

European Accounting Harmonisation: Consequences of IFRS Adoption on Trade in Goods and Foreign Direct Investments

Abstract

This paper focuses on the importance of accounting harmonisation on foreign activities at a macroeconomic level. International Financing Reporting Standards (IFRS) adoption is considered to reduce information costs among countries and is, therefore, an important way to encourage international trade in goods and investments. The fixed-effects vector decomposition (FEVD) procedure is used to estimate panel data characterised by the presence of time invariant variables in a gravity model approach. The results provide evidence that benefits exist in terms of trade in goods and FDI when IFRS are adopted. Furthermore, the positive effect of harmonising accounting standards on foreign activities in Europe differs in countries because of behavioural factors such as unfamiliarity aversion.

Keywords: IFRS, trade in goods, FDI, gravity, FEVD.

1. Introduction

This paper is related to the home bias literature on trade in goods and equity portfolios. It is well-known that people mainly consume domestically produced goods and that stock market investors prefer domestic assets. Obstfeld and Rogoff (2000) initiated a new stream in empirical literature when they cited these facts as two of the six major puzzles in international economics. Moreover, these two puzzles are related since countries which are more open to trade in goods are also more financially open (Lane, 2000).

Portes and Rey (2005) uncovered a specific geographical pattern of international asset transactions and proved that the information required to evaluate financial assets is not equally available to all market participants, and that the lack of this information is much more important than the diversification opportunities in

foreign markets. Therefore, increasing the comparability of financial information and making accounting information more easily understood worldwide may have substantial consequences on foreign activities.

A number of international organisations, such as the United Nations, the World Bank and the World Trade Organisation (WTO), are involved in attempts to harmonise accounting.ⁱ These organisations support the effort of the International Accounting Standards Board (IASB) to eliminate the barriers to investments flows among different countries and to strengthen the international financial architecture.ⁱⁱ

International Accounting Standards (IAS) are rapidly converging. Over 100 countries have already moved to International Financial Reporting Standards (IFRS) for financial reporting purposes. Hence, the question of whether the adoption of IFRS fosters foreign activities is of special interest, particularly in light of the European Union's recent adoption of IFRS by listed companies. IFRS adoption may help IFRS-users from other countries to understand financial information, thus reducing information asymmetries between users of financial statements in different countries.

This paper aims to provide the first empirical evidence of the effect of IFRS adoption in Europe by focusing on the importance of European accounting harmonisation on bilateral international trade in goods and foreign direct investments (FDI) at a macroeconomic level. Whether transition economies and uncertainty-averse countries may benefit more from accounting harmonisation is also analysed since companies in different countries are expected to participate in foreign activities to a greater extent when information costs and risks of doing business with unfamiliar partners are reduced. The results support IFRS adoption

having an important effect on reducing information costs and investor uncertainty. Hence, foreign activities increase among European countries.

This paper is arranged as follows. Section 2 describes key issues in accounting harmonisation and information asymmetries. Section 3 describes the gravity model, while Section 4 presents the estimated equation and the fixed-effects vector decomposition methodology (FEVD). Section 5 describes data, sources and variables. Section 6 covers an empirical analysis where the main results are presented. Finally, Section 7 puts forward the conclusions drawn.

2. Accounting harmonisation and information asymmetries

2.1. The accounting harmonisation process in the European Union

The free movement of goods and production factors are the fundamental freedoms of the European common market, as they move to the area where they are most valued, improving the efficiency of resource allocation. To achieve the free movement of goods and factors of production, the infrastructure of national markets has to be harmonised. Financial accounting is considered a part of this infrastructure (Choi et al, 2001).

As regards the European accounting harmonisation process, the main instruments used to promote accounting harmonisation within the European Union (EU) were the Fourth and the Seventh Company Law Directives. The former (1978) aimed to harmonise the national laws on the accounting regulations and intended to make it easier for investors, lenders and suppliers to obtain, understand and rely on the accounts of companies in other Member States, and to promote fair competition among Member State companies (Roberts et al., 2002). The latter (1983) concerned consolidated accounting in Member States. The implementation of the Directives into national laws brought about a change in the aim of accounting in many Continental European countries which shifted from the purpose of

determining tax and dividend payments to provide timely and useful information to investors for their decision-making. Moreover, the Directives have had a real positive impact since the quality of financial reporting increased in Member States. Nonetheless, as the Commission of the European Communities (1995) pointed out “the adoption and implementation of the Fourth and Seventh Directives were only achieved with difficulty and no further progress has been made at the EU level in harmonising the basic rules on accounting and financial reporting”ⁱⁱⁱ since the Directives were originally negotiated by the inclusion of numerous options open to different interpretations. Consequently, large European companies seeking capital in the international capital markets had to prepare a second set of accounts and a clear preference was expressed for the need to take into account the harmonisation efforts at a broader international level (European Communities, 1995; page 3). As a result, the EU began to support the efforts of the IASB to develop IAS. Finally, in 2002, the EU adopted an IAS Regulation requiring that all listed EU companies prepare their consolidated financial statements in accordance with IFRS from the year 2005 onwards. As a consequence, about 7,000 listed EU companies were required to prepare financial statements according to IFRS. Additionally, EU countries have the option to require/permit IFRS for unlisted companies and in parent company (unconsolidated) financial statements and, thus, there is heterogeneity in the status of the implementation of IAS in the EU (see Implementation of the IAS Regulation – 1606/2002 – in the EU and EEA).

Nonetheless, barriers to increased harmonisation in the EU should be reflected. First, the large number of exceptions and exemptions permitted by IFRS 1: *First-time Adoption of IFRS*, means that the degree of cross-country harmonisation in accounting practices may have been limited in the period immediately following

the mandatory adoption by EU countries. Second, ignoring transitional arrangements implies that the adoption of IFRS does not guarantee significant improvements in EU accounting practices because of the continued absence of a recognised set of international GAAP. Therefore, whether predicted increases in the comparability of financial reporting post-IFRS adoption leads to improved flows in foreign activities has to be analysed from an empirical perspective.

2.2. Accounting information, information asymmetries and economic performance

Bushman and Smith (2001) argue that there are three channels through which financial accounting information affects economic performance. First, better identification of good versus bad projects by managers and investors, second, discipline in project selection and expropriation by managers and, third, reduction of information asymmetries between investors. Young and Guenter (2003) focus on the third channel and show that countries where financial accounting environments lead to lower information asymmetries among investors are more likely to have higher international capital mobility. In addition, accounting theory argues that financial reporting reduces information asymmetry by disclosing relevant and timely information (e.g. Frankel and Li, 2004).

Information asymmetries play an important role in equity flows (Portes and Rey, 2005), and also in foreign investments and international trade in goods (Guerin, 2006). The information asymmetries arising from differences in financial reporting influence foreign investments since they affect the firms' performance to locate and invest abroad. Otherwise, the relationship through which financial accounting information matters on trade in goods is not so straightforward, and is related to the fact that exporting firms face large fixed costs. Exporting activities involve investment that cannot be financed internally. Thus, there is a need for

outside finance. However, exporting costs are difficult to finance since investments are made long before any export revenue is collected, and they provide limited collateral (Becker and Greenberg, 2003). For outsiders, revenues from abroad may be difficult to verify, therefore making access to relevant and timely information easier means that contracts are enforced more reliably, and financial intermediaries are more capable of assessing potential risks and rewards. An example of how financial accounting information affects trade is the case of “factoring”. In this case, trade is related to the quality of financial reporting, since large institutions deliver credit to firms and they focus on the quality of the accounts receivable (Berger and Udell, 2006).

3. The gravity model

One of the main devices used to analyse the determinants of international trade flows is the gravity model of trade. Some authors have referred to this model as the “workhorse” of empirical trade studies (Eichengreen and Irwin, 1998; Cheng and Wall, 2005). De M enil (1999) finds that a gravity model accounts well for FDI among European countries and, more recently, Portes and Rey (2005) show that it explains transactions in financial assets at least as well as trade in goods. Therefore, the gravity model is the modelling framework used in this paper.

According to the generalised gravity model of trade (Deardorff, 1995) the volume of exports between pairs of countries, X_{ij} , is a function of their incomes, their populations, their geographical distance and a set of dummies,

$$X_{ij} = \beta_0 Y_i^{\beta_1} Y_j^{\beta_2} P_i^{\beta_3} P_j^{\beta_4} D_{ij}^{\beta_5} A_{ij}^{\beta_6} u_{ij} \quad (1)$$

where Y_i (Y_j) indicates the GDP of the exporter (importer), P_i (P_j) are populations of the exporter (importer), D_{ij} measures the distance between the two countries’ capitals (or economic centres), A_{ij} represents any other factors aiding or preventing trade between pairs of countries and u_{ij} is the error term. For

estimation purposes, model (1), in log-linear form for a single year, is expressed as

$$lX_{ij} = \beta_0 + \beta_1 lY_i + \beta_2 lY_j + \beta_3 lP_i + \beta_4 lP_j + \beta_5 lD_{ij} + \sum_h \delta_h P_{ijh} + u_{ij} \quad (2)$$

where l denotes variables in natural logs, $\sum_h \delta_h P_{ijh}$ is a sum of dummy variables and P_{ijh} takes the value one when a certain condition is satisfied (e.g., speaking the same language), zero otherwise. Research using the gravity model has evaluated the impact of various variables in addition to the basic gravity equation. Usually, the model includes dummy variables for trading partners sharing a common language, colonial ties and common border. The coefficients of all these trade variables δ_h are expected to be positive. Geographical distance is a key variable in gravity equations. The distance coefficient is expected to be negative since it is a proxy of all the costs involved in undertaking transactions (Loungani et al, 2002).

4. Model specification and methodology

A number of dummies representing geographical, historical and cultural characteristics are usually added to gravity models. Integration dummies are also added in order to analyse the impact of European integration on trade and foreign investments. Twenty-seven countries have already joined the European Union (27-EU); however, only fifteen have reached a deeper level of integration, and have joined the European Monetary Union (EMU). Finally, legal investor protection is introduced into the model since it is considered a predictor of financial development. The estimated equation is:

$$\begin{aligned}
\ln X_{ijt} = & \alpha_0 + \alpha_1 \cdot Adj_{ij} + \alpha_2 \cdot \ln Dist_{ij} + \alpha_3 \cdot Lang_{ij} + \alpha_4 \cdot colony_{ij} + \\
& + \alpha_5 \cdot comcol_{ij} + \alpha_6 \cdot col45_{ij} + \alpha_7 \cdot smctry_{ij} + \alpha_8 \cdot EU_{ijt} + \alpha_9 \cdot EMU_{ijt} + \\
& + \alpha_{10} \cdot English\ origins_{ij} + \alpha_{11} \cdot French\ origins_{ij} + \alpha_{12} \cdot German\ origins_{ij} + (3) \\
& + \alpha_{13} \cdot Scandinavian\ origins_{ij} + \alpha_{14} \cdot IFRS_{ijt} + \alpha_{15} \cdot Trans_i + \alpha_{16} \cdot Trans_j + \\
& + u_{ij} + \varphi_t + \varepsilon_{ijt}
\end{aligned}$$

where \ln denotes natural logarithms, X_{ij} denotes the value of bilateral exports/FDI flows from country i to j at time t . As in Portes and Rey (2005) and Brouwer et al (2008), the dependent variables are expressed in nominal terms.

Adj_{ij} is a dummy that takes a value of 1 when countries share the same border, and zero otherwise. $Dist_{ij}$ is calculated based on bilateral distances between the largest cities of country i and j , the intercity distances being weighted by the share of the city in the overall country's population. $Lang_{ij}$ is a dummy for countries sharing a language that is spoken by at least 9% of the population in both countries. Dummy variables indicating whether the two countries had a common colonizer after 1945 ($comcol$), have ever had a colonial link ($colony$), have had a colonial relationship after 1945 ($col45$) or were the same country ($smctry$), are also included in the model. Adjacency, language and colonial links control for similarities in history, traditions, culture, and institutional relationships among countries,^{iv} whereas geographical distance controls for all the costs involved in undertaking transactions.

EU_{ijt} and EMU_{ijt} take a value of 1 when countries are members of the EU and the EMU in the year t , respectively. Common legal origins (English origins, French origins, German origins and Scandinavian origins) control a similar level of financial development and a legal protection environment in different countries. Additionally, a proxy for European accounting harmonisation is included. IFRS are a dummy that takes a value of 1 when listed companies in both exporting and importing countries use IFRS for domestic reporting. Moreover in order to take

into account heterogeneity in trade and FDI determinants among different European countries (well-established capitalist countries in the “West” and post-communist countries in the “East”), a transition dummy is included when the exporting/importing country ($Trans_i / Trans_j$) is a transition country, which is zero otherwise.^v Finally, u_{ij} is a bilateral specific effect, φ_t is a time-specific effect, and ε_{ijt} is the error term.

Since the data-set is a panel, special estimation techniques are needed. One technique could be to control for fixed effects.^{vi} However, the model contains a number of time-invariant parameters such as distance, language and border. Therefore using a fixed effect estimator leads to the omission of these time-invariant variables, which are key variables in the estimated gravity model. Plümper and Troeger (2007) discussed the problem of time-invariant variables in panel data with unit effects. These authors propose a FEVD methodology (Fixed Effects Vector Decomposition) that has the advantage of controlling fixed-effects without omitting time-invariant variables. The FEVD estimator is a three-stage estimator.

Plümper and Troeger (2007) recall a fixed effects model where the x variables are time-varying, the z variables are time-invariant, and u_i denotes the unit-specific effects:

$$y_{it} = \alpha + \sum_{k=1}^K \beta_k x_{kit} + \sum_{m=1}^M \gamma_m z_{mi} + u_i + \varepsilon_{it} \quad (4)$$

In the first stage, the FEVD procedure estimates a standard fixed effects (FE) model. The FE transformation can be obtained by demeaning the time-variant variables:

$$y_{it} - \bar{y}_i = \beta_k \sum_{k=1}^K (x_{kit} - \bar{x}_{ki}) + \varepsilon_{it} - \bar{\varepsilon}_i \quad (5)$$

This transformation removes the individual effects and the time-invariant variables. It is run for the purpose of obtaining estimates of the unit effects:

$$\hat{u}_i = \bar{y}_i - \sum_{k=1}^K \hat{\beta}_k^{FE} \bar{x}_{ki} \quad (6)$$

where $\hat{\beta}_k^{FE}$ is the pooled-OLS estimate of the demeaned model in Equation (5).

At stage 2, the unit effects \hat{u}_i from the first stage are regressed on the observed time-invariant variables (z variables). The estimated unit effect is decomposed into two parts: an explained and an unexplained part (h_i).

$$\hat{u}_i = \sum_{m=1}^M \gamma_m z_{mi} + h_i \quad (7)$$

The unexplained part, h_i , is obtained by computing the residuals from Equation (7):

$$h_i = \hat{u}_i - \sum_{m=1}^M \gamma_m z_{mi} \quad (8)$$

In the third stage, the full model in Equation (4), by excluding the unit effects but including the unexplained part h_i , is estimated by the pooled OLS:

$$y_{it} = \alpha + \sum_{k=1}^K \beta_k x_{kit} + \sum_{m=1}^M \gamma_m z_{mi} + \delta h_i + \varepsilon_{it} \quad (9)$$

h_i no longer correlates with any of the time-invariant variables. Hence, it is possible to account for individual fixed-effects.

5. Data, sources and variables

The sample used in the empirical analysis includes data on bilateral exports of goods^{vii} in the EU from 1999 to 2007, as well as data on bilateral FDI flows (namely investments by resident entities in affiliated enterprises abroad) from 1999 to 2007.^{viii} FDI data also include the United States, China, Japan, EFTA members (Switzerland, Norway, and Iceland) and candidate countries (Croatia, Turkey). Total FDI flows are broken down by the type of instrument used for

making the investment: equity capital, reinvested earnings and loans. Equity capital comprises equity in branches, all shares in subsidiaries and associates, and other contributions (such as the provision of machinery). Reinvested earnings consist in the direct investor's share of earnings that are not distributed by the direct investment enterprise. Loans cover borrowing and lending funds. This variable includes debt securities and trade credits between direct investors and direct investment enterprises. Both trade and FDI data were obtained from Eurostat.^{ix}

Distance, adjacency, colonial links and language were taken from Centre d'études prospectives et d'informations internationales (CEPII).^x Legal origins were obtained from La Porta et al (2007). Income was obtained from World Development Indicators online. Data about the use of IFRS around the world was obtained from Deloitte (2003-2008).

Table 1^{xi} shows a summary of the variables used in the empirical analysis and Table 2 presents summary statistics of a number of variables included in the analysis. First, legal origins are detailed by country. Second, Table 2 shows the mean of bilateral exports (in millions of euro) that all the 27-EU Members export to their EU trading partners from 1999 onwards. The data show that the most important intra-EU exporters of goods are Belgium, France, Germany, Italy, the Netherlands and the United Kingdom. Nonetheless, transition countries, such as Bulgaria, Czech Republic, Latvia, Lithuania, Poland, Romania and Slovakia, have experienced the highest increase in terms of intra-EU exports. Finally, Table 2 shows the mean of FDI inflows (in millions of euro) in all the 27-EU Members from their EU partners, along with the United States, China, Japan, EFTA Members and candidate countries from 1999 onwards. The data show that the "oldest" EU Members, such as Belgium, France, Germany, Ireland, Italy,

Luxembourg, the Netherlands, Spain and the United Kingdom, receive the highest FDI inflows in the EU. Nonetheless, the highest increase in terms of FDI inflows is experienced in transition countries, such as Bulgaria, Estonia, Hungary, Latvia and Romania. Overall, the highest increase in both exports and FDI inflows from 1999 onwards has been experienced by transition economies.

6. Empirical results

6.1. The effect of IFRS adoption on international trade and FDI

To analyse the effect of IFRS adoption on trade in goods, Equation (3) is estimated with the data of the 27-EU Member countries from 1999 to 2007.^{xii} Column (1) in Table 3 shows the estimation results. The obtained results not only show that adjacency, to have had a recent colonial relationship, the EU and IFRS dummies are significant, but also show the expected positive sign. Distance, language (unexpected), common coloniser and the same country dummy are significant, and negatively signed. These results show that IFRS adoption has benefited European countries in terms of trade in goods.

Equation (3) is also estimated with the FDI data of the 27-EU Member countries, the United States, China (excluding Hong Kong) and Japan, EFTA countries (except Liechtenstein) and candidate countries (Croatia and Turkey) from 1999 to 2007.^{xiii} Columns (4), (6), (8) and (10) in Table 3 show the estimation results. The effect of the variables differs on total FDI, equity, retained earnings and loans. Adjacency, language and colonial ties are significant and show the expected positive sign in all cases. In relation to distance, FDI adds a special consideration since horizontal FDI increases with greater distance, while vertical FDI is discouraged by greater distance (Loungani et al, 2002).^{xiv} In this case, distance is significant and presents only a positive sign in retained earnings, and hence, horizontal FDI predominates. The results show that cultural ties (language, colony

and same country dummies) are of great importance to foster investments in equity capital, retained earnings and loans.

Legal protection of outside investors limits the extent of expropriation of such investors by corporate insiders. English law is more protective of outside investors than the laws of civil law. The results support that countries sharing English legal tradition with partners invest in equity, retained earnings and loans to a higher extent than countries sharing other legal origins. The results show that IFRS adoption has increased equity capital, reinvested earnings and loans in Europe. Finally, the performance of the regressions can be compared using the root mean squared error (RMSE). According to this criterion, the model performs better for retained earnings and loans than for equity capital.

6.2. Sensibility analysis

For half a century, the EU has pursued ever-deeper integration while taking in new members. With the EU's recent enlargement to 27 Members in 2007, and the agreement to extend the EU perspective to countries in south-eastern Europe, analysing country-heterogeneity issues in the European integration process is of great importance, particularly in line with the incorporation of countries which have abandoned the traditional tools of communist economic control, and have moved towards free market systems. Therefore, the differential impact of IFRS adoption on established EU Member States versus transition countries is considered. Along these lines, the adoption of a high quality set of harmonised accounting standards in transition countries, as a means of giving credibility to corporate financial statements, may have important consequences on foreign activities.

To analyse the effect of IFRS adoption on trade in goods and FDI in transition economies, a transition dummy is included when the exporter/importer country

$(Trans_i / Trans_j)$ is a transition country.^{xv} The results in Table 3 show the expected negative sign in all cases since a number of these countries are currently in the process of developing the market institutions that they need to participate in the global economy.

In order to analyse whether the transition countries may benefit from IFRS adoption to a greater extent, $Trans_i$ ($Trans_j$) is interacted with IFRS when the exporter (importer) is a transition economy. The obtained results in Column (2) show that transition countries have benefited the most from accounting harmonisation in the EU in terms of trade in goods in the period 1999-2007. This interaction is not significant in FDI regressions.^{xvi} A possible explanation of there being no effect on FDI is that this analysis deals with the mandatory adoption of IFRS in 2005. However, a number of authors report that primary beneficiaries of IFRS adoption in terms of improvements in accounting quality are voluntary adopters rather than firms that are forced to switch to IFRS (Daske et al., 2008; Christensen et al., 2008), and that transition countries are less likely to contain voluntary adopters (Broadman et al., 2004). This is likely to bias against the prediction that IFRS adoption in transition countries fosters FDI.

Given that the information asymmetries between countries sharing similarities in culture, history and geography are likely to be less pronounced prior to IFRS adoption, the rest of the independent variables also interact with IFRS since the benefits of IFRS adoption are expected to be lower. Moreover, legal origins are related to the enforcement of shareholder rights, then it is possible that IFRS will be implemented and interpreted differently in countries with different legal systems. Column (2) shows the results of the interaction dummies as well as the expected positive effect of IFRS adoption on trade in goods. These results highlight the hypothesis that heterogeneity exists in the sample since the benefits

of IFRS adoption in terms of trade in goods are lower for neighbouring countries; those that have had a colonial relationship after 1945 and those that were the same country. Moreover, the positive and significant interaction of IFRS with the legal origin dummies emphasises the hypothesis that those countries with Scandinavian legal traditions benefit the most from adopting IFRS in terms of trade in goods.

Finally, unfamiliarity aversion heterogeneity is taken into account to consider whether the effect of IFRS adoption on exports/FDI differs across countries according to behavioural factors. The adoption of harmonised accounting standards should decrease the perceived risk of doing business with unfamiliar people in more uncertainty averse countries to a greater extent since uncertainty-averse economic agents dislike situations where information is less readily available. Huang (2007) shows that uncertainty-tolerant countries are better at capitalising exporting opportunities, whereas higher uncertainty-aversion leads to lower trade flows to distant partners than gravity models predict.

The Uncertainty Avoidance Index (UAI)^{xvii} is used to analyse the determinants of trade and FDI by taking into account unfamiliarity aversion heterogeneity.

A cluster analysis is performed to classify EU countries according to their UAI. Table 4 shows that three groups are distinguished. The first group (with the lowest UAI) includes countries with English and Scandinavian legal origins, the second group mostly includes countries with a German legal tradition. Finally, the third group includes countries with a relatively high uncertainty-aversion in the EU. Table 5 shows the results of estimating Equation (3) in countries with low, middle and high uncertainty aversions for both trade and FDI. The results show that those countries with relatively high uncertainty aversion have, to a greater extent, increased FDI flows abroad, particularly retained earnings and loans, whereas

those countries with an intermediate level of uncertainty aversion have benefited more in terms of trade in goods.

6.3. Robustness analysis

For the sake of comparison, and in a first step, Table 6 shows the results of estimation in real terms. The specification is similar to that estimated in the previous section. The difference lies in the definition of the dependent variables, exports and FDI, which are deflated by the GDP deflator of the country of origin. Table 6 shows that the signs and estimates of the key variables are similar.

In a second step, the economic size of the origin and destination countries is included in the specification. The economic sizes may be measured with gross domestic product (GDP) and the estimated coefficients are usually close to the predicted value of one. Then, the theoretical prediction of unitary elasticities is imposed. Table 6 shows that the obtained results are similar to those obtained when estimating equation (3).^{xviii}

Third, in order to introduce the effect of currency volatility in the analysis, an exchange rate stability dummy variable (FIX) is constructed for each bilateral relationship, as done in Portes and Rey (2005). When Equation (3) is augmented by this indicator variable, which is unity if the destination country maintained a fixed or pegged exchange rate with the Euro during the sample period, this variable takes on a insignificant coefficient for the case of FDI. Hence, exchange rate stability does not seem to have a positive influence on cross-border investment transactions, unlike trade, for which this variable is positive and significant. Therefore, exchange rate stability has fostered international trade relationships in Europe.

Fourth, De Ménil (1999) stated that the fact that FDI studies have focused on flows is a misspecification. The author derives a specification in which investment

flows are a positive function of the determinants of desired stock levels, and a negative function of lagged, actual stock levels. Hence for FDI regressions, the Equation (3) is estimated using the stock adjustment gravity model proposed by De Ménil (1999). In order to do so, data on outward FDI stocks are used in the analysis. In this case, the obtained results are comparable and show that the harmonisation of accounting standards in Europe is an important contributor to the growth of FDI.^{xix}

Finally, the IFRS indicator variable captures effects when both countries i and j report using IFRS. This means that cases where only one country in a given pair has implemented IFRS, and cases where neither country has adopted them, are pooled together in the ‘zero’ category. In order to separate these effects out, two dummy variables $IFRS_i$ ($IFRS_j$) are constructed which take the value of one when the exporter/origin (importer/destination) country requires IFRS for domestic listed companies, and zero otherwise. Column (3) in Table 3 shows that both $IFRS_i$ and $IFRS_j$ are positive and significant in terms of trade. Otherwise, only $IFRS_i$ is positive and significant in FDI regressions. This result supports IFRS being an important way to give access to the most important capital markets.

7. Conclusions

The present paper shows that the accounting harmonisation process in Europe is a way to reduce information costs and unfamiliarity between countries and, therefore, an important way of encouraging international trade and foreign direct investments. From a gravity framework, and using a methodology to estimate panel data with time-invariant variables, this paper analyses IFRS adoption by taking into account heterogeneity among European Union Members and uncertainty aversion diversity in countries. First, the results show that transition economies have benefited the most from IFRS adoption in terms of trade in goods

in the period 1999 onwards. Second, the information asymmetries between neighbouring countries and countries sharing recent colonial links are less pronounced prior to IFRS adoption and, therefore, the benefits of IFRS adoption are lower. Third, there is evidence that IFRS is differently implemented and interpreted in countries with different legal systems since those countries with Scandinavian legal traditions benefit the most from adopting IFRS in terms of trade in goods. Finally, uncertainty-averse countries benefit the most from IFRS adoption in terms of FDI. Then, accounting standards harmonisation can be considered a strategy to reduce the perceived risks of investing abroad.

In sum, the adoption of a high quality set of harmonised accounting standards fosters trade and FDI since the improvement of accounting information, in turn, fosters financial transparency and comparability, and reduces information asymmetries and unfamiliarity among agents in different countries. Nonetheless, the diversity in the implementation of the European accounting harmonisation process, and whether the dominant reporting choice among listed firms before the mandatory adoption in 2005 had important consequences in terms of trade in goods and FDI are issues for further research.

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TABLES

Table 1. Variable descriptions and sources of data

Variable	Description	Source
<i>a) X_{ijt}</i> : Exports from i to j	Value of exports, in euros from the year 1999 to 2007	Eurostat (2008)
<i>b) X_{ijt}</i> : Foreign direct investments from i to j	Value of FDI, in millions of euros from the year 1999 to 2006	Eurostat (2008)
<i>Equity_{ijt}</i> : Equity capital investments from i to j	Value of equity capital, in millions of euros from the year 1999 to 2006	Eurostat (2008)
<i>RE_{ijt}</i> : Earnings not distributed by the direct investment from i to j	Value of reinvested earnings, in millions of euros from the year 1999 to 2006	Eurostat (2008)
<i>Loans_{ijt}</i> : borrowing funds from i to j	Value of other FDI capital, in millions of euros from the year 1999 to 2006	Eurostat (2008)
<i>Adj_{ij}</i> : Adjacency dummy	Dummy variable = 1 if the trading partners share a common border, 0 otherwise.	CEPII (2007)
<i>Dist_{ij}</i> : Distance	Distance between two countries based on bilateral distances between the biggest cities of those two countries, those inter-city distances being weighted by the share of the city in the overall country's population.	CEPII (2007)
<i>Lang_{ij}</i> : Language dummy	Dummy variable = 1 if the trading partners countries share language that is spoken by at least 9% of the population in both countries, 0 otherwise.	CEPII (2007)
<i>Colony_{ij}</i> : Colony dummy	Dummy variable = 1 if the trading partners have ever had a colonial link, 0 otherwise.	CEPII (2007)
<i>Comcol_{ij}</i> : Common colonizer dummy	Dummy variable = 1 if the trading partners have had a common colonizer after 1945, 0 otherwise	CEPII (2007)
<i>Curcol_{ij}</i> : Colony dummy	Dummy variable = 1 if the trading partners are currently in a colonial relationship, 0 otherwise	CEPII (2007)
<i>Smctry_{ij}</i> : Colony dummy	Dummy variable = 1 if the trading partners were/are the same country, 0 otherwise	CEPII (2007)
EU dummy	Dummy variable = 1 if the trading partners are members of European Union, 0 otherwise	
EMU dummy	Dummy variable = 1 if the trading partners are members of Economic and Monetary Union, 0 otherwise	
English origins	Dummy variable = 1 if the trading partners have English legal origins, 0 otherwise	La Porta et al. (2007)
French origins	Dummy variable = 1 if the trading partners have French legal origins, 0 otherwise	La Porta et al. (2007)
German origins	Dummy variable = 1 if the trading partners have German legal origins, 0 otherwise	La Porta et al. (2007)
Scandinavian origins	Dummy variable = 1 if the trading partners have Scandinavian legal origins, 0 otherwise	La Porta et al. (2007)

IFRS dummy	Dummy variable = 1 if in both trading partners listed companies use IFRS for domestic reporting as of the year 2005, 0 otherwise	Deloitte (2003, 2005, 2007, 2008)
GDP deflator	Inflation, GDP deflator (annual %)	World Development Indicators online (2008)
GDP _i	GDP (current US\$) in country i	World Development Indicators online (2008)
GDP _j	GDP (current US\$) in country j	World Development Indicators online (2008)
UAI	Uncertainty Avoidance Index	From http://www.geert-hofstede.com

Table 2. Summary statistics. Trade and FDI according to country and year.

Country	Origins	1999		2000		2001		2002		2003		2004		2005		2006		2007		% increase (99-07)	
		Exports	FDI	Export	FDI	Export	FDI	Exports	FDI	Exports	FDI	Exports	FDI	Exports	FDI	Exports	FDI	Exports	FDI	Exports	FDI
Austria	German	1,820	125.21	2,110	754.87	2,270	261.84	2,400	182.21	2,490	162.44	2,690	334.24	2,780	0.26	3,020	-57.14	3,310	723.65	81.87	477.93
Belgium	French	5,090	2,196.50	6,020	1,708.17	6,370	4,162.50	6,630	1,385.19	6,710	240.77	7,310	609.41	7,930	930.50	8,620	915.79	9,270	1,164.54	82.12	-46.98
Bulgaria	German	82.1	16.56	113	46.33	133	9.24	145	50.10	162	20.79	191	22.96	213	56.08	264	51.88	314	103.13	282.46	522.94
Cyprus	English	8.78	-28.29	10	8.50	10.4	4.15	9.95	10.75	9.94	3.26	18.4	15.46	28	74.92	22.7	78.40	23.2	244.91	164.24	-965.85
Czech Republic	German	838	107.00	1,040	213.73	1,240	177.39	1,340	96.29	1,450	-31.15	1,860	55.96	2,060	175.26	2,490	149.62	2,930	174.00	249.64	62.62
Denmark	Scand.	1,290	267.73	1,510	688.18	1,540	82.50	1,630	112.26	1,590	157.69	1,670	44.00	1,850	138.97	2,010	143.89	2,040	24.74	58.14	-90.76
Estonia	German	74.6	9.43	117	4.33	116	8.68	114	3.19	127	7.96	147	5.41	185	84.38	194	8.54	215	35.20	188.20	273.33
Finland	Scand.	988	185.06	1,200	74.36	1,110	104.87	1,120	528.04	1,090	96.26	1,100	93.84	1,150	175.46	1,350	272.81	1,430	178.22	44.74	-3.70
France	French	7,640	962.56	8,810	1,338.0	8,890	724.77	8,740	1,632.42	8,850	804.67	9,170	778.25	9,050	434.87	9,930	951.00	10,000	910.24	30.89	-5.44
Germany	German	12,800	2,741.42	14,900	10,954.9	15,600	1,507.83	15,900	1,708.92	16,600	1,329.35	18,200	105.17	19,300	1,266.72	21,500	1,368.90	24,100	967.42	88.28	-64.71
Greece	French	265	45.07	303	28.53	310	138.65	234	38.77	295	75.08	304	27.92	328	45.39	406	164.50	424	105.23	60.00	133.49
Hungary	German	763	41.29	982	94.00	1,090	110.56	1,190	18.29	1,230	179.64	1,430	181.92	1,570	575.47	1,830	167.21	2,090	518.96	173.92	1157.0
Ireland	English	1,700	902.47	1,990	1,327.93	2,210	448.11	2,340	1,613.22	1,970	803.16	2,030	780.58	2,160	344.80	2,110	987.21	2,160	1,087.41	27.06	20.49
Italy	French	5,440	503.78	6,160	570.06	6,410	632.00	6,300	492.61	6,340	413.18	6,760	458.89	7,060	839.06	7,810	1,038.63	8,280	1,452.85	52.21	188.39
Latvia	German	48.3	9.08	62.8	2.50	67.5	8.06	72.3	0.85	78.1	-7.14	92.3	19.68	122	5.73	137	16.61	169	46.27	249.90	409.78
Lithuania	French	73.3	17.31	111	2.83	135	18.53	148	13.89	149	13.62	193	8.30	240	7.67	276	97.72	312	21.63	325.65	24.94
Luxembourg	French	260	3,075.00	303	3,733.29	369	4,430.46	362	1,041.22	398	741.77	447	922.21	504	-412.67	623	189.36	551	2,664.24	111.92	-13.36
Malta	French	35	20.60	34.7	1.33	41.1	5.15	39.1	1.38	37.4	30.50	38	45.27	37.4	111.00	40.6	494.52	41.6	-83.61	18.86	-505.87
Netherlands	French	6,470	2,619.47	7,890	909.18	8,070	463.52	7,980	4,689.00	8,090	1,684.86	8,820	3,497.07	10,000	1,244.45	11,200	3,133.45	12,000	8,407.84	85.47	220.97
Poland	German	806	562.57	1,070	553.33	1,260	289.68	1,360	70.14	1,500	75.85	1,860	353.00	2,170	102.77	2,680	218.39	3,060	356.86	279.65	-36.57
Portugal	French	746	181.14	827	504.71	841	133.95	857	123.05	875	311.45	886	252.82	905	252.27	993	248.23	1,070	133.75	43.43	-26.16
Romania	French	224	51.73	313	57.50	368	54.88	417	27.05	452	26.89	544	111.81	600	78.74	699	281.73	813	208.26	262.95	302.61
Slovakia	German	330	45.00	442	115.54	490	96.72	524	194.18	638	-21.74	744	59.63	859	55.96	1,110	76.07	1,410	60.00	327.27	33.33
Slovenia	German	228	37.29	263	23.20	281	30.53	289	59.89	296	31.33	341	11.96	406	24.75	487	14.79	584	19.00	156.14	-49.04
Spain	French	2,750	544.06	3,460	812.50	3,680	565.21	3,790	465.91	3,960	377.80	4,150	539.64	4,240	750.79	4,580	483.43	4,680	2,113.33	70.18	288.44
Sweden	Scand.	1,850	935.94	2,120	1,521.28	1,850	-123.82	1,890	595.36	1,990	241.66	2,190	194.67	2,290	123.41	2,710	475.46	2,890	125.00	56.22	-86.64
United Kingdom	English	5,860	6,424.88	6,960	5,895.61	6,910	2,484.18	6,950	2,248.08	6,120	2,512.66	6,290	2,969.76	6,800	4,880.26	8,570	2,947.83	7,070	2,724.54	20.65	-57.59

Sources: Deloitte (2003-2008), Eurostat, La Porta et al (2007) and own elaboration. **Note:** The mean exports to the rest of 27-EU members is presented in millions of euros. The mean FDI inflows from the rest of 27-EU members, the United States, China, Japan, EFTA members and candidate countries, is also shown in millions of euros. A negative sign for flows indicates disinvestment.

Table 3. Determinants of trade and FDI in Europe.

	Exports			FDI total		Equity		Retained Earnings		Loans	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Adjacency dummy	0.74*** (0.001)	0.75*** (0.001)	0.73*** (0.001)	0.91*** (0.095)	0.89*** (0.093)	0.82*** (0.158)	0.79*** (0.156)	0.85*** (0.061)	0.84*** (0.058)	0.75*** (0.127)	0.72*** (0.126)
Adjacency*IFRS		-0.03*** (0.003)									
Distance	-2.45*** (0.001)	-2.46*** (0.001)	-2.48*** (0.001)	0.02 (0.030)	-0.03 (0.029)	-0.12** (0.055)	-0.18*** (0.054)	0.26*** (0.022)	0.22*** (0.021)	-0.10* (0.053)	-0.15*** (0.052)
Distance*IFRS		0.01** (0.003)									
Language dummy	-0.67*** (0.002)	-0.68*** (0.002)	-0.69*** (0.002)	0.92*** (0.115)	0.87*** (0.111)	0.65*** (0.198)	0.62*** (0.196)	0.93*** (0.078)	0.83*** (0.074)	0.71*** (0.171)	0.65*** (0.167)
Language*IFRS		0.02*** (0.007)									
Colonial link dummy	-0.27*** (0.001)	-0.28*** (0.001)	-0.27*** (0.001)	0.87*** (0.123)	0.87*** (0.119)	0.43** (0.218)	0.43** (0.217)	0.59*** (0.088)	0.59*** (0.082)	0.40* (0.208)	0.40* (0.208)
Colonial link*IFRS		0.03*** (0.005)									
Common coloniser dummy	-2.57*** (0.004)	-2.65*** (0.003)	-2.58*** (0.004)	1.50*** (0.227)	1.55*** (0.218)	0.88*** (0.323)	0.90*** (0.318)	1.11*** (0.149)	1.16*** (0.144)	1.28*** (0.246)	1.28*** (0.243)
Common coloniser*IFRS		0.16*** (0.022)									
Recent colony dummy	0.58*** (0.004)	0.61*** (0.003)	0.54*** (0.004)	-2.36*** (0.283)	-2.45*** (0.267)	-2.38*** (0.410)	-2.56*** (0.412)	-2.84*** (0.162)	-2.86*** (0.166)	-3.55*** (0.446)	-3.63*** (0.435)
Recent colony*IFRS		-0.05*** (0.013)									
Same country dummy	-1.85*** (0.001)	-1.84*** (0.001)	-1.87*** (0.001)	0.55*** (0.144)	0.53*** (0.140)	0.57** (0.234)	0.55** (0.229)	0.55*** (0.081)	0.54*** (0.076)	0.26 (0.185)	0.25 (0.182)
Same country*IFRS		-0.04*** (0.005)									

EU dummy	0.31*** (0.002)	0.27*** (0.002)	0.32*** (0.002)	0.41* (0.226)	0.43** (0.209)	0.33 (0.368)	0.34 (0.345)	0.45*** (0.165)	0.44*** (0.152)	0.30 (0.309)	0.30 (0.293)
EMU dummy	-0.01 (0.012)	0.00 (0.011)	0.00 (0.012)	0.54 (1.731)	0.48 (1.722)	0.12 (2.368)	0.04 (2.354)	-0.23 (1.470)	-0.28 (1.437)	0.30 (2.104)	0.29 (2.114)
English origins	-0.05*** (0.004)	-0.06*** (0.003)	-0.06*** (0.004)	0.35* (0.185)	0.31* (0.173)	1.54*** (0.277)	1.51*** (0.276)	1.59*** (0.120)	1.67*** (0.114)	1.55*** (0.329)	1.58*** (0.321)
English origins*IFRS		0.02 (0.011)									
French origins	-0.23*** (0.001)	-0.23*** (0.001)	-0.23*** (0.001)	-0.31*** (0.075)	-0.28*** (0.073)	-0.14 (0.128)	-0.10 (0.126)	-0.27*** (0.055)	-0.24*** (0.052)	-0.13 (0.111)	-0.12 (0.111)
French origins*IFRS		0.00 (0.003)									
German origins	0.46*** (0.001)	0.45*** (0.001)	0.45*** (0.001)	0.54*** (0.085)	0.49*** (0.082)	0.40*** (0.149)	0.34** (0.145)	0.24*** (0.064)	0.16*** (0.060)	0.33** (0.132)	0.29** (0.128)
German origins*IFRS		0.00 (0.004)									
Scandinavian origins	-1.09*** (0.002)	-1.13*** (0.001)	-1.09*** (0.002)	0.45 (0.309)	0.45 (0.305)	0.82* (0.466)	0.79* (0.461)	0.37*** (0.114)	0.38*** (0.111)	0.47 (0.393)	0.47 (0.389)
Scandinavian origins*IFRS		0.11*** (0.005)									
Transition in origin dummy	-1.79*** (0.001)	-1.90*** (0.001)	-1.78*** (0.001)	-3.37*** (0.080)	-3.40*** (0.077)	-2.99*** (0.134)	-3.01*** (0.131)	-3.05*** (0.064)	-3.07*** (0.060)	-3.04*** (0.114)	-3.06*** (0.113)
IFRS*transition origin		0.27*** (0.003)									
Transition in destination dummy	-1.76*** (0.001)	-1.85*** (0.001)	-1.75*** (0.001)	-1.31*** (0.060)	-1.33*** (0.057)	-1.39*** (0.097)	-1.42*** (0.094)	-1.08*** (0.049)	-1.10*** (0.046)	-1.46*** (0.081)	-1.47*** (0.079)
IFRS*transition destination		0.20*** (0.003)									
IFRS dummy	0.26*** (0.001)	0.06*** (0.019)		0.69*** (0.105)		0.42** (0.166)		0.64*** (0.066)		0.46*** (0.143)	
IFRS in origin dummy			0.15*** (0.003)		0.67*** (0.107)		0.59*** (0.189)		0.63*** (0.075)		0.47*** (0.157)

IFRS in destination dummy			0.17*** (0.003)		0.10 (0.122)		-0.15 (0.206)		0.08 (0.094)		0.01 (0.193)
RMSE	0.41	0.4	0.4	1.03	1.02	1.18	1.18	0.81	0.8	1.01	1.01
Number of observations	4,910	4,910	4,910	4,105	4,105	3,263	3,263	2,240	2,240	2,253	2,253

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. Robust standard errors are provided in brackets. The dependent variable in trade regressions is the natural logarithm of exports in value (euros). The dependent variable in FDI regressions is the natural logarithm of FDI, equity, retained earnings and loans in value, respectively (millions of euros). The estimation uses a robust Huber-White Sandwich estimator. The trade regressions includes an AR(1) Prais-Winsten transformation of the original data.

Table 4. Uncertainty aversion groups in the EU. Cluster analysis.

Low uncertainty aversion	Middle uncertainty aversion	High uncertainty aversion
DENMARK	AUSTRIA	BELGIUM
IRELAND	CZECH REPUBLIC	BULGARIA
SWEDEN	ESTONIA	FRANCE
UNITED KINGDOM	FINLAND	GREECE
	GERMANY	HUNGARY
	ITALY	MALTA
	LUXEMBOURG	POLAND
	NETHERLANDS	PORTUGAL
	SLOVAKIA	ROMANIA
		SPAIN

Table 5. The effect of IFRS adoption according to the degree of uncertainty aversion in the country of origin.

<i>IFRS coefficient</i>	Low uncertainty aversion	Middle uncertainty aversion	High uncertainty aversion
Exports	0.18***	0.28***	0.22***
FDI	0.35***	0.73***	0.84***
Equity capital	0.15	0.42*	0.52
Retained earnings	0.47***	0.52***	0.96***
Loans	0.25	0.32	0.75***

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. The estimation uses a robust Huber-White Sandwich estimator. The trade regressions includes an AR(1) Prais-Winsten transformation of the original data.

Table 6. Determinants of trade and FDI. Robustness analysis.

	Exports			FDI total		
	Real	Income	Fix	Real	Income	Fix
Adjacency dummy	0.93*** (0.017)	1.22*** (0.001)	1.16*** (0.001)	1.23*** (0.155)	1.05*** (0.101)	1.34*** (0.095)
Distance	-2.54*** (0.009)	-2.45*** (0.001)	-2.43*** (0.001)	-0.06 (0.051)	0.31*** (0.033)	0.06** (0.031)
Language dummy	-0.97*** (0.018)	-0.55*** (0.002)	-0.55*** (0.002)	1.08*** (0.187)	0.72*** (0.126)	0.99*** (0.119)
Colonial link dummy	0.27*** (0.031)	-0.15*** (0.002)	-0.11*** (0.001)	0.95*** (0.216)	1.05*** (0.133)	0.97*** (0.123)
Common coloniser dummy	-3.68*** (0.031)	-3.21*** (0.005)	-3.16*** (0.004)	0.00 (0.357)	1.70*** (0.237)	0.21 (0.226)
Recent colony dummy	1.70*** (0.040)	1.61*** (0.005)	1.59*** (0.005)	-2.83*** (0.569)	-4.07*** (0.447)	-2.60*** (0.414)
Same country dummy	-2.54*** (0.025)	-2.41*** (0.002)	-2.37*** (0.001)	-0.68*** (0.229)	0.63*** (0.155)	-0.39*** (0.145)
EU dummy	0.44*** (0.025)	0.27*** (0.002)	0.31*** (0.002)	0.45 (0.411)	0.42 (0.281)	0.43** (0.193)
EMU dummy	1.27*** (0.309)	-0.14*** (0.021)	-0.01 (0.011)	0.65 (5.113)	1.16 (3.466)	0.56 (1.682)
English origins	-0.33*** (0.028)	-0.48*** (0.004)	-0.42*** (0.003)	0.32 (0.277)	0.57*** (0.179)	0.25 (0.190)
French origins	-0.74*** (0.010)	-0.18*** (0.002)	-0.19*** (0.001)	-0.62*** (0.115)	-0.74*** (0.078)	-0.23*** (0.076)
German origins	0.23*** (0.014)	0.25*** (0.001)	0.21*** (0.001)	0.59*** (0.142)	0.72*** (0.091)	0.51*** (0.091)
Scandinavian origins	-0.51*** (0.042)	-1.10*** (0.002)	-1.01*** (0.002)	0.84* (0.471)	1.00*** (0.311)	0.46 (0.310)
Transition origin	-1.67*** (0.008)	-0.01*** (0.001)	-1.29*** (0.001)	-2.56*** (0.111)	-0.97*** (0.079)	-2.35*** (0.079)
Transition destination	-1.07*** (0.008)	-2.80*** (0.001)	-1.30*** (0.001)	-1.11*** (0.089)	-3.22*** (0.061)	-1.06*** (0.060)
IFRS dummy	0.27*** (0.013)	0.23*** (0.001)	0.25*** (0.001)	0.62*** (0.162)	0.64*** (0.114)	0.70*** (0.120)
Fix			0.06*** (0.007)			-0.16 (0.943)
RMSE	0.69	0.42	0.41	1.14	1.01	1.04
Number of observations	3,898	4,210	4,910	3,476	3,591	4,105

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. Robust standard errors are provided in brackets. The dependent variable is the natural logarithm of deflated exports and FDI, respectively. The estimation uses a robust Huber-White Sandwich estimator. The trade regressions includes an AR(1) Prais-Winsten transformation of the original data.

ⁱ For instance, the World Bank assists the modernisation of accounting in China (*Project Appraisal Document on a Proposed Loan to the People's Republic of China for an Accounting Reform and Development Project*, Report No. 18312-CHA, February 1, 1999). The United Nations Conference for Trade and Development (UNCTAD) assists developing countries and transition economies to improve their financial accounting and reporting practices under the ISAR programme (Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting).

ⁱⁱ The International Monetary Fund (IMF) states that this architecture is the institutions, markets, and practices that governments, businesses, and individuals use when they carry out economic and financial activities (<http://www.imf.org/external/index.htm>)

ⁱⁱⁱ European Communities, 1995; page 3.

^{iv} Mayer and Zignano (2006) use the colonisation term to describe a relationship between two countries, irrespectively of their level of development, in which one has governed the other over a long period of time and contributed to the current state of its institutions.

^v See the sensibility analysis in Section 6.

^{vi} There is evidence of correlation of the unobserved characteristics with a number of the explanatory variables. Although IFRS are positive and significant when estimating by random effects, this estimator leads to biased and inconsistent estimates of the parameters.

^{vii} “Goods” means all the movable property, including electric current.

^{viii} FDI stocks and flows must be differentiated. FDI stocks are the value of the existing investment at the end of the period, and FDI flows are the new investments made during the period.

^{ix} Data on bilateral exports were obtained from “EU27 Trade Since 1995 By SITC” (External Trade Data), while data on bilateral foreign investments were obtained from the Economy and Finance section (Balance of payments - International transactions).

^x The dist_cepil file was taken from <http://www.cepii.fr/anglaisgraph/bdd/distances.htm>.

^{xi} Table 1: The first column lists the variables used for the empirical analysis; the second column outlines a description of the variables, and the third column shows the data sources.

^{xii} The dataset includes a maximum of 702 (27x26) cross-country trade flows and 9 years, resulting in a maximum of 6,318 observations. The presence of missing/zero values in the bilateral trade flows data reduces the sample to 4,910 observations.

^{xiii} The dataset includes a maximum of 1,190 (35x34) cross-country FDI flows and 9 years, resulting in a maximum of 10,710 observations. The presence of missing/zero values in the bilateral FDI flows data considerably reduces the sample.

^{xiv} Horizontal FDI occurs when the multinational undertakes the same production with activities in multiple countries. Vertical FDI occurs when the multinational acquires a stake in a foreign firm that either uses its output or provides its input. The primary activity of the foreign firm usually precedes or succeeds that of the parent company.

^{xv} The eight countries, which joined the EU on 1 May 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia), and Bulgaria and Romania, which joined the EU in 2007, are those considered to be transition countries.

^{xvi} The results are available upon request from the author.

^{xvii} The UAI deals with a society's tolerance for uncertainty and ambiguity. It indicates to what extent a culture makes its members to feel either uncomfortable or comfortable in novel, unknown, surprising or different situations from the usual ones.

^{xviii} This implies that the income terms are passed over to the left hand side. The estimated equation in this case is:

$$\ln\left(\frac{X_{ijt}}{Y_{it} \cdot Y_{jt}}\right) = \alpha_0 + \alpha_1 \cdot Adj_{ij} + \alpha_2 \cdot \ln Dist_{ij} + \alpha_3 \cdot Lang_{ij} + \alpha_4 \cdot colony_{ij} + \alpha_5 \cdot comcol_{ij} + \alpha_6 \cdot col45_{ij} + \alpha_7 \cdot smctry_{ij} + \alpha_8 \cdot EU_{ijt} + \alpha_9 \cdot EMU_{ijt} + \alpha_{10} \cdot English\ origins_{ij} + \alpha_{11} \cdot French\ origins_{ij} + \alpha_{12} \cdot German\ origins_{ij} + \alpha_{13} \cdot Scandinavian\ origins_{ij} + \alpha_{14} \cdot IFRS_{ijt} + \alpha_{15} \cdot Trans_i + \alpha_{16} \cdot Trans_j + u_{ijt} + \varphi_t + \varepsilon_{ijt}$$

^{xix} The results are available upon request from the author.