

Chapter 7

FDI in Services in European Regions: An Overview

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1 Introduction

In the last two decades, services have emerged as the largest and most dynamic sector in the world economy, providing about two thirds of global value added and a similar share of employment in most developed and emerging countries (World Bank, 2010). The growth in services has been accompanied by a rising share of services in international transactions: trade in services has grown faster than trade in goods and now it represents about 12 % of world GDP. Moreover, there has been a marked shift of foreign direct investment (FDI) from the manufacturing sector towards the services sector worldwide. The share of services in total FDI stocks has increased to about 63 % in 2010, as compared to 49 % in 1990 (Unctad, 2011).

The European Union (EU) has played and still plays a dominant role in international transactions regarding services. It is the largest exporter in the world for services and the largest market for FDI in services (Unctad, 2011; World Trade Organization, 2010). The implementation of the Single Market Programme provided impetus for the expansion of FDI in services sectors and for a EU-wide restructuring of several service industries, accelerating intra-EU services FDI.¹ Moreover, the East enlargements of 2004 and 2007 created new opportunities for FDI in services given the opening up of new markets and the liberalisation of important services, such as telecommunications, banking and transportations (Lejour, 2007). A cornerstone in the EU is the principle that goods, services, capital and people can move freely across

¹ Services are often considered as strategic or sensitive industries and therefore subject to prudential regulations because of their tendency to natural monopolies and market failures, as well as for national security or economic nationalism considerations. See Golup (2009) for a discussion on this issue.

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member states. However, while the internal market for goods seems to respond to such a principle since the implementation of the Single Market programme in 1992, the internal market in services does not. Service producers face several impediments in exporting their services to or in setting up a subsidiary in another EU member state mainly because of differences in national regulations. In order to boost the internal market in services, in 2004 the European Commission launched a *Proposal for a Directive of the European Parliament and of the Council on Services in the Internal market* (EC, 2004). The Directive, which has become effective from 2010 onwards,² aims at removing regulation-based impediments to trade and foreign investments in services by applying the same principle—i.e. the country of origin principle—to most services sectors.³ According to this principle, EU member states apply mutual recognition of national regulatory regimes.

The rapid international expansion of services, and mainly FDI in services, is supported by two other recent phenomena. On the one hand, it reflects the increase in outsourcing: while consumer services satisfy the final demand, business services, such as telecommunication, transport, and consulting are increasingly used as intermediate inputs in the manufacturing sector. By having the choice of producing internally the services needed to complete and support their manufacturing operations or outsourcing them to external contractors, an increasing number of manufacturing firms have taken the last solution, thus contributing to the diffusion and further development of the services sectors. On the other hand, the technological progress, especially in information and telecommunication technologies and the progressive liberalisation of many services sectors (telecommunication, transportation, finance, etc.) have increased the tradability of several services, making their production increasingly subject to the international division of labour. In this context, multinational enterprises have become the dominant means of delivering abroad those services that, being neither tradable nor storable, have to be produced where they are consumed (Markusen, 2007).

Despite the growing importance of services, there exists very limited literature on FDI in services and its implications for host economies. The existing theoretical literature (Dearnorff, 1985; Markusen, 2007) points out that FDI in services are more complex than FDI in goods, since services differ from goods because of their intrinsic characteristics, such as intangibility, non-storability, non-transferability and heterogeneity. Such peculiarities have implications on how investments can occur and suggest that FDI in services may happen for different reasons than FDI in goods and require separate interpretation. The empirical literature, however, has studied FDI in services by using the same conceptual framework as FDI in manufacturing. Not surprisingly, it has not found substantial differences both in

² The Service Directive was adopted by the European Parliament and the Council on 12 December 2006. It should have been fully transposed by Member States into their national systems by 28 December 2009.

³ Financial, healthcare, transport and electronic communication services are not covered by the directive.

the forces driving FDI in services and manufacturing and in their potential impact on host economies (Casi & Resmini, 2010; Davis & Guillin, 2011; Kolstad & Villanger, 2008; Nefussi & Schwellnus, 2007; Riedl, 2010; Unctad, 2004).

The present paper follows this recent stream of literature and provides an analysis of the location of FDI in services in Europe at regional and sectorial level. More in details, this paper aims at investigating the incidence, the sectorial distribution and the determinants of FDI in services across EU regions. This comprehensive view of spatial and sectorial patterns of FDI in services not only contributes to enrich the present knowledge about FDI in services, but also may help in designing more effective FDI promotion policies. As for FDI in goods, in fact, host economies can benefit from FDI in services through employment creation, capital accumulation, transfer of technology, more efficient services and increased competition (Arnold, Javorcik, & Amattoo, 2007; Golub, Jones, & Kierzkowski, 2007). Moreover, FDI in services can also improve manufacturing firms' efficiency by increasing the availability of high quality production-related services, while international outsourcing of services (offshoring) may help firms to restructure and move into more high value-added activities (Gorg & Hanley, 2011; Markusen, Rutherford, & Tarr, 2005; Olsen, 2006).

The originality of this study comes from its regional focus and use of sectorally disaggregated data for FDI. The data are derived from the Amadeus database produced by Bureau Van Dijk (BVD), which contains firm-level qualitative and quantitative information for all European countries, covering all sectors of the economic activities. Data on foreign affiliates have been aggregated at regional and sectorial level over three different periods of time, i.e. 1997–1999, 2001–2003 and 2005–2007. In so doing, it is possible to control potential factors that can affect FDI in specific years and capture most of the changes occurred in the EU integration process with a potential impact on FDI, i.e. the introduction of the euro and the East enlargements (Liebscher, Christl, Mooslechner, & Ritzberger-Grünwald, 2007; Oxelheim & Ghauri, 2004). More recent data have been excluded since the global financial crisis has not only affected but also altered FDI inflows worldwide (Unctad, 2009).⁴

Generally speaking, FDI data are usually reported in terms of stocks and flows. Inward FDI stocks refer to the total accumulated value of foreign-owned assets at a given point of time, whereas FDI flows refer to foreign capital received over a given period of time. Official statistics often report total FDI stocks and flows at country level; sectorial data on FDI are sometimes available at country level, but they are barely comparable at international level. No official FDI data set is available at sub-national level, either for total FDI or for sectorally disaggregated flows and stocks. Therefore, in order to analyse the impact of foreign investments at sub-national level and compare the experience of different regions within and across countries, alternative sources of data should be explored. The most promising are those based on

⁴ As it is standard in the literature, a firm is considered as foreign-owned if at least 10 % of its value is owned by an ultimate owner who is established outside the country where the firm is located.

firm-level data, since they enable the users to have an overview of the foreign presence in different geographical units by simply counting foreign firms operating in that area in a given period of time. While newly created foreign firms can be easily identified, the computation of FDI stocks implies the identification of firms active over the whole period of time, net of new entrants and exiting firms in each considered period. Given the complexity of such a computation, this paper considers flows rather than stocks of FDI. The number of new foreign affiliates, disaggregated by the 269 NUTS2 EU regions and by 10 one digit NACE Rev. 1 services industries has been used as a proxy for FDI flows.

This approach offers some advantages and also a few disadvantages. As for the former, the regional distribution of foreign firms is directly observed and not estimated by national data. Therefore, the analysis does not suffer from potential distortions in the geographic distribution of FDI due to the “regionalisation” process of national data. Potential disadvantages may arise, first of all, from the fact that data come from firms’ balance sheets; therefore, they may include either plant or firm level information. Despite that, previous studies based on the same source for FDI data have shown that possible biases deriving from using corporate balance sheet information do not distort significantly the results (EC, 2005; Pusterla & Resmini, 2007). Secondly, the use of the number of foreign affiliates located in a given region instead of the total amount of FDI flows received by the same region implies the assumption that FDI flows increase with the number of foreign affiliates set up in a given location, though it is not necessarily true, given that foreign investments involve both the initial transaction and all subsequent capital transactions between the parent firm and the affiliated enterprises.⁵ Finally, one cannot distinguish between small and large foreign investments, which are supposed to have a different impact on local economies. Since this paper investigates the processes of foreign-firm locations and not their impact on the host economies, these potential shortcomings should not affect the results.⁶

The remainder of the paper is structured as follows: Sect. 2 provides a brief overview of FDI in services at aggregate level. Section 3 analyses regional and sectorial patterns of FDI in services and their dynamics by using simple descriptive statistics. Section 4 explores the determinants of FDI patterns of location at regional and sectorial levels through econometric techniques and Sect. 5 concludes by summarising main results and discussing some policy implications.

⁵ Despite that, it has been demonstrated that, on average, there is a positive and strong correlation between the number of foreign affiliates and the value of foreign direct investments received by a location, at least at country level. See Capello, Fratesi, and Resmini (2011) and Pusterla and Resmini (2007).

⁶ Other empirical studies on FDI, especially those which consider finer levels of disaggregation both at geographic and sectorial level use the number of foreign firms as a proxy for the value of FDI flows or stocks. Needless to say, regression analyses have been adjusted in order to take into account the discrete nature of data. See, among others, Capello et al. (2011), EC (2005), Basile, Castellani, and Zanfei (2009); Pusterla and Resmini (2007); Guimaraes, Figueiredo, and Woodward (2000).

Table 7.1 Foreign firms in the service sector

	EU27			EU15			EU12		
	97-99	01-03	05-07	97-99	01-03	05-07	97-99	01-03	05-07
Number of foreign firms	9,696	76,552	88,803	9,162	61,340	57,657	534	15,212	31,146
Share on total foreign firms	57	76	80	58	77	83	38	72	76
% Variation (previous period)		690	16		570	-6		2,749	105
Variation on total FDI		486	10		405	-13		1,392	96
Number of intra EU foreign firms	5,742	49,005	57,484	5,290	42,483	37,319	452	6,522	20,165
Share on total foreign firms (services only)	59	64	65	58	69	65	85	43	65
% Variation (previous period)		753	17		703	-12		1,343	209
Number of extra EU foreign firms	3,954	27,547	31,319	3872	18,857	20,338	82	8,690	10,981
Share on total foreign firms (services only)	41	36	35	42	31	35	15	57	35
% Variation (previous period)		597	14		387	8		105	26

Source: Own calculation from FDI Region database

2 FDI in Services in the EU

Over the period of 1997–2007 inward service FDI flows to the EU have substantially increased (Table 7.1): in the last considered period, the number of newly established foreign affiliates is about tenfold larger than it was at the end of the 1990s, bringing the share of FDI in services on total FDI from 57 % to 80 %. The largest increases have been recorded in the early 2000s. The rise in the share of services in economic activities, the externalisation of services to independent providers, the growing service intensity of the production of goods have certainly created new opportunities for such an impressive increase in the internationalisation of services. However, in the EU FDI in services has taken advantage from other two important milestones in the history of the EU, i.e. the deregulation of service markets and the liberalisation of FDI policies within the Single Market Programme and the East enlargement, which made the EU the most open area in the world for FDI in services (Golup, 2009).⁷

These deregulation efforts have enhanced the internationalisation of the services sectors since the harmonisation of national regulations has allowed European firms to reap economies of scales by expanding in other EU member states. Hence, intra-EU FDI increased tenfold, leading its share on total FDI in services to about 65 % in the late 2000s. By contrast, the share of extra-EU FDI on total FDI in services dropped to 35 % from 41 % at the end of the 1990s.

⁷In 2004 the European Commission proposed the so-called Services Directive with the aim of better integrating services markets by reducing differences in national regulations. See Kox and Lejour (2006) on the potential impact of such a Directive on intra-EU FDI.

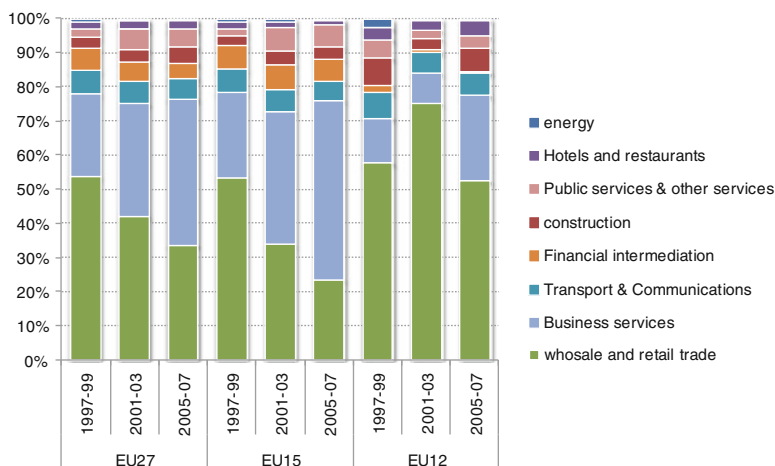


Fig. 7.1 The distribution of foreign firms by sector affiliation

Finally it is worth noticing that, though FDI inflows in services have grown, on average, more rapidly than FDI in other sectors, Western and Eastern Europe follow different patterns: the latter records impressive increases in the whole considered period, while old EU-15 members experiment a drop of about 6 % in the number of newly created foreign firms in 2005–2007 period. This reduction has been driven by intra-EU foreign firms, which may have found more profitable to invest in new EU member states in order to exploit new faster growing markets.

By examining the distribution of FDI flows among the main services sectors (Fig. 7.1), one can note that they are highly concentrated. About 70 % of foreign firms, in fact, concentrates in only two sub-sectors, i.e. wholesale and retail trade and business services. The two branches, however, have followed an opposite trend over time. At the end of the 1990s, trade activities collected about 54 % of newly created foreign affiliates, while the business services sector accounted for about 24 % of total FDI flows. By the years 2005–2007, these percentages have almost reversed, with distribution representing 34 and business services 43 % of FDI inflows. Although these patterns are common to all Europe, they were more pronounced in old EU-15 member states than in EU-12 member states, where FDI in wholesale and retail trade still represents more than 50 % of total FDI inflows in services. No other service sector accounts for more than 10 % of total foreign firms in services. Transport and communication industries collect about 6 % of newly created foreign firms, a share that maintains a constant level in all the considered periods, though the number of foreign affiliates decreased in the EU-15 and increased in Central and Eastern Europe. Financial intermediation services account for about 4 % of total FDI in services. This share, however, is three percentage points less than the share recorded at the end of the 1990s. As expected, most foreign affiliates locate in the EU-15, since it hosts some the most important financial centres in the world. Other less internationalised services include both

sensitive sectors, such as energy (electricity, gas and water distribution) and public administration and other social and community related services, as well as less restricted activities, such as construction and the hotel and restaurant sector, which includes the tourism industry.

These disparities in the distribution of FDI flows across services can be only partially explained by differences in the size of each specific service sector. More precisely, they depend on sector-specific transaction costs, the different role played by scale economies and network factors in each service sector, as well as regulatory factors, which may vary not only across sectors but also across nations, to the extent that the Service Directive remains to be transposed (Lejour, 2007).

From this analysis emerges a clear divide between Western and Eastern Europe: foreign firms providing financial and business services concentrate mainly in the former, while new EU member states of Central and Eastern Europe attract more foreign firms providing consumer services, such as wholesale and retail trade. The internationalisation of these services activities is in fact based on their need to exploit economies of scales and scope, as well as access to global dynamic markets and supply capabilities.

3 Spatial Patterns of FDI in Services

The geographical perspective points up to a different picture: FDI inflows do not appear particularly skewed, both at aggregate and a disaggregate level and over time. This not surprising result reflects on the one hand the non tradability of most services and, on the other hand, the fact that the production and the consumption of several service products cannot be separated either in place or in time.

In order to assess the spatial concentration of FDI inflows across EU regions and over time, the following indicator has been computed (Overman, Redding, &

Venables, 2003): $LQ_{ij} = \frac{FF_{ij} / \sum_i FF_{ij}}{\sum_j FF_{ij} / \sum_i \sum_j FF_{ij}}$. It indicates the share of newly created

foreign firms (FF) in sector j on the total number of newly created foreign firms in region i , relative to the share of sector j in all of Europe. LQ_{ij} allows comparisons to be made across regions: $LQ_{ij} > 1$ indicates that region i has attracted a share of foreign firms in sector j larger than the same share measured on a European level. The opposite is the case when $LQ_{ij} < 1$.

Figure 7.2 shows the spatial distribution of FDI inflows over time by box plot. It indicates that the location of foreign firms has become less dispersed over time, as suggested by the reduction in both the range and the interquartile range.⁸ In the latest

⁸ In descriptive statistics the range is the smallest interval that includes all the observations and it is calculated as the difference between the maximum and the minimum value of the distribution. The interquartile range, instead, is the difference between the upper and the lower quartile. Both are measures of statistical dispersion.

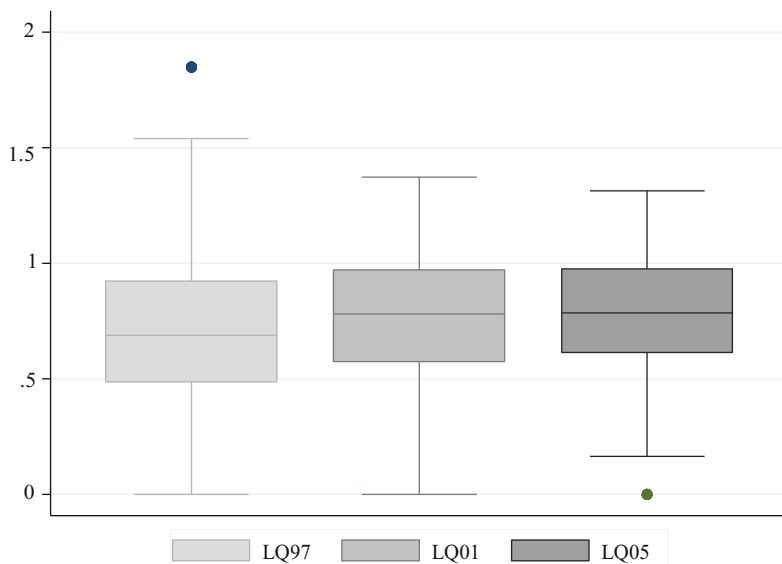


Fig. 7.2 The distribution of newly created foreign firms by regions and over time. *Source:* own calculation

observed period, only one fourth of the EU regions shows a concentration of foreign firms larger than the EU average. However, if one considers that the maximum value of the LQ index is 1.25, it is clear that none of the EU regions substantially deviate from the EU average. Therefore, we can conclude that in 2005–2007, the newly created foreign firms in services were more evenly distributed across EU regions than they were at the beginning of the considered period.

This aggregate picture hides different spatial and time profiles at sectorial level. The discussion on this issue is based on the probability transition matrix (Overman & Puga, 2002; Puga, 2002) that tracks changes over time in the relative position of regions within a given distribution. The transition matrixes in Table 7.2 report changes between the first and the last period considered in the distribution of foreign firms relative to the EU average in eight service sectors.

The transition matrix provides several pieces of information. The given rows reflect initial values, while the columns refer to final values. The main diagonal gives the most important piece of information: it shows the fraction of regions that were in the same range of distribution in the years 1997–1999 and 2005–2007. Initial and final values refer to the standardised LQ indexes, i.e. the relative concentration of FDI inflows in each service sector across EU regions.⁹

⁹Since the LQ index cannot be compared on both sides of 1, it is often made symmetric. The symmetric index, i.e. $SLQ = [(LQ - 1)(LQ + 1)]$, varies between -1 and $+1$. Positive values indicate concentration of foreign firms above the EU average while negative values imply dispersion. Values above ± 0.50 indicate strong concentration/dispersion, while values ranging between -0.50 and $+0.50$ suggest weak dispersion/concentration. If SLQ is equal to zero this means that the share of foreign firms in sector j and region i equals the same share at the EU level.

Table 7.2 Probability transition matrices by sector, 1997–1999 and 2005–2007

Sector E	0	1	2	3	Total	Sector F	0	1	2	3	Total
0	120	17	21	51	209	0	67	26	58	12	163
	57.42	8.13	10.05	24.4	100		41.1	15.95	35.58	7.36	100
1	1	2	2	4	9	1	7	12	5	0	24
	11.11	22.22	22.22	44.44	100		29.17	50	20.83	0	100
2	3	2	1	2	8	2	9	12	20	0	41
	37.5	25	12.5	25	100		21.95	29.27	48.78	0	100
3	14	2	4	14	34	3	5	6	18	3	32
	41.18	5.88	11.76	41.18	100		15.63	18.75	56.25	9.38	100
Total	138	23	28	71	260	Total	88	56	101	15	260
	53.08	8.85	10.77	27.31	100		33.85	21.54	38.85	5.77	100
Sector G	0	1	2	3	Total	Sector H	0	1	2	3	Total
0	15	6	24	1	46	0	121	36	29	16	202
	32.61	13.04	52.17	2.17	100		59.9	17.82	14.36	7.92	100
1	8	29	31	1	69	1	3	6	0	0	9
	11.59	42.03	44.93	1.45	100		33.33	66.67	0	0	100
2	6	56	81	2	145	2	8	16	2	1	27
	4.14	38.62	55.86	1.38	100		29.63	59.26	7.41	3.7	100
3	–	–	–	–	–	3	6	6	6	4	22
	–	–	–	–	–		27.27	27.27	27.27	18.18	100
Total	29	91	136	4	260	Total	138	64	37	21	260
	11.15	35	52.31	1.54	100		53.08	24.62	14.23	8.08	100
Sector I	0	1	2	3	Total	Sector J	0	1	2	3	Total
0	55	27	45	10	137	0	128	33	23	6	190
	40.15	19.71	32.85	7.3	100		67.37	17.37	12.11	3.16	100
1	5	20	16	0	41	1	6	11	4	0	21
	12.2	48.78	39.02	0	100		28.57	52.38	19.05	0	100
2	4	22	28	4	58	2	9	17	7	6	39
	6.9	37.93	48.28	6.9	100		23.08	43.59	17.95	15.38	100
3	3	5	13	3	24	3	4	2	1	3	10
	12.5	20.83	54.17	12.5	100		40	20	10	30	100
Total	67	74	102	17	260	Total	147	63	35	15	260
	25.77	28.46	39.23	6.54	100		56.54	24.23	13.46	5.77	100
Sector K	0	1	2	3	Total	Sector L-P	0	1	2	3	Total
0	35	48	24	–	107	0	89	44	52	9	194
	32.71	44.86	22.43	–	100		45.88	22.68	26.8	4.64	100
1	2	41	43	–	86	1	0	11	5	0	16
	2.33	47.67	50	–	100		0	68.75	31.25	0	100
2	5	31	25	–	61	2	7	8	10	0	25
	8.2	50.82	40.98	–	100		28	32	40	0	100
3	2	4	0	–	6	3	6	10	9	0	25
	33.33	66.67	0	–	100		24	40	36	0	100
Total	44	124	92	–	260	Total	102	73	76	9	260
	16.92	47.69	35.38	–	100		39.23	28.08	29.23	3.46	100

Grey lines report frequencies, white lines report transition probabilities. Legend: 0 = $-1 \leq LQ \leq -0.5$; 1 = $-0.5 < LQ \leq 0$; 2 = $0 < LQ \leq 0.5$; 3 = $0.5 < LQ \leq 1$. E = energy; F = constructions; G = wholesale and retail trade; H = hotels and restaurants; I = transportations and telecommunication; J = financial services; K = business services; L-P = public and other community, social and personal related services.

By taking a broader perspective, in the years 2005–2007, the percentage of regions with a concentration of FDI inflows well above the EU average ($SLQ > 0.5$) is very low in all sectors, as indicated by the last row of each transition matrix. The only exception is represented by public utilities (sector E) where about 27 % of EU regions has a concentration of foreign firms well above the EU average. Contrarily, more than 50 % of EU regions shows a concentration of foreign firms below the EU average ($SLQ > -0.5$) in most consumer services, such as hotels and restaurants (H) and public administration and other community related services (L-P), as well as in financial intermediation (J).

When considering changes in status, the matrixes suggest that persistency is more likely in regions with an initial concentration of FDI below rather than above the EU average, as indicated by the main diagonal of each matrix. The sector with the largest share of regions with a symmetric LQ close to one in both the considered periods of time is financial intermediation (J). It is worth noticing that in two sectors, i.e. business services (K) and public administration and other community related services (L-P), no region showed a concentration of foreign firms well above the EU average in the years 2005–2007. This suggests that foreign firms widespread over time across regions looking for new markets.

4 Drivers and Determinants

In order to estimate the determinants of location choices of foreign service suppliers, a discrete choice model has been applied to a large set of foreign firms investing in Europe. In particular, a negative binomial model has been used since it allows to take into account the overdispersion that usually characterises counted data.¹⁰ Given the panel structure of the data, a fixed effect model has been used, according to which partial regression coefficients are considered constant across cross-sectional units (European regions) while intercepts can vary across them.¹¹

The dependent variable is the number of FDI in each sector j , time t and region r , considered as a whole, and disaggregated between intra- and extra-EU foreign firms and across services sectors. As for the explanatory variables, their choice has been inspired by the existing empirical and theoretical literature. Traditionally, most empirical investigations regarding the determinants of FDI have focused on FDI flows aggregated across economic sectors or across manufacturing sectors. However, as most of services are non-tradable, the determinants of inward FDI flows

¹⁰ Over dispersion occurs when the conditional variance exceeds the conditional mean, which may be small because of the presence of many zeros in the data. Negative binomial regression analysis allows to deal with these complications. See Cameron and Trivedi (1998; 2009) for an in depth discussion of count data analysis.

¹¹ A random effect model has also been estimated. It is not supported by the data, as suggested by the Hausman test statistics reported at the bottom of the tables summarising main results.

may differ from those in the manufacturing sector. The specific nature of services suggests to place attention on investor motivations for becoming multinationals.

Since services are neither storable nor tradable and should be produced where they are consumed, FDI in services is expected to be primarily driven by market-seeking motivations (Nefussi & Schweltnus, 2007; Unctad, 2004). However, it is not easy to identify the boundaries of the market of interest. Services targeted to final consumers need large local markets, while services complementary to business production may be less sensitive to it. Moreover, the recent developments in Information and telecommunication technologies have improved services tradability, thus increasing the size of the potential market that producers may serve from a specific location. In order to account for all these possibilities the regression analysis includes two different measures for market size, i.e. GDP per capita (*GDPpc*) and market potential (*MKT POT*) in the formulation suggested by Head and Mayer (2004). The expected relationship between FDI flows and these variables is positive: the higher the local demand for services—proxied by GDP per capita—and market potential, the larger are potential FDI inflows.

Agglomeration forces can also be crucial in location decisions, as suggested by previous studies on foreign firm-location choice, though non-specifically targeted to FDI in services (Crozet, Mayer, & Mucchielli, 2004; Head, Ries, & Swenson, 1995, 1999; Pusterla & Resmini, 2007). Generally speaking, in order to enjoy agglomeration economies, foreign investors prefer to set up their subsidiaries where the same or related industries are already located. In the services sectors, however, agglomeration effects may not only have a different intensity according to the type of activity carried out by the foreign producers, but may also respond to functional rather than to cost reasons. From this point of view, foreign firms in services might prefer to locate in urban or densely populated areas, where there are already a large number of firms operating in different economic sectors, rather than close to other domestic or foreign firms operating in the same economic sector. In order to test these hypotheses and compare their relative importance, two different proxies for agglomeration economies have been included in the analysis: the first is a dummy variable (*AGGLOM*) identifying those regions with a city with more than 300,000 inhabitants and a population density of at least 300 inhabitants per squared kilometre or a population density of 150–300 inhabitant/km²; the second, instead, refers to the relative specialization of each region in the manufacturing sector (*MAN*).¹² The expected sign of the estimated coefficient for agglomerated regions is positive, implying that the choice of location of foreign firms is mainly driven by functional reasons, while the expected sign of the estimated coefficient of the region's specialisation in manufacturing business is ambiguous. A positive sign suggests first that FDI in services are driven by the demand of the manufacturing firms and, secondly, that foreign service producers exploit inter-sectorial spillovers, while a negative sign indicates that FDI in services prefer to locate close to

¹² Regional relative specialization in manufacturing has been computed by comparing the share of the manufacturing sector on total regional value added to the same share computed at the EU level.

other firms operating in the services sectors in order to save information costs and exploit intra-sectorial knowledge spill-overs from existing producers.

Since it has already been proven that FDI inflows in services are sensitive to the degree of openness of services sectors (Kox & Lejour, 2006; Lejour, 2007), the possibility that FDI inflows in services may be hampered by sector-specific restrictions is accounted for by including a dummy variable (*RESTR*) taking the value of 1 if a service sector is more restricted than the average for all sectors included in the sample.¹³ Restricted sectors are energy, transportation and telecommunication services and financial intermediation (Golup, 2009).¹⁴ Another sector-specific dummy has been included in order to understand whether and to what extent FDI drivers vary across groups of homogenous services, i.e. producer and consumer services (*PROD*).¹⁵

Finally, since larger regions attract more FDI than smaller regions, the size of the region—measured in squared kilometres—(*AREA*) has been added to the regressors' set in order to correct for possible distortions due to differences in size. The dummy EU15, instead, helps in identifying differences in foreign firm location patterns in Western and Central and Eastern Europe.

The regression equation, thus, takes the following form:

$$\begin{aligned} \text{FDI}_{jrt} = & \alpha_r + \beta_1 \log \text{GDPpc}_{rt} + \beta_2 \log \text{MKT POT}_{rt} + \beta_3 \log \text{AREA}_r \\ & + \beta_4 \log \text{MAN}_{rt} + \beta_5 \text{AGGLOM}_r + \beta_6 \text{RESTR}_j + \beta_7 \text{PROD SER}_j \\ & + \beta_8 \text{EU15}_r + \alpha_t + \alpha_J + \varepsilon_{jrt} \end{aligned} \quad (7.1)$$

Table 7.3 shows the main results for foreign firms as a whole and intra- and extra-EU foreign firms. As the table indicates, higher levels of regional GDP per capita have a positive effect on FDI inflows, regardless of the origin of foreign firms, thus confirming the horizontal nature of FDI in services and the importance of local markets in the location processes of foreign firms. Contrarily, agglomeration forces do not seem to be important in these processes. However, the negative sign of the coefficient of the specialisation in the manufacturing sector variable suggests that foreign firms prefer to locate close to other service producers in order to enjoy intra-sectorial knowledge spillovers, while the positive sign of the proxy for the settlement structure indicates that location externalities arise for functional reasons. As expected, stricter regulations negatively affect FDI flows, while some sector specificities may also have an impact on the estimated relationships, as

¹³ On how to measure openness to FDI in the service sectors, see Golup (2009).

¹⁴ Needless to say, restrictions refer to specific branches of the above mentioned sectors such as air transportation or banking. However, the lack of more disaggregated data does not allow using a finer classification.

¹⁵ Producer services include energy (E), constructions (F), transport and communication services (I), financial intermediations (J) and Business services (K), while wholesale and retail trade (G), hotels and restaurants (H), as well as public administration, education and health and social work service activities (L-P) encompass to the consumer service group.

Table 7.3 The determinants of FDI in services

	FDI	Sig.	extra-EU FDI	Sig.	intra-EU FDI	Sig.
GDP per capita	1.01 (0.078)	***	0.89 (0.006)	***	1.08 (0.081)	***
Market potential	0.22 (0.055)	***	0.11 (0.086)		0.26 (0.057)	***
Area	0.20 (0.031)	***	0.10 (0.046)	**	0.24 (0.032)	***
Manufacturing sector	-0.07 (0.047)		-0.13 (0.083)		-0.09 (0.048)	*
Agglomerated regions	0.02 (0.049)		0.01 (0.070)		0.03 (0.050)	
EU-15	-0.76 (0.08)	***	-0.51 (0.123)	***	-0.92 (0.080)	***
Restricted sectors	-0.74 (0.040)	***	-0.88 (0.057)	***	-0.75 (0.041)	***
Producer services	1.04 (0.036)	***	0.88 (0.048)	***	1.07 (0.037)	***
Constant	-14.44 (0.651)	***	-12.20 (0.901)	***	-15.55 (0.680)	***
Hausman test	379.85	***	379.5	***	441.67	***
Log likelihood	-17,697.30		-9,381.44		-16,173.98	
No. of obs.	8,305		7,733		8,305	

*, **, *** indicate significance at 10, 5 and 1 percent level, respectively. Standard errors in parenthesis

All regressions include time and sector-specific dummies

potentially indicated by the positive and significant sign of the coefficient of the dummy identifying producer services, which is robust to all specifications. Finally, it is worth noticing that regions belonging to the old EU-15 member states are able to attract, *ceteris paribus*, less newly created foreign firms than regions belonging to new EU-12 member states. No relevant differences seem to emerge between intra- and extra-EU foreign firms if one does not consider that intra-EU foreign service producers are not attracted by regions specialised in manufacturing, as indicated by the negative though weakly significant sign of the corresponding variable. Therefore, this distinction has been abandoned in the following analysis.

In order to further explore the role of sector specific effects in the location process of foreign firms, the sample has been split into two different sub-samples: producer and consumer services. Here, some interesting differences emerge, as indicated by the results shown in Table 7.4. In particular, FDI in producer services are more oriented to the local market than FDI in consumer services, as indicated by the coefficient of the market potential variable which is positive in both specifications but significant only for consumer services. Moreover, FDI in consumer services are particularly sensitive to within-services agglomeration externalities, while patterns of location of foreign firms in producer services are not affected by agglomeration

Table 7.4 The determinants of FDI inflows by groups of homogenous sectors

	Consumer services	Sign.	Producer services	Sig.
GDP pro capite	1.49 (0.125)	***	2.10 (0.125)	***
Market potential area	0.50 (0.090)	***	0.11 (0.090)	
Manufacturing	0.40 (0.053)	***	0.29 (0.050)	***
Agglomerated regions	-0.19 (0.072)	***	-0.08 (0.075)	
EU15	0.06 (0.083)		-0.02 (0.074)	
Restricted sectors	-1.10 (0.134)	***	-1.73 (0.129)	***
Constant	...		-2.15 (0.065)	***
Hausman test	-17.91 (0.981)	***	-21.45 (0.940)	***
Log likelihood	28.27	**	99.44	***
No. of obs.	-6,559.34		-7,987.30	
	4,518		3,745	

*, **, *** indicate significance at 10, 5 and 1 per cent level, respectively. Standard errors in parenthesis. All regressions include time and, when appropriate, sector-specific dummies

forces, regardless of the motivations at the base of their surge. Sector-specific regulations exert a negative impact on FDI inflows in producer-service sector.

Table 7.5 summarizes the determinants of FDI inflows in individual service industries. Although some estimates cannot be explained either from a theoretical or an economic point of view, sufficient evidence that the effects of FDI determinants may vary across service sectors has been found.¹⁶ More specifically, consumer services, such as wholesale and retail trade and hotels and restaurants, seem to be more sensitive to local and potential market conditions than producer services, such as transportation and communication and business services. Moreover, only one service sector, i.e. transportation and communication services, seems to respond to agglomeration forces. However, foreign firms operating in this sector are attracted by within-sector externalities rather than inter-sectoral externalities, while regions densely populated and with larger cities attract, *ceteris paribus*, less FDI inflows than less urbanized regions, as indicated by the negative and significant coefficient of the agglomerated region dummy variable. This result suggests that in regions hosting larger cities or densely populated domestic and foreign competition may be stronger for these service activities than for other services. It is worth noticing that

¹⁶ In particular, results cannot explain FDI inflows in the energy sector, the most restricted one at least according to the existing literature (Golup, 2009) and in public services and other social and personal services. Sector peculiarities in terms of specific regulations and the public nature of most of these activities may explain these poor results.

Table 7.5 The determinants of FDI by individual services sectors

	E	F	G	H	I	J	K	L-P	Sig.
GDP per capita	0.31 (0.653)	2.13 *** (0.318)	1.30 *** (0.252)	1.98 *** (0.379)	2.06 *** (0.357)	1.58 *** (0.423)	2.77 *** (0.290)	1.95 *** (0.224)	***
Market potential	-0.45 (0.476)	0.64 ** (0.261)	0.54 *** (0.189)	0.64 ** (0.284)	0.55 * (0.298)	0.77 ** (0.345)	0.03 (0.212)	-0.08 (0.160)	***
Area	-0.78 (0.298)	0.64 *** (0.148)	0.38 *** (0.104)	0.54 *** (0.193)	0.55 *** (0.154)	0.43 ** (0.185)	0.23 ** (0.114)	0.16 (0.090)	*
Manufacturing	0.32 (0.389)	-0.22 (0.203)	-0.20 (0.144)	-0.28 (0.209)	-0.46 ** (0.221)	0.06 (0.286)	-0.20 (0.186)	-0.03 (0.144)	***
Aggl. regions	0.27 (0.430)	0.17 (0.224)	-0.10 (0.167)	-0.12 (0.313)	-0.39 * (0.221)	-0.22 (0.280)	-0.17 (0.171)	0.01 (0.129)	***
EU15	-0.44 (0.652)	-1.72 *** (0.331)	-0.78 *** (0.254)	-1.93 *** (0.404)	-1.52 *** (0.364)	-0.73 (0.454)	-2.06 *** (0.314)	-1.82 (0.244)	***
Constant	4.65 (5.073)	-27.34 *** (2.326)	-16.81 *** (1.773)	-24.88 *** (2.882)	-25.27 *** (2.309)	-21.04 *** (2.797)	-27.78 *** (2.081)	-20.44 (1.682)	***
Hausman test	16.77	58.31 ***	49.46 ***	22.34 ***	62.21 ***	29.33 ***	92.65 ***	162.73	***
log likelihood	-423.03	-895.21	-1855.20	-597.75	-1027.97	-661.76	-1582.06	-2686.93	***
n. of obs.	534	678	753	581	687	534	724	2,592	

*, **, *** indicate significance at 10, 5 and 1 percent level, respectively. Standard errors in parenthesis
All regressions include time dummies

agglomeration externalities between manufacturing and services sectors positively affect FDI inflows only in energy and financial services, though it is not significant.

Quite surprisingly, foreign firms in consumer services are not attracted by regions hosting larger cities, as indicated by the negative though not significant coefficient of the corresponding dummy variable. As before, this may be explained by the fact that in these regions, foreign firms may be more exposed to competition than in less urbanised regions.¹⁷

5 Summary and Conclusions

This paper has investigated the spatial and sectorial distribution of inward FDI flows in the European services industry. It has demonstrated that over time the distribution of FDI flows in Europe has changed, both from a geographical and a sectorial point of view. In particular, relatively more FDI is directed towards services sectors and more FDI has been flowed into the new member states of Central and Eastern Europe.

This paper has also explored the determinants of FDI inflows in the services sectors by using a cross-regional panel of three periods of time, which altogether cover more or less the 2000s decade. The empirical analysis indicates that FDI in services are mainly driven by market reasons, though some minor differences in terms of size and significance of the estimated coefficients do exist across different service industries. In particular, local demand seems to be more important than market potential, indicating that fragmented service markets across Europe still exist. The findings also confirm the hypotheses that high levels of regulation reduce FDI inflows, as well as the East enlargements of the EU created further opportunities for FDI in the services sectors. Agglomeration effects, instead, are very weak: within-service externalities drive FDI inflows in consumer service sectors, while agglomeration for functional reasons do not exert any impact on inflows of FDI. Only FDI in transportation and communication services seems to be affected by the settlement structure of EU regions: regions hosting larger cities are less attractive than less urbanized regions, because of stronger competition effects. No other sector-specific differences emerge from the analysis, even when one compares intra-EU direct investments with extra-EU FDI.

Despite its limitations, the present research contributes to the existing literature in several ways. First of all, it represents a first comprehensive view of the composition and spatial distribution of foreign investment flows in the European services industry. Secondly, it offers more insights into the determinants of FDI in services. Last, but not least, it allows to assess the “missed” opportunities for intra-EU FDI due to the existence of two related phenomena, i.e. residual restrictions to the free circulation of

¹⁷ Possible collinear effects with the GDP per capita variable cannot be excluded, though not detected by the correlation matrix.

some services and persisting differences in national regulations that prevent the full functioning of the single market. Thus, the main policy implication that can be drawn from this study is the need for a more open market for services both at a European and worldwide level. To this respect, the full implementation of the Service directive may represent an important step forward in this direction, though important services activities are not included in it. Given the special nature of some services, however, this process should be carefully monitored and driven by competent regulatory agencies at both national and international level, in order to minimize negative effects of FDI and maximize the positive ones. The need to balance costs and benefits of foreign investments is not a new issue in the policy debate, but it is much more sensitive in the case of services, especially those concerning socially or culturally sensitive areas, because of their greater human intensity and because a number of services take the form of public goods.

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