, which encompass Italian, Spanish, Portuguese and Greek regions; (iii) Western regions, which include regions belonging to France, Germany, Belgium and Luxembourg, the United Kingdom, Ireland and Austria; and (iv) Central and Eastern European regions, which collect regions belonging to the 10 EU new member states of Central and Eastern Europe (CEE).¹⁵

Accordingly, eq. (1) models the determinants of the level of regional employment as a function of regional value added de-trended by national effects (CYCLE), the level of local investments (INV), the number of foreign affiliates per million of inhabitants (FDI), regions’ settlement structure (MEGAs) and national labour market specificities (included as dummy variables for the four groups of regions):

$$EMPL_{rst} = \gamma_0 + \gamma_1 CYCLE_{st} + \gamma_2 INV_{rst} + \gamma_3 FDI_{rst} + \gamma_4 MEGAs_r + \gamma_5 WEST + \gamma_6 NORTH + \gamma_7 SOUTH + \gamma_8 CEE + v_{rst} \quad (1)$$

The data in use are a three dimensional (unbalanced) panel: across regions (r), industries (s) and time (t). Data are pooled across regions, while industry and time dummy variables are included to account for possible heterogeneity across industries or time invariant specific effects. All regressors are in logs; therefore, the estimated coefficients can be interpreted as elasticities.

3.2. The Results

Table 1 reports the estimated coefficients of eq. (1) for all EU regions (EU25) and also for the groups previously identified (NORTH, SOUTH, WEST, CEE). As expected, both regional value added (CYCLE) and investments (INV) have a positive and significant sign in all specifications, while the settlement structure (MEGAS) does not seem an important driver for employment, since it is able to affect local labour markets in the southern EU regions only.

¹⁵ At the beginning, we considered Ireland and the United Kingdom as a separate group, in order to take into consideration their peculiarities in terms of structural characteristics of labour markets (which are considered to be much more flexible compared to the remaining countries in this group). However, the insignificance of the estimation results suggested us to include both countries in the group of Western regions.

Table 1 – The impact of FDI on regional employment.

	EU25		NORTH		SOUTH		WEST		CEE	
	coeff.	sig.	coeff.	sig.	coeff.	sig.	coeff.	sig.	coeff.	sig.
FDI	0.090	***	0.061	**	-0.008		0.062	***	0.095	***
	(0.012)		(0.024)		(0.017)		(0.017)		(0.018)	
INV	0.586	***	0.667	***	0.77	***	0.68	***	0.297	***
	(0.017)		(0.037)		(0.021)		(0.040)		(0.038)	
CYCLE	0.187	***	0.21	***	0.16	***	0.13	***	0.076	***
	(0.014)		(0.025)		(0.023)		(0.026)		(0.024)	
MEGAS	0.028		-0.05		0.22	***	0.01		0.001	
	(0.028)		(0.038)		(0.048)		(0.036)		(0.061)	
WEST	-0.483	***	-		-		-		-	
	(0.059)									
NORTH	-0.518	***	-		-		-		-	
	(0.029)									
CEE	0.568	***	-		-		-		-	
	(0.043)									
Const	0.739	***	-0.80	***	-0.30		-0.43	*	3.346	***
	(0.109)		(0.200)		(0.124)		(0.224)		(0.231)	
time dummies	yes		yes		yes		yes		yes	
sector dummies	yes		yes		yes		yes		yes	
n. obs.	2399		436		593		783		587	
R-squared	0.78		0.92		0.91		0.92		0.57	

***, **, * indicate significance at 1, 5 and 10 percent, respectively.

As for FDI inflows, our findings indicate positive effects on employment when all industries and regions are pooled. These positive effects are present in all specifications but Southern regions, where foreign firms do not seem to be able to improve local employment, as suggested by the negative but not significant sign of the FDI variable. Moreover, it is worth noting that the impact of FDI on employment is stronger in Central and Eastern European regions than in regions belonging to old EU15 member states. This result may reflect the fact that newly created foreign firms in Central and Eastern Europe carry out more labour intensive tasks with respect to their counterparts in Western European regions, a fact that is not independent on differences in labour costs between Western and Eastern Europe.

These findings, however, are averages across different industries, where specific employment patterns may emerge. Previous similar studies suggest that local labour market effects of FDI may be affected by the sectoral composition of FDI flows (Axaroglou et al. 2003; Axaroglou and Pournarakis, 2007). In order to understand whether and to what extent the effects found in the baseline specification can be explained by FDI sectoral composition, we split the

sample in four sub-samples. As before, in each sub-sample we pooled data across regions. The results are shown in Table 2.

We found that – for all regions in EU25 – FDI is employment expanding in industry, agriculture and fishery, financial intermediation, distribution and other services, while it is employment reducing in construction. This result may be explained by the fact the foreign firms are more productive than local ones since they use more advanced technologies, thus reducing employment, at least in the short run. When we consider the whole services sector, FDI inflows do not seem able to affect employment conditions.

When we cross the sector with the geography dimensions, regional specificities become more apparent. In particular, the following results are worth mentioning:

- FDI in southern regions is not able to affect local labour markets. It is employment reducing in construction and distributions, and weakly employment expanding in financial intermediation. As before, these results may be driven by the fact that foreign firms are more productive than local firms in all sectors of the economy.
- FDI in financial intermediation is employment expanding in all specifications, though the effect is stronger in magnitude in the Northern and Western regions than in Southern and Eastern regions.
- CEE regions benefit more in terms of employment from FDI than Western regions. As indicated by the estimated coefficients, FDI is employment expanding in all sectors, but construction. Also, the effect of FDI on employment is larger than other EU regions in the industrial sector and in some services sectors, i.e. wholesale and retail trade and other services. These findings indicate that FDI foreign firms delocalise in these regions the more labour intense phases of the production chains, with significant positive effects in terms of employment.
- FDI exerts a positive effect on Western local labour markets, as indicated by the sign of the estimated coefficients, which is positive in all specifications. However, it is (significantly) employment expanding only in the industrial sector, financial services and construction.
- FDI in agriculture and fishing is employment expanding only in CEE regions.

Overall, these results confirm that FDI may help regions in reinforcing employment conditions, though some negative effects may occur. Therefore, in the near future the effects on value added and productivity should be analysed in addition to the employment impact of FDI.

Table 2. The impact of FDI on employment dynamics: a sectoral specification

FDI	EU25		NORTH		WEST		SOUTH		CEE	
	coeff.	sig.	coeff.	sig.	coeff.	sig.	coeff.	sig.	coeff.	sig.
All	0.09	***	0.06	**	0.06	***	-0.01		0.10	***
Services	0.02		0.01		0.00		0.00		0.04	*
Industry	0.11	***	0.04		0.08	*	0.01		0.17	***
Fin. Inter.	0.11	***	0.13	***	0.09	**	0.07	*	0.04	**
Agric. and fish.	0.37	***	-0.07		0.03		0.01		0.26	*
Construction	-0.05	*	0.04		0.13	***	-0.09	**	-0.03	
Distribution	0.05	**	0.07		0.03		-0.08	**	0.08	***
Other services	0.18	***	-0.08	***	0.01		0.05		0.12	***

***, **, * indicate significance at 1, 5 and 10 percent, respectively. For sake of simplicity, the table reports the estimated coefficients of the FDI variable only. Complete regressions results are available from the authors upon request.

4. Final Remarks

In this paper we have investigated the impact of FDI on employment of EU regions, for the period 1997-2007. We have used 3-year averages (rather than annual figures between 1997 and 2007) in order to mitigate short-term fluctuations. We considered about 270 EU regions and the estimations have been made for both aggregate economies and separately seven sectors. Thus the data are a three dimensional (unbalanced) panel: across regions, industries and time.

Our measure of FDI is the number of foreign affiliates per million of inhabitants. Although we are aware that this proxy presents some disadvantages, it is one of the very few FDI indicators available at the regional level; it allows anyway to directly observe the distribution of FDI across EU regions. Some appropriate control variables are included in the regressions, comprising fixed investments (proxied by gross fixed capital formation) and value added in each macro-sector (more precisely we have considered the deviation of the regional-industry gross value added from the aggregate gross value added). To control for specific effects due to differences in regions' structural characteristics, we have include a dummy variable identifying those regions with one or more MEGAs (Metropolitan European Growth Areas).

The possible differences related to labour market institutional frameworks are taken into account by considering four sets of regions included in four groups of EU countries. So we have added to the regression equations some dummy variables controlling for groups of countries that share similar labour market features and institutions: North, South, West and CEE countries.

The results indicate positive effects of FDI on employment when all industries and regions are pooled. However, some interesting differences in the employment impact are found. Concerning the different sectors, a positive impact is observed in the industrial sector and in the services; it is particularly large in some services like financial intermediation; on the other hand, a negative

impact is found in construction: a possible explanation is that foreign firms are more productive than local ones (thus reducing employment at least in the short run). As to the regional groups distinction, the highest and most significant impact is found in Central and Eastern European regions: in fact the newly created foreign firms in CEE are likely to carry out more labour intensive tasks; instead the lowest impact is discovered in Southern European regions: as already explained, a first possible reason is that foreign firms are more productive than local firms; however also the worse labour market institutional framework (higher fiscal wedge on labour and firing costs for permanent jobs, non-cooperative industrial relations system, etc.) can play a role.

Such different responses may depend on the dominance of short-term effects – whereby some crowding out of local activities is possible and the high productivity of foreign firms (due to more advanced technologies and organisational methods) is likely to temporarily reduce employment – compared to long-run effects, for which the more dynamic setting and the positive spillovers to domestic firms produce favourable consequences on employment too. The different reactions depend also on the institutional frameworks, since the more flexible labour markets can adjust more rapidly to labour demand shocks.

To investigate more deeply the various channels of the impact of FDI on local labour markets, we intend – in future research – to analyse, notwithstanding the lack of data at the regional level, the effects of FDI on value added and labour productivity (jointly with the employment outcomes already achieved).

The policy implications are also relevant. Not only should governments adopt suitable policy measures to attract FDI, but they should also be aware of the different effects across sectors (“which” firms are coming in is at least as important as “how many”) as well as of the changing impact over time, in order to implement adequate adjustment policies (e.g. helping the initially damaged workers).

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Appendix

Table A1. Variable description and source of data

Name	Description	Source
EMPL	Employment by economic activity at NUTS level 2 (thousand), Nace Rev. 1.1	Eurostat
FDI	Number of foreign firms by economic activity at NUTS level 2 per million of inhabitants (Nace Rev. 1.1.)	FDIRegio
INV	Gross fixed capital formation by economic activity at NUTS level 2 (millions of euro); it has been deflated by using gross fixed capital formation national price index	Eurostat
CYCLE	Gross value added by economic activity at NUTS level 2 de-trended by gross value added by economic activity at national level (milions of euro); GVA at regional and national level have been deflated by using national GDP deflators	Eurostat
MEGAs	Metropolitan European Growth Areas (categorical variable)	Espon