Convergence of accounting standards and foreign direct investment

Charles J.P. Chen, Yuan Ding*,[1], Bin Xu

China Europe International Business School (CEIBS), China

Abstract

Since the development of the eclectic paradigm by Dunning (1977, 1988, 1993), many studies have investigated different forms of location advantages that attract foreign direct investment (FDI). In this study, we consider accounting standards as a component of the institutional infrastructure of a location and hypothesize that the convergence of domestic and International Financial Reporting Standards (IFRS) promotes FDI as it reduces information processing costs for foreign investors.[2] We also hypothesize that the effect of reduced information costs is stronger for partner countries whose accounting systems showed greater pre-convergence differences because they magnify the facilitating role of accounting standard convergence for FDI. Using bilateral FDI data from 30 OECD countries between 2000 and 2005, we find evidence generally consistent with these hypotheses.
© 2014 University of Illinois. All rights reserved.

Keywords: IFRS; Foreign direct investment; Accounting harmonization; OECD; Location

1. Introduction

The eclectic paradigm developed by Dunning (1977, 1988, 1993), known as the Ownership-Location-Internalization (OLI) paradigm, provides a framework for understanding foreign direct investment (FDI) activities. Many scholars have since investigated the different forms of location advantages that countries possess and their effects on FDI. These location advantages can include physical infrastructure such as highways and airports (Loree & Guisginer, 1995) or institutional infrastructure such as political stability and rule of law (Globerman & Shapiro, 2003). In his most recent works, Dunning (2005, 2006) emphasizes that the institutional infrastructure should be central to any study of the determinants of international business activities. In this study, we consider accounting standards as a component of the institutional infrastructure and examine whether similarities in accounting standards between partner countries are conducive to bilateral FDI, and whether convergence to international accounting standards increases FDI traffic.

Discrepancies between national accounting standards and practices have been recognized as important informational barriers to cross-border investment (Ahearne et al., 2004; Pagano et al., 2002). Previous studies have found that foreign investors prefer markets with high-quality information that enables them to assess investment prospects at a lower cost (Portes & Rey, 2005). Thanks to its verifiability, accounting information has been widely employed as one of the key inputs to reduce information asymmetries in investment decisions. After the European Union's adoption of IFRS in 2005, the leaders of the G-20 in September 2009 called on "*international accounting bodies to redouble their efforts to achieve a single set of high quality, global accounting standards within the context of their independent standard-setting process, and complete their convergence project by June 2011.*"[3] As more countries adopt or converge to IFRS, researchers, regulators and users of financial statements have all become increasingly interested in understanding the consequences of using a set of uniform financial reporting standards across countries. The debate concerns even more American academics and professionals these days because the U.S. is the only remaining major economy in the world not yet adopting IFRS.[4] Though some have raised the question of the cost of IFRS adoption,[5] one of the most frequently cited benefits of switching from local reporting standards to IFRS is that reducing or eliminating differences in accounting standards can allay information processing costs and increase cross-border economic transactions. European Commissioner McCreevy, for example, claims that widespread adoption of IFRS "*should lead to more efficient capital allocation and greater cross-border investment, thereby promoting growth and employment in Europe*" (McCreevy, 2005). A large number of recent studies have

---

[3] www.journalofaccountancy.com/Web/20092188.htm.

[4] See Hail et al. (2010) for the most recent analysis on this potential adoption of IFRS by the U.S.

[5] According to the survey by consultancy Accenture, depending on company size, U.S. executives estimate that they will spend between 0.1% and 0.7% of annual revenue to move from U.S. GAAP to international standards, an endeavor publicly traded companies in Europe undertook four years ago at an average cost of 0.05% of revenue (www.cfo.com/article.cfm/13399306).

examined the effect of IFRS adoption mostly at firm level, but macro-level evidence has been scant.[6]

We take advantage of a quasi-experimental opportunity provided by the mandatory adoption of IFRS by 19 European Union (EU)/Organization for Economic Co-operation and Development (OECD) countries and four non-EU/OECD countries in 2005, to examine 1) whether the degree of IFRS conformity in pre-adoption national GAAP (generally accepted accounting principles) is systematically associated with the level of FDI activities; 2) whether national institutional differences affect this association; and 3) whether the process of eliminating cross-border differences in accounting standards increases FDI activities.

The rationale underlying our examination is that adoption of IFRS forces reporting entities in both countries in a bilateral FDI relationship to converge to a set of uniform financial reporting standards. To the extent that this convergence process reduces the discrepancy in accounting standards between the two countries, it can be expected to alleviate information asymmetry between home-country and foreign users of the financial statement information, reducing an important barrier to FDI as identified by prior studies (Young & Guenther, 2003). The usefulness of accounting information in cross-border investment decision-making is already recognized by the literature: for example, Rossi and Volpin (2004) find that the volume of cross-country mergers and acquisitions is significantly larger in countries with better accounting standards, while Black et al. (2007) reveal that international acquirers pay lower premiums for target firms based in countries where accounting data are less value-relevant. Other studies show that firms with good accounting attributes are often more likely to be held by foreign investors (Kang & Stulz, 1997). Though adopting IFRS is expected to facilitate growth in bilateral economic activities, the benefit may not be evenly distributed across all bilateral relations. The pre-adoption conformity of national GAAP to IFRS determines the significance, and therefore the benefit, of IFRS adoption. Institutional differences between partner countries can impact the effect of convergence to a set of uniform financial reporting standards, as they can affect the degree to which the new accounting standards are actually enforced and influence the interpretation of accounting information prepared under IFRS. This notion is in line with recent evidence (e.g., Ball et al., 2003; Daske et al., 2008) showing that institutional factors such as legal origin and effectiveness of law enforcement affect the role of accounting standards in determining the quality and usefulness of accounting information. Therefore, we also examine the possible confounding effect of institutional differences on the relationship between adoption of IFRS and changes in FDI.

Using a sample of bilateral FDI data from 30 OECD countries between 2000 and 2005 (when a large number of our sample countries adopted IFRS) and controlling for other FDI determinants identified by the literature, we obtain results generally consistent with our expectations. Specifically, our cross-section analysis for the pre-adoption period (2000–2002) shows that a higher level of IFRS conformity is associated with more FDI flows between partner countries. Furthermore, this relationship is found to be stronger between countries that belong to different accounting traditions as defined by Frank (1979). Our time-series analysis examines changes in FDI from 2001 to 2005. The results show that partner countries with lower pre-adoption IFRS conformity scores experienced faster growth in bilateral FDI during the period of transition from domestic accounting

---

[6] Section 2 provides a detailed discussion of these studies.

standards to IFRS, which supports the hypothesis that convergence to IFRS has a positive effect on the growth in cross-border economic activities.

This study contributes to the literature in several important ways. First, as Globerman and Shapiro (1999, p. 514) rightly pointed out, "*numerous theoretical arguments have been offered both in defense of barriers to FDI, as well as against such barriers; however, the statistical evidence on the impacts of barriers specifically directed at FDI, as well as their removal, is relatively limited given the voluminous literature on the determinants of FDI.*" Our study provides fresh evidence not only on the barrier effect of international accounting differences on FDI but also on the magnitude of FDI changes once this barrier is removed. Second, this is one of the first studies to provide systematic country-level evidence on the effect of IFRS adoption. Most previous studies on the benefits of convergence to IFRS use firm-level data; country-level evidence is almost non-existent, though many proponents refer extensively to macroeconomic benefits in promoting the adoption of IFRS. In addition, our study also contributes to the literature on location advantages proposed by the eclectic theory of FDI by demonstrating that accounting standards are an important component of national institutional infrastructure that significantly impacts cross-border FDI transactions.

Our use of bilateral FDI for measuring the benefits of convergence to IFRS offers several research design advantages. First, FDI is a better measure than other possible measures for cross-border capital flows, such as changes in the number of listed companies or market capitalization. These measures often fail to reliably separate flows between domestic and foreign investors, and rarely report the nationalities of investors or the directions of the capital flows. The FDI measure used in this study consists mainly of equity investments (see the definition in Section 3.1), which are more long-term oriented and less speculative. Second, our FDI data are obtained from the reports of 30 OECD countries. This is a group of the most highly developed nations in the world, which account for the lion's share of the global economy. More importantly, they provide relatively more reliable and compatible country-level statistics than other nations. Third, measuring the effect of convergence to IFRS with FDI data allows us to control for confounding effects, because a well-established strand of literature in international economics has identified major factors that affect FDI activities between partner countries. Finally, the use of bilateral FDI data offers a relatively large number of observations, which is often not possible for country-level studies. This desirable data property enables us to conduct additional tests to check the robustness of our results. Our approach of focusing on the relationship between differences in accounting standards and changes in FDI also avoids the research design limitations arising from reliance on accounting accruals or the correlation between accounting numbers and stock prices. Identification of differences in accounting standards does not require the assumption of a stable structure in business operations of the type needed for accrual-based financial reporting quality measures (Hribar & Collins, 2002), nor does it depend on the assumption of market efficiency, which is imperative for stock-price-based measures of accounting information quality.

The remainder of this paper proceeds as follows. Section 2 reviews the literature on financial reporting and FDI and develops the main hypotheses for our study. Section 3 describes our measures of FDI and accounting standard conformity, the characteristics of our sample, and empirical models. Section 4 presents the results of our baseline empirical

analyses and also the results of robustness checks. Section 5 discusses the implications of our results and concludes our paper.

2. Hypotheses

Inspired by the work of Dunning (1977, 1988, 1993), many empirical studies have investigated the determinants of cross-country capital investments and found that FDI flows are influenced by various host-country characteristics, including economic policies, cultural distance, physical infrastructure, and corruption (Habib & Zurawicki, 2002). In a theoretical overview, Dunning (1998) summarizes that the location of FDI is driven by the search for (1) markets, (2) resources, (3) efficiency, and (4) strategic assets. This framework, however, does not highlight the significant influence of institutions (Pajunen, 2008). In more recent studies, Dunning (2005, 2006) has underlined that the institutional infrastructure should be central to any study of the determinants of international business activities.

In the same vein, Globerman and Shapiro (2003) refer to a country's political and legal institutions as its *governance infrastructure*, which defines its investment environment. They argue that "*a favorable governance infrastructure creates beneficial conditions for investment and economic growth. Since the investment environment of a country affects both domestic and foreign investors, we expect that FDI will be attracted to regions characterized by more favorable governance infrastructures, all other things being equal*" (pp. 19–20). Using a sample of transition economies, Campos and Kinoshita (2003) find that countries with better legal systems attract more FDI.

The accounting system is one part of a country's institutional infrastructure. It is widely accepted that a higher quality of accounting information increases the efficiency of capital allocation decisions by reducing information asymmetry between the parties involved in the transaction. There are at least two arguments supporting the beneficial effects of mandatory IFRS adoption on FDI. First, the adoption of a set of common accounting standards removes the barrier of non-comparability in financial reporting between nations, and reduces the information asymmetry between local and foreign investors. Second, in comparison with most national accounting standards, IFRS possesses certain more desirable characteristics for investors. In the following sections, we provide a detailed discussion of these two benefits.

2.1. Benefits of uniform accounting standards

Using a set of common accounting standards can reduce the information asymmetry between domestic and foreign investors and promote cross-border capital flows. While several explanations were offered for the widespread international immobility of capital flows, including geographic distance, capital controls, and exchange rate risks, Gordon and Bovenberg (1996) show that information asymmetry across countries is the most convincing explanation. Host-country investors have an informational advantage over foreign investors, who cannot avoid being charged a premium as domestic investors have better access to information, know more about the economic prospects of the country, and can better anticipate future government policies. Moreover, "*the pressure for compliance*

with host-country rules and laws that a foreign acquirer cannot easily comprehend may obstruct the deal completion; or it may require a substantial amount of time to finalize" (Dikova et al., 2010, p. 227). Significant differences in financial reporting standards exacerbate this information disadvantage for foreign investors. Accounting information is less comprehensible to users who lack knowledge of the economic environment in which the reporting entity operates. Anomalies in accounting numbers may represent investment opportunities with potential for earning abnormal returns — or they could be signals of imminent financial problems. The puzzle becomes even more difficult to solve if this lack of institutional knowledge is coupled with opacity in financial reporting and obscure accounting rules. It is thus easy to see why IFRS has been hailed as a means to promote international capital mobility by reducing information asymmetry.

The need to understand multiple sets of financial reporting standards can be analogized to incurring transaction costs. In order to confidently invest in a foreign country with different reporting standards, investors presumably have to devote nontrivial amounts of time and effort to decoding the foreign GAAP. This consumption of resources does not improve the future cash flows into the foreign investment; instead, it increases the required rate of return. One way to reduce this added transaction cost is to adopt IFRS, a step which is claimed to reduce or even eliminate that transaction cost. All other things being equal, IFRS adoption should improve efficiency in allocating scarce resources by encouraging them to flow to the optimum investment opportunities despite national boundaries.

The argument that reduced information barriers facilitate international capital movements has received both theoretical and empirical support. For example, Easley and O'hara (2004) model the impact of information attributes on the cost of capital and find that detailed accounting information directly lowers a company's cost of capital because it reduces the risk of the asset to be acquired. Using data from nine European countries adopting IFRS in 2005, Yip and Young (2009) find that all three measures of information comparability used in their study are significantly higher in the post-IFRS period than the pre-IFRS period. Similar results are also found by using other proxies of information environment, such as consensus forecast errors (Horton et al., 2010). Because information affects asset prices, the quantity and quality of that information is very relevant for asset price behavior. An important implication of this research is that companies can influence their cost of capital by varying the detail and quantity of information available to investors, which is possible through selection of accounting standards and corporate disclosure practices. Previous studies also provide several reasons supporting the idea that adoption of IFRS attracts more foreign investment. First, IFRS adopting countries have access to a larger pool of investment capital, which should increase share liquidity and thereby make it easier to raise capital to finance worthwhile projects (Covrig et al., 2007). Bruggemann et al. (2009) also observe that the trading activity of individual investors increases following mandatory adoption of IFRS. Second, adoption of IFRS is associated with lower costs of equity capital, which is an important benefit that attracts investments (Chan et al., 2006; Yu, 2009). Consistent with these studies, Covrig et al. (2007) find that firms voluntarily adopting IFRS in poorer information environments have higher levels of foreign mutual fund investment and that regional fund managers invest more in IFRS users than country and global fund managers;

this finding suggests that adoption of IFRS reduces the information costs for foreign investors, especially for those relying more heavily on firm-specific analyses across countries. These authors conclude that voluntary IFRS adoption enhances a country's ability to attract cross-border investment by providing more information in a more useful format, which reduces the information costs of foreign investors. In their recent working paper, Beneish et al. (2009) find the IFRS adoption positively impacts cross-border debt investment, especially in countries with less developed investor protection and greater financial risk.

2.2. Desirable characteristics of IFRS

In addition to removing differences in accounting standards, the mandatory adoption of IFRS introduces several desirable characteristics into financial reporting requirements. As summarized by Ball (2006), in contrast to the "*legalistic, political and tax-influenced standards that historically have typified Continental Europe, IFRS are designed to reflect economic substance more than legal form; to reflect economic gains and losses in a more timely fashion (in some respects, even more so than US GAAP); to make earnings more informative; provide more useful balance sheets; and to curtail the historical Continental European discretion afforded managers to manipulate provisions, create hidden reserves, 'smooth' earnings and hide economic losses from public view.*" A number of studies have yielded empirical evidence that tends to support these claimed benefits of adopting IFRS.

Barth et al. (2007) compare characteristics of accounting amounts for companies that adopted IFRS with a matched sample of companies that did not, and find that the former evidence less earnings management, more timely loss recognition, and greater value relevance in accounting amounts than the latter. Reporting entities adopting IFRS have a significantly higher variance in the change in net income (representing less effort to smooth earnings), a higher ratio of variances in the change in net income and change in cash flows, and a lower frequency of small positive net income, a sign that loss-making companies did not book questionable adjustments in order to create minimally positive earnings. IFRS adopters have a higher frequency of large negative net income and generally a higher value-relevance of accounting amounts. IFRS adopters also generally exhibit higher accounting quality in the post-adoption period than in the pre-adoption period. These results suggest an improvement in accounting quality associated with using IFRS.

Harris and Muller (1999) indicate in their study that IFRS earnings and book values are quite close to U.S. GAAP, and IFRS amounts are even more highly correlated with stock prices than U.S. GAAP amounts. A cross-sectional analysis based on a German sample by Leuz and Verrecchia (2000) finds that firms that commit to either IFRS or U.S. GAAP exhibit lower percentage bid-ask spreads and higher share turnover (and thus lower information asymmetry) than firms using German GAAP. Ashbaugh and Pincus (2001) document that differences between local accounting standards and IFRS are significantly and positively associated with the absolute value of analyst earnings forecast errors, suggesting that financial analysts may provide more accurate earning forecasts when national accounting standards converge to IFRS.

Daske and Gebhardt (2006) document that the quality of financial statement disclosures was materially improved by the application of IFRS. The quality of disclosures, a key element of transparency, is evaluated by experienced financial statement users (accounting scholars) in various business journals in several countries, and the study covers Austrian, German, and Swiss reporting entities' results. The results show that disclosure quality, as perceived by the experts in their annual report ratings, increased significantly under IFRS, both statistically and economically, in all three countries. Young and Guenther (2003) put forward a similar argument: "*greater disclosure of value-relevant financial accounting information will reduce information costs more for foreign investors and therefore reduce their information disadvantages.*"

Based on the above discussion of the beneficial effects of IFRS adoption on international investments, we propose the following hypotheses:

Hypothesis 1a. Prior to the full convergence to IFRS, the size of bilateral FDI flows is expected to be larger if the conformity level of the two partner countries' national accounting standards to IFRS is higher, ceteris paribus.

Hypothesis 1b. During the period of convergence to IFRS, the growth rate of bilateral FDI flows is expected to be higher as the rate of convergence towards IFRS of the two partner countries is faster, ceteris paribus.

2.3. Accounting standards and institutional environments

For decades, researchers have viewed accounting as a part of the institutional background. Choi and Mueller (1978, pp. 23–28) draw up a list of environmental factors that influence the determination of appropriate national accounting principles; this list includes institutional variables such as legal system, political system, nature of business ownership, degree of legislative business inference, and presence of specific accounting legislation. Applying a factor analysis of the extent of usage of 233 accounting principles and reporting practices in 35 countries, Frank (1979) investigates the characteristics of different accounting systems and identifies four accounting groups, namely the British Commonwealth model (indicator = 1), the Latin American Model (indicator = 2), the Continental European Model (indicator = 3), and the United States Model (indicator = 4). He reports evidence that for each group, the uniformity with respect to the social and economic environment of countries within the group is greater than the uniformity between groups. Thus, this accounting group indicator captures the national institutional characteristics behind different accounting systems (Nair & Frank, 1980).

The general characteristics of a country's accounting system, as measured by the accounting group indicator, have a dual effect on the relationship between IFRS conformity and international investment. For one, accounting standards are part of a country's accounting system. An increase in IFRS conformity is likely to generate more accounting compatibility between two countries that belong to different accounting groups than between two countries that already belong to the same accounting group. As a result, the positive effect of IFRS conformity on international investment is likely to be stronger between countries in different accounting groups. Second, similarity in accounting systems provides an institutional environment that better promotes convergence to IFRS. The first is a *substitution effect*: conformity in accounting standards substitutes for the overall

similarity in accounting systems in their effects on FDI. The second is a *complementary effect*: conformity in accounting standards is complemented by the overall similarity in accounting systems, which provides a more cohesive institutional environment for their effects on FDI to work.

From the above discussion, we conclude that institutional similarity in accounting systems generally has an ambiguous moderating effect on the impact of accounting standard conformity on FDI. However, the substitution effect of IFRS conformity is likely to be stronger when the degree of IFRS conformity is relatively low, as there is then more room for the positive effect of IFRS conformity to offset the negative effect of different accounting systems. This consideration leads us to propose the following hypothesis:

Hypothesis 2. When the degree of IFRS conformity is relatively low, the positive association between IFRS conformity and FDI is likely to be stronger (weaker) between countries that belong to different (the same) accounting traditions. This effect is likely to disappear when the degree of IFRS conformity between partner countries becomes relatively high.

2.4. Further discussion

Despite the claimed benefits and the empirical results supporting them, academic researchers are still far from reaching a consensus on the overall impact of IFRS adoption. In practice, accounting information quality is not determined exclusively by reporting standards. The impact of enforcing standards and incentives for managers to follow them may sometimes exceed the impact of the reporting standards themselves (Ball et al., 2003). Ignoring the complexity of determining accounting information quality may mislead investors into a blind trust in accounting standard uniformity, and allow cross-border differences to hide behind a set of uniform accounting standards (Ball, 2006).

Several recent studies find that accounting quality is determined primarily by market forces and institutional factors, rather than accounting standards (Ball & Shivakumar, 2005; Ball et al., 2000, 2003; Leuz et al., 2003). These findings suggest that standards per se have no major impact on accounting quality, and that the global accounting debate perhaps focuses too much on the standards. Leuz (2003) finds that IFRS and U.S. GAAP firms in the German New Market "*exhibit similar accounting quality, despite differences in the standards, because they face similar market forces and institutional factors.*" Guedhami and Pittman (2006) report very weak evidence that extensive disclosure standards may reduce the agency conflict between minority investors and controlling shareholders while legal institutions disciplining auditors have a more definite influence, although the findings remain inconclusive.

Overall, the evidence to date demonstrates the need to control for institutional factors and managerial reporting incentives when attempting to isolate the effect of IFRS adoption. Summarizing their review of the literature on IFRS adoption, Leuz and Wysocki (2008) conclude that one promising research direction is to examine the real and macroeconomic outcomes of regulation. Our attempt to examine the effect of convergence to IFRS on bilateral FDI is a direct response to the call for investigation into the widespread mandatory adoption of IFRS around the world to see whether there are changes in aggregate investment and consumption effects.

3. Data and methodology

3.1. Measure of FDI

FDI is the flow of capital across countries when a firm owns a company in another country. The OECD defines a direct investment enterprise as "*an incorporated or unincorporated enterprise in which a foreign investor owns 10 per cent or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise*" (1996, p. 8).

For our investigation of the impact of accounting standards on FDI, we use a measure of total FDI activities defined as the sum of FDI inflows and outflows. Denoting $FDIIN_{ij}$ as the FDI inflow country i receives from country j, and $FDIOUT_{ij}$ as the FDI outflow country i sends to country j, we construct the FDI variable for our baseline analysis as:

$$FDI_{ij} = \left|FDIIN_{ij}\right| + \left|FDIOUT_{ij}\right| \tag{1}$$

where the two vertical bars denote absolute value. By using the absolute values of FDI flows, we treat both investments (recorded as positive values in FDI flow data) and disinvestments (recorded as negative values) as contributing to the FDI traffic between countries. Later we will use alternative measures of the FDI variable in robustness checks of our baseline results.

3.2. Accounting standards and accounting systems

To assess the conformity of a country's national accounting standards with IFRS, our study uses a measure developed by Ding et al. (2005). Based on the survey data of 111 accounting items (displayed in Table 1), they constructed an IFRS conformity index that reports the number of points on which the national accounting system conforms to IFRS for 62 countries in 2001.[7] Specifically, a country's IFRS conformity index equals the sum of the number of accounting items (total 111) covered by both the country's national GAAP and IFRS (defined as "no absence") and the number of accounting items that are treated in the same way by the country's national GAAP and IFRS (defined as "no divergence").[8] The index takes a value between 0 (no IFRS conformity) and 111 (full IFRS conformity).

One purpose of our study is to examine the role of institutional environments in moderating the impact of accounting standards on FDI. For this purpose, we use the accounting groups defined by Frank (1979). As discussed in the previous section, these

---

[7] The original data for constructing this measure was reported in "GAAP 2001: A Survey of National Accounting Rules Benchmarked against International Accounting Standards" (Nobes, 2001), in which audit partners from Andersen, BDO, Deloitte Touche Tohmatsu, Ernst & Young, Grant Thornton, KPMG and PricewaterhouseCoopers in 62 countries were requested to "*benchmark their local written requirements against some 80 accounting measures, focusing on standards (both IFRS and national) in force for the financial reporting period ending 31 December 2001.*" This survey data has been used in a recent study by Bae, Tan, and Welker (2008).

[8] For example, when a country's national GAAP does not require the disclosure of a cash flow statement (which is required by IFRS 7), the status is "absence"; when a country's national GAAP allows finance leases to be off-balance sheet (which is prohibited by IFRS 17), the status is "divergence."

Table 1
List of 111 accounting items for constructing the IFRS conformity index.

Related subjects	Related IFRS	Items
Statement of changes in equity	1	Required disclosure
Departure from standards	1	Permitted
Departure from standards	1	Financial impact
Inventories	2	Valuation
	2	LIFO
	2	Production overheads
	2	Replacement cost
	2	Impairment for post balance sheet price falls
Cash flow statements	7	Required disclosure
	7	Reconciliation between cash flow statements and balance sheet
Extraordinary items	8	Definition
	8	Changes in accounting policies and fundamental errors (IFRS 8.34–44)
Post-balance sheet events	10	Recognition
	10	Dividends
Construction contracts	11	Methods of recognition (completion)
Deferred tax	12	Calculating deferred tax
	12	Temporary differences
	12	Loss carry forwards
	12	Current tax rates
	12	Discounting of deferred tax balances
	12	Offset of tax assets and liabilities
	12	Consequences of dividends on income tax
Segment information	14	Required disclosure
	14	Same accounting policies
	14	Internal reporting: primary, secondary basis
	14	Revenue and result
	14	Assets and liabilities
	14	Disclosure of acquisitions and depreciation of assets
	14	Certain segment info (non cash expenses, etc)
Tangible fixed assets	16	Revaluation kept up to date
	16	Disposal
	16	Depreciation on revalued assets
	16	Exchange of assets
Leases	17	Capitalizing finance leases
	17	Definition of finance leases
	17	Operating lease payments (straight-line method)
	17	Lessors' finance lease income
	17	Sale and leaseback transactions
	17	Leasehold properties
Employee benefits	19	Constructive and legal obligations
	19	Projected unit credit method
	19	Determining employee benefit obligations
	19	Estimated future salary increases
	19	Gains and losses
	19	Past service cost
	19	Benefits paid by cash and stock

Table 1 (*continued*)

Related subjects	Related IFRS	Items
Government grants	20	Government grants
Foreign currency translations	21	Translation methods
	21	Tangible fixed assets at fair value
	21	Gains and losses
	21	Hyperinflationary currencies
	21	Disposal of foreign entities
	21	Exchange difference on translation of financial statements
	21	Translation of profit and loss account
Business combinations	22	Business combinations methods
	22	Acquirer's provisions
	22	Capitalization versus write-off for goodwill
	22	Limitation of restatement of net assets
	22	Acquired R&D (business combination)
	22	Difference between book value and acquisition cost taken to income
	22	Limitation of negative goodwill (difference between cost and book value)
	22	Presentation of goodwill
	22	Date of consolidation
	22	Combination based on fair values
	22	Negative goodwill treatment
Related parties	24	Required disclosure
Consolidated subsidiaries	27	Consolidation required
	27	De facto control definition
	27	Dissimilar activities
	27	Minority interests
	27	Accounting policies of overseas subsidiaries
Associates	28	Definition of associates (20% threshold)
	28	Equity method
Inflation adjustment	29	Adjustment included in income
	29	Mexico: restatement for inflation (29.3/8)
Joint ventures	31	Methods of consolidation
Financial instruments	32	Accounting basis
	32	Splitting: compound instruments
	32	Fair value (disclosure)
Earnings per share	33	Required disclosure
	33	Definition
	33	Diluted EPS (IFRS 33.24/47)
Discontinuing operations	35	Required disclosure
Impairment of assets	36	Recognition
	36	Detailed requirements for calculating value in use for impairment
	36	IFRS 36.15 on concept of impairment
Provisions and contingencies	37	Obligation — Non-specific provisions
	37	Discounting provisions
	37	Contingent liabilities
	37	Contingent gain recognized
Intangible assets and goodwill	38	Research costs
	38	Internally generated brands

Table 1 (*continued*)

Related subjects	Related IFRS	Items
Intangible assets and goodwill	38	Expenditures on intangible items
	38	Capitalization of pre-operating costs
	38	Revaluations in the case of an active market (IFRS 38.64)
	38	Amortization
Financial Instruments: Recognition and Measurement	39	Mandatory fair value measurement of why the question mark?? financial assets
	39	Mandatory fair value measurement of trading and derivative liabilities
	39	Mandatory fair value measurement of other financial assets and liabilities
	39	Derecognizing a financial asset
	39	Gains and losses taken to income
	39	Hedge accounting
Investment Property	40	Depreciated historical cost
	40	Revaluation gains and losses reported in the income statement
	40	Fair value of investment property
Leases	17, SIC 15	Lease incentives
Intangible assets and goodwill	22, 38	Impairment tests for intangibles and goodwill
Foreign currency translations	SIC 11	Capitalizing severe losses
SPE	SIC 12	When should a SPE be consolidated?
Treasury shares	SIC 16	Presentation
Provisions	SIC 23	Provisions for overhaul costs

accounting groups capture the national institutional characteristics behind different accounting systems.

3.3. Sample and model

Our study uses a sample of 30 OECD countries for the period 2000–2005. The OECD collects compatible FDI data in U.S. dollars concerning its 30 member countries.[9] There are several reasons why we choose the FDI data from the 30 OECD countries: First, this is a group of the most highly developed nations in the world, which account for the lion's share of the global economy. Second, they provide relatively more reliable and compatible country-level statistics than other nations. We checked the FDI data from the World Bank's World Development Indicators Database. Although its FDI data have a larger coverage of countries, it only provides "net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors" (the definition provided by the World Bank). Therefore, it is impossible to establish the link of capital inflows and outflows between two pair countries, which is the key feature of this study. Meanwhile, we are aware that by limiting our studies to the 30 most developed countries in the world, we reduce the generalizability of our results. All 30 have data on the IFRS conformity index and accounting group indicator described above. In 23 of the 30 countries, 2005 was the year of

---

[9] The data is published in *Source OECD International Direct Investment Statistics*.

Table 2
Sample statistics.

Country	Total FDI 2001	IFRS conformity 2001	IFRS convergence 2005	Rule-of-Law index 2001	GDP per capita 2001	Accounting group indicator
Australia	20,559	68	1	95.2	21,274	1
Austria	10,617	41	1	97.6	24,301	3
Belgium	NA	57	1	89.8	22,725	3
Canada	55,510	82	0	94.5	23,739	4
Czech Republic	5587	47	1	70.5	5684	3
Denmark	26,933	59	1	96.7	30,104	3
Finland	14,615	58	1	98.8	24,109	3
France	101,697	56	1	88.1	22,851	3
Germany	157,285	55	1	93.3	23,366	3
Greece	1979	43	1	72.9	13,758	3
Hungary	4041	45	1	76.2	4898	3
Iceland	420	59	1	98.8	31,632	3
Ireland	26,502	77	1	92.6	26,370	1
Italy	29,147	47	1	75.2	19,604	3
Japan	31,953	71	0	89.3	36,776	4
Korea	5138	85	0	73.3	11,220	4
Luxembourg	NA	40	1	99.5	47,281	3
Mexico	NA	93	0	41.7	5864	4
Netherlands	111,667	76	1	95.2	24,460	1
New Zealand	824	68	0	96.2	13,595	1
Norway	3263	87	1	98.3	38,032	3
Poland	6114	58	1	67.4	4537	3
Portugal	10,968	60	1	85.7	11,165	3
Slovak Republic	1185	51	1	61.9	3910	3
Spain	51,724	54	1	87.9	14,780	3
Sweden	29,767	75	1	97.1	27,501	3
Switzerland	26,520	47	1	99.8	34,387	3
Turkey	3712	40	0	51.2	3677	3
United Kingdom	116,617	76	1	94.0	24,975	1
United States	228,207	82	0	92.6	34,495	4

Notes: Total FDI is the sum of a country's inward and outward FDI flows with all the other OECD countries, in USD million. FDI data is missing in the OECD database for Belgium, Luxembourg, and Mexico in 2001, but it is available for these countries in some other years.

mandatory convergence to IFRS.[10] Table 2 displays the names of the 30 OECD countries, each country's total FDI with other OECD countries in 2001, the IFRS conformity index for each country in 2001, and each country's IFRS convergence status in 2005.[11] Table 2 also shows the accounting group indicator for the 30 OECD countries. No country in our sample has an indicator of 2 (Latin American Model).

---

[10] The countries include 19 European Union members, two European Economic Area members (Norway and Iceland), Switzerland (because of the bilateral Swiss–EU agreements), and Australia.
[11] For detailed information about the IFRS adoption situation in these countries, please refer to http://www. IFRSplus.com/country/country.htm.

Table 3
Variable description and summary statistics.

Variable	Description	2001		2005	
		Mean	S.D.	Mean	S.D.
FDI_{ij}	Sum of inward and outward FDI flows between partner countries, million $	1903	5857	3080	8744
GDP_i	GDP of reporting country, billion $	936	1960	1050	2330
GDP_j	GDP of partner country, billion $	885	1840	911	1950
$GDPPC_i$	GDP per capita, reporting country, $	19,151	10,110	22,148	12,405
$GDPPC_j$	GDP per capita, partner country, $	20,992	10,829	22,794	11,732
$DIST_{ij}$	Geographic distance, kilometers	4604	5004	4284	4986
$COMLAN_{ij}$	Dummy for common language	0.05	0.21	0.05	0.21
$COMBOR_{ij}$	Dummy for common border	0.06	0.24	0.07	0.25
LAW_i	Rule-of-law index, reporting country	84.98	13.19	84.43	14.28
LAW_j	Rule-of-law index, partner country	86.13	14.77	85.11	15.75
$BRITISH_i$	Dummy for the British accounting model, reporting country	0.14	0.34	0.14	0.35
$BRITISH_j$	Dummy for the British accounting model, partner country	0.18	0.39	0.17	0.38
$CTEURO_i$	Dummy for the Continental European accounting model, reporting country	0.74	0.44	0.78	0.41
$CTEURO_j$	Dummy for the Continental European accounting model, partner country	0.64	0.48	0.66	0.47
DA_{ij}	Dummy for different accounting systems between partner countries	0.47	0.50	0.44	0.50
$CONFORM_i$	IFRS conformity, reporting country	59.31	13.79	104.36	17.55
$CONFORM_j$	IFRS conformity, partner country	62.94	14.90	102.97	16.73
$ACONFORM_{ij}$	Mutual IFRS conformity index	61.13	10.12	103.66	12.05
$GCONFORM_{ij}$	Mutual IFRS conformity index (alternative measure)	60.26	10.02	102.71	13.87

Note: The number of observations is 569 for 2001, and 622 for 2005.

The empirical framework of our study is the gravity model. The gravity model is a well-established empirical method in the economics and management literature for estimating bilateral trade and FDI flows.[12] It predicts that the bilateral trade/FDI flow between two countries increases with the economic magnitudes of the two countries, and decreases with the geographic distance between the two countries, similar to Newton's law of gravity. The standard gravity model (applying to FDI) can be specified as follows[13]:

$$log\ FDI_{ij} = \alpha_{ij} + \beta_1 log\ GDP_i + \beta_2 log\ GDP_j + \beta_3 log\ DIST_{ij} + \gamma' \mathbf{Z} + \varepsilon_{ij}. \tag{2}$$

In the above equation, FDI_{ij} is the size of the FDI flow between country i and country j, GDP_i is the gross domestic product of country i, GDP_j is the gross domestic product of country j, $DIST_{ij}$ is the geographic distance between countries i and j, and $\mathbf{Z}$ is a set of other variables that may influence FDI_{ij}. In the equation, α_{ij}, β_1, β_2, β_3 and γ' are all parameters,

---

[12] The gravity model was first used to account for bilateral trade flows in the original research by Tinbergen (1962). It has been applied to bilateral FDI flows in both the economics literature (Eaton & Tamura, 1994) and the management literature (Habib & Zurawicki, 2002).

[13] We use *log* to denote natural logarithm throughout the paper.

Table 4
Correlation matrix.

	log FDI$_{ij}$	log GDP$_i$	log GDP$_j$	log GDPPC$_i$	log GDPPC$_j$	log DIST$_{ij}$	COMLAN	COMBOR	log LAWi	log LAW$_j$	log CONFORM$_i$	log CONFORM$_j$	log ACONFORM$_{ij}$
log FDI$_{ij}$	1.00												
log GDP$_i$	0.31	1.00											
log GDP$_j$	0.08	−0.03	1.00										
log GDPPC$_i$	0.38	0.28	0.03	1.00									
log GDPPC$_j$	0.19	−0.02	0.22	0.00	1.00								
log DIST$_{ij}$	−0.20	0.21	0.29	−0.01	0.01	1.00							
COMLAN	0.19	0.11	0.11	0.12	0.10	−0.01	1.00						
COMBOR	0.10	−0.01	−0.03	−0.01	−0.04	−0.38	0.25	1.00					
log LAW$_i$	0.33	0.06	0.03	0.83	0.00	−0.09	0.13	0.00	1.00				
log LAW$_j$	0.15	−0.01	0.01	0.00	0.81	−0.07	0.09	−0.03	−0.01	1.00			
log CONFORM$_i$	0.20	0.12	0.03	0.20	0.05	0.05	0.06	−0.01	0.11	−0.02	1.00		
log CONFORM$_j$	0.12	0.00	0.13	0.04	0.22	0.10	0.04	−0.03	−0.01	0.07	0.50	1.00	
log ACONFORM$_{ij}$	0.17	0.07	0.10	0.13	0.15	0.10	0.05	−0.03	0.05	0.01	0.87	0.88	1.00

and ε_{ij} is an error term. Because large markets give rise to economies of scale and other benefits that promote FDI, it is expected that $\beta_1 > 0$ and $\beta_2 > 0$. The distance variable is a proxy for barriers to FDI, so it is expected that $\beta_3 < 0$. The set of control variables $\mathbf{Z}$ usually includes the per capita GDP of the two countries (Woodward & Rolfe, 1993) as well as dummy variables indicating whether the two countries share a common language and/or a common border (Barkema et al., 1996; Grosse & Trevino, 1996; Mitra & Golder, 2002).

Applying the gravity model to our study, we specify the following regression equation:

$$log\big(FDI_{ijt}\big) = \alpha_{ij} + \alpha_t + \beta'GRAVITY_{ijt} + \delta'LAW_{ijt} + \gamma'ACCOUNTING_{ijt} + \varepsilon_{ijt} \qquad (3)$$

where α_{ij} represents the country-pair fixed effects, α_t represents the time fixed effects, $GRAVITY_{ijt}$ represents the set of gravity variables, LAW_{ijt} represents the set of legal institution variables, $ACCOUNTING_{ijt}$ represents the set of accounting system variables, β', δ', and γ' are vectors of coefficients of the respective variables, and ε_{ijt} is an error term.

3.4. Variables

The set of gravity variables includes the three standard variables: GDP_i, GDP_j, and $DIST_{ij}$. It also includes additional gravity variables commonly used in the literature: $GDPPC_i$, $GDPPC_j$, $COMLAN_{ij}$ and $COMBOR_{ij}$.[14] The first two, $GDPPC_i$ and $GDPPC_j$, are the per capita GDP of the two countries. The next two, $COMLAN_{ij}$ and $COMBOR_{ij}$, are dummy variables indicating respectively whether the two countries share a common language and a common border.

As rightly pointed out by Holthausen (2009), "*it is not just the standards per se that matter for financial reporting outcomes; it is incentives and other institutional factors as well*" (p. 452). In their study on the impact of IFRS adoption on the U.S. mutual fund ownership, Defond et al. (2009) find that the U.S. mutual fund ownership increases among all voluntary adopters, but only among mandatory adopters in countries where implementation is likely to be more credible. Similar results are also observed in the Florou and Pope (2009) study on institutional ownership of equities change after the IFRS adoption in 2005. For our estimation of the effects of accounting standards, it is therefore important to control for the effects of legal institutions; we thus add two variables: LAW_i and LAW_j. The LAW variable is an index of the rule of law constructed by the World Bank in its influential research project on Worldwide Governance Indicators.[15] The rule-of-law index is based on aggregated information of various types measuring "*the quality of contract enforcement, property rights, the police, and the courts*" (Kaufmann et al., 2009, p. 6). The higher the index score, the higher the level of rule of law. Table 2 displays the rule-of-law index scores for the 30 OECD countries in 2001. As shown in Table 2 (columns 4 and 5), the rule-of-law index is highly positively correlated with the per capita GDP level.

---

[14] *GDP* and *GDPPC* are from the World Bank's *World Development Indicators*. *DIST*, *COMLAN* and *COMBOR* are from the World Bank's research project on trade, production, and protection (Nicita & Olarreaga, 2006).
[15] Details of this research project can be found at http://info.worldbank.org/governance/wgi/index.asp.

Accounting system variables are central to our study. As discussed above, countries differ in their degree of IFRS conformity and also belong to different groups of accounting systems. We denote $CONFORM_i$ and $CONFORM_j$ as the IFRS conformity index of country i and country j, respectively. Using the accounting groups defined by Frank (1979), we construct two dummy variables, one for countries that belong to the British Commonwealth model ($BRITISH = 1$), and another for countries that belong to the Continental European Model ($CTEURO = 1$).[16]

The variables $CONFORM_i$ and $CONFORM_j$ measure the degree of IFRS conformity of *individual* countries. To estimate the effects of accounting standards on *bilateral* FDI, it is particularly useful to construct a variable that measures the degree of *mutual* IFRS conformity in partner countries. Ideally, for an accurate measure of IFRS conformity between two countries, we would go back to the original worksheet and compare each accounting item one by one to obtain the total number of items that both countries adopt. Given that the only available information in the survey providing our data is the IFRS-compared status (conformity, divergence, or absence) of a country's national accounting system on each of the 111 accounting items, we cannot use this direct approach. Instead, we construct a measure of mutual IFRS conformity based on $CONFORM_i$ and $CONFORM_j$. In our baseline analysis, we assume that the degree of mutual IFRS conformity of country i and country j, denoted by $ACONFORM_{ij}$, equals the average value of the IFRS conformity index of the two countries:

$$ACONFORM_{ij} = \big(CONFORM_i + CONFORM_j\big)/2. \tag{4}$$

Later, in our robustness checks, we will introduce an alternative measure of mutual IFRS conformity constructed as the geometric mean of $CONFORM_i$ and $CONFORM_j$. In addition to the mutual IFRS conformity variable, we define a dummy variable (DA_{ij}) whose value equals 1 if two countries belong to different accounting groups, and 0 otherwise. This dummy variable serves as an indicator of institutional differences between countries' accounting systems.

Table 3 provides descriptions of the variables used in our study and key summary statistics of these variables in 2001 and 2005. Due to missing values in FDI data, the number of observations is 569 for 2001 and 622 for 2005. The original data on IFRS conformity was collected only for 2001. Given that 2005 is the year of mandatory application of IFRS in 23 countries in the sample, their IFRS conformity index score in 2005 is by definition 111 (full IFRS conformity). Without information on the remaining seven countries in the sample, we assume that their IFRS conformity index in 2005 remains at its 2001 level.

3.5. Estimating the effects of IFRS convergence

For the 23 countries in our sample that converged fully to IFRS in 2005, the process of convergence occurred largely between 2001 and 2005. In the European Union countries, for example, the plan to switch to IFRS was announced in June 2002 and the actual

---

[16] As noted earlier, no country in our sample belongs to the Latin American Model.

implementation took place from 2002 to 2005. Voluntary early adoption of IFRS was allowed in those countries. Previous studies show that it can take time before the effect of adopting new accounting standards becomes apparent. Cuijpers and Buijink (2005) find that users of non-local accounting standards are followed by more financial analysts, and this effect is applicable to firms that have been using non-local standards for an extended period of time. They also find that only late adopters of international accounting standards exhibit higher analyst forecast dispersion. These findings suggest that even experienced users of financial information (analysts) need time to learn how to interpret the information contained in the financial statements prepared under new accounting standards. Alternatively, they may indicate that it takes time for firms to completely comply with new standards. Either interpretation of these results supports our approach of exploring the time-series dimension of the data for the purpose of identifying the effects of mandatory adoption of IFRS on FDI.

To estimate the effects of accounting standard convergence on FDI, we specify the following regression equation:

$$GFDI_{ij} = \delta_0 + \delta' X_{ij} + \xi' VC_{ij} + \mu_{ij} \tag{5}$$

where $GFDI_{ij}$ is the growth rate of bilateral FDI between country i and country j, X_{ij} denotes a set of variables that affect FDI growth, and VC_{ij} denotes a set of variables that measure convergence in accounting standards. δ_0, δ', and ξ' are parameters, and μ_{ij} is an error term.

We start our exercise with a dummy variable $CONVERGE_{ij}$ whose value equals 1 if the two countries fully converged to IFRS in 2005, and 0 otherwise. If this dummy variable shows a positive estimated coefficient, we consider it as evidence supporting the hypothesis that IFRS convergence promotes FDI. There is a concern, however, that this dummy variable may reflect dynamics other than accounting standard convergence, such as integration of the European Union. To alleviate this concern, we further test the convergence effect by constructing a measure of the rate of IFRS convergence, in the form of the growth rate for the mutual IFRS conformity index from 2001 to 2005 ($\Delta log \ ACONFORM_{ij}$). For two countries that converged fully to IFRS in 2005, this variable measures the distance traveled from the initial mutual conformity level in 2001 to full conformity in 2005. We further interact $CONVERGE_{ij}$ and $\Delta log \ ACONFORM_{ij}$ with DA_{ij} to see whether institutional differences in the accounting system moderate the effects of IFRS convergence on FDI. In performing this estimation, we control for the growth rates in GDP and the rule-of-law index for both countries in the pair.

4. Empirical tests and results

4.1. Estimation of the impact of accounting standard conformity

This subsection reports the results from estimating Eq. (2). This estimation intends to identify the effects of accounting standards on FDI from cross-section variations. Because we have data on IFRS conformity indices for all 30 OECD countries in 2001, we choose 2000–2002 as the sample period for the estimation. There is a good reason for using a three-year period (2000–2002) rather than one year (2001). FDI fluctuates considerably

across years and the data recorded in one year may reflect underlying decisions in adjacent years. Moreover, the three-year period allows us to control for unobserved time (year) fixed effects so that the estimation is less subject to fluctuations in FDI flows across time.[17]

We first report in Table 4 the correlation matrix for the variables used in the regressions. The table shows that correlations between independent variables are low, except between *GDPPC* and *LAW*. This warns us that the effects of *GDPPC* and *LAW* may not be independently identified due to multicollinearity. Next, we report in Table 5 a set of regression results. The dependent variable is the natural logarithm of *FDI* between every pair of countries *i* and *j*. Regression (5.1) includes only the standard gravity variables. As expected, *FDI* increases with the economic size (*GDP*) and development level (*GDPPC*) of country pairs, and decreases with the geographical distance (*DIST*) between partner countries. Sharing a common language (*COMLAN*) shows a positive effect, while sharing a border (*COMBOR*) shows no statistically significant effect, possibly because the majority of the sample countries are European Union countries for which national borders are less of a barrier to FDI flows.

Regression (5.2) adds the rule-of-law variables (*LAW$_i$* and *LAW$_j$*), the dummy variables for accounting groups (*BRITISH$_i$*, *BRITISH$_j$*, *CTEURO$_i$* and *CTEURO$_j$*), and the IFRS conformity indices (*CONFORM$_i$* and *CONFORM$_j$*) for each country in the pair. Once these variables are included, the point estimates of *GDPPC$_i$*, *GDPPC$_j$* and *COMLAN$_{ij}$* are significantly lower than those reported in regression (5.1), which suggests that improvements in legal systems and accounting standards are an important factor in the development process captured by *GDPPC*, while IFRS conformity may reduce language-related barriers to FDI measured by *COMLAN*. The results indicate that the amount of bilateral FDI rises with the rule-of-law index of the partner countries.[18] They also show that the amount of bilateral FDI is higher if one of the partner countries adopts the British Commonwealth or Continental European model of accounting standards, consistent with similar results reported in the literature (Young & Guenther, 2003).

The finding we would like to highlight concerns IFRS conformity indices. In regression (5.2), FDI is found to be positively associated with both *CONFORM$_i$* and *CONFORM$_j$*, and their estimated coefficients are statistically significant at the one percent level. Note that this result is obtained after controlling for standard gravity effects, rule-of-law effects, and differences in accounting system measured by the two accounting group dummies.

Despite the inclusion of several control variables in regression (5.2), it is legitimate to ask if there are other omitted variables whose effects are mistakenly identified as effects of the IFRS conformity variables. One way to address this omitted variable possibility is to add more control variables to the regression. Regression (5.3) reports results from a model that includes the real interest rate difference between partner countries (*INTRD$_{ij}$*). Several studies in the literature have found that FDI is responsive to the difference in real interest rates or the real exchange rate (Ding et al., 2005; Hyun & Kim, 2010). The results of regression (5.3) show that FDI is positively associated with the real interest rate difference (*INTRD$_{ij}$*), though the estimated coefficient is not statistically significant. Regression (5.3) shows that the

---

[17] Nevertheless, we also performed regressions with 2001 data and obtained similar (but slightly weaker) results.
[18] The estimated coefficient of *log LAW$_j$* is positive but statistically insignificant, possibly because its effect is partly absorbed by that of *log GDPPC$_j$* due to the high correlation between these two variables.

estimated coefficient of $CONFORM_i$ is positive and statistically significant at the one percent level, while the estimated coefficient of $CONFORM_i$ is not statistically significant.

One may argue that our accounting conformity measure takes some effects from omitted variables and that therefore this result is driven by some second- (or third-)order effects. Some examples of these omitted variables possibly impacting FDI flows are national tax treatment, currency exchange rate change, cultural dimensions, or even the length of OECD membership. However, the approach of adding more control variables is an in-effective way to deal with the omitted variable issue in this case. First, it is impossible to include an exhaustive list of variables in the regression. Second, when more control variables are added, the number of observations for the regression tends to fall. In our case, after adding the real interest rate difference variable in regression (5.3), the number of observations falls from 1549 to 1168. A more effective way of dealing with the omitted variable issue here is to perform panel-data regressions with country-pair dummies, which effectively controls for unobserved time-invariant country-pair fixed effects.

To perform panel-data regressions for the estimation of the effects of $CONFORM_i$ and $CONFORM_j$, we must use data that exhibit time variation for these two variables; otherwise, their effects will be absorbed by country-pair dummies. For this purpose, we add the year 2005 to the sample, with the knowledge that 2005 is the year in which 23 of the 30 countries in our sample achieved full convergence to IFRS. Regression (5.4) reports the results from the panel-data regression. Once country-pair dummies are included, they absorb the effects of all the time-invariant variables (*DIST*, *COMLAN*, *COMBOR*, *BRITISH*, and *CTEURO*, and other unmeasured variables). The inclusion of country-pair dummies also renders some of the time-variant variables (GDP_j, $GDPPC_i$, $GDPPC_j$, LAW_i, LAW_j) statistically insignificant. The main finding of regression (5.4) is that the estimated coefficients of both $CONFORM_i$ and $CONFORM_j$ remain positive and statistically significant for the period 2000–2002. Because this result is obtained after controlling for both the time fixed effects and country-pair fixed effects, it is less subject to the omitted variable issue and therefore provides strong support for Hypothesis 1a, which states that IFRS conformity positively impacts FDI flows between countries.[19]

In addition to estimating the effects of the partner countries' *individual* IFRS conformity status on bilateral FDI, we further examine the impact of their *mutual* IFRS conformity on bilateral FDI. Table 6 reports the results. Regression (6.1) includes the standard gravity variables, the rule-of-law variables, and two variables that measure the conformity between partner countries in accounting standards. $ACONFORM_{ij}$ is the average value of the IFRS conformity index for the two countries, which measures the degree of mutual IFRS conformity between the two countries. DA_{ij} is a dummy variable that equals 1 if the two countries belong to different accounting groups, and 0 otherwise. Regression (6.1) indicates that the estimated coefficient on $ACONFORM_{ij}$ is positive and statistically significant at the one percent level, while the estimated coefficient on DA_{ij} is not statistically significant. This result suggests that FDI tends to be higher between partner countries that have higher mutual IFRS conformity, while differences in accounting

---

[19] The IFRS conformity variables are found to have no statistically significant effects on FDI in 2005, probably because there is little cross-section variation in 2005 for identification of the effects, as 23 of the 30 countries in our sample converged fully to IFRS in that year.

systems do not appear to have any direct effect on FDI. In regression (6.2) we add the interactive effects of the two variables. The results show that the interaction between DA_{ij} and $ACONFORM_{ij}$ has no statistically significant effect.

As discussed above, omitted variables may cause biases in the estimation. In regression (6.3), we add the year 2005 to the sample to perform a panel-data regression that controls for both time fixed effects and country-pair fixed effects. This regression yields an interesting result with regard to the interaction between DA_{ij} and $ACONFORM_{ij}$. For the period 2000–2002, we find that in addition to the positive estimated effect of $ACONFORM_{ij}$, there is a positive estimated effect of the interaction between DA_{ij} and $ACONFORM_{ij}$. This result suggests that FDI is higher between partner countries that have higher mutual IFRS conformity; furthermore, the effect of mutual IFRS conformity is more pronounced between partner countries that have different accounting systems. A positive estimated effect of the interaction term is also found for 2005, although the estimated effect of $ACONFORM_{ij}$ is not statistically significant for 2005.[20]

The positive effect on *FDI* of the interaction between DA_{ij} and $ACONFORM_{ij}$ suggests that similarity in accounting systems and IFRS conformity play substituting roles in their effects on FDI. This result supports Hypothesis 2, which states that the FDI-promoting effect of accounting standard conformity tends to be more (less) pronounced for two countries that have different (similar) accounting systems.

4.2. Estimation of the impact of accounting standard convergence

This subsection reports the results of regression Eq. (5), shown in Table 7. The dependent variable is the growth rate for bilateral FDI between country *i* and country *j*, computed as $GFDI_{ij} = [(FDIS_{2005} - FDIS_{2001}) / FDIS_{2001}]$, where $FDIS_t$ is the stock of FDI in time *t*. $GFDI_{ij}$ is expected to be positively associated with the two countries' growth rates for *GDP* and *LAW*.[21] The focus of regression (7.1) is the independent variable $CONVERGE_{ij}$, which equals 1 if both countries fully converged to IFRS in 2005, and 0 otherwise. We find that the estimated coefficient on $CONVERGE_{ij}$ is positive and statistically significant at the one percent level. This result indicates that after controlling for the effects of growth in GDP and changes in the effectiveness of rule of law, the amount of bilateral FDI grew faster during the years of the convergence process (from 2001 to 2005) for country pairs that were pursuing IFRS convergence. Thus, Hypothesis 1b is supported.

Regression (7.2) reports results on the interaction between $CONVERGE_{ij}$ and the dummy variable DA_{ij}, which is a summary measure of accounting system differences between partner countries. The estimated effect of the interaction term is found to be negative but not statistically significant. We interpret this estimated effect as caused by two mutually offsetting forces. On the one hand, for countries with similar accounting systems, there is less room for the convergence of accounting standards to promote FDI, which is the substitution effect observed in our cross-section analysis and presented earlier in this section. On the other hand, having similar institutional environments in the same

---

[20] There is no estimated coefficient on DA_{ij} in regression (6.3) because it is a time-invariant variable whose effect is absorbed by country-pair dummies in this panel-data regression.

[21] The growth rates of GDPPC are not included due to their high correlations with GDP growth rates.

accounting group facilitates the FDI promoting effect of accounting standard convergence, which is a complementary effect. When the IFRS conformity levels are relatively low (2000–2002), there is more room for accounting standard conformity to mitigate the adverse effect on FDI of institutional accounting system differences, and hence the substitution effect dominates; this explains the positive estimated effect of the interaction term in our cross-section regressions in Table 6. However, once most countries in our sample achieve full adoption of IFRS in 2005, there is less room for accounting standard conformity to promote FDI between countries that belong to different accounting systems; instead, institutional similarity in the same accounting group becomes an important factor facilitating the positive effect of accounting standard convergence on FDI. This explains the negative and statistically non-significant estimated effect on the interaction term of regression (7.2).[22] These empirical findings support Hypothesis 2.

The first two regressions of Table 7 use the dummy variable $CONVERGE_{ij}$ to test our hypotheses on the effects of accounting standard convergence. One concern, however, is that $CONVERGE_{ij}$ may pick up the EU integration effect, since most of the accounting standard convergence in our sample took place between EU countries. In order to mitigate this concern, we further test the convergence effect using the *rate* of convergence, measured by the growth rate of the mutual IFRS conformity index score ($\Delta \log ACONFORM_{ij}$) over the period 2001–2005. Regression (7.3) shows the results. We find that the estimated coefficient on $\Delta \log ACONFORM_{ij}$ is positive and statistically significant at the one percent level, consistent with the result of regression (7.1) based on the estimated effect of $CONVERGE_{ij}$. In regression (7.4) we include the interaction between DA_{ij} and $\Delta \log ACONFORM_{ij}$, and find the results consistent with those of regression (7.2). It is worth emphasizing that the evidence obtained from regressions (7.3) and (7.4) is less prone to possible contamination by the EU integration effect. Such contamination, however, is a concern in regressions (7.1) and (7.2), in which the dummy variable $CONVERGE_{ij}$ is used, as the pre-adoption difference between domestic and international accounting standards, which determines the rate of accounting standard convergence measured by $\Delta \log ACONFORM_{ij}$, is not endogenously determined by EU membership and, moreover, varies across EU countries.

4.3. Robustness checks

This subsection checks the robustness of our results. Two variables play central roles in our study. The first is the FDI variable. In our baseline estimation, we measure FDI as the total flows between partner countries, including disinvestments, which are recorded as negative values in FDI flow data. There may be a concern that our results are sensitive to the inclusion of disinvestment in the measure of total FDI. In our robustness check, we construct an alternative FDI variable that includes only FDI investments (i.e. dropping negative values of FDI flows). In the literature, researchers often use FDI inflow as the dependent variable in estimating the gravity model. While it is arguably more appropriate

---

[22] Note that the t-value of 1.59 for $DA_{ij} \times CONVERGE_{ij}$ in regression (7.2) is statistically significant at the 10% level for a one-tailed test. We take a conservative approach, however, by using two-tailed tests throughout the paper.

Table 5
The impact of accounting standard conformity on FDI.

	(5.1)	(5.2)	(5.3)	(5.4)
log GDP$_i$	0.542	0.624	0.715	4.337
	(14.15) ***	(14.35) ***	(15.17) ***	(2.02) **
log GDP$_j$	0.238	0.235	0.303	2.042
	(5.16) ***	(4.45) ***	(4.99) ***	(0.96)
log GDPPC$_i$	0.942	0.290	−0.109	−0.122
	(12.05) ***	(1.78) *	(0.59)	(0.06)
log GDPPC$_j$	0.565	0.326	0.308	−1.012
	(6.91) ***	(2.07) **	(1.68) *	(0.48)
log DIST$_{ij}$	−0.641	−0.759	−0.769	
	(12.37) ***	(12.46) ***	(12.15) ***	
COMLAN$_{ij}$	1.194	0.637	0.291	
	(5.87) ***	(2.88) ***	(1.14)	
COMBOR$_{ij}$	−0.304	−0.172	0.061	
	(1.56)	(0.91)	(0.28)	
log LAW$_i$		1.941	3.511	0.208
		(3.09) ***	(4.64) ***	(0.18)
log LAW$_j$		0.621	0.813	−1.007
		(1.28)	(1.40)	(0.84)
BRITISH$_i$		0.998	0.806	
		(3.92) ***	(2.90) ***	
BRITISH$_j$		0.098	−0.004	
		(0.46)	(0.02)	
CTEURO$_i$		0.441	0.423	
		(1.72) *	(1.40)	
CTEURO$_j$		−0.118	−0.358	
		(0.49)	(1.29)	
log CONFORM$_i$		1.702	2.066	
		(4.87) ***	(4.02) ***	
log CONFORM$_j$		1.025	0.381	
		(3.01) ***	(0.87)	
INTRD$_{ij}$			0.027	
			(1.20)	
T$_1$ log CONFORM$_i$				0.678
				(2.42) **
T$_1$ log CONFORM$_j$				0.918
				(3.77) ***
T$_2$ log CONFORM$_i$				0.154
				(0.40)
T$_2$ log CONFORM$_j$				−0.165
				(0.56)
Constant	−24.911	−40.295	−46.871	−154.935
	(16.79) ***	(11.52) ***	(10.26) ***	(2.64) ***
Time Fixed Effects	Yes	Yes	Yes	Yes
Country-Pair Fixed Effects	No	No	No	Yes
Sample Period	2000–2002	2000–2002	2000–2002	2000–2002, 2005
Observations	1549	1549	1168	2142
R-squared	0.33	0.37	0.41	0.88

to use total FDI as the dependent variable for our examination of the effects of accounting standard conformity, we perform robustness checks by separating FDI inflows and FDI outflows. The second key variable of our study is the accounting standard conformity index between partner countries. In our baseline estimation we used the average value of the IFRS conformity index of the two countries. In our robustness check, we construct an alternative index that measures the degree of mutual IFRS conformity between partner countries as the geometric mean of the IFRS conformity index for each of the two countries.

Table 8 reports the first set of robustness check results. Regression (8.1) uses the same specification as regression (5.4) except that the dependent variable is the logarithm of total FDI excluding disinvestments ($FDIP_{ij}$). After excluding negative FDI flow values, the number of observations drops from 2,142 to 1,110. We find that the results of regression (8.1) are essentially the same as those of regression (5.4). In particular, total FDI is found to be positively associated with the IFRS conformity index of both countries in the period 2000–2002. Regression (8.2) replicates regression (6.3) with *log $FDIP_{ij}$* as the dependent variable. We find that FDI is positively associated with the degree of mutual IFRS conformity ($ACONFORM_{ij}$) in the period 2000–2002. However, we also find that the estimated coefficient on the interaction between DA_{ij} and $ACONFORM_{ij}$ is not statistically significant. This robustness check thus yields results supportive of Hypothesis 1a but not Hypothesis 2.

Regressions (8.3) and (8.4) use the logarithm of total FDI inflow ($FDIIN_{ij}$) as the dependent variable measuring FDI received by country *i* from country *j*. Regression (8.3) shows that FDI inflow is positively associated with the IFRS conformity index of both the FDI sending country and the FDI receiving country in the period 2000–2002. In addition, the IFRS conformity index of the FDI sending country is found to have a positive estimated effect on FDI inflow in 2005. In regression (8.4), the degree of mutual IFRS conformity ($ACONFORM_{ij}$) is found to have a positive estimated effect on FDI inflow in both time periods (2000–2002 and 2005). Again, the estimated coefficient on the interaction between DA_{ij} and $ACONFORM_{ij}$ is found to be statistically non-significant. Therefore, only Hypothesis 1a is supported, but not Hypothesis 2. We also perform regressions using the logarithm of FDI outflow ($FDIOUT_{ij}$) as the dependent variable. The results of regressions (8.5) and (8.6) show that the estimated coefficients on the accounting standard variables have the expected signs but they are statistically weaker. It is not unusual to find that FDI outflow regressions yield weaker estimates than FDI inflow regressions, as it is a well-documented fact that "*data on inflows reported by countries tend to be more reliable than data on outflows*" (Aykut & Ratha, 2003, p. 153).

Notes to Table 5

Notes: The dependent variable is *log FDI_{ij}*. $T_1 = 1$ if year is 2000–2002. $T_2 = 1$ if year is 2005. Robust t statistics are in parentheses.
  * Significant at 10%.
 ** Significant at 5%.
*** Significant at 1%.

Table 6
The impact of accounting standard conformity on FDI.

	(6.1)	(6.2)	(6.3)
log GDP$_i$	0.589	0.589	4.198
	(14.53) ***	(14.56) ***	(2.03) **
log GDP$_j$	0.234	0.234	1.713
	(4.77) ***	(4.77) ***	(0.79)
log GDPPC$_i$	0.158	0.157	−0.357
	(0.98)	(0.98)	(0.18)
log GDPPC$_j$	0.231	0.227	−0.610
	(1.50)	(1.47)	(0.28)
log DIST$_{ij}$	−0.803	−0.804	
	(13.34) ***	(13.37) ***	
COMLAN$_{ij}$	0.863	0.875	
	(4.02) ***	(4.05) ***	
COMBOR$_{ij}$	−0.252	−0.254	
	(1.34)	(1.35)	
log LAW$_i$	2.785	2.794	0.010
	(4.58) ***	(4.60) ***	(0.01)
log LAW$_j$	0.868	0.886	−0.975
	(1.93) *	(1.96) *	(0.82)
log ACONFORM$_{ij}$	2.933	3.062	
	(7.45) ***	(7.53) ***	
DA$_{ij}$	0.099	1.409	
	(0.75)	(0.72)	
DA$_{ij}$ × log ACONFORM$_{ij}$		−0.332	
		(0.67)	
T$_1$ log ACONFORM$_{ij}$			1.112
			(2.42) **
T$_1$ DA$_{ij}$ × log ACONFORM$_{ij}$			1.322
			(1.77) *
T$_2$ log ACONFORM$_{ij}$			−0.534
			(0.79)
T$_2$ DA$_{ij}$ × log ACONFORM$_{ij}$			1.158
			(1.72) *
Constant	−42.140	−42.741	−144.063
	(13.69) ***	(13.65) ***	(2.42) **
Time Fixed Effects	Yes	Yes	Yes
Country-Pair Fixed Effects	No	No	Yes
Sample Period	2000–2002	2000–2002	2000–2002, 2005
Observations	1549	1549	2142
R-squared	0.36	0.36	0.89

Notes: The dependent variable is log FDI$_{ij}$. T$_1$ = 1 if year is 2000–2002. T$_2$ = 1 if year is 2005. Robust t statistics are in parentheses.

   * Significant at 10%.
  ** Significant at 5%.
*** Significant at 1%.

Table 9 reports the second set of robustness check results. Here we introduce an alternative measure of mutual conformity index specified as:

$$GCONFORM_{ij} = \quad square \quad root \quad \left(CONFORM_i \times CONFORM_j\right) \qquad (6)$$

Table 7
The impact of accounting standard convergence on FDI growth.

	(7.1)	(7.2)	(7.3)	(7.4)
$\Delta \log GDP_i$	3.933	4.225	3.794	3.800
	(3.39) ***	(3.45) ***	(3.30) ***	(3.28) ***
$\Delta \log GDP_j$	1.873	2.358	2.043	2.165
	(1.84) *	(2.22) **	(2.02) **	(2.11) **
$\Delta \log LAW_i$	2.322	2.387	2.762	2.659
	(2.47) **	(2.51) **	(2.96) ***	(2.84) ***
$\Delta \log LAW_j$	0.689	0.786	1.430	1.369
	(0.70)	(0.80)	(1.43)	(1.37)
DA_{ij}		0.095		0.199
		(0.39)		(0.52)
$CONVERGE_{ij}$	0.475	0.674		
	(3.67) ***	(2.96) ***		
$DA_{ij} \times CONVERGE_{ij}$		−0.464		
		(1.59)		
$\Delta \log ACONFORM_{ij}$			1.350	1.418
			(4.64) ***	(4.71) ***
$DA_{ij} \times \Delta \log ACONFORM_{ij}$				−0.646
				(0.81)
Constant	−0.751	−0.908	−1.139	−1.162
	(3.83) ***	(2.98) ***	(5.07) ***	(4.31) ***
Observations	420	420	420	420
R-squared	0.08	0.10	0.11	0.11

Notes: The dependent variable is $GFDI_{ij} = [(FDIS_{2005} - FDIS_{2001})/FDIS_{2001}]$, where $FDIS_t$ is the stock of FDI in time t. $\Delta \log X$ is the accumulated growth of variable X in 2001–2005. Robust t statistics are in parentheses.
  * Significant at 10%.
 ** Significant at 5%.
*** Significant at 1%.

Mathematically, $GCONFORM_{ij}$ is the geometric mean of the two individual conformity indices, $CONFORM_i$ and $CONFORM_j$. The justification for $GCONFORM_{ij}$ as a measure of mutual accounting standard conformity between two countries is as follows. Suppose $CONFORM_i$ is a random draw from the 111 accounting items for IFRS conformity, and $CONFORM_j$ is also a random draw. The probability of common items being drawn by both countries equals the product of $CONFORM_i$ and $CONFORM_j$, which is the square of $GCONFORM_{ij}$.

The results reported in Table 9 provide a robustness check of the results of Table 6. Regressions (9.1) and (9.2) yield qualitatively similar results to regressions (6.1) and (6.2). Regression (9.3) shows a positive estimated effect on FDI of $GCONFORM_{ij}$ and also a positive estimated coefficient on the interaction between DA_{ij} and $GCONFORM_{ij}$ in the period 2000–2002, which confirms the results of regression (6.3). Our baseline results are thus robust to this alternative measure of mutual accounting standard conformity between countries.

Table 10 reports the third set of robustness check results focusing on the effects of accounting standard convergence. In regressions (10.1) and (10.2) we use the growth rate of inward FDI as the dependent variable. The results confirm those of regressions (7.2) and

Table 8
Robustness check: Alternative measures of FDI.

	(8.1)	(8.2)	(8.3)	(8.4)	(8.5)	(8.6)
	$FDIP_{ij}$	$FDIP_{ij}$	$FDIIN_{ij}$	$FDIIN_{ij}$	$FDIOUT_{ij}$	$FDIOUT_{ij}$
$log\ GDP_i$	3.277	3.340	1.011	0.805	0.925	0.700
	(1.16)	(1.16)	(0.27)	(0.22)	(0.26)	(0.19)
$log\ GDP_j$	7.558	7.047	7.130	6.830	3.445	3.616
	(2.16) **	(2.03) **	(1.82) *	(1.75) *	(0.95)	(0.99)
$log\ GDPPC_i$	2.188	1.908	3.314	3.795	5.745	5.287
	(0.74)	(0.67)	(0.93)	(1.07)	(1.56)	(1.39)
$log\ GDPPC_j$	−7.428	−7.187	−6.443	−6.464	−4.862	−4.821
	(2.21) **	(2.17) **	(1.53)	(1.52)	(1.42)	(1.42)
$log\ LAW_i$	−0.192	−0.134	1.572	1.500	−1.599	−1.787
	(0.12)	(0.08)	(0.90)	(0.86)	(0.76)	(0.87)
$log\ LAW_j$	0.003	−0.421	−0.305	−0.706	1.029	1.447
	(0.00)	(0.25)	(0.13)	(0.32)	(0.51)	(0.74)
$T_1\ log\ CONFORM_i$	0.806		1.061		0.441	
	(2.07) **		(2.43) **		(1.08)	
$T_1\ log\ CONFORM_j$	1.036		0.698		0.773	
	(2.85) ***		(1.65) *		(1.72) *	
$T_2\ log\ CONFORM_i$	0.351		0.740		0.978	
	(0.55)		(1.02)		(1.74) *	
$T_2\ log\ CONFORM_j$	0.505		1.123		0.341	
	(1.26)		(2.21) **		(0.66)	
$T_1\ log\ ACONFORM_{ij}$		1.417		1.249		1.263
		(2.20) **		(1.78) *		(1.61)
$T_1\ DA_{ij} \times log\ ACONFORM_{ij}$		1.403		1.112		0.078
		(1.21)		(0.88)		(0.06)
$T_2\ log\ ACONFORM_{ij}$		0.605		2.061		1.447
		(0.63)		(1.81) *		(1.47)
$T_2\ DA_{ij} \times log\ ACONFORM_{ij}$		1.242		0.982		0.081
		(1.19)		(0.86)		(0.07)
Constant	−236.241	−223.186	−192.409	−181.520	−122.458	−118.187
	(2.72) ***	(2.52) **	(1.86) *	(1.79) *	(1.22)	(1.16)
Country-Pair Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Sample Period	2000–02, 2005	2000–02, 2005	2000–02, 2005	2000–02, 2005	2000–02, 2005	2000–02, 2005
Observations	1110	1110	1268	1268	1236	1236
R-squared	0.90	0.90	0.88	0.88	0.88	0.88

Notes: The dependent variable of (8.1) and (8.2) is $log\ FDIP_{ij}$ (FDI inflows and outflows, positive values). The dependent variable of (8.3) and (8.4) is $log\ FDIIN_{ij}$ (FDI inflows, positive values). The dependent variable of (8.5) and (8.6) is $log\ FDIOUT_{ij}$ (FDI outflows, positive values). $T_1 = 1$ if year is 2000–2002. $T_2 = 1$ if year is 2005. Robust t statistics are in parentheses.

  * Significant at 10%.
 ** Significant at 5%.
*** Significant at 1%.

(7.4), which use the growth rate of total FDI as the dependent variable. We find that both the convergence dummy ($CONVERGE_{ij}$) and the convergence rate ($\Delta \log ACONFORM_{ij}$) show positive estimated effects on the growth of inward FDI, while no statistically significant effect is found on the interaction terms ($DA_{ij} \times CONVERGE_{ij}$ and $DA_{ij} \times \Delta \log ACONFORM_{ij}$). In regressions (10.3) and (10.4) we use the growth rate of outward FDI as the dependent variable. As expected, the results on outward FDI turn out to be weaker (lower R-squared and lower statistical significance of estimated coefficients). Nevertheless, the results show that both the convergence dummy ($CONVERGE_{ij}$) and the convergence rate ($\Delta \log ACONFORM_{ij}$) have positive estimated effects on the growth of outward FDI. In regressions (10.5) and (10.6), we replace the mutual accounting standard conformity index by the alternative measure $GCONFORM_{ij}$ and use the growth rate of total FDI as the dependent variable. The results of regression (10.5) confirm those of regression (7.3) and the results of regression (10.6) confirm those of regression (7.4).

To summarize, our baseline results are largely robust to alternative measures of the FDI and accounting standard conformity variables. FDI activities (measured either in two-way flows or one-way flows, either including or excluding disinvestments) are found to be positively associated with IFRS conformity (both individual conformity of partner countries and mutual conformity between countries). The effect of IFRS conformity on FDI is found to be larger between countries with different accounting systems, although this result is not robust to alternative measures of FDI. The rate of IFRS convergence is found to be positively associated with the rate of FDI growth during the period 2001–2005, and this result is robust.

5. Conclusion and discussion

Motivated by the lack of literature analyzing the country-level benefits of international accounting convergence, this study examines the relationship between convergence of accounting standards and FDI activities, and tests the effect of widespread adoption of IFRS on changes in FDI flows between countries. Our results show three important findings. First, FDI flows are positively associated with conformity to IFRS, suggesting that adopting a set of common financial reporting standards may promote cross-border investments as it reduces the information barrier to FDI. Second, the positive relationship between FDI and IFRS conformity is stronger for country pairs with greater institutional differences, which magnify the need for accounting information in decisions for cross-border transactions. Third, FDI growth is positively associated with the degree of convergence from domestic accounting standards to IFRS during the period 2001 to 2005. As these results are obtained after controlling for other determinants of FDI, in particular the rule of law, it is arguable that accounting standards represent a specific component of institutional infrastructure that is important for FDI.

Methodologically, our results are obtained with data from a convergence process mainly instigated by EU legislation, which was largely an external shock to these countries' choices of accounting standards and thus reduces the endogeneity concerns regarding the IFRS conformity measures in our analysis. Use of panel-data regression methods also mitigates the concern related to omitted variables. These advantages in research design enable us to provide more convincing results about the effect of IFRS adoption on FDI.

Table 9
Robustness check: Alternative measures of accounting standard conformity.

	(9.1)	(9.2)	(9.3)
log GDP_i	0.586	0.586	4.100
	(14.38)***	(14.41)***	(1.98)**
log GDP_j	0.233	0.227	1.612
	(4.77)***	(4.64)***	(0.74)
log $GDPPC_i$	0.177	0.188	−0.307
	(1.10)	(1.16)	(0.15)
log $GDPPC_j$	0.258	0.267	−0.550
	(1.69)*	(1.74)*	(0.25)
log $DIST_{ij}$	−0.784	−0.812	
	(14.25)***	(13.43)***	
COMLAN	0.825	0.893	
	(3.87)***	(4.07)***	
COMBOR	−0.280	−0.290	
	(1.49)	(1.55)	
log LAW_i	2.706	2.623	−0.023
	(4.46)***	(4.30)***	(0.02)
log LAW_j	0.760	0.670	−0.997
	(1.70)*	(1.47)	(0.84)
log $GCONFORM_{ij}$	3.049	3.218	
	(8.10)***	(7.53)***	
DA_{ij}		4.523	
		(1.21)	
DA_{ij} × log $GCONFORM_{ij}$		−1.060	
		(1.18)	
T_1 log $GCONFORM_{ij}$			1.041
			(2.26)**
T_1 DA_{ij} × log $GCONFORM_{ij}$			1.135
			(1.65)*
T_2 log $GCONFORM_{ij}$			−0.483
			(0.84)
T_2 DA_{ij} × log $GCONFORM_{ij}$			0.981
			(1.60)
Constant	−42.228	−41.987	−138.932
	(14.28)***	(13.86)***	(2.32)**
Time Fixed Effects	Yes	Yes	Yes
Country-Pair Fixed Effects	No	No	Yes
Sample Period	2000–2002	2000–2002	2000–2002, 2005
Observations	1549	1549	2142
R-squared	0.36	0.36	0.89

Notes: The dependent variable is *log FDI_{ij}*. T_1 = 1 if year is 2000–2002. T_2 = 1 if year is 2005. Robust t statistics are in parentheses.

  * Significant at 10%.
 ** Significant at 5%.
*** Significant at 1%.

This study also presents some useful implications for practitioners. By showing the macroeconomic benefits of IFRS adoption, it launches a call for policymakers in non-adopting countries to join the family of IFRS adopters. It also demonstrates the transitory nature of this benefit, which calls for policymakers to constantly improve their country

Table 10
Robustness check: The impact of accounting standard convergence.

	(10.1)	(10.2)	(10.3)	(10.4)	(10.5)	(10.6)
	GFDIIN	GFDIIN	GFDIOUT	GFDIOUT	GFDI	GFDI
$\Delta \log GDP_i$	2.388	2.392	4.013	3.590	4.018	4.025
	(1.87) *	(1.94) *	(2.65) ***	(2.26) **	(3.49) ***	(3.44) ***
$\Delta \log GDP_j$	5.328	5.350	1.069	0.660	2.174	2.311
	(3.78) ***	(3.74) ***	(0.86)	(0.56)	(2.15) **	(2.26) **
$\Delta \log LAW_i$	2.382	2.975	−2.382	−2.354	2.884	2.775
	(2.04) **	(2.51) **	(1.53)	(1.38)	(3.08) ***	(2.96) ***
$\Delta \log LAW_j$	−0.023	0.937	1.799	1.648	1.535	1.471
	(0.01)	(0.52)	(1.24)	(1.18)	(1.53)	(1.46)
DA_{ij}	−0.325	−0.336	0.188	−0.234		0.168
	(1.28)	(0.95)	(0.56)	(0.61)		(0.46)
$CONVERGE_{ij}$	0.455		0.852			
	(1.78) *		(2.50) **			
$DA_{ij} \times CONVERGE_{ij}$	−0.250		−0.412			
	(0.75)		(1.05)			
$\Delta \log ACONFORM_{ij}$		1.344		0.871		
		(3.58) ***		(2.10) **		
$DA_{ij} \times \Delta \log ACONFORM_{ij}$		0.032		0.204		
		(0.04)		(0.27)		
$\Delta \log GCONFORM_{ij}$					1.358	1.421
					(4.78) ***	(4.60) ***
$DA_{ij} \times \Delta \log GCONFORM_{ij}$						−0.605
						(0.84)
Constant	−0.764	−1.203	−1.062	−0.807	−1.178	−1.191
	(2.40) **	(3.96) ***	(2.71) ***	(2.32) **	(5.16) ***	(4.26) ***
Observations	451	451	461	461	420	420
R-squared	0.07	0.09	0.06	0.04	0.11	0.11

Notes: The dependent variable of (10.1) and (10.2) is the growth rate of inward FDI. The dependent variable of (10.3) and (10.4) is the growth rate of outward FDI. The dependent variable of (10.5) and (10.6) is the growth rate of total FDI. Robust t statistics are in parentheses.
  * Significant at 10%.
 ** Significant at 5%.
*** Significant at 1%.

location advantage by identifying and relieving other FDI bottlenecks after resolving the accounting barrier problem. Multinationals can also learn from this study. Our results show that accounting information is relevant to FDI decisions and the adoption of IFRS is not just a change of label, but a more profound mutation that fosters lower transaction costs and better transparency.

Some caution is needed in interpreting our results. First, like other studies of this nature, our study faces the empirical difficulty of completely isolating one factor from other factors (Globerman & Shapiro, 1999). Although we employed various types of statistical controls, including fixed effects, we cannot be completely certain that the estimated effects of IFRS conformity are not effects of some omitted variables that are correlated with the accounting conformity measures. Second, due to data limitation, our study only examined the pre-adoption cross-section variations and the time differences in IFRS conformity

between 2001 and 2005; it did not explore the potency of the convergence process in individual countries between 2002 and 2005. Third, we employed several innovative empirical measures (e.g., mutual IFRS conformity, rate of IFRS convergence) that have yet to be proven effective in capturing the effect of the underlying constructs. Its limitations notwithstanding, this study makes a useful contribution to the literature by exploring the effects of institutional changes on FDI, and it is also among the first to provide direct evidence on the macroeconomic benefits of convergence to IFRS, which are often claimed by policymakers advocating the convergence to IFRS. Finally, due to the data availability and reliability, we have concentrated our study on the 30 OECD countries, which certainly limits the generalizability of our results. In fact, several countries very active in FDI activities, like China or Russia, are not included in the present study. These limitations indicate potential future research directions.

References

Ahearne, A. G., Griever, W. L., & Warnock, F. E. (2004). Information costs and home bias: An analysis of US holdings of foreign equities. *Journal of International Economics*, *62*(2), 313.

Ashbaugh, H., & Pincus, M. (2001). Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of Accounting Research*, *39*(3), 417–434.

Aykut, D., & Ratha, D. (2003). 'South-south FDI flows: How big are they?', *Transnational Corporations*. *United Nations Conference on Trade and Development*.

Bae, K. -H., Tan, H., & Welker, M. (2008). International GAAP Differences: The Impact on Foreign Analysts. *The Accounting Review*, *83*(3), 593–628.

Ball, R. (2006). International financial reporting standards (IFRS): Pros and cons for investors. *Accounting & Business Research*, *36*, 5–27.

Ball, R., Kothari, S. P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics*, *29*, 1–51.

Ball, R., Robin, A., & Wu, J. S. (2003). Incentives versus standards: Properties of accounting income in four East Asian countries. *Journal of Accounting and Economics*, *36*(1–3), 235–270.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83–128.

Barkema, H. G., Bell, J. H. J., & Pennings, J. M. (1996). Foreign entry, cultural barriers and learning. *Strategic Management Journal*, *17*(2), 151–166.

Barth, M. E., Landsman, W. R., & Lang, M. H. (2007). *International accounting standards and accounting quality.* Paper No. 1976. Stanford University Graduate School of Business Research (Available at SSRN: http://ssrn.com/abstract=688041)

Beneish, M. D., Miller, B. P., & Yohn, T. L. (2009). *The effect of IFRS adoption on cross-border investment in equity and debt markets.* Working paper. Indiana University.

Black, E. L., Carnes, T. A., Jandik, T., & Henderson, B. C. (2007). The relevance of target accounting quality to the long-term success of cross-border mergers. *Journal of Business Finance & Accounting*, *34*(1–2), 139–168.

Bruggemann, U., Daske, H., Homburg, C., & Pope, P. F. (2009). *How do individual investors react to global IFRS adoption?* (Electronic copy available at: http://ssrn.com/abstract=1458944)

Campos, N. F., & Kinoshita, Y. (2003). *'Why does FDI go where it goes? New evidence from the transition economies', IMF Working Paper 03/228.* Washington, DC International Monetary Fund.

Chan, K., Covrig, V., & Ng, L. (2006). *Does home bias affect firm value? Evidence from holdings of mutual funds worldwide.* Working paper, Hong Kong University of Science and Technology.

Choi, Frederick D. S., & Mueller, Gerhard G. (1978). *An Introduction To Multinational Accounting.* Prentice-Hall.

Covrig, V. L., Defond, M. J., & Hung, M. (2007). Foreign mutual funds holdings, and the voluntary adoption of international accounting standards. *Journal of Accounting Research*, *45*(1), 41–70.

Cuijpers, R., & Buijink, W. (2005). Voluntary adoption of non-local GAAP in the European Union: A study of determinants and consequences. *European Accounting Review*, *14*(3) (487–424).

Daske, H., & Gebhardt, G. (2006). International Financial Reporting Standards and experts perceptions of disclosure quality. *Abacus*, *42*(3–4), 461–498.

Daske, H., Hail, L., Leuz, C., & Verdi, R. S. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research*, *46*(5), 1085–1142.

DeFond, M., Hu, X., Hung, M., & Li, S. (2009). *The impact of IFRS adoption on US mutual fund ownership: The role of comparability.* (Electronic copy available at: http://ssrn.com/abstract=1473889)

Dikova, D., Sahib, P. R., & Witteloostuijn, A. v. (2010). Cross-border acquisition abandonment and completion: The effect of institutional differences and organizational learning in the international business service industry, 1981–2001. *Journal of International Business Studies*, *41*, 223–245.

Ding, Y., Jeanjean, T., & Stolowy, H. (2005). Why do national GAAP differ from IAS? The role of culture. *The International Journal of Accounting*, *40*(4), 325–350.

Dunning, J. H. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach. In B. Ohllin (Eds.), *The International Allocation of Economic Activity*. London Macmillan.

Dunning, J. (1988, Spring). The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, *19*, 1–31.

Dunning, J. H. (1993). *Multinational enterprises and the global economy.* Wokingham, UK Addison-Wesley.

Dunning, J. (1998). Location and the multinational enterprise: A neglected factor? *Journal of International Business Studies*, *29*(1), 45–66.

Dunning, J. (2005). Institutional reform, foreign direct investment, and European transition economies. In R. Grosse (Ed.), *International business and government relations in the 21st century* (pp. 49–78). New York Cambridge University Press.

Dunning, J. H. (2006). Towards a new paradigm of development: Implications for the determinants of international business. *Transnational Corporation*, *15*(1), 173–227.

Easley, D., & O'hara, M. (2004). Information and the cost of capital. *Journal of Finance*, *59*(4), 1553–1583.

Eaton, J., & Tamura, A. (1994). Bilateralism and regionalism in Japanese and U.S. trade and direct foreign investment patterns. *Journal of Japanese and International Economies*, *8*(4), 478–510.

Florou, A., & Pope, P. F. (2009). *Mandatory IFRS adoption and investor asset allocation decisions.* Working paper. University of Macedonia and Lancaster University.

Frank, W. G. (1979). An empirical analysis of international accounting principles. *Journal of Accounting Research*, *17*(2), 593–605.

Globerman, S., & Shapiro, D. M. (1999). The impact of governance policies on foreign direct investment: The Canadian experience. *Journal of International Business Studies*, *30*(3), 513–532.

Globerman, S., & Shapiro, D. (2003). Governance infrastructure and US foreign direct investment. *Journal of International Business Studies*, *34*, 19–39.

Gordon, R. H., & Bovenberg, A. L. (1996). Why is capital so immobile internationally? Possible explanations and implications for capital income taxation. *American Economic Review*, *86*, 1057–1075 (5, December).

Grosse, R., & Trevino, L. J. (1996). Foreign direct investment in the United States: An analysis by country of origin. *Journal of International Business Studies*, 139–155 (First Quarter).

Guedhami, O., & Pittman, J. A. (2006). Ownership concentration in privatized firms: The role of disclosure standards, auditor choice, and auditing infrastructure. *Journal of Accounting Research*, *44*(5), 889–929.

Habib, M., & Zurawicki, L. (2002). Corruption and foreign direct investment. *Journal of International Business Studies*, *33*(2), 291–307.

Hail, L., Leuz, C., & Wysocki, P. (2010). Global accounting convergence and the potential adoption of IFRS by the U.S. (Part I): Conceptual underpinnings and economic analysis. *Accounting Horizons*, *24*(3), 355–394.

Harris, M. S., & Muller, K. A., III (1999). The market valuation of IAS versus US-GAAP accounting measures using form 20-f reconciliations. *Journal of Accounting and Economics*, *26*, 285–312.

Holthausen, R. W. (2009). Accounting standards, financial reporting outcomes, and enforcement. *Journal of Accounting Research*, *47*(2), 447–458.

Horton, J., Serafeim, G., & Serafeim, I. (2010). Does mandatory IFRS adoption improve the information environment? *Working Paper.* London School of Economics and Harvard Business School (pp.).

Hribar, P., & Collins, D. W. (2002). Errors in estimating accruals: Implications for empirical research. *Journal of Accounting Research*, *40*(1), 105–134. Hyun, H. -J., & Kim, H. H. (2010). The determinants of cross-border

m&as: The role of institutions and financial development in the gravity model. *The World Economy*, http://dx.doi.org/10.1111/j.1467-9701.2009.01224.x (pp.).

Kang, J. -K., & Stulz, R. M. (1997). Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan. *Journal of Financial Economics*, *46*, 3–28.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). *Governance matters viii: Aggregate and individual governance indicators, 1996–2008.* World Bank Policy Research Working Paper No. 4978 (pp.).

Leuz, C. (2003). IAS versus U.S. GAAP: Information asymmetry-based evidence from Germany's new market. *Journal of Accounting Research*, *41*(3), 445–472.

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, *69*(3), 505–527.

Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research*, *38*(3, Supplement), 91–136.

Leuz, C., & Wysocki, P. D. (2008). *Economic consequences of financial reporting and disclosure regulation: A review and suggestions for future research'.* Working paper. University of Chicago and University of Pennsylvania (pp.).

Loree, D. W., & Guisginer, S. E. (1995). Policy and non-policy determinants of U.S. equity foreign direct investment. *Journal of International Business Studies*, 281–299 (Second Quarter).

McCreevy, C. (2005). *IFRS — no pain, no gain?, Official opening of FEE's.* (Fédération des Experts Comptables Européens) new offices (pp.).

Mitra, D., & Golder, P. N. (2002). Whose culture matters? Near-market knowledge and its impact on foreign market entry timing. *Journal of Marketing Research*, *39*(3), 350–365.

Nair, R. D., & Frank, W. G. (1980). The impact of disclosure and measurement practices on international accounting classifications. *The Accounting Review*, *55*(3), 426–450.

Nicita, A., & Olarreaga, M. (2006). Trade, production and protection 1976–2004. *World Bank Economic Review*, *21*(1).

Nobes, C. (Ed.). (2001). *GAAP 2001 — a survey of national accounting rules benchmarked against international accounting standards*. IFAD.

OECD (1996). *OECD benchmark definition of foreign direct investment* (Third edition).

Pagano, M., Roell, A. A., & Zechner, J. (2002). The geography of equity listing: Why do companies list abroad? *Journal of Finance*, *57*(6), 2651–2694.

Pajunen, K. (2008). Institutions and inflows of foreign direct investment: A fuzzy-set analysis. *Journal of International Business Studies*, *39*, 652–669.

Portes, R., & Rey, H. (2005). The determinants of cross-border equity flows. *Journal of International Economics*, *65*, 269–296.

Rossi, S., & Volpin, P. F. (2004). Cross-country determinants of mergers and acquisitions. *Journal of Financial Economics*, *74*, 277–304.

Tinbergen, J. (1962). *Shaping the world economy.* New York Twentieth Century Fund.

Woodward, D. P., & Rolfe, R. J. (1993). The location of export-oriented foreign direct investment in the Caribbean basin. *Journal of International Business Studies*, *24*(1), 121–144.

Yip, W. Y., & Young, D. (2009). *Does IFRS adoption improve cross-border information comparability?* Working Paper. The Chinese University of Hong Kong.

Young, D., & Guenther, D. A. (2003). Financial reporting environments and international capital mobility. *Journal of Accounting Research*, *41*(3), 553–579.

Yu, G. (2009). *Accounting standards and international portfolio holdings: Analysis of cross-border holdings following mandatory adoption of IFRS.* (Available at SSRN: http://ssrn.com/abstract=1430589)