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Abstract

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This paper focuses on the importance of accounting harmonisation in foreign activities at country level. The adoption of International Financial Reporting Standards (IFRS) is considered to reduce information costs among countries and, therefore, encourage international trade in goods and investment. The results provide evidence that benefits exist in terms of trade in goods and foreign direct investments (FDI) when IFRS are adopted.

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1. Introduction

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. 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 lacking such information is much more important than any diversification opportunities in foreign markets.

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Therefore, increasing the comparability and transparency of financial information and making accounting information more easily understood worldwide may have far-reaching consequences where foreign activities are concerned.

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. 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 international financial architecture.

International Accounting Standards (IAS) are rapidly converging. Over 100 countries have already adopted 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 for 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 empirical evidence of the effect of IFRS adoption in Europe by focusing on the importance of European accounting harmonisation on international trade in goods and foreign direct investments (FDI) at country level. 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 European accounting harmonisation, establishes a theoretical link between IFRS adoption and information asymmetries and highlights the main hypotheses. Section 3 covers the empirical strategy, where data, sources and variables are described and

the estimated equation is presented. Section 4 presents the main results and a sensitivity analysis. Finally, Section 5 presents the conclusions drawn.

2. Accounting harmonisation and information asymmetries

2.1. The accounting harmonisation process in the European Union

As regards the European accounting harmonisation process, the main instruments used to promote accounting harmonisation within the European Union (EU) were the Fourth and 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. The latter (1983) concerned consolidated accounting in Member States. The implementation of the Directives into national law 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 providing timely and useful information to investors for their decision-making. Moreover, the Directives have had a real positive impact, as 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"[2] since the Directives were originally negotiated by the inclusion of numerous options open to different interpretations. Consequently, large European companies seeking capital in international capital markets had to prepare a second set of accounts and a clear preference was expressed for the need to take into account harmonisation efforts

[2] European Communities, 1995; page 3.

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 EU listed companies prepare their consolidated financial statements in accordance with IFRS from the year 2005 onwards. As a consequence, about 7,000 EU listed companies were required to prepare financial statements according to IFRS. Additionally, EU countries have the option of requiring/permitting IFRS for unlisted companies and parent company (unconsolidated) financial statements, leading to 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, the barriers to increased harmonisation in the EU should be discussed. First, the large number of exceptions and exemptions permitted by IFRS 1: *First-time Adoption of IFRS,*[3] means that the degree of cross-country harmonisation in accounting practices may have been limited in the period immediately after 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 Generally Accepted Accounting Principles (GAAP). Therefore, whether predicted increases in the comparability and quality 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 foreign activities

Information asymmetries arising from differences in financial reporting influence foreign investments, as they affect firms' performance when locating and investing abroad. Otherwise, the relationship through which financial accounting

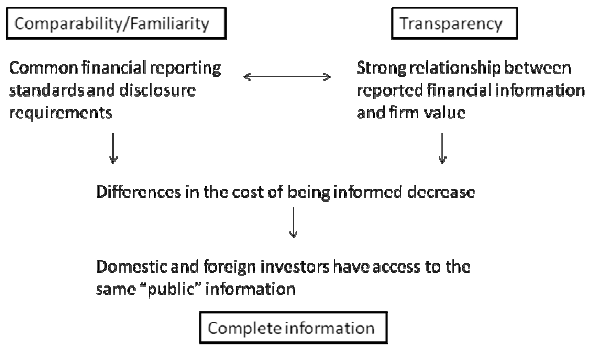
[3] IFRS 1 sets out the procedures that an entity must follow when it adopts IFRS for the first time as the basis for preparing its general purpose financial statements (see Deloitte's Guide to IFRS 1, http://www.iasplus.com/standard/ifrs01.htm).

information matters on trade in goods is not so straightforward and may be related to the common practice in international trade of delivering trade credits.[4]

Portes and Rey (2005) stated that knowledge of accounting practices is part of the information required to evaluate markets, whereas Ahearne et al (2004) highlighted the importance of informational barriers constituted by different national accounting standards, disclosure requirements and regulatory environments. Therefore, a uniform set of accounting standards, such as IFRS, can lower the levels of existing information asymmetries among investors.

Figure 1 distinguishes two effects through which IFRS adoption might reduce cross-border information asymmetries at country level: a transparency effect (i.e., compared to local GAAP, the transparency of financial statements increases); and comparability and, hence, familiarity, become effects of IFRS adoption (i.e., firms in country *i* and *j* use the same accounting standards).

Figure 1. The transparency and comparability effect of IFRS adoption.



The transparency effect implicitly assumes that accounting quality increases by switching from local GAAP to IFRS (Barth et al, 2008). An increase in transparency is understood as a stronger relationship between reported financial information and the firm's value and is, therefore, considered a key factor for any good investment relationship. Additionally, the transparency effect reinforces the comparability effect, which increases the familiarity required to allow markets to

[4] 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, as large institutions deliver credit to firms and they focus on the quality of the accounts receivable (Berger and Udell, 2006).

operate more efficiently. Both the transparency and comparability effects decrease the informational differences of domestic and foreign agents and are expected to have a positive effect on foreign activities.

Causality could also work in the opposite direction; that is, countries may adopt IFRS as a result of foreign activities or, what is even more likely, there may be a factor affecting both foreign activities and IFRS adoption. The importance of investigating this reverse effect has been acknowledged, but this research focuses exclusively on how IFRS adoption *per se* affects trade in goods and foreign direct investments.

2.3. Main Hypotheses

Accounting covers the way to disclose a firm's results and position. Hence, a common set of accounting standards in trading or investing partners is expected to foster the comparability effect. At country level, Amiram (2009) finds that foreign investors have higher holdings of foreign equity portfolio investments in countries that use IFRS. This relationship is stronger if the foreign investors are from countries that have also adopted IFRS, whereas Beneish et al (2009) show that IFRS adoption has a positive effect on cross-border debt investments, and that this increase is driven by those countries with weaker investor protection and higher financial risk. These papers show that benefits are expected from enhanced comparability and reduced information processing costs after IFRS adoption. Nonetheless, Devalle et al (2010) show that cross-border comparability of financial statements may not have been achieved in Europe post-IFRS, as significant differences between European accounting standards still remain and the impact of IFRS adoption differs from one country to another countries. Therefore, the first hypothesis to be tested is that IFRS adoption has benefited

European countries in terms of trade in goods and FDI, as IFRS adoption might have increased comparability among adopters.

Empirical evidence obtains mixed results regarding the overall impact of IFRS on accounting quality. On the one hand, many international firms use the same accounting standards after IFRS adoption, which has made it more difficult for investors to distinguish between financially transparent and opaque firms. In fact, Callao et al (2007) show that book value differs significantly from market value under IFRS in Spanish listed companies and Christensen et al (2008) find that IFRS *per se* does not change accounting quality. Otherwise, accounting quality is linked to the incentives to prepare high-quality financial statements. On the other hand, IFRS adoption may be considered as a means of giving credibility to corporate financial statements. For example, Jermakowicz et al (2007) find a significant relationship between the book value of earnings and market value of equity in the German premium stock market, then obtaining that IFRS adoption has increased the value relevance of earnings relative to market prices. Therefore, the second hypothesis tests whether there is a positive transparency effect in IFRS-adopting countries that decreases information costs and fosters exports and foreign investments.

Testing these two hypotheses at country level will contribute to the insight in the literature regarding IFRS adoption by providing evidence of a differential impact on foreign activities due to the comparability and transparency effects stemming from European accounting harmonisation.

3. Empirical strategy

3.1. Data, sources and variables

The sample used in the empirical analysis includes data on bilateral exports of goods in the EU from 2002 to 2007, as well as data on bilateral FDI flows

(namely investments by resident entities in affiliated enterprises abroad) from 2002 to 2007. FDI data also include a control group that consists of 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.

Data about the use of IFRS around the world were obtained from Deloitte (2003-2008) and Amiram (2009). Distance is taken from the Centre d'études prospectives et d'informations internationales (CEPII), while income and population were obtained from World Development Indicators (WDI) online.

In order to test the entire hypothesis outlined in Section 2, additional variables are required. Firstly, to analyse the comparability effect, we use a dummy that takes a value of 1 when listed companies in both exporting and importing countries use IFRS for domestic reporting in year *t*. Secondly, to analyse whether an improvement in transparency in IFRS-adopting countries has reinforced the comparability effect, a transparency measure is required. As the transparency effect reflects a stronger relationship between reported financial information and the firm's value, a firm-level variable should be used. Nonetheless, the approach used in the present paper does not allow capturing the firm-level transparency effect. So, only the indirect country-level transparency effect is proxied. To this

end, and given that the results in the literature are mixed, proxies of accounting quality are used in the econometric analysis. More specifically, a large sample of firms in different countries is considered to test the transparency of accounts by looking at the average level of earnings quality. As earnings quality refers to the ability of reported earnings to reflect a company's true earnings, two different proxy variables are used. First, the percentage of firms in a country expressing that a typical firm reports less than 100% of sales for tax purposes[5] and, second, the percentage of firms in a country with annual financial statements reviewed by an external auditor. These variables are obtained from Enterprise Surveys data (The World Bank, 2010). This survey reports information about the propensity to operate informally for tax purposes, as well as other firms' characteristics in a number of countries, mainly developing and transition countries. Then, the initial sample is reduced considerably when the transparency effect is included in regressions. Table A.1 in the Appendix shows the countries and years for which we obtain data in earnings quality from Business Surveys, as well as the number of firms surveyed in a sample year, the two variables considered to proxy for transparency effect and an additional control in trade regressions (percentage of exporting firms).

Table 1[6] 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, which relate to aspects such as enforcement and shareholder rights in different countries, are detailed by country. Second, Table 2 shows the mean of bilateral exports (in millions of euro) that all EU-27 Members have exported to their EU trading partners since 1999. The data show that the

[5] The question is phrased in terms of typical behaviour by firms in that industry, rather than the behaviour of a particular firm. This may introduce a bias towards the average behaviour of other firms.

[6] 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.

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 EU-27 Members from their EU partners, along with the United States, China, Japan, EFTA Members and candidate countries since 1999. 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.

3.2. Model specification

One of the main devices used to analyse the determinants of international trade flows is the gravity model of trade. Additionally, De Ménil (1999) finds that a gravity model accounts well for FDI among European countries. Therefore, the gravity model is the modelling framework used in this paper. The estimated equation is:

$$\begin{aligned} \ln X_{ijt} &= \delta_{ij} + \alpha_1 \cdot \ln Y_{it} + \alpha_2 \cdot \ln Y_{jt} + \alpha_3 \cdot \ln P_{it} + \alpha_4 \cdot \ln P_{jt} + \\ &+ \alpha_5 \cdot IFRS_{ijt} + \alpha_6 \cdot \ln Dist_{ij} + \alpha_7 \cdot FIX_{ijt} + \delta_t + \varepsilon_{ijt} \end{aligned} \quad (1)$$

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), the dependent variables are expressed in nominal terms. Y_i and Y_j represent the economic size of the origin and destination countries, which is measured with gross domestic product (GDP). P_i and P_j are the population of the origin and destination countries. $IFRS_{ijt}$ represents either the comparability or the familiarity effect of

IFRS adoption. $Dist_{ij}$ is calculated using bilateral distances between the largest cities of country *i* and *j,* the intercity distances being weighted by the share of the city in the country's overall population. FIX_{ijt} is an exchange rate stability dummy variable which introduces the effect of currency volatility in the analysis. This variable is constructed for each bilateral relationship and equals one if the destination country maintained a fixed exchange rate or one pegged to the Euro during the period *t*. δ_t represents time dummies, which are included in the regressions as other events which occurred in the same year as the mandatory adoption of IFRS in a particular country may influence the results. Finally, ε_{ijt} is the error term.

4. Main results

4.1. The effect of IFRS adoption on international trade

In order to analyse the effect of IFRS adoption on trade in goods, Equation (1) is estimated with the data from the EU-27 Member countries from 2002 to 2007. As the dataset is a panel, special estimation techniques are required. The presence of unobserved heterogeneity could be modelled as being random or fixed. A Hausman test indicates that random effects are preferred and we therefore rely on random effects estimates. Table 3 shows the estimation results. Column (1) tests the comparability effect for the entire sample and shows not only that income, population and exchange rate stability are significant, but also the expected positive sign. Distance is significant and negatively signed, as expected. These results reject the hypothesis that the comparability effect has benefited European countries in terms of trade in goods, as the IFRS dummy is not significant. The results in Column (2) corroborate this result for the sample of EU countries included in Table A.1 (Appendix) and where an additional control is included (the number of exporting firms). The rest of Table 3 tests the transparency effect.

Results in Columns (3) and (5) show a positive and significant transparency effect of IFRS adoption, as the higher the number of firms expressing that a typical firm reports less than 100% of sales for tax purposes in the exporting country (lower transparency), the lower exports and the higher the number of firms with financial statements reviewed by an external auditor in the exporting country, the higher exports, possibly due to the sunk costs which need to be met to participate in export markets and for which external funding is often required. Otherwise, the results obtained in Columns (4) and (6) show contrasting results. The higher the number of firms expressing that a typical firm reports less than 100% of sales for tax purposes in the importing country, the higher exports, thus probably indicating that borrowers did not look at firm accounts to provide trade credits to import, whereas the higher the number of firms with financial statements reviewed by an external auditor in the importing country, the higher exports, indicating that larger and more transparent firms participate to a greater extent in international markets.

4.2. The effect of IFRS adoption on FDI

In order to consider the problem of bias and inconsistency of the estimates in the presence of endogenous variables, Equation (1) is estimated by random effects in three steps for FDI regressions. In a first step, a trade regression is estimated according to Equation (2). A number of controls are included to proxy for similarities in history, traditions, culture, and institutional relationships among countries and excludes both the comparability and the transparency effect of IFRS adoption.

$$\begin{aligned} \ln X_{ijt} &= \lambda_{ij} + \beta_1 \cdot \ln Y_{it} + \beta_2 \cdot \ln Y_{jt} + \beta_3 \cdot \ln P_{it} + \beta_4 \cdot \ln P_{jt} + \\ &+ \beta_5 \cdot \ln Dist_{ij} + \beta_6 \cdot FIX_{ijt} + \beta_7 \cdot EU_{ijt} + \beta_8 \cdot Adj_{ij} + \beta_9 \cdot Lang_{ij} + \\ &+ \beta_{10} \cdot comcol_{ij} + \beta_{11} \cdot col45_{ij} + \beta_{12} \cdot smctry_{ij} + \lambda_t + u_{ijt} \end{aligned} \qquad (2)$$

where EU_{ijt} takes a value of 1 when countries are members of the EU in the year *t*. Adj_{ij} is a dummy that takes a value of 1 when countries share the same border and

zero otherwise. $Lang_{ij}$ 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 had a colonial relationship after 1945 (*col45*) or were the same country (*smctry*), are also included in the model. Results show that income, population, colonial links, regional integration and exchange rate stability are significant and positively signed, whereas distance is significant, but negatively signed.[7]

In a second step, the prediction of exports is calculated ($\hat{X}_{ijt}$), and in a third step, the lagged prediction of exports ($\hat{X}_{ijt-1}$) is included as an explanatory variable in the estimation of foreign direct investments, as shown in Equation (3).[8]

$$\begin{aligned} \ln FDI_{ijt} &= \sigma_{ij} + \rho_1 \cdot \ln Y_{it} + \rho_2 \cdot \ln Y_{jt} + \rho_3 \cdot \ln P_{it} + \rho_4 \cdot \ln P_{jt} + \\ &+ \rho_5 \cdot IFRS_{ijt} + \rho_6 \cdot \ln Dist_{ij} + \rho_7 \cdot \ln \hat{X}_{ijt-1} + \zeta_{ijt} \end{aligned} \qquad (3)$$

Equation (3) is estimated with the FDI data from the EU-27 Member countries, the United States, China (excluding Hong Kong) and Japan, EFTA countries (except Liechtenstein) and candidate countries (Croatia and Turkey) from 2002 to 2007.[9] Columns (7), (8), (9) and (10) in Table 4 display the estimation results for FDI, equity (EQ), retained earnings (RE) and loans, respectively. For FDI regressions, the comparability effect of IFRS adoption is positive and significant for equity, retained earnings and loans. The comparability effect of IFRS adoption has increased FDI in Europe by 22% {(exp[0,2] -1)*100}. Columns (11), (12), (13) and (14) show the results obtained for the transparency effect. According to these results, higher transparency in the destination country (thus decreasing the

[7] The results are available upon request from the author.
[8] Similar results are obtained when including lagged FDI instead of the lagged prediction of exports. The results are available upon request from the author.
[9] The dataset includes a maximum of 1,190 (35x34) cross-country FDI flows and 6 years, resulting in a maximum of 7,140 observations. The presence of missing/zero values in the bilateral FDI flows data considerably reduces the sample.

number of firms that report less sales for tax purposes),[10] leads to an increase in investment flows from abroad.

4.3. Sensitivity analysis

As shown in the main analysis, the IFRS comparability effect is found to be significant on FDI, but not so where trade in goods is concerned. Therefore, in this section we delve deeper into the comparability effect of IFRS adoption on foreign investments by considering that the IFRS comparability effect may differ across countries depending on behavioural factors. IFRS should lower the perceived risk of doing business with unfamiliar people in more uncertainty-averse countries to a greater extent, as uncertainty-averse economic agents dislike situations in which information is less readily available. The Uncertainty Avoidance Index (UAI) is used to analyse whether the comparability effect differs across countries according to behavioural factors.

A cluster analysis is performed to classify EU countries according to their UAI. Table 5 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 relatively high uncertainty-aversion in the EU.

A dummy variable is constructed for these three groups, such that the dummy proxying countries with low-uncertainty aversion interacts with the comparability IFRS dummy. Columns (15), (16), (17) and (18) in Table 4 show the results obtained, providing evidence that countries with medium and high-uncertainty aversion have increased equity flows and loans abroad to a greater extent than low-uncertainty countries.

[10] Similar conclusions are derived when using the alternative variable (percentage of firms with financial statements reviewed by an external auditor). The results are available upon request from the author.

5. Conclusions

This 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. Two main hypotheses are tested at country-level. First, IFRS adoption benefits European countries if it leads to increased comparability among adopters and second, the existence of a positive transparency effect in IFRS-adopting countries is also tested. The results obtained provide support for both the comparability and transparency effects. Furthermore, uncertainty-averse countries benefit the most from IFRS adoption in terms of foreign direct investments. Therefore, accounting standard harmonisation can be considered a strategy to reduce the perceived risks of investing abroad.

In summary, adopting a high quality set of harmonised accounting standards fosters trade and FDI, as the improvement in 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, the conditional impact of IFRS on the enforcement of financial reporting rules and underlying financial incentives and reverse causation remain issues for further research.

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TABLES

Table 1. Variable descriptions and sources of data

Variable	Description	Source
a) X_{ijt} : Exports from i to j	Value of exports, in euros from the year 2002 to 2007	Eurostat (2008)
b) X_{ijt}: Foreign direct investments from i to j	Value of FDI, in millions of euros from the year 2002 to 2007	Eurostat (2008)
$Equity_{ijt}$: Equity capital investments from i to j	Value of equity capital, in millions of euros from the year 2002 to 2007	Eurostat (2008)
RE_{ijt}: Earnings not distributed by the direct investment from i to j	Value of reinvested earnings, in millions of euros from the year 2002 to 2007	Eurostat (2008)
$Loans_{ijt}$: borrowing funds from i to j	Value of other FDI capital, in millions of euros from the year 2002 to 2007	Eurostat (2008)
Y_i	GDP (current US$) in country i	The Wold Bank, WDI online (2010)
Y_j	GDP (current US$) in country j	The Wold Bank, WDI online (2010)
P_i	Population in country i	The Wold Bank, WDI online (2010)
P_j	Population in country j	The Wold Bank, WDI online (2010)
$Dist_{ij}$: Distance	Distance between two countries based on bilateral distances between the largest cities in those two countries, inter-city distances being weighted by the share of the city in the country's overall population.	CEPII (2007)
Legal origins	Countries with English, French, German or Scandinavian legal traditions	La Porta et al (2007)
Comparability effect	$IFRS_{ijt}$ dummy variable = 1 if in both trading partners listed companies use IFRS for domestic reporting as of the year t, 0 otherwise. Proxy for comparability effect	Deloitte (several years); Amiram (2009)
Transparency effect (1)	% of Firms expressing that a Typical Firm Reports less than 100% of Sales for Tax Purposes	The Wold Bank, Business Surveys (2010). From http://www.enterprisesurveys.org
Transparency effect (2)	% of Firms with Annual Financial Statement Reviewed by External Auditor	The Wold Bank, Business Surveys (2010)
Exporter firms	% of Exporter Firms	The Wold Bank, Business Surveys (2010)
Uncertainty Avoidance Index	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.	From http://www.geert-hofstede.com
EU dummy	Dummy variable = 1 if the trading partners are members of the European Union, 0 otherwise	
Adj_{ij} : Adjacency dummy	Dummy variable = 1 if the trading partners share a common border, 0 otherwise.	CEPII (2007)
$Lang_{ij}$: Language dummy	Dummy variable = 1 if the trading partners countries share a language that is spoken by at least 9% of the population in both countries, 0 otherwise.	CEPII (2007)
$Comcol_{ij}$: Common colonizer dummy	Dummy variable = 1 if the trading partners have had a common colonizer after 1945, 0 otherwise	CEPII (2007)
$Col45_{ij}$: Colony dummy	Dummy variable = 1 if the trading partners have had a colonial link after 1945, 0 otherwise.	CEPII (2007)
$Smctry_{ij}$: Colony dummy	Dummy variable = 1 if the trading partners were/are the same country, 0 otherwise	CEPII (2007)

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

		1999		2000		2001		2002		2003		2004		2005		2006		2007		% increase (99-07)	
Country	Origins	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	2781.33[a]
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	2300.59[b]
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:** Mean exports to the rest of EU-27 members are presented in millions of euro. Mean FDI inflows from the rest of EU-27 members, the United States, China, Japan, EFTA members and candidate countries are also shown in millions of euro. A negative sign for flows indicates disinvestment. a) 2000-2007; b) 1999-2006.

Table 3. Determinants of trade in goods in Europe.

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Exporter's income	0.8***	0.94***	0.9***	1.01***	0.9***	1.02***
	24.7	15.02	14.24	19.49	14.08	19.88
Importer's income	0.6***	0.71***	0.71***	0.83***	0.72***	0.72***
	18.42	13.2	13.24	13.13	13.49	11.36
Exporter's population	0.22***	0.07	0.1	0.05	0.13	0.04
	5.53	0.94	1.26	0.75	1.61	0.64
Importer's population	0.26***	0.18***	0.18***	-0.01	0.17***	0.1
	6.27	2.76	2.88	-0.07	2.72	1.19
Comparability effect	-0.05	0.06				
	-0.89	0.31				
Distance	-1.5***	-1.6***	-1.58***	-1.8***	-1.62***	-1.81***
	-28.58	-22.53	-22.43	-25.4	-23.07	-25.89
FIX	0.07**	0.09	0.09	0.17***	0.09	0.03
	2.59	1.22	1.26	2.69	1.31	0.46
Number of exporting firms		0.53***	0.61***		0.48***	
		4.43	5.01		3.98	
Transparency effect in exporter (1)			-0.11***			
			-3.27			
Transparency effect in importer (1)				0.12***		
				3.84		
Transparency effect in exporter (2)					0.28**	
					2.46	
Transparency effect in importer (2)						0.54***
						4.84
Constant term	-13.5***	-17.36***	-16.82***	-14.84***	-18.07***	-15.24***
	-16.89	-11.76	-11.44	-10.37	-12.16	-10.69
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	4210	754	754	753	754	753
R2_within	0.41	0.5	0.5	0.5	0.49	0.49
R2_overall	0.88	0.85	0.85	0.88	0.85	0.88
RMSE	0.34	0.39	0.39	0.35	0.4	0.35

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. Z-statistics are provided below every coefficient. The dependent variable in trade regressions is the natural logarithm of exports in value (euros).

Table 4. Determinants of FDI in Europe.

Variable	(7)FDI	(8)EQ	(9)RE	(10)Loans	(11)FDI	(12)EQ	(13)RE	(14)Loans	(15)FDI	(16)EQ	(17)RE	(18)Loans
Exporter's income	0.35***	0.31***	0.42***	0.28***	0.29	0.14	0.43***	0.17	0.37***	0.34***	0.42***	0.31***
	5.01	5.17	6.3	4.45	1.47	1.13	3.19	1.07	5.27	5.62	6.38	5.01
Importer's income	0.07	0.06	0.12**	0.1**	-0.01	-0.01	0.12	0.06	0.07	0.06	0.11**	0.1**
	1.21	1.18	2.2	2.08	-0.09	-0.14	1.21	0.51	1.22	1.19	2.21	2.15
Exporter's population	-0.08***	-0.12***	-0.15***	-0.05*	-0.07	-0.07	-0.21***	0.06	-0.1***	-0.14***	-0.15***	-0.07***
	-2.68	-4.42	-5.1	-1.75	-0.68	-0.97	-2.86	0.65	-3.12	-5.17	-5.21	-2.61
Importer's population	0.09***	0.06**	0.02	0.05*	0.09	0.05	0.04	0.08	0.09***	0.06**	0.02	0.05*
	3	2.11	0.63	1.83	0.98	0.95	0.74	1.15	3.05	2.18	0.64	1.94
Comparability effect	0.09**	0.19***	0.2***	0.21***					0.11***	0.23***	0.21***	0.24***
	2.39	6.43	6.18	5.41					3.02	7.47	6.24	6.32
Distance	-0.21*	-0.09	-0.15	-0.16	-0.16	-0.04	-0.32	-0.31	-0.22*	-0.09	-0.15	-0.17
	-1.72	-0.84	-1.31	-1.47	-0.48	-0.19	-1.42	-1.16	-1.76	-0.87	-1.32	-1.57
Lagged exports	-0.15*	-0.09	-0.16**	-0.18**	-0.09	0	-0.21	-0.19	-0.15*	-0.09	-0.16**	-0.19***
	-1.85	-1.21	-2.03	-2.55	-0.41	0.03	-1.43	-1.11	-1.88	-1.24	-2.04	-2.66
Transparency effect in importer (1)					-0.14***	-0.13***	-0.15***	-0.1**				
					-3.11	-4.26	-4.57	-2.55				
Comparability *Low-uncertainty									-0.23***	-0.31***	-0.05	-0.34***
									-3.13	-5.23	-0.82	-5.14
Constant term	-0.24	-0.51	-1.98*	0.82	1.84	3.15	0.75	3.93	-0.45	-0.78	-2.02*	0.43
	-0.19	-0.46	-1.64	0.73	0.54	1.48	0.33	1.46	-0.36	-0.72	-1.68	0.38
Number of observations	5181	4891	4709	4646	678	627	619	612	5181	4891	4709	4646
R2_within	0.01	0.03	0.02	0.01	0.05	0.05	0.03	0.01	0.01	0.02	0.02	0.01
R2_overall	0.05	0.08	0.09	0.03	0.04	0.06	0.08	0.02	0.05	0.08	0.09	0.03
RMSE	1.12	0.87	0.89	1.12	1.15	0.85	0.92	1.07	1.12	0.88	0.89	1.12

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. Z-statistics are provided below every coefficient. The dependent variable is the natural logarithm of FDI, equity (EQ), retained earnings (RE) or loans.

Table 5. 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

APPENDIX

Table A.1. Business Survey, data availability.

Country	Time coverage	Year	Observations	% of Firms expressing that a Typical Firm Reports less than 100% of Sales for Tax Purposes	% of Firms with Annual Financial Statement Reviewed by External Auditor	% of Exporter Firms
Bulgaria	2002, 2004, 2005, 2007	2007	1015	16.38	30.95	12.2
China	2003	2003	3948	49.45	70.79	24.48
Croatia	2002, 2005, 2007	2005	176	32.3	50.57	38.51
Czech Republic	2002, 2005	2005	208	52.2	43.84	32.69
Estonia	2002, 2005	2005	172	26.47	85.21	32.56
Germany	2005	2005	1196	..	54.15	16.39
Greece	2005	2005	546	53.19	48.32	19.23
Hungary	2002, 2005	2005	460	40.72	81.07	42.83
Ireland	2005	2005	501	28.78	94.59	33.27
Latvia	2002, 2005	2005	141	25.37	64.75	33.33
Lithuania	2002, 2004, 2005	2005	150	41.94	46.62	41.33
Poland	2002, 2003, 2005	2005	609	43.97	43.55	33.33
Portugal	2005	2005	505	37.25	80	19.01
Romania	2002, 2005	2005	498	26.46	36.63	25.5
Slovak Republic	2002, 2005	2005	143	22.48	63.38	40.14
Slovenia	2002, 2005	2005	159	39.19	40.76	54.43
Spain	2005	2005	606	18.33	58.31	21.78
Turkey	2002, 2004, 2005	2005	1323	82.14	33.06	51.06
Total firms			12356			