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The Effect of IFRS Adoption on Trade and Foreign Direct Investments

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Abstract

This paper focuses on the importance of accounting harmonisation on foreign activities from a macroeconomic perspective. International Financing Reporting Standards (IFRS) adoption is considered to reduce information costs among countries and is, therefore, an important way to encourage international trade flows and investments. Moreover, heterogeneity in trade and FDI determinants among different European countries (well-established capitalist countries in the “West” and post-communist countries in the “East”) is analysed since transition economies present a lower development of market institutions and, therefore, of financial systems. The effect of IFRS adoption is analysed from a gravity framework. The fixed-effects vector decomposition (FEVD) procedure, recently proposed by Plumper and Troeger (2007), is used to estimate panel data characterised by the presence of time invariant variables, or variables which vary rarely in time. The results provide evidence that benefits exist in terms of trade and FDI when IFRS are adopted. Furthermore, the positive effect of adopting uniform accounting standards on foreign activities in Europe is higher in transition economies. Finally, this effect also differs in countries because of behavioural factors such as unfamiliarity aversion.

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1. Introduction

The fact that international accounting standards are rapidly converging means there is a need to analyse whether making accounting information more easily understood worldwide will have consequences on foreign activities. Over 100 countries have moved to International Financial Reporting Standards (IFRS) for financial reporting purposes. Hence, the question of whether the adoption of IFRS results in economic benefits is of special interest, particularly in light of the European Union's recent adoption of IFRS by listed companies, since IFRS adoption may improve the informational environment if the change from local GAAP (Generally Accepted Accounting Principals) to IFRS induces higher quality financial reporting and lower information asymmetries among countries.

This paper aims to provide the first empirical evidence of the effect of IFRS adoption in Europe from a macroeconomic perspective by focusing on the importance of European accounting harmonisation on international trade and foreign direct investments (FDI). 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, while Section 3 explains the financial situation in transition economies. Then Section 4 describes the gravity model and the fixed-effects vector decomposition methodology (FEVD) to estimate panel data which is characterised by the presence of time-invariant variables, or of variables which vary rarely in time. The empirical analysis is performed in Section 5, where data, sources and variables are described, and the main results are presented. Finally, Section 6 presents the conclusions drawn.

2. Accounting harmonisation and information asymmetries

2.1. International accounting harmonisation

Accounting is known as the "language of business" since it assumes the way to communicate the results and position of a firm. The American Accounting Association defines accounting as "the process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information". Depending on the users of information, three different types of accounting can be distinguished. Firstly, managerial accounting, which provides information to people inside a firm. Secondly, tax

accounting, which provides information to the tax authorities. Finally, financial accounting, which provides information primarily to people outside the firm. This information is useful for customers, in debt contracts and to obtain credit from suppliers. Therefore, financial accounting is helpful in attracting capital to firms.

Financial accounting translates events into financial statements under certain rules which define the way in which firms transactions are disclosed and reported (accounting standards), and these are enclosed in local GAAP or IFRS. Financial statements not only report on a firm's financial position, but they also present information about how the firm has financially performed. Research suggests that difficulty in interpreting financial statements, which have been compiled using different accounting standards, may hinder foreign investments (Gehrig, 1993). Therefore, to study whether achieving international accounting harmonisation will serve the needs of international investors, attracting foreign capital and investing in foreign markets become especially relevant. Both the advantages and disadvantages of this trend must be considered. Among the motivators to harmonise accounting standards, Lew (2005) names the reduction of compliance costs for the firms listed on stock exchanges in different countries, which would encourage more cross listings on multiple stock exchanges, an increase in investors' confidence given a higher quality of accounting standards, enhanced market liquidity, and the reduction of the cost of capital. Moreover, a set of harmonised accounting standards can be considered to be an informational change since they may improve transparency and comparability in different countries. Otherwise, the existence of national varieties in accounting standards which create inefficiencies was found among the obstacles, thus impeding the flow of capital and complicating cross-border transactions. Additionally, harmonised accounting standards may result in different disclosure decisions because of differences in culture (Tsakumis, 2007). As international global standards are rapidly converging, there is a need to investigate the exact economic consequences of introducing uniformity into the financial information that firms disclose in different countries.

2.2. Accounting harmonisation 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. The creation of the European common market is related to four fundamental freedoms: 1) the free movement of goods, 2) the free movement of services and freedom of establishment, 3) the free movement of persons and workers and 4) the free movement of capital. 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, Frost and Meek, 2001).

Concerning the European accounting harmonisation process; in 2002, the European Union (EU) adopted an International Accounting Standards (IAS) Regulation requiring that all listed EU companies prepare their consolidated financial statements in accordance with IFRS from the year 2005 onwards. 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).

It is possible that European investors react positively to movement towards IFRS adoption if investors expect the application of IFRS to result in higher quality financial reporting information, thus reducing information asymmetries and increasing contracting with external parties (Francis, Khurana, Martin, and Pereira, 2008). Additionally, the European capital markets would be more globally competitive, so liquidity for European firms would increase.

Nonetheless, there is the possibility of a negative reaction to IFRS adoption given the belief that IFRS reflect neither regional differences in the economy (differences in economies and politics lead to domestic accounting differences), nor differences in implementation and enforcement (Ball, 2008). Finally, implementation costs may be higher than the benefits obtained.

Leuz (2003) shows that IFRS are a high quality set of accounting standards, and that they are the equivalent to US GAAP in terms of reducing information asymmetries. Moreover, a number of authors have analysed the early effects of IFRS adoption in EU countries. Among them, Armstrong, Barth, Jagolinzer and Riedl (2007) analyse the market reaction effects, and show that investors in European firms perceive that the expected benefits of IFRS are higher than costs.

2.3. 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: 1) Better identification of good versus bad projects by managers and investors, 2) Discipline in project selection and expropriation by managers and 3) Reduction of information asymmetries between investors. Young and Guenter (2003) focus on the third channel. They are the first authors that document the relationship between differences in financial reporting and differences in international capital mobility between countries. Countries where financial accounting environments lead to greater disclosure (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 trade (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 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. Nonetheless, exporting costs are difficult to finance since investments are made long before any export revenue is collected, and they provide limited collateral. For outsiders, revenues from abroad may be difficult to verify, and are more difficult to extract from the firm. Finally, export revenues may be volatile and difficult to predict (Becker and Greenberg, 2003). 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).

To sum up, accounting harmonisation between countries may be considered as a way of increasing financial transparency and comparability. Moreover, in the long term, the harmonisation of the accounting standards would improve trust and familiarity, improving investor confidence, enhancing market liquidity and reducing the cost of capital and hence increasing flows of foreign investment and trade between countries.

3. Finance in transition economies

In a global context, as globalisation increases the costs of pro-poor policies and institutional frameworks, countries that fail to participate in the global economy run the risk of being marginalised. Therefore, minimising the risks of marginalisation and maximising the benefits stemming from globalisation could be considered as key challenges for transition economies.

The term "communist state" describes the form of government adopted by several countries in Eastern Europe and East Asia which followed the political model of the former Soviet Union. Since the end of the Cold War there has been a transition in which ex-communist countries have abandoned the traditional tools of communist economic control, and have moved towards free market systems.

The World Bank's book "Building Market Institutions in South Eastern Europe: Comparative Prospects for Investment and Private Sector Development" (Broadman et al., 2004) starts from the premise that further development and reform of basic market institutions in transition countries are

the keys to increasing investment and thus accelerating economic growth and reducing poverty. Moreover, along the same lines, an institutional framework that is favourable for trade is essential to achieving economic growth and to alleviating poverty.

Broadman et al. (2004) state that there is a need for more far-reaching reforms in South Eastern Europe¹ as the development of market institutions has been partial and slow. Boyer (1996) had already pointed out that dissolving communist political organisations and centrally planned mechanisms would require decades, as it took nearly two centuries for capitalist countries to make the logics of market mechanism familiar and acceptable and, even in Western economies, financial markets have to be constantly reformed and regulated by a large number of institutions in order to be efficient.

To address the institutional finance-related impediments in South Eastern European economies, Broadman et al. (2004) look at four issues: 1) Restructuring and enterprise ownership; 2) Financial disclosure and transparency; 3) Minority shareholders' rights and 4) Access to finance.

In relation to financial disclosure and transparency, these authors highlight the inability of South Eastern Europe to implement financial transparency and disclosure requirements. Tapscott and Ticoll (2003) describe transparency as an "old force with new power"; and this force may be fostered in transition systems by the quality of financial reporting information that IFRS adoption requires.

A favourable framework for access to finance discourages fraud and ensures financial transparency. Nonetheless, the financial system in transition countries is failing to meet the demands of the private sector (Pissarides, 2001).

Table 1 shows a number of variables related to financial access in South Eastern Europe and the average in OECD countries for the year 2005. Data shows that firms face a low level of domestic credit provided to the private sector for investment, and a relatively low number of firms are financed with credit from suppliers or clients. Banks require large collateral to grant loans, so a large number of firms finance their investments from informal sources.

Figure 1 describes the evolution over time of securities markets and non-bank financial institutions as measured by the EBRD Transition Indicators. The transition indicator scores reflect the judgment of the EBRD's Chief Economist's Office about country-specific progress in transition. Scores assigned to each country range from 1 to 4+,² with 1 indicating little or no

¹ Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR Macedonia, Moldova, Romania, and Serbia and Montenegro.

² 1) Little progress. 2) Formation of securities exchanges, market-makers and brokers; some trading in government papers and/or securities; rudimentary legal and regulatory framework

change from a rigidly planned economy. Institutional alternatives have progressed considerably in the region (Croatia, Bulgaria, and Romania); however, little progress has been observed in a number of countries, such as Albania, Bosnia and Herzegovina, and Montenegro (1.67 in 2007). Moreover, the stock exchanges in the region are unable to mobilise a sufficient level of financing to match what firms require. Stock exchanges are illiquid, with trade concentrated in a small number of firms and with very low levels of stock market capitalisation. In fact, the market does not attract many new investors, and stocks are traded between existing stakeholders and brokers. The low volumes of traded shares, capitalisation, and liquidity are influenced by the fact that the region's stock exchanges were created to serve as privatisation devices in the initial distribution and trading of shares and, thus, trends towards consolidating ownership and abandoning publicly listed status have become particularly popular (Broadman et al., 2004). For example, the number of listed companies in the Bucharest Stock Exchange increased from 17 (in 1996) to a maximum of 127 (in 1999). In 2007, the number of companies with listed shares was 61 (Figure 2).

Table 2 shows a comparison between capital markets in South Eastern Europe. Two important indicators of changes in the stock market are the capitalisation of the stock exchange and the volume of shares traded. As more companies are listed on stock exchanges, capitalisation increases. Volume shows how the level of trading changes over time, indicating the level of new interest, or lack of interest, in the stock market. Rising prices on rising volume is seen as a positive indicator, and falling volume a negative indicator.

In summary, these factors have led to a situation in which corporate capital investment, except foreign investment, is largely constrained by internal retained earnings. Therefore, in transition economies, challenges such as developing market institutions become very important. Meanwhile, a different economic environment is found in Western countries with well-established capitalist systems. Capitalism relies on private ownership and institutional foundation, thus providing legal protection, controlled risk and access to finance for firms. To achieve this, corporate transparency and accountability are needed in transition countries. In this line, the adoption of a high quality set of harmonised accounting standards in a number of transition countries

for the issue and trading of securities. 3) Substantial issuance of securities by private enterprises; establishment of independent share registries, secure clearance and settlement procedures, and some protection of minority shareholders; emergence of non-bank financial institutions (for example, investment funds, private insurance and pension funds, leasing companies) and associated regulatory framework. 4) Securities laws and regulations approaching IOSCO standards; substantial market liquidity and capitalisation; well-functioning non-bank financial institutions and effective regulation. 4+) Standards and performance norms of advanced industrial economies; full convergence of securities laws and regulations with IOSCO standards; fully developed non-bank intermediation.

may have important consequences on foreign activities and, therefore, it is also studied in the empirical analysis.

4. 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 Ménil (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 preferential trade dummy variables and P_{ijh} takes the value one when a certain condition is satisfied (e.g. belonging to a trade bloc), 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, as well as trading bloc dummy variables that evaluate the effects of preferential trading agreements. 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, Mody and Razin, 2002).

5. Empirical framework

5.1. Data, sources and variables

The sample used in the empirical analysis includes data on bilateral exports in the EU from 1999 to 2007, as well as data on FDI flows abroad (namely investments by resident entities in affiliated enterprises abroad) from 1999 to 2006.³ Moreover, FDI data also include the United States, China, Japan, EFTA members (Switzerland, Norway, Iceland) and candidate countries (Croatia, Turkey). Total FDI flows abroad 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.⁴

Distance, adjacency, colonial links and language were taken from Centre d'études prospectives et d'informations internationales (CEPII).⁵ Legal origins were obtained from La Porta, López-de-Silanes, and Shleifer (2007). Income and population were obtained from World Development Indicators online. Data about the use of IFRS around the world was obtained from Deloitte (2003-2007). Table 3 shows the use of IFRS in the country-sample in 2003 and 2006.⁶

Finally, Table A.1⁷ shows a summary of the variables used in the empirical analysis.

5.2. Model specification and methodology

In this paper, a gravity model that includes the effect of European accounting harmonisation as an important determinant of international trade and FDI is estimated. Uniformity in financial reporting affects foreign investments and

³ 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.

⁴ 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).

⁵ The `dist_cepil` file was taken from <http://www.cepii.fr/anglaisgraph/bdd/distances.htm>.

⁶ These years are chosen since the first final IFRS draft interpretation was published in 2003, and Europe requires IFRS for listed companies, which started in 2005, so a later year is selected.

⁷ Table A.1 in the Appendix. 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.

trade since it reduces any information asymmetries among agents in different countries.

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 (EU). The EU has developed a common market through a standardised system of laws that guarantee the freedom of movement of people, goods, services and capital. However, only fifteen have reached a deeper level of integration, and have joined the European Monetary Union (EMU). EMU Membership implies the loss of the macroeconomic flexibility of running an independent monetary policy.

Finally, legal investor protection is introduced into the model since it is considered a predictor of financial development. La Porta et al. (2007) classify countries according to their legal origins in five different groups: English, French, German, Scandinavian and Socialist. The Socialist legal tradition originates in the Soviet Union and was spread to South Eastern Europe. Nonetheless, these countries reverted to their pre-Russian revolution legal systems, with their basis in Roman law.

The model is expressed as an additive form using logarithmic transformation.⁸ The estimated equation is:

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

where \ln denotes natural logarithms, X_{ij} denotes the value of bilateral exports/outward FDI flows from country i to j . As in Portes and Rey (2005) and Brouwer, Paap, and Viaene (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 ($colony$),

⁸ Income and population are not included due to the multicollinearity among the variables.

are currently in a colonial relationship (*curcol*)⁹ or were the same country (*smctry*), are also included in the model. Adjacency, language and colonial links controls for similarities in history, traditions and culture among countries, whereas geographical distance controls for trade/investment barriers and information asymmetries among countries that are not inherent in the disclosed financial information reported in accounting standards.

EU and EMU take a value of 1 when countries are members of the EU and the EMU, 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. Finally, 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.

Special estimation techniques are needed to estimate a panel dataset. One technique might be to control fixed effects. However, the model contains a number of time-invariant parameters (adjacency, distance, language, colony, comcol, curcol, smctry and legal origins). In this case, using a fixed-effect estimator means the omission of these time-invariant variables. The rest of the included variables (EU, EMU and IFRS) are rarely time-changing variables. Plümper and Troeger (2007) discussed the problem of these 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. This transformation removes the individual effects and the time-invariant variables. It is run for the purpose of obtaining estimates of the unit effects, which include all the time-invariant variables, the overall constant term and the mean effects of the time-varying variables x :

⁹ The only case in the sample is Cyprus. The Turkish forces invaded the island, occupying the island's territory in the north-east. The operation led to the widespread displacement of Cyprus's ethnic communities, dividing the island between a Turkish Cypriot north and a Greek Cypriot south.

$$\hat{u}_i = \bar{y}_i - \sum_{k=1}^K \beta_k^{FE} \bar{x}_{ki} - \bar{e}_i \quad (5)$$

where β_k^{FE} is the pooled-OLS estimate of the demeaned model, $\bar{y}_i = \frac{1}{T} \sum_{t=1}^T y_{it}$

and $\bar{e}_i = \frac{1}{T} \sum_{t=1}^T e_{it}$. At stage 2, the unit effects \hat{u}_i from the first stage are regressed on the observed time-invariant and rarely changing variables (z variables). The estimated unit effect is decomposed into two parts: an explained and an unexplained part (h_i).

$$\hat{u}_i = \sum_{m=1}^M \gamma_m z_{mi} + h_i \quad (6)$$

The unexplained part, h_i , is obtained by computing the residuals from Equation (6):

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

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:

$$y_{it} = \alpha + \sum_{k=1}^K \beta_k x_{kit} + \sum_{m=1}^M \gamma_m z_{mi} + \delta h_i + \varepsilon_{it} \quad (8)$$

h_i no longer correlates with any of the time-invariant or rarely changing variables. Hence, it is possible to account for individual fixed-effects. The third stage deals with the dynamics of the time-invariant variables. This is important since estimating the model requires the heteroscedasticity and serial correlation having to be eliminated. In order to control for cross-sectional heteroscedasticity, a robust Huber-White Sandwich estimator is run, and a first-order autoregressive disturbance transformation of the original trade data is also run to control the serial correlation of the error term.

5.3. Empirical results

5.3.1. The effect of IFRS adoption on international trade

Equation (3) is estimated with the data of the 27 EU member countries from 1999 to 2007. Table 4 shows the estimation results. Beneish and Yohn (2008)

state that geographic proximity provides access to better information, and that it is not the form of the financial information that drives the phenomenon. Additionally, these authors point out that informational frictions arising from differences in language, culture and the financial reporting environment dominate the information costs related to accounting standards. Therefore, the second column shows the results obtained when IFRS are excluded from the model. The third column includes the IFRS dummy. Finally, column four includes the interaction of IFRS with a transition dummy to take into account whether the effect of IFRS adoption differs in transition countries.

The obtained results show that adjacency, common colonial ties, and the EU and EMU dummies are significant, and show the expected positive sign. Distance, language (unexpected), common coloniser, current colony, and the same country dummy are significant, and negatively signed. When the IFRS dummy is included, it is significant and shows a positive sign. The results show that two European trading countries that require IFRS for all the domestic listed companies trade more than the rest of European country pairs thanks to the lower information costs and information asymmetries among trading companies in different European countries.

In order to analyse the effect of IFRS adoption on trade in transition economies, a dummy ($Trans_{exp}$) interacts with IFRS when the exporter is a post-communist/transition country. Additionally, a dummy ($Trans_{imp}$) interacts with the IFRS dummy when the importer is a post-communist/transition country. Column four in Table 4 shows these results. The results of the interaction dummies show that heterogeneity exists in the sample, as well as the expected positive effect of IFRS adoption on trade. In addition, IFRS adoption has benefited transition countries to a higher extent in terms of trade than in well-developed capitalist countries. This is possibly due to a higher informational change motivated by financial transparency and by the quality of financial reporting information that IFRS adoption requires. Then, information asymmetries have been reduced in transition economies, thus fostering contract with external parties and increasing the participation by the transition economies in an increasingly more globalised and integrated world.

5.3.2. The effect of IFRS adoption on FDI

Equation (3) is 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 2006. Table 5 shows 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).¹⁰ In this case, distance is significant and presents a positive sign, and hence, horizontal FDI predominates. The results show that cultural ties (language) are of great importance to foster investments in retained earnings and loans, whereas to have ever been a same country deters loans in foreign partners.

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 earning and loans to a higher extent than countries sharing French and Scandinavian legal origins. Common German origins are found to have a deterring effect on foreign direct investments. A possible explanation is that many of these countries are transition countries which reverted to their pre-Russian revolution legal systems and have a lower financial market sophistication than Western countries.

Unlike the argument presented by Beneish and Yohn (2008), that IFRS adoption will not significantly reduce the tendency of investors to under-invest in foreign equities, the results show that IFRS adoption has increased FDI flows among countries. However, the positive effect of IFRS adoption is only significant for retained earnings and loans. The positive and significant interaction of IFRS with the transition investor dummy, for the case of retained earnings, points towards the hypothesis that the direct investor's share of earnings from transition countries, which have not been distributed by the direct investment enterprise, has increased. 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.

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 the last column of Table 6. 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.

¹⁰ 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.

5.3.3. 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. Tables 4, 5 and 6 show that the signs and estimates of the key variables are similar.

In a second step, 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.¹¹

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)¹² 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 7 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 8 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

¹¹ The results are available upon request from the author.

¹² 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.

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.

6. Conclusions

This paper is related to the home bias literature on trade (McCallum, 1995) and equity portfolios. It is well-known that stock market investors prefer domestic assets. Obstfeld and Rogoff (2000) initiated a new stream in the empirical literature of equity markets when they cited this fact as one of the six major puzzles in international economics.¹³ In this line, Portes and Rey (2005) were the first authors to prove that the information required to evaluate financial assets is not equally available to all market participants, and the lack of this information is much more important than the diversification opportunities in foreign markets. From the same framework, and using a new methodology to estimate panel data with time-invariant and rarely changing variables in time, the present paper is the first empirical evidence to show 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. Furthermore, the potential macroeconomic benefits of IFRS adoption may be higher in transition countries since they will undergo important changes in their informational environment because of the improvement of corporate transparency.

This paper also analyses IFRS adoption by taking into account uncertainty aversion diversity in countries. 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 existing in the implementation of the European accounting harmonisation process remains an issue for further research.

¹³ The puzzle of home bias in trade is also cited as one of the puzzles (international goods markets appear to be far more segmented than is commonly assumed).

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TABLES AND FIGURES

Table 1. Finance Indicators

Country (2005)	Internal finance for investment (%)	Bank finance for investment (%)	Informal finance for investment (%)	Supplier credit financing (%)	Value of collateral needed for a loan (% of the loan amount)	Loans requiring collateral (%)
Albania	78.06	18.16	1.57	2.6	153.99	96.81
Bosnia and Herzegovina	64.95	25.6	2.1	3.74	202.04	95.87
Bulgaria	66.17	19.22	4.35	5.26	158.83	86.89
Croatia	55.54	27.98	1.18	6.4	149.32	76.62
Macedonia, FYR	66.65	11.48	7.83	6.33	194.36	96.55
Moldova	74.84	16.05	4.12	7.37	155.3	90.34
Romania	71.51	15.41	3.47	7.25	153.23	93.38
Serbia and Montenegro	79.92	10.8	2.64	5.64	194.65	91.04
OECD	60.26	20.03	1.47	8.69	130.22	67.91

Source: Enterprise Analysis Unit, World Bank (2007), <http://www.enterprisesurveys.org/>

Notes: The number of firms surveyed was 204 in Albania, 200 in Bosnia and Herzegovina, 300 in Bulgaria, 236 in Croatia, 200 in Macedonia FYR, 350 in Moldova, 600 in Romania, and 300 in Serbia and Montenegro.

The variable internal finance for investment shows the percentage of firms' new investments that are financed by internal funds or retained earnings. Bank finance for investment shows the percentage of firms' new investments that are financed by commercial bank credit or loan. Informal finance for investment shows the percentage of firms' new investments that are financed by informal sources, family, or friends. Supplier credit financing shows the percentage of establishment's working capital that is financed with credit from suppliers or clients. The variable value of collateral needed for a loan (% of the loan amount) shows the average value of the collateral required as a percentage of the loan value for firms with a recent loan or overdraft that required collateral or a deposit. Finally, the variable loans requiring collateral shows the percentage of firms requiring collateral of those firms that have loans.

Table 2. Comparison of essential indicators in south-eastern European Stock Exchanges.

	Bulgarian Stock Exchange	Zagreb Stock Exchange	Bucharest Stock Exchange	Belgrade Stock Exchange	Sarajevo Stock Exchange	Macedonian Stock Exchange
Share issues traded	341	197	58	1,204	489	101
Market capitalisation (EUR million)	7,830	22,018	21,414	8,341	5,816	1,414
Market capitalisation, change from 2005	+81.58%	+101%	+39.86%	+82.36%	+76.28%	+71.53%
Turnover logged in 2006 (EUR, millions)	1,730	6,172	2,754	1,273	333	507
Turnover, change from 2005	+14.76%	+32.99%	+29.13%	+199.53%	+17.89%	+248.89%
Instruments traded	Shares, corporate and municipal bonds, government securities	Shares, bonds, short-term securities	Shares, municipal bonds, rights	Shares, government securities, corporate bonds	Shares, bonds	Shares, bonds

Source: Bulgarian Stock Exchange (2007)

Table 3. Use of IFRS required for all the domestic listed companies.

	2003	2006
AUSTRIA	Yes	Yes
BELGIUM		Yes
BULGARIA	Yes	Yes
CHINA		
CROATIA	Yes	Yes
CYPRUS	Yes	Yes
CZECH REPUBLIC		Yes
DENMARK		Yes
ESTONIA		Yes
FINLAND		Yes
FRANCE		Yes
GERMANY		Yes
GREECE	Yes	Yes
HUNGARY		Yes
ICELAND		Yes
IRELAND		Yes
ITALY		Yes
JAPAN		
LATVIA		Yes
LITHUANIA		Yes
LUXEMBOURG		Yes
MALTA	Yes	Yes
NETHERLANDS		Yes
NORWAY		Yes
POLAND		Yes
PORTUGAL		Yes
ROMANIA		
SLOVAKIA		Yes
SLOVENIA		Yes
SPAIN		Yes
SWEDEN		Yes
SWITZERLAND		
TURKEY		
UNITED KINGDOM		Yes
UNITED STATES		

Source: Deloitte (2003-2007)

Table 4. Determinants of bilateral trade in Europe.

	Without IFRS	With IFRS	Transition
Adjacency dummy	1.27*** (1050.83)	1.24*** (1194.65)	1.25*** (1238.28)
Distance	-2.18*** (-2252.92)	-2.19*** (-2740.72)	-2.18*** (-2830.99)
Language dummy	-0.47*** (-219.46)	-0.45*** (-229.99)	-0.44*** (-233.54)
Colonial link dummy	0.15*** (88.21)	0.14*** (90.12)	0.16*** (100.06)
Common coloniser dummy	-3.52*** (-814.56)	-3.45*** (-1086.97)	-3.47*** (-1146.92)
Current colony dummy	-1.99*** (-300.12)	-2.08*** (-321.16)	-2.02*** (-317.94)
Same country dummy	-1.99*** (-1193.79)	-2.02*** (-1399.69)	-2.00*** (-1439.95)
EU dummy	0.43*** (228.28)	0.26*** (145.26)	0.23*** (112.32)
EMU dummy	0.05*** (4.25)	0.12*** (10.44)	0.11*** (10.70)
English origins	0.20*** (56.72)	0.11*** (32.35)	0.15*** (43.19)
French origins	0.28*** (206.85)	0.28*** (237.30)	0.31*** (268.13)
German origins	-1.06*** (-904.75)	-1.01*** (-971.66)	-1.09*** (-1130.24)
Scandinavian origins	0.07*** (37.66)	0.10*** (69.20)	0.16*** (118.30)
IFRS dummy		0.24*** (226.59)	0.15*** (82.89)
IFRS*transition exporter			0.11*** (39.70)
IFRS*transition importer			0.14*** (50.35)
R-squared	0.97	0.98	0.98
RMSE	0.44	0.33	0.33
Number of observations	4910	2804	2804

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

Table 5. Determinants of FDI.

	FDI total			Equity			Retained Earnings			Loans		
	Without IFRS	With IFRS	Transition	Without IFRS	With IFRS	Transition	Without IFRS	With IFRS	Transition	Without IFRS	With IFRS	Transition
Adjacency dummy	1.13*** (11.01)	1.44*** (9.51)	1.44*** (9.48)	1.05*** (7.00)	1.06*** (4.77)	1.04*** (4.73)	1.28*** (17.55)	1.24*** (17.58)	1.22*** (16.86)	1.21*** (8.50)	1.32*** (5.76)	1.32*** (5.80)
Distance	0.35*** (11.28)	0.25*** (6.43)	0.25*** (6.46)	0.09* (1.66)	-0.05 (-0.64)	-0.04 (-0.52)	0.54*** (22.17)	0.51*** (21.71)	0.50*** (21.26)	0.25*** (4.47)	0.12* (1.66)	0.12 (1.59)
Language dummy	1.46*** (11.81)	1.37*** (9.74)	1.38*** (9.79)	0.73*** (3.75)	0.72*** (2.93)	0.72*** (2.95)	1.29*** (15.00)	1.15*** (13.04)	1.15*** (13.08)	1.12*** (5.30)	1.14*** (4.10)	1.14*** (4.07)
Colonial link dummy	1.17*** (8.56)	0.69*** (4.26)	0.70*** (4.32)	0.85*** (4.80)	0.64*** (2.83)	0.67*** (2.98)	1.01*** (9.47)	1.06*** (10.73)	1.07*** (10.95)	0.93*** (3.83)	0.39 (1.17)	0.39 (1.18)
Common coloniser dummy	-1.30*** (-5.42)	-1.29*** (-4.42)	-1.32*** (-4.63)	-1.81*** (-6.00)	-1.78*** (-4.37)	-1.75*** (-4.33)	-1.70*** (-10.01)	-1.62*** (-11.12)	-1.69*** (-11.83)	-1.34*** (-5.91)	-1.39*** (-3.69)	-1.44*** (-3.92)
Current colony dummy	0.91** (2.12)	0.48 (0.89)	0.50 (0.93)	2.59*** (2.93)	2.30** (2.35)	2.26** (2.35)	0.86** (2.14)	1.19*** (4.11)	1.23*** (4.23)	0.95 (0.88)	0.08 (0.05)	0.09 (0.06)
Same country dummy	-0.31** (-2.02)	-0.24 (-1.27)	-0.24 (-1.27)	-0.14 (-0.65)	-0.04 (-0.14)	-0.02 (-0.08)	0.00 (0.01)	-0.11 (-1.29)	-0.12 (-1.40)	-0.44** (-2.14)	-0.51** (-2.00)	-0.52** (-2.10)
EU dummy	0.73*** (3.08)	0.23 (0.80)	0.23 (0.72)	0.52 (1.45)	0.34 (0.74)	0.41 (0.79)	0.84*** (4.72)	0.25 (1.33)	0.21 (1.00)	0.42 (1.28)	-0.04 (-0.10)	-0.08 (-0.16)
EMU dummy	1.23 (0.32)	0.00 (0.00)	0.00 (0.00)	0.49 (0.12)	0.00 (0.00)	0.00 (0.00)	-0.68 (-0.22)	0.00 (0.00)	0.00 (0.00)	0.50 (0.10)	0.00 (0.00)	0.00 (0.00)
English origins	0.60*** (3.03)	0.69*** (3.12)	0.69*** (3.13)	2.12*** (7.05)	1.96*** (6.21)	1.95*** (6.22)	1.28*** (9.48)	1.42*** (10.04)	1.42*** (10.13)	1.62*** (3.65)	2.00*** (3.59)	2.00*** (3.59)
French origins	0.02 (0.26)	0.80*** (3.32)	0.81*** (3.39)	0.23** (1.97)	0.56 (1.36)	0.55 (1.34)	0.54*** (8.86)	0.30 (1.62)	0.33* (1.80)	0.62*** (4.95)	1.33*** (3.32)	1.36*** (3.36)
German origins	-0.73***	-1.07***	-1.09***	-1.16***	-1.37***	-1.34***	-1.22***	-1.21***	-1.27***	-1.34***	-1.43***	-1.47***

Scandinavian origins	(-8.73) 1.58***	(-10.55) 1.69***	(-10.89) 1.71***	(-8.87) 1.80***	(-7.52) 1.73***	(-7.63) 1.70***	(-17.47) 0.72***	(-16.62) 1.16***	(-17.63) 1.19***	(-10.69) 1.28***	(-9.24) 1.99***	(-9.49) 2.01***
IFRS dummy	(5.15)	(5.78) 0.61***	(5.84) 0.58***	(4.44)	(3.87) 0.29	(3.78) 0.34	(5.86)	(8.66) 0.40***	(8.96) 0.33***	(2.93)	(4.12) 0.44***	(4.07) 0.39
IFRS*transition (origin country)		(6.20)	(4.14)		(1.58)	(1.01)		(7.92)	(4.49)		(2.90)	(1.53)
IFRS*transition (destination country)			0.27 (1.14)			0.42 (0.93)			0.24* (1.70)			0.06 (0.16)
Adjusted R-squared	0.81	0.81	0.81	0.75	0.73	0.73	0.83	0.86	0.86	0.77	0.77	0.77
RMSE	1.02	0.96	0.96	1.13	1.08	1.08	0.82	0.72	0.72	1	0.9	0.9
Number of observations	3546	2561	2561	2833	1924	1924	1878	1369	1369	1963	1273	1273

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided in brackets. The dependent variable 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.

Table 6. Determinants of trade and FDI with deflated variables.

	Trade			FDI			
	Without IFRS	With IFRS	Transition	Without IFRS	With IFRS	Transition	Lagged FDI stock
Adjacency dummy	1.03*** (60.11)	1.38*** (144.80)	1.44*** (145.87)	1.19*** (7.32)	1.41*** (6.76)	1.41*** (6.92)	1.42*** (6.85)
Distance	-2.30*** (-262.60)	-2.38*** (-332.84)	-2.38*** (-318.15)	0.19*** (3.96)	0.08 (1.49)	0.08 (1.44)	-0.01 (-0.22)
Language dummy	-0.93*** (-51.30)	-0.63*** (-51.51)	-0.57*** (-45.53)	1.57*** (8.35)	1.43*** (7.14)	1.43*** (7.37)	1.32*** (5.82)
Colonial link dummy	0.51*** (15.90)	0.40*** (20.12)	0.37*** (17.87)	1.17*** (5.18)	0.69*** (2.77)	0.71*** (2.92)	0.79*** (2.93)
Common coloniser dummy	-3.89*** (-129.23)	-4.38*** (-265.66)	-4.48*** (-200.18)	-1.79*** (-5.19)	-1.84*** (-4.93)	-1.98*** (-4.75)	-2.06*** (-5.87)
Current colony dummy	-2.09*** (-40.47)	-2.60*** (-77.14)	-2.65*** (-78.59)	0.69 (1.06)	0.52 (0.75)	0.59 (0.90)	0.44 (0.75)
Same country dummy	-2.11*** (-82.97)	-2.41*** (-166.60)	-2.42*** (-170.46)	-0.72*** (-3.04)	-0.49* (-1.89)	-0.50** (-1.96)	-0.95*** (-3.40)
EU dummy	0.60*** (30.95)	0.27*** (17.79)	0.36*** (21.47)	0.84** (2.38)	0.32 (0.79)	0.27 (0.64)	0.10 (0.27)
EMU dummy	1.26*** (4.05)	-0.02 (-0.06)	-0.24 (-0.74)	0.86 (0.15)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
English origins	0.31*** (11.23)	-0.12*** (-6.11)	-0.14*** (-7.32)	0.57* (1.87)	0.74** (2.24)	0.75** (2.33)	0.75** (2.47)
French origins	-0.19*** (-19.16)	0.18*** (17.05)	0.28*** (27.53)	-0.05 (-0.39)	0.49 (1.48)	0.56* (1.73)	0.38 (1.29)
German origins	-1.16***	-1.21***	-1.29***	-0.86***	-1.17***	-1.28***	-1.29***

Scandinavian origins	(-92.52) 0.58***	(-156.91) 0.51***	(-156.06) 0.48***	(-6.57) 1.81***	(-8.06) 2.27***	(-9.13) 2.36***	(-8.29) 2.10***
	(13.93)	(14.23)	(13.14)	(3.87)	(3.76)	(4.01)	(3.56)
IFRS dummy		0.15*** (25.29)	0.17*** (20.02)		0.62*** (4.50)	0.46*** (2.61)	0.67*** (4.48)
IFRS*transition exporter/origin country			0.19*** (13.45)			0.78** (2.40)	
IFRS*transition importer/destination country			0.04*** (2.96)			-0.17 (-0.54)	
R-squared	0.94	0.97	0.96	0.8	0.8	0.81	0.82
RMSE	0.7	0.54	0.57	1.16	1.07	1.06	1.02
Number of observations	3898	1948	1948	3431	2495	2495	1974

Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. T-statistics 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.

Table 7. Uncertainty aversion groups in the EU. Cluster analysis.

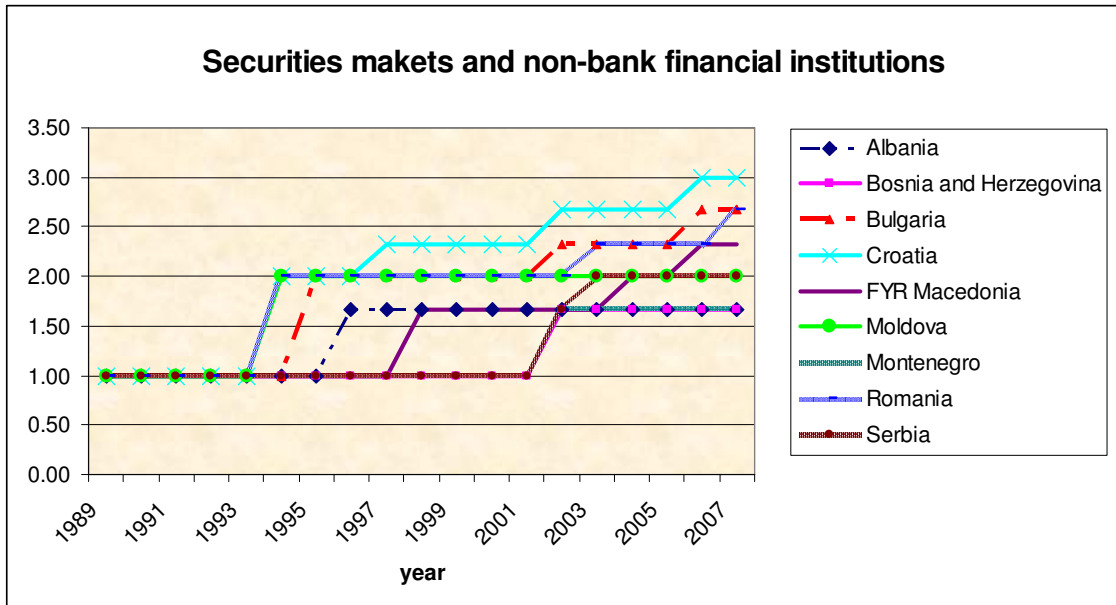
Low uncertainty aversion	Middle uncertainty aversion	High uncertainty aversion
DENMARK	AUSTRIA	BELGIUM
IRELAND	CZECH REPUBLIC	BULGARIA
SWEDEN	ESTONIA	FRANCE
UNITED KINGDOM	FINLAND	GREECE
	GERMANY	HUNGARY
	ITALY	MALTA
	LUXEMBOURG	POLAND
	NETHERLANDS	PORTUGAL
	SLOVAKIA	ROMANIA
		SPAIN

Table 8. 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	0.22***	0.25***	0.20***
FDI	0.61***	0.66***	0.75***
Equity capital	0.29	0.3	0.41
Retained earnings	0.4***	0.35***	0.48***
Loans	0.44***	0.28	0.59**

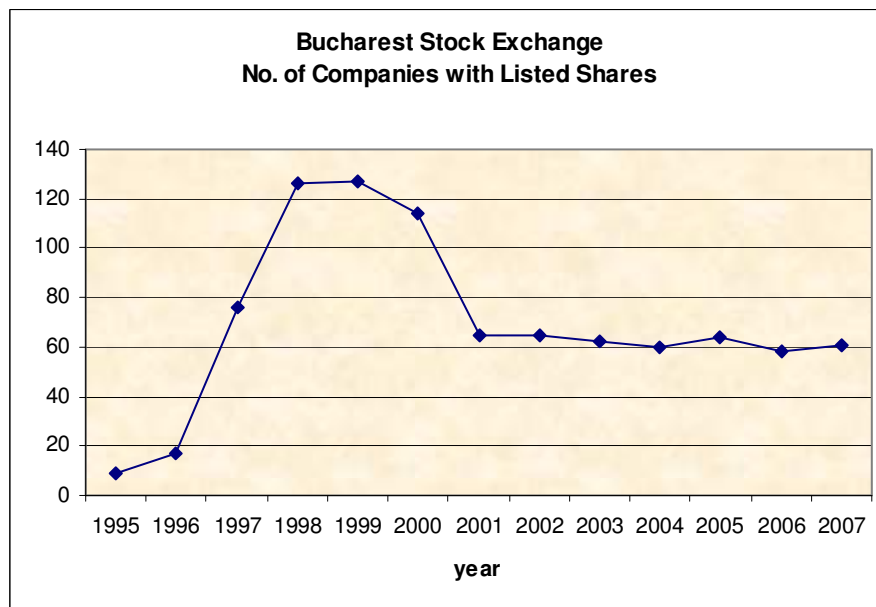
Notes: ***, **, *, indicate significance at 1%, 5% and 10%, respectively. The estimation uses a robust Huber-White Sandwich estimator. The trade regressions includes an AR(1) Prais-Winsten transformation of the original data.

Figure 1. Progress of reforms in securities markets and non-banking financial institutions.



Source: EBRD (2007).

Figure 2. Number of companies with listed shares. Bucharest Stock Exchange.



Source: Bucharest Stock Exchange (2007)

APPENDIX

Table A.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 1999-2007	Eurostat (2008)
$b) X_{ijt}$: Foreign direct investments from i to j	Value of FDI, in millions of euros from the year 1999 to 2006	Eurostat (2008)
$Equity_{ijt}$: Equity capital investments from i to j	Value of equity capital, in millions of euros from the year 1999 to 2006	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 1999 to 2006	Eurostat (2008)
$Loans_{ijt}$: borrowing funds from i to j	Value of other FDI capital, in millions of euros from the year 1999 to 2006	Eurostat (2008)
Adj_{ij} : Adjacency dummy	Dummy variable = 1 if the trading partners share a common border, 0 otherwise.	CEPII (2007)
$Dist_{ij}$: 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)
$Lang_{ij}$: 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)
$Colony_{ij}$: Colony dummy	Dummy variable = 1 if the trading partners have ever had a colonial link, 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)
$Curcol_{ij}$: Colony dummy	Dummy variable = 1 if the trading partners are currently in a colonial relationship, 0 otherwise	CEPII (2007)
$Smctry_{ij}$: 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)
GDP deflator	Inflation, GDP deflator (annual %)	World Development Indicators online (2008)
UAI	Uncertainty Avoidance Index	From http://www.geert-hofstede.com