

The single European Market, the European Monetary Union and United States and Japanese FDI flows to the EU

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This paper investigates the possible impacts of the two major structural changes, namely the establishments of the Single European Market and the European Monetary Union, on FDI flows from the United States and Japan to 12 European Union countries. It applies the panel LM unit-root methodology to a data set consisting of United States and Japanese FDI flows to twelve EU countries for the period 1965–2005. The findings reveal that the patterns of FDI changed after the major institutional changes in question. However, Japanese FDI was affected more by the implementation of the Single Market Programme while the United States FDI was affected more by the creation of the European Monetary Union.

Key words: foreign direct investment, Single European Market, European Monetary Union

1. Introduction

In 1986, the Single European Act, known as the Single Market Programme (SMP), was signed by the Member States of the then European Community. The aim of the Act was to remove the remaining internal barriers to the cross-border mobility of goods and services as well as capital and people in order to increase the competitiveness of the European economy. In 1992, the Treaty of European Union, was signed in Maastricht aimed at the creation of the European Monetary Union (EMU). Since 1 January 1999, the euro became the official currency in eleven participating countries and Greece followed two years later. The SMP and the establishment of the EMU gave rise to concern outside the EU that its aim was to keep non-EU goods and businesses out of

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the EU market. "Fortress Europe" was the term given to this prospect (Neary, 2002).

Transnational corporations (TNCs), especially those based in Japan and the United States, sought to position themselves strategically in the EU market through increased investment flows in response to the SMP. Foreign Direct Investment (FDI) flows to the EU experienced a significant growth in the second half of the 1980s. The growth rates of FDI flows from the United States and Japan to EU were 23.4% and 46% respectively during the period 1985–1989 (UNCTC, 1991). A number of empirical studies have found evidence that the SMP was responsible for the increased FDI flows to EU countries (Yannopoulos, 1990a; Vernon, 1994; Balasubramanyam and Greenaway, 1992; Yamada and Yamada, 1996). According to Dunning (1997), the SMP changed the behaviour of the non-EU TNCs, because the SMP modified the parameters in terms of the ownership, locational and internalization advantages.

The establishment of the EMU, by removing the exchange-rate uncertainty, was expected to encourage cross-border investment in the EU economies (Commission of the EC, 1990) since uncertainty about future returns was likely to discourage investment within the region (Dixit and Pyndick, 1994). Furthermore, the EMU was thought to minimize destabilizing speculation, to increase transparency and to enhance the reliability of rules and policies. Stiegert et al. (2006) found evidence that investment patterns and trends to EU countries were significantly influenced by the Maastricht Treaty and the cross-border effects that took place after 1992.

This paper contributes to the existing literature on the impact of the two institutional changes, the SMP and EMU, by using a methodology different from previous studies. More specifically, it investigates FDI inflows from Japan and the United States by using the Lee and Strazicich (1999, 2004) panel LM unit root methodology to identify possible structural break dates. The analysis makes use of the annual data for Japanese and United States FDI flows to 12 EU countries and covers the period 1965–2005. The results reveal that the patterns of FDI inflows did change due to the two institutional developments. FDI from Japan was affected more by the implementation of the SMP while FDI from the United States was affected more by the EMU.

The remainder of this paper is organized as follows. The second section introduces the theoretical framework and sets out the hypotheses. The third section presents the methodology. The fourth section describes the data and presents the empirical results. Finally, the fifth section offers some concluding remarks.

2. Theoretical framework

The decisions of TNCs to invest abroad is related to a number of factors such as market size and growth (Buckley and Casson, 1985), labour costs and skills, agglomeration effects, policy towards foreign investors, exchange rate volatility, the quality of institutions and infrastructure (Pournarakis and Varsakelis, 2004; Pain and Barrell, 1999). According to John H. Dunning's eclectic (or OLI) paradigm, the likelihood of a firm engaging in foreign production is determined by the interaction of three sets of factors, namely, the ownership advantages of the firm, the locational advantages of host countries and the internalization advantages of the firm's cross-border activities.

Regional economic integration alters the business environment in which firms operate. It facilitates the cross-border movement of goods and services as well as the factors of production, capital and labour, and hence modifies the parameters of the OLI paradigm. According to Dunning (1997, 1998), the SMP might have had positive effects on FDI flows to the EU. The SMP, by eliminating the non-tariff barriers, increased competition and productivity in the European market and encouraged firms to exploit the intra-regional product and process specialization (Dunning, 1997) and the economies of scale in order to reduce the cost and generate growth (UNCTC, 1990). Baldwin et al. (1989) showed that the one-time efficiency gains from the SMP would be multiplied into a medium-run growth bonus because of its dynamic effects resulting from more innovation, faster productivity improvement, greater investment and higher output growth. Rugman and Verbeke (1985) argued that non-EU companies would be forced to establish affiliates in the EU before 1992 in order to avoid potential barriers to entry. Also, the shifts in tax regimes, the reduced cost of intra-EU communication and transportation would also affect FDI. However, the SMP effects on the geographic distribution of the inward FDI within EU is ambiguous (Dunning, 1997). Economic integration may lead to increased geographical concentration of industries, because

firms are likely to locate close to each other (Venables, 1996; 1998) to take advantage of agglomeration economies, thus leading to regional specialization of economic activities.

Yannopoulos (1990a, 1990b), using a combination of the OLI paradigm and the theory of international integration, distinguished four types of investment strategies by TNCs as a response to the static and dynamic effects of economic integration. The defensive import-substituting investment, the offensive import-substituting investment, the reorganization investment and the rationalised investment.

Neven and Siotis (1996) found evidence that the anticipation of a barriers-free Europe significantly affected the inflows of FDI from outside the region. Pain and Lansbury (1997) argued that the initial stage of liberalization saw an increase to investment flows as firms entered the market in order to take advantage of the new opportunities.

Hence, the establishment of the Single European Market may have had significant impact on the decision of the extra-EU TNCs to invest in the newly unified market. However, the effects of regional integration through the SMP on FDI are likely to have varied across different home and host countries. It is likely that United States and Japanese FDI flows have reacted differently since United States TNCs had had a long presence in Europe since 1950s, while their Japanese counterparts had mostly served the European market through export prior to the establishment of the Single Market. Hence, we expect that the implementation of the SMP would have affected Japanese TNCs more since they are likely to have reacted to the possible emergence of a "Fortress Europe" and the consequent restriction on exports to the EU after the 1993, by undertaking FDI in the late 1980s and early 1990s. Hence, we pose the following hypothesis:

Hypothesis 1: The impact of the institutional changes in EU or inward FDI is likely to differ depending on both the host and home country.

The EMU may have affected inward FDI to EU countries through a number of channels. First, EMU would have encouraged FDI in EU economies (Commission of the EC, 1990) by reducing exchange-rate uncertainty and macroeconomic instability, helping to avoid destabilizing speculation and increasing transparency and reliability of

rules and policies. Second, it would have increased the certainty value of expected profits of risk-averse firms, reduces trade costs and favours vertical FDI. Third, the asymmetric shocks expected in a monetary union might have resulted in spatial diversification of production within the EU to minimize the impact of these shocks.

Molle and Morsink (1991) examined the effect of a monetary union on FDI and concluded that since exchange rate risks discouraged FDI, a monetary union should result in an increase in FDI inflows. OECD (1992) also predicted that the prospect of a stable exchange rate together with monetary discipline should attract more investment from outside the region. Aizenman (1992) and Goldberg and Kolstad (1995) arrived at a similar conclusion claiming that fixed exchange rates regime was more conducive to inward FDI than flexible exchange rates. However, in the case of horizontal FDI, the removal of exchange rate volatility may decrease FDI and increase trade flows as a substitute. Finally, Stiegert et al. (2006) found evidence that investment patterns towards EU were significantly influenced by the enactment of Maastricht Treaty.

Thus the establishment of the EMU is expected to have had a positive impact on inward FDI especially from Japan and the United States.

Hypothesis 2: EMU influenced positively inflows of FDI from the United States and Japan in the EU-12.

3. Methodological issues

The two hypotheses are tested using the panel LM unit root methodology proposed by Lee and Strazicich (1999, 2004) that allows us to determine the location dates of the two structural changes in FDI inflows. The impact of structural changes on economic variables is assessed using dummies in the regressions. However, since structural breaks can be mistaken for non-stationarity (Perron, 1989), Zivot and Andrews (1992) and Perron (1997), among others, proposed unit root tests that would allow a structural break to be determined "endogenously" from the data; the date of the structural change, statistically, is not predetermined by the researcher but the methodology allows for the data series to reveal the date. Lumsdaine and Papell (1997) extended the Zivot and Andrews one-break test for

two breaks. Finally, Lee and Strazicich (1999, 2004) proposed a two-break panel LM unit root test. This paper uses the panel LM unit root test of Lee and Strazicich to determine endogenously the dates of two possible structural breaks in FDI flows.

In the panel LM unit root test methodology of Lee and Strazicich, the LM-statistic follows asymptotic distribution. This also holds if dummies are included to test possible structural breaks, as long as $N/T \rightarrow k$, for each finite intercept k , and as long as $N, T \rightarrow \infty$. The LM statistic is the t-statistic when testing for $\phi = 0$ in the regression:

$$\Delta y_{it} = \text{intercept} + \delta_i \Delta L_{it} + \phi_{i,t-1} + \sum_{j=1}^{p_i} \rho_j \Delta \tilde{s}_{i,t-j} + \text{error} \quad (1)$$

where $\tilde{s}_{i,t-1} = y_{i,t-1} - \tilde{\gamma}_{2i}(t-1) - \tilde{\delta}_i D_{i,t-1}$ and $\tilde{\gamma}_{2i}$ and $\tilde{\delta}_i$ are the ordinary least square estimators of γ_{2i} and δ_i from the restricted regression $\Delta y_{it} = \gamma_{2i} + \delta_i \Delta D_{it} + \text{error}$ letting $\tilde{s}_{i,t-1} = \tilde{s}_{i0}, \tilde{s}_{i1}, \dots, \tilde{s}_{i,-1}$ and $\Delta D_i = (\Delta D_{i1}, \Delta D_{i2}, \dots, \Delta D_{iT})'$, the LM t-statistic that tests the null hypothesis $\phi=0$ in regression (1) series can be expressed as:

$$\tilde{\lambda}_{LM} = \frac{[\bar{LM}_{NT} - ELM_{ii}]}{\sqrt{VLM_{ii}}} \quad (2)$$

where ELM_{ii} and VLM_{ii} denote the expected value and variance of each country's t-test statistics LM_i^T and $\bar{LM}_{NT} = \frac{1}{N} \sum_{i=1}^N LM_i^T$

The implementation procedure is as follows. We determine the location of the endogenous breaks for each country and afterwards we identify the optimal number of breaks. We apply a *general-to-specific* procedure, suggested by Ng and Perron (1995), by which the existence of two breaks¹ is tested; if less than two breaks is significant, the procedure is repeated using the one-break minimum LM unit root test.

¹ The t- statistic of each estimated break coefficient is examined for significance at the 10%, 5% and 1% level in an asymptotic normal distribution (absolute value greater than 1.645).

4. Data and Empirical results

The empirical analysis uses data for the annual FDI flows from the United States and Japan to 12 EU countries that were members of the European Community in 1986.² The data for United States FDI are compiled by the United States Bureau of Economic Analysis and cover the period 1966–2006. The data for Japanese FDI flows, obtained from JETRO, cover a period from the first available year for each country to the year 2004.³

Table 1 presents the results of the LM unit root test methodology on the time series data of FDI inflows.⁴ The upper division of the table presents the findings for United States FDI and the lower the findings for Japanese FDI. The univariate LM unit root statistics appear in the second column. The optimal number of breaks is shown in the third column of the table. The optimal differenced terms that correct for serial correlation are given in the fourth column and the time location of the breaks appears in the last column. The last row of each division presents the overall panel LM statistic.

The panel LM test with two structural breaks suggests that the examined FDI flows series should be characterized as stationary with breaks. The evidence is in contrast with the findings obtained in our preliminary tests for stationarity without allowing for possible structural breaks. However, neglecting the presence of significant breaks may lead to spurious inference regarding the integration properties of the examined series (Perron, 1989).

For United States FDI, one structural break exists in nine countries, two breaks in two countries, Ireland and Germany, and no structural break in one country, Portugal. The structural break in all countries, with the exception of Germany and Italy, took place in the period 1995–2000. The two breaks for Germany occurred in the years 1990

² These are : Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxemburg, the Netherlands, Portugal, Spain and the United Kingdom.

³ The first available year for the Japanese FDI ranges from 1965 for Belgium, Germany, Italy and the United Kingdom to 1977 for Denmark.

⁴ At the first stage of a preliminary empirical analysis we tested the series for stationarity using the LM test without considering for possible structural breaks and the results indicated non-stationarity. Due to space limitations the results are not reported and are available upon request from the authors.

Table 1. Panel LM unit root tests

Country	Univariate LM unit root test statistic	Optimal number of breaks	Optimal lag length (k)	Break location
Flows from United States				
Belgium	-2.435***	1	8	1997
Denmark	-3.809***	1	3	1997
France	-3.329***	1	6	1999
Germany	-2.095**	2	1	1990, 1993
Greece	-5.100***	1	0	2000
Ireland	-1.229*	2	6	1993, 1997
Italy	-2.763***	1	8	1993
Luxemburg	-2.788***	1	8	1999
Netherlands	-3.900***	1	8	1997
Portugal	-4.0645***	-	-	-
Spain	-3.887***	1	7	1997
United Kingdom	-10.271***	1	7	1995
Panel LM statistic	-3,584***			
Flows from Japan				
Belgium	-4.760***			
Denmark	-6.239***			
France	-3.078***	1	7	1996
Germany	-3.614***	1	8	1992
Greece	-5.390***			
Ireland	-5.773***	1	5	1984
Italy	-3.219***	1	6	1993
Luxemburg	-0.866	2	2	1986, 1989
Netherlands	-6.476***	1	8	1988
Portugal	-4.269***	2	4	1989, 1996
Spain	-1.955**	2	6	1983, 1986
United Kingdom	-4.178***	1	7	1994
Panel LM statistic	-3,382***			

Source. Authors

Note: All tests allow for time fixed effects and all regressions include an intercept and time trend. The 1, 5, and 10% critical values for the panel LM test with two breaks are: -2.326, -1.645, and -1.282. * indicates significance at the 10% level, ** significance at the 5% level, *** significance at the 1% level.

and 1993, the one break in Italy occurred in 1993 and finally one of the two breaks in Ireland occurred in 1993.

With regard to Japanese FDI, the data for Belgium, Denmark and Greece do not show any structural break. The data for six countries show only one structural break and for three countries, Luxemburg, Portugal and Spain, show two structural breaks. All the structural breaks took place in the period before 1993, the first year of the SMP with the exemption of the UK where the break occurred in 1994, one year after the implementation of the SMP, and Portugal where the break occurred in 1996.

It is apparent from our findings that the two major institutional changes (the SMP and EMU) that took place in the EU affected the decision of Japanese and United States firms to invest in EU countries. However, there is a clear indication that the change in the investment strategy of United States and Japanese TNCs was based on different reasoning. The pattern of United States FDI flows changed in the period before the establishment of the EMU, while the pattern of Japanese FDI flows changed in the period before the SMP.

United States TNCs, having had a strong presence in Europe since 1950s, were in a position to capitalize on their experience and to make the most of the advantage of European integration and exploit the benefits of competition at the European level. In other words, United States TNCs, due to their long presence in the EU, were likely to have anticipated the Single European Market and had already "discounted" its effects. On the other hand, the implementation of the EMU was expected to change the institutional setting for FDI in a way which was not likely to have been anticipated in the past. Furthermore, United States TNCs used to invest in different European countries in order to hedge against exchange rate fluctuations. Therefore, the removal of exchange-rate uncertainty, the implementation of new fiscal policies, the harmonization of economic institutions and the possible asymmetric real shocks might have created a new set of incentive for United States TNCs to reorient their investment strategies in Europe.⁵

⁵ Concerning the policy towards foreign investors, a common approach has been observed in most areas but taxation differences remained.

On the other hand, until the late 1980s, Japanese firms had served the European markets through exporting rather than undertaking FDI. Japanese FDI flows towards European countries increased dramatically in the late 1980s and Japan became the most important overseas investor for the EU. This constituted a major strategic reorientation for Japanese firms. The SMP prompted this strategic shift because of the perceived future difficulties in exporting to the EU and exclusion from the benefits of competition from the transition to the single market.

Our findings for Japanese and United States FDI in the EU support the argument of Buigues and Jacquemin (1994) that the elimination of the non-tariff barriers was a significant reason for the increase of Japanese FDI flows to the EU but a minor one for United States FDI. Our finding concerning the change in the behaviour of Japanese firms also corroborate Balasubramanyam and Greenaway (1992) and Yamada and Yamada (1996) who argued that Japanese FDI flows towards the EU were positively influenced by the SMP.

Finally, it is worth noting that the change in the behaviour of United States TNCs, as well as their Japanese counterparts, with regard to Germany coincides with the re-unification process after the collapse of the East Germany communist regime. United States TNCs seems to precede Japanese TNCs by two years and this may reflect the fact that the United States firms were more prepared to exploit the new opportunities that would emerge in the unified Germany.

5. Conclusions and policy implications

The aim of this paper was to explore the impact of the two major structural changes that took place in the EU, the establishments of the Single European Market and the EMU, on FDI flows from Japan and the United States to 12 EU countries. We applied the panel LM unit root methodology proposed by Lee and Strazicich (1999, 2004).

The findings of the paper verified the expected change in FDI flows into the EU in anticipation of the establishment of the SMP and EMU. However, the reactions of Japanese and United States firms were not uniform. It appears that the establishment of the SMP affected Japanese firms more while the establishment of the EMU their United States counterparts. This difference in the patterns may reflect the

different strategic orientations of Japanese and United States firms at that time.

United States TNCs, having had a presence in Europe for a long time, were likely to have already discounted the benefits of the single market. Moreover, this strategy facilitated the hedging against exchange rate fluctuations inside the EU. The process towards the EMU and the expectation of a more stable exchange rate and macroeconomic environment together with the possible existence of asymmetric real shocks inside the euro zone, affected their new strategy for investment in the EU.

On the other hand, Japanese firms had followed the strategy of serving the European market through exporting. Hence, the announcement of the creation of a single European market raised fears of a Fortress Europe but at the same time created opportunities. Our findings support the view that Japanese firms accelerated the change in their strategy towards EU countries from export to direct investment after the launching of the SMP in the year 1986.

Our results have significant policy implications not only for the EU but for other regions as well. Literature has shown that economic integration contributes to the reduction of inequality among countries and increases the growth potential. Moreover, economic and monetary integration ensures monetary and price stability. Our findings indicate that integration positively affects the strategy of TNCs to invest in the region. Hence, economic integration could increase the growth potential of the region through enhancing its attractiveness to foreign investors.

Future research should study the impact of the SMP and EMU on the FDI flows within the integrated area and also the impact on inward FDI inflows taking into account pre-integration macroeconomic and growth status of individual countries in the region. Finally, it is worth investigating the question of whether the monetary union has a greater impact in attracting inward FDI in countries where large exchange rate fluctuations and unstable macroeconomic environment had previously prevailed.

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