

Does Financial Openness Lead to Deeper Domestic Financial Markets?

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Abstract

Advanced and emerging market economies have rapidly integrated into international capital markets and this growing globalization of financial markets has led to some important changes in the patterns of saving and investment across the world. The main goal of this paper is to test whether the cross-border asset trade has led to improvements in the intermediation of these savings—that is, foster development of domestic financial markets. The authors have collected annual information on financial market development, financial openness, and other control variables for a sample of 145 countries for the period 1974–2007. Controlling for the likely endogeneity of financial openness, the analysis

finds that rising financial openness expands private credit, bank assets, and stock market and private bond market development, and generates efficiency gains in the banking system. However, the impact of financial openness on domestic financial development may depend on the level of institutional quality, the extent of investor protection, and the degree of trade openness. In general, rising financial openness will enlarge the size and activity of financial intermediaries, improve efficiency in the banking system, and contribute to deepen private bond markets in countries with moderate to high levels of institutional quality and investor protection as well as in countries with high trade openness.

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Does Financial Openness Lead to Deeper Domestic Financial Markets?*

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1. Introduction

One of the most salient features of the global economy in the last decade is the rapid integration of advanced countries and emerging market economies (EMEs) to international capital markets. Lane and Milesi-Ferretti (2001, 2003, 2007a,b) have extensively documented a rapid increase in cross-border asset trade for both industrial economies and EMEs. The growing globalization of financial markets has led to some important changes in the patterns of saving and investment across the world: emerging market economies driven by emerging Asia and oil exporting countries have become net suppliers of savings while the United States is an absorber of global savings.¹ In addition to promoting transfer of technology and know-how as well as improving institutions, financial openness may foster productivity through its effects on the development of domestic financial markets (Kose, Prasad and Terrones, 2008).

The globalization of capital markets has deepened financial markets across industrial countries and emerging markets, thus generating tight linkages across several financial markets where asset trading (in bonds, stocks or currencies) among banks, corporations and governments has risen considerably. Cost of accessing funds in international capital markets has declined ostensibly, thus facilitating investment and entry to markets. Competitive pressures for innovation have arisen and savings have been mobilized in order to accumulate capital; thus, leading to higher growth rates (Levine, 2005). In spite of these developments, there is a great deal of heterogeneity in financial development across countries.

Figure 1 plots the average ratio of foreign asset holdings to GDP and the ratios of private credit and financial deposits to GDP for industrial and developing countries from 1974 to 2007. The share of private credit to GDP in industrial economies is, on average, more than three times higher than that of developing countries. The holdings of external assets as a share of GDP are, on average, 2.5 times higher in industrial countries.² What explains the persistence of underdevelopment in the domestic financial markets? Our goal is to examine the relationship between financial openness and financial development.

¹ Lane and Milesi-Ferretti (2007a, 2008) show that net external positions of EMEs have vastly improved, with emerging Asia and oil exporting countries while building up substantial creditor positions. They also document an important shift in the structural of external balance sheets: EMEs have undertaken massive reserve accumulation and raised their share of equity in total external liabilities while the US has heavily relied on debt.

² Note that the same pattern of behavior holds when analyzing the trends in deposits in banks and other financial institutions.

International financial integration may lead to a faster development of domestic financial intermediaries through different channels. Financial openness may increase the depth and breadth of domestic financial markets and improve the efficiency of financial intermediation by eliminating financial repression and shifting interest rates to clearing-market competitive levels, thus reducing the cost of capital (Baldwin and Forslid, 2000). It may also improve the quality and availability of financial services in the domestic market by increasing the degree of bank competition and enabling the application of more sophisticated banking techniques and technology, which may improve efficiency by reducing the cost of acquiring and processing information on potential borrowers (Levine, 1996; Caprio and Honohan, 1999). Rising financial openness would lead to a more efficient financial system by displacing inefficient financial intermediaries and creating pressure for the implementation of reforms in the financial infrastructure so as to reduce problems of information asymmetry, adverse selection and moral hazard (Stulz 1999; Stiglitz 2000; Claesens *et al.* 2001; Chinn and Ito, 2006).

Financial liberalization, as we argued above, may foster the better functioning of financial markets. However, it may lead to risky behavior by banks (Allen and Gale, 1999; Schneider and Tornell, 2004) and trigger boom-bust cycles in economies with imperfect capital markets (Tornell and Westermann, 2005). Agency problems may encourage borrowers to use bank loans to buy risky assets during lending booms and, the resulting bubbles may burst into banking crisis and recessions (Allen and Gale, 2000). Kaminsky and Schmukler (2008) find that financial liberalization in emerging markets generates short run tensions but provides a market stabilization role in the long run. They also argue that financial deregulation may not only trigger short run problems and crisis if it occurs in economies with weak institutions and agency problems but also long-run gains arise as financial liberalization deepens and institutions improve.³

The effect of financial openness on domestic financial development may be ambiguous. In fact, it may depend upon some structural features of the domestic economy. Domestic financial systems would benefit from financial openness if they have a legal and regulatory framework that guarantees contract enforcement, the protection of property rights and good accounting practices. La Porta *et al* (1997, 1998) argue that the efficiency of contract

³ Financial openness may be associated with volatile capital flows in the short run and rising vulnerability to external shocks, thus leading to a greater instability of the domestic banking system. If a banking crisis ensues, and as the economic undergoes a severe recession, default rates and non-performing loans increase. Foreign banks could cut lines of credit to domestic borrowers in times of crisis (Agenor, 2003).

enforcement and the treatment of creditors and shareholders are influenced by the origin of legal code. More specifically, they find that countries with *Common Law* —as opposed to those with *French civil code* tradition— tend to protect private property owners, have comparatively more efficient contract enforcement mechanisms and, hence, achieve higher levels of financial development. Mayer and Sussman (2001) find evidence that regulations concerning information disclosure, accounting standards, permissible practice of banks and deposit insurance have significant effects on financial development. Shallow stock markets usually exhibit low levels of shareholder rights (Levine, 1998, 2002; Claessens et al. 2002). Rajan and Zingales (2003) indicate that the joint opening of trade and capital accounts would promote financial development. They argue that elite groups with access to power in countries with trade and financial autarky have strong incentives to resist the development of a more transparent and competitive financial sector in order to prevent new entrants in their markets. In this context, interest groups would support the opening of trade and financial accounts if only they could take advantage of deeper local financial markets and draw resources from a more ample pool of funds, and generate new rents to counterbalance their loss of access to power.

The main goal of this paper is twofold. First, we test whether the increasing cross-border asset trade has led to improvements in the development of domestic financial markets —captured by increasing the size and depth of deposit money banks and other financial institutions as well as deepening stock and bond markets. Second, we examine whether this impact depends upon country-specific characteristics such as the degree of institutional quality, investor protection and trade openness. We collect annual information on financial market development, financial openness and other control variables such as GDP per capita, inflation, trade openness among others for a sample of 145 countries (of which 24 are industrial countries) from 1974 to 2007. We use the identification strategy developed by Faria et al. (2007) and Faria and Mauro (2009) to control for the likely endogeneity of financial openness in our financial development regressions.

Understanding the effects of higher cross-border asset trade on the development of financial intermediaries stock markets and bond markets is crucial due to the impact of financial market development on growth (Levine et al. 2000; Levine, 2005) and, especially, on the direction of capital flows and the persistence of global imbalances (Chinn and Ito, 2007; Gruber and Kamin, 2008). In a seminal paper, Rajan and Zingales (1998) find that *ex ante* financial market development may help boost the *ex post* growth of “external-financially-dependent”

sectors by reducing their cost of raising funds abroad. Guiso *et al* (2004) argue that domestic financial market development still matters for growth even in economies that are highly integrated to world capital markets. Their example shows that domestic financial market development is still important to a country like Italy that has been fully integrated for the last 140 years. On the other hand, the under-development of domestic financial markets in developing countries could explain their excess external savings, the capital flow reversal and low interest rates in the United States. The direction of capital flows observed in the global economy is the result of weaker enforcement of financial contracts and shallow domestic capital markets that raises the cost of financing due to inefficiencies in channeling resources from savers to domestic investment. This prevents emerging market firms to borrow internationally to finance domestic investment, and limits the ability of EMEs to produce financial assets for global savers (Mendoza, Quadrini and Rios-Rull, 2007; Caballero, Farhi and Gourinchas, 2008; Smith and Valderrama, 2009a,b; Valderrama, 2008).

Our paper complements existing evidence that more intense financial linkages may lead to deeper domestic financial markets after controlling for the legal and institutional framework of the country. Chinn and Ito (2006) evaluate the linkages between capital account openness and financial development for a sample of 108 countries from 1980 to 2000. They find that financial openness contributes to deepening the stock markets in countries beyond a specific threshold level of legal and institutional development. Ito (2006) carries out an analogous exercise focusing on Asian economies and finds that the impact of financial openness on the depth of stock markets is enhanced in countries with lower levels of corruption and higher levels of rule of law and of bureaucratic quality. Baltagi *et al.* (2009) use four different datasets since the 1980s to test the linkages between financial openness and financial development. They find that: (a) trade and capital account openness may have a significant impact on financial development in countries that are relatively closed, and (b) trade and financial openness may be substitute mechanisms of promoting financial development rather than complements as suggested by Rajan and Zingales (2003).

Our research improves upon the evidence presented in Chinn and Ito (2006) and Ito (2006) by: a) presenting evidence for a sample period which is much larger than their dataset, b) presenting panel data evidence with outcome measures of financial openness that capture the degree of financial openness instead of the absence of restrictions on cross-border asset trade, c) instrumenting for financial openness with external instruments recommended by the recent

existing literature and d) jointly testing whether the institutional framework, investor protection and trade openness play a role in fostering the impact of financial openness on domestic financial sector development.

Our main findings suggest that domestic financial markets are enhanced by the higher integration of countries into world capital markets. In general, rising financial openness leads to deeper local capital markets by: (i) enlarging the size and activity of financial intermediaries (that is, generating an expansion in private credit, financial deposits and bank assets), (ii) improving the efficiency in the banking system, and (iii) contributing to the deepening of local stock market and private bond markets. These effects are economically significant in countries with moderate to high levels of institutional quality, investor protection and trade openness.

This paper consists of the following sections: Section 2 describes the data and methodology. Section 3 discusses our regression analysis and evaluates the role of the structure of external assets and liabilities in driving the impact of financial openness on domestic financial development. Section 4 discusses whether these different effects are driven by cross-country or cross-region differences in the level of institutional quality, the degree of investor protection, and the extent of trade openness. Finally, section 5 concludes and suggests further avenues for future research.

2. Data and Methodology

This section describes the definition and sources of the data used for our empirical assessment and an outline of the econometric estimation technique used.

2.1 The Data

We have collected annual data on financial depth, financial openness and other determinants of domestic financial depth (income per capita, inflation, openness, institutions, etc.) for 1974-2007 (our full sample period). The list of countries classified by region and the level of income is presented in Table A.1.⁴

Our dependent variable aims to capture the level of *domestic financial development*. Given the multiplicity of aspects surrounding the concept of domestic financial development we use a wide array of indicators developed by Beck, Demirgüç-Kunt and Levine (2000). We update

⁴ We have ignored the Bretton Woods period to focus on the recent period of increasing integration to the world markets of goods and assets.

their database which contains information up to 2006 with information from the World Bank's World Development Indicators (WDI) and the International Monetary Fund's International Financial Statistics (IFS). These indicators of *domestic financial development* can be grouped in 6 categories:

- (a) *Measures of (absolute and relative) size of financial intermediaries* are captured by the assets of deposit money banks and assets of the financial system (deposit money banks and other financial institutions) as a percentage of GDP. We also include the ratio of deposit banks vis-à-vis the central bank assets and the ratio of liquid liabilities of a financial system to GDP.⁵
- (b) *The level of activity of financial intermediaries* is measured as the private credit by deposit money banks (DMBs) and the extent of domestic credit to the private sector (undertaken by deposit money banks and other financial institutions). We call them *bank credit* and *financial credit*, respectively. They capture the financial intermediation with the private non-financial sector in channeling savings to investors. Note that all variables are expressed as a percentage of GDP in logs.
- (c) *Efficiency and structure of the commercial banking sector* are measured by: (i) *overhead costs* are the ratio of accounting value of the bank's overhead costs as a share of its total assets. (ii) The *interest rate margin* is the net interest revenue as a percentage of the commercial bank's interest-bearing (total earning) assets. (iii) The *concentration of the banking system* is proxied by the assets of three largest banks as a share of assets of all commercial banks.
- (d) The *depth of other financial institutions* is approximated by the level of activity of insurance companies. We use the volume of life insurance premium and non-life insurance premium (i.e. life and non-life insurance penetration, respectively) as a share of GDP in logs.
- (e) *Stock market development*. We use the stock market capitalization and the stock market total value traded to capture the level of activity or liquidity of domestic stock markets as a percentage of GDP in logs. We include the stock market turnover (ratio of the value

⁵ We should remark that liquid liabilities include currency in circulation plus demand- and interest-bearing liabilities of banks and other financial intermediaries. This is the broadest available indicator of financial intermediation (since it includes all financial sectors) and is a typical measure of financial depth (i.e. overall size of the financial sector without distinguishing financial sectors from between liability uses).

of total shares traded to average real market capitalization) and the number of listed companies in the stock exchange.

- (f) *Bond market development.* We use indicators of the level of activity of domestic bond markets such as private bond market capitalization (private domestic debt securities issued by financial institutions and corporations) and public bond market capitalization (public domestic debt securities issued by the government) deflated by GDP in logs.

Financial openness is measured as the ratio of foreign assets to GDP, foreign liabilities to GDP, and foreign assets and liabilities to GDP. To construct these ratios we use the data on foreign assets and liabilities from Lane and Milesi-Ferretti (2001, 2007a) and updated (at best) until 2007 with data from international investment positions published by the central banks. Note that holdings of foreign assets (and/or liabilities) imply the accumulation of holdings of assets (and/or liabilities) in foreign direct investment, portfolio equity, debt (portfolio debt and other investment), and financial derivatives.

To assess whether the hoarding of risky vs. riskless assets or the accumulation of equity vs. debt liabilities affects the development of domestic financial institutions, we decompose our measure of financial openness into equity- and loan-related foreign assets and liabilities. Equity-related assets and liabilities comprise information on direct investment and portfolio equity assets and liabilities. Loan-related assets (or riskless assets) include debt assets and reserve assets while loan-related liabilities include debt liabilities and financial derivatives liabilities (for the few countries that report them).

Among the *control variables* in our regression analysis we include: real output measured by the PPP-adjusted real GDP from Heston, Summers and Aten (2006), inflation (lagged) as measured by the average annual change in consumer price index (from WDI), and trade openness approximated by the real value of exports and imports as a percentage of GDP. We also include two categories of *exchange rate regimes* from Ilzetzki, Reinhart and Rogoff (2008): *dual exchange rates* and *freely falling exchange rates*. The former variable is a binary variable that takes the value of 1 whenever there is a dual market and parallel market data is missing. The latter takes the value of one for countries that have the annual inflation of more than 40% of inflation or that experience currency crisis. The *level of institutional quality* is measured by the index of political risk by International Country Risk Guide (ICRG) and includes information on corruption, rule of law, democratic accountability, bureaucratic quality, investment profile,

government stability, socio-economic environment, ethnic tensions, etc. We also collect information on the index of *investor protection* which measures the strength of minority shareholder protections against misuse of corporate assets by directors for their personal gain. This includes information on the transparency of transactions (extent of disclosure), liability for self-dealing (extent of director liability), and the shareholders' ability to sue officers and directors for misconduct (ease of shareholder suit index). The data is obtained from Djankov et al. (2008). Table A.2 presents a more detailed description of the sources of data for all the variables used in our econometric analysis.

2.2 Estimation Technique

The proposed panel data regression faces two challenges for estimation. The first one is to control for the presence of unobserved period- and country-specific effects. The inclusion of period-specific dummy variables can account for the time effects while country dummies deal with country-specific effects. The second challenge is that financial openness is likely to be jointly endogenous with shocks to domestic financial market development; hence, we need to control for the biases resulting from simultaneous or reverse causation in our financial development equation.

Our regression equation of domestic financial development has the following specification:

$$FD_{it} = \mu_i + \eta_t + \alpha' X_{it} + \gamma_{it} FO_{it} + \varepsilon_{it} \quad (1)$$

where our dependent variable, FD_{it} , is the measure of financial development of country i in period t . The matrix X_{it} represents the matrix of explanatory variables, and FO_{it} is the measure of financial openness —*i.e.* our variable of interest. The matrix X_{it} comprises information on the control variables for our financial depth regression equation (real output per capita, inflation, trade openness, and dummies for dual and freely falling exchange rates).⁶ All the control variables are lagged so as to avoid likely reverse causality issues. FO_{it} also captures the degree of international financial integration of country i in period t as measured by the ratio of foreign assets to GDP, foreign liabilities to GDP, or foreign assets and liabilities to GDP.

⁶ Note that the selection of explanatory variables follows the empirical literature on the determinants of financial intermediation (Aggarwal et al. 2006; Baltagi et al. 2009; Chinn and Ito, 2006; Do and Levchenko, 2007; Huang, 2005; Huang and Temple, 2005; Ito, 2006)

Our baseline regression (see Tables 3-5) assumes that $\gamma_{it} = \gamma$ while $\gamma_{it} \neq \gamma$ in our expanded model (see Tables 6-10). In the latter assumption, the impact of financial openness on financial development depends upon the structure of external assets and liabilities, the level of institutional quality of the country, the degree of investor protection and the extent of trade openness.

It is highly likely that shocks to domestic financial development may have an effect on financial openness. Therefore, we need to find appropriate instruments for our variables of interest by following the strategy in Faria *et al.* (2007) and Faria and Mauro (2009) to instrument for financial openness. They select a broad range of potential determinants of the external capital structure of countries as measured by total foreign liabilities (as % of GDP), and a share of equity (portfolio and FDI) in total foreign liabilities. More specifically, they used the following instruments: a “narrow” definition of institutional quality (that comprises rule of law, corruption, a quality of bureaucracy and democratic accountability), the country’s initial size (the lagged value of PPP adjusted GDP), the legal origin of countries (La Porta *et al.* 1998), the area of country in logs, and the abundance of natural resources (as proxied by the share of primary exports in total merchandise exports). Our results are consistent with the findings in Faria *et al.* (2007) and Faria and Mauro (2009) where greater equity share in total liabilities is attained by larger countries with better institutional quality and greater reliance on natural resources. Countries with higher ratios of total foreign liabilities to GDP are smaller countries with better institutional quality, greater reliance on natural resources and with French civil code tradition. A greater share of debt in external liabilities is also achieved by smaller countries with lower levels of education attainment, poorer levels of institutional quality and lower reliance on natural resources.

3. Empirical Evidence

This section describes the main results of our empirical analysis of the impact of financial openness on the development of domestic financial institutions (banks, stock markets, insurance companies and bond markets) for our sample period. We first describe the main statistics and present the basic correlation analysis, and then we carry on the analysis of our panel data regressions.

3.1 Basic Statistics and Correlation Analysis

Table 1 presents the basic statistics on domestic financial development, financial openness and other control variables (trade openness, institutions and investor protection) for the full sample period. We report the averages of these variables not only for the full sample but also for the sub-samples classified according to the level of development of the economy and the income levels.

As expected, financial intermediaries are larger in high-income countries than in middle- and low-income economies. On average, total assets in deposit money banks represent 73% of GDP in high income countries while they amount to 28% and 15% of GDP in middle- and low-income economies, respectively. Liquid liabilities of the financial system represent approximately 68% of GDP in the average high-income country while it totals 36% and 23% of GDP in middle- and low-income countries, respectively. Bank credit and bank deposits are larger in high-income countries (both at approximately 60% of GDP on average) than in middle- and low-income countries (at an average of 25% and 14% of GDP, respectively). Banks are also more efficient in high income economies than in the other income groups as reflected by lower overhead costs, lower net interest margin and lower bank concentration. Stock and bond markets are deeper in high-income countries than in middle- and low-income economies.

Furthermore, industrial economies are more integrated to international financial markets than developing countries, and the divergences are even bigger when we focus on the accumulation of riskier assets (equity-related foreign assets) rather than riskless assets (loan-related foreign assets). Developing countries tend to hold more international reserves as a percentage of GDP than industrial countries and this is mainly driven by reserve hoarding practices in middle-income countries.

Table 2 reports the panel correlation analysis for financial development and financial openness measures for the full sample period. The positive correlation between external foreign assets and measures of size and activity of deposit money banks and the financial system is always larger than that of foreign liabilities. This association is driven by positive coefficient of correlation between (size and activity of) financial intermediaries and equity-related (and loan-related) foreign assets although the correlation with equity-related assets is larger.

Overhead costs and net interest margin are negatively associated to foreign assets and foreign liabilities. The correlation of these efficiency measures is stronger with both foreign assets and equity-related foreign assets (compared to loan-related foreign assets). Bank

concentration seems to have a weak correlation with our measures of financial openness. Highly-integrated countries to world financial markets —as measured by larger foreign assets and liabilities— display higher degrees of stock market capitalization and bond market capitalization.

3.2 Panel Regression Analysis: Baseline Regression Analysis

We conduct our econometric analysis to test whether higher integration to international capital markets promotes the development of domestic financial intermediaries. Our dependent variable is the level of domestic financial development proxied by measures of activity and size of financial intermediaries (deposit money banks and other financial institutions), stock market and bond market development. Recall that the matrix \mathbf{Z}_{it} represents the matrix of control variables and is conformed by the (log) level of output per capita, inflation, trade openness, and dummy variables for dual and freely falling exchange rates. Our interest is the extent of integration of domestic countries to international capital markets proxied by foreign assets and liabilities.

3.2.1 Least Squares Estimation

Table 3 reports the coefficient estimate of *financial openness* where we apply least squares to our baseline regression for measures of size, activity and efficiency of financial intermediaries. The control variables (output per capita, inflation, trade openness, dual and freely falling rates) are not reported in the table and our regressions include both country- and time-specific effects. Our estimates of financial openness are reported for the full sample and for the sub-samples of industrial and developing countries. Our findings are:

- 1) Private credit provided by banks and bank assets are higher in countries with rising foreign assets and liabilities while bank deposits appear to have no robust relationship with financial openness. There is no robust relationship between overhead costs and financial openness while there is a negative and robust correlation between net interest margin and financial openness. Bank concentration rises if countries are highly integrated to world capital markets.
- 2) Bank credit and bank deposits tend to rise among industrial countries with higher financial openness —especially with foreign assets as a percentage of GDP. The size of financial intermediaries, measured by either assets of deposit money banks or liquid

liabilities to GDP, is positively associated with the extent of financial openness of the domestic country. Net interest margin is negatively and robustly correlated with financial openness for industrial economies while overhead costs are negatively and significantly associated with financial openness (when the explanatory variable is foreign assets). Bank concentration does not show a robust relationship with measures of financial openness for developing countries.

- 3) Bank credit and bank deposits have a positive and significant relationship with foreign liabilities (as a ratio of GDP) for all countries, industrial countries and developing countries except and with bank deposit in industrial countries. Similarly, there is a positive and significant relationship with the size of financial intermediaries (assets of deposit banks and liquid liabilities). In most cases, a positive and significant link between financial openness and efficiency in financial intermediaries as shown as a negative association with lower spreads from overhead costs and net interest margin and with a higher concentration in banking activity.

Table 3 reports the least squares estimates of the financial openness coefficient for the regression of indicators of stock and bond market development as well as for the depth of other domestic financial institutions (insurance companies). We mainly find that:

- 1) Countries with a higher extent of financial openness tend to have deeper stock markets as proxied by their capitalization and trade value. The positive coefficient of stock market capitalization is significant regardless of the measure of financial openness and sample used. The result of the stock market value traded is mainly driven by industrial countries. The relationship between the number of listed companies and financial openness is negative and significant for industrial countries while it is positive and significant for developing countries.
- 2) Rising financial openness is associated to deeper private bond markets in industrial markets whereas this correlation is negative among developing countries. The correlation between financial openness and public bond market capitalization is not robust across sub-samples of industrial and developing countries.
- 3) The depth of life and non-life insurance is higher if countries are more integrated to world capital markets –as measured by foreign liabilities and foreign assets and liabilities. This is mainly due to the strong association in developing countries.

3.2.2 Instrumental Variables

Table 4 presents the baseline regression results for three selected measures of financial development such as bank credit, bank deposit and stock market capitalization. We control for the likely endogeneity of financial openness with instruments such as real output, area of the country, institutional quality, natural resource abundance and dummies for legal origin (see the data description in appendix). Our regressions include country- and time-effects and the control variables show expected signs in our regression analysis as higher levels of financial market development proxied by higher banking credit and deposits and higher stock market capitalization are usually exhibited by countries with higher income per capita, more open to international trade and lower inflation and without either dual exchange rate market or freely falling exchange rates. The results for financial openness are: (a) Countries that are more integrated to world financial markets tend to have larger banking credit regardless of the measure of financial openness. (b) The impact of financial openness on bank deposits is not robust across measures of financial openness —i.e. it is not significant for foreign assets and negative and significant for foreign liabilities. (c) Rising financial openness tend to increase stock market capitalization. Evaluating the quantitative importance of our estimates we find that doubling financial openness —e.g. doubling foreign liabilities— would raise the ratio of bank deposits to GDP by 6.5% and the ratio of stock market capitalization to GDP by 25%.

Table 5 expands the results presented in Table 4 to all our measures of financial development (activity and size of financial intermediaries, banking efficiency, insurance penetration, stock and bond market development), measures of financial openness (foreign assets, foreign liabilities, and foreign assets and liabilities) and different samples of countries. Due to the limited space we only report the coefficient of financial openness.⁷

Activity of financial intermediaries. Financial openness has a positive and significant effect on bank credit and financial credit regardless of the measure of financial openness for both full sample and sub-sample of industrial countries. Rising financial openness does not have a robust effect on private credit in developing countries. Rising foreign assets have a positive and significant effect on bank deposits for industrial country while it has an insignificant effect for developing countries.

⁷ The full regression results are not reported but are available from the authors upon request.

Size of financial intermediaries. The size of deposit banks proxied by their total assets to GDP rises with higher financial openness for both full sample and sub-sample of industrial countries. The results are qualitatively similar although statistically less robust for liquid liabilities of the financial system. The ratio of deposit money banks to central bank assets increases with higher foreign asset holdings, and it declines with higher foreign liability holdings. Note that this result holds for the full sample and among developing countries.

Efficiency of financial intermediaries. We fail to find a robust relationship between overhead costs and financial openness in all samples although there is a negative and significant coefficient estimate for foreign assets for industrial and developing countries. Therefore, overhead costs decline in countries that accumulate higher foreign asset holdings even though net margin interests decline with deeper integration to world financial markets (regardless of the measure of financial openness and the sample of countries used). Banking systems with higher extent of financial openness tend to be more concentrated although the result is not significant for industrial countries (see Table 5).

Stock markets. An increase in financial openness (regardless of the measure used) would raise the depth of stock markets as proxied by stock market capitalization and total value traded. This effect is robust to all samples in Table 5. Stock market turnover is, in most cases, positively influenced by higher financial openness. However, deeper integration to financial markets tends to have opposite effects on the number of listed companies in the stock market for industrial and developing countries. While it has a negative effect in the former sample, it has a positive effect with less robust in the latter sample.

Bond markets and other financial institutions. IV coefficient estimates indicate that an increase in financial openness tends to raise the depth of private and public bond markets. For instance, doubling foreign liabilities would significantly decrease the capitalization of private and public bond markets by approximately 35% and 27%, respectively for all countries. Raising foreign liabilities among industrial countries would deepen the capitalization of private and public bond markets by by approximately 63% and 22%, respectively. For developing countries, doubling foreign liabilities significantly decrease private capitalization while they increase the public capitalization (although the effect is not statistically significant). Rising financial openness tends to increase the penetration of life insurance in the domestic country although it does not have a robust effect on non-life insurance in Table 5. Compared to Table 3, the Chinn-Ito measure of financial openness has a negative coefficient for non-life insurance.

3.2.3 Sensitivity of our Baseline Results

We check the sensitivity of the coefficient estimate of financial openness in our regression analysis in two dimensions. First, we test whether our results may be driven or influenced by sharp variations in financial development variables that could be linked to lending booms, stock market bubbles and the collapse of financial prices. We investigate whether our baseline regression results are distorted by data outliers. In this case, we exclude the observations of financial development variables where the (absolute value of their) annual growth rate is higher than two standard deviations from the mean,

$$\left|d(FD) - \mu_{d(FD)}\right| > 2 \cdot \sigma_{d(FD)}$$

where $d(FD)$ is the annual growth rate in our dependent variable, and $\mu_{d(FD)}$ and $\sigma_{d(FD)}$ represent the mean and the standard deviation of $d(FD)$. Next we evaluate whether the sensitivity of domestic financial development to changes in the extent of international financial integration changes over time. We examine whether the coefficient estimate of financial openness changes during the globalization period between the pre- and post-Asian crisis period (1990-1998 and 1999-2007).

Sensitivity to large swings in financial markets. Table 6 reports the baseline regression results when we exclude large swings in banking activity, stock and bond market development, and depth of other financial institutions. The results reported in this table are compared to those reported in the first three columns of Table 5. The results are robust to the exclusion of the data outliers, and qualitatively similar (with small quantitative differences). In sum, higher financial integration:

- Promotes the activity of the banking system (with elevating private credit provided by deposit money banks or by deposit money banks plus other financial institutions) and of other financial institutions (with raising the premium of life insurance contracts).
- Boosts the total assets of deposit money banks and expands the liquid liabilities of the financial system.
- Improves the efficiency of banking activity by cutting net interest margins.
- Enhances the development of stock markets (with increasing both the capitalization and traded value of national stock exchanges).

Sensitivity of the financial openness coefficient over time. Table 7 reports the IV coefficient estimates of financial openness (either proxied by foreign assets and/or foreign

liabilities as % of GDP) and its interactions with dummy variables for the period 1990-1998 and 1999-2007. Our findings are as follows:

- Financial openness enhances private credit by domestic money banks. The impact is higher in the globalization period especially after the Asian crisis. An analogous result holds both for the amount of assets by deposit money banks and for liquid liabilities of the financial system.
- Financial openness has a positive impact on stock market capitalization and total value traded; however, this positive effect declines during the globalization era.

4. Extensions

We further investigate the relationship between domestic financial development and financial openness in two different dimensions. First, we test whether the structure of external assets and liabilities plays a role on the effect of financial openness on financial development. Does the accumulation of risky assets (or liabilities) rather than riskless assets (or liabilities) have a different impact on the activity of financial intermediaries or the depth of stock and bond markets? Then, we test whether the impact of financial openness on the depth of financial markets depends upon the institutional quality, investor protection, and openness to international trade. We also investigate whether these three factors may help explain the differing (if existing) effects of equity- and loan-related financial openness.

4.1 Does the Structure of External Assets and Liabilities Matter?

Our first goal is to examine closely the relationship between domestic financial development and financial openness by evaluating whether the structure of external assets and liabilities tends to play a role in explaining this relationship. Do financial systems tend to intermediate more financial flows whenever the country accumulates riskier assets rather than riskless assets? Calderon and Kubota (2009), in their earlier work, find that the structure of external assets and liabilities play a significant role in identifying forces that either enhanced or mitigated shocks to the real exchange rate. They find that financial openness would attenuate (magnify) real exchange rate volatility, the greater the share of equity (debt) in foreign liabilities. Analogously, this paper investigates the effects of accumulating more riskless assets and/or liabilities (debt, reserves) rather than riskier assets and/or liabilities (direct investment and portfolio equity) on banking sector activity, stock market and bond market development.

Table 8 improves upon the results of Table 4 by including equity-related and loan-related holdings of foreign assets and liabilities instead of total holdings. We show our full regression results for bank credit, bank deposit and stock market capitalization for the full sample. There is a robust positive coefficient for income per capita and trade openness. Higher income per capita and greater international trade linkages would lead to deeper domestic financial markets as captured by rising bank credit and deposits as well as widening stock market capitalization. Higher inflation and the presence of dual or freely falling exchange rates would reduce the depth of financial markets.

What is the impact of equity- and loan-related holdings of assets and liabilities on the development of domestic financial markets? Regardless of the measure of financial openness in most cases that larger holdings of either equity- or loan-related foreign assets and/or liabilities would lead to: (a) more private credit provided by deposit money banks, (b) a greater amount of bank deposits, and (c) deeper stock markets. The accumulation of risky assets leads to higher bank credit and bank deposits whereas the hoarding of riskless assets has a non-significant effect on bank deposits. Moreover, the accumulation of direct investment and portfolio equity liability holdings leads to higher bank credit and deposits whereas accumulation of debt liabilities causes higher bank credits and lowers bank deposits in Table 8.

Table 9 reports the coefficient estimates of equity-related and loan-related financial openness of the financial development regression equation for measures of size, activity and efficiency of financial intermediaries, and measures of stock and bond market development as well as insurance penetration. We report the results for both full sample and sub-samples of industrial and developing countries.

Activity of financial intermediaries. Equity-related financial openness causes higher private credit in the banking system with the exception of equity related foreign liabilities of industrial countries. Although the impact of loan-related financial openness is positive and robust for industrial economies, it is not significant for developing countries. For bank deposits we find that equity-related financial openness leads to higher deposits in the banking system for both full sample and sub-sample of developing countries. Equity-related financial openness has a negative and significant effect on bank deposits although loan-related financial openness leads to higher bank deposits in industrial countries and to a negative and non-robust effect on bank deposits for developing countries in Table 9.

Size of financial intermediaries. The accumulation of equity-related foreign assets leads to higher assets of deposit money banks for industrial and developing countries while loan-related foreign assets raise bank assets in industrial countries and have no significant in developing countries. Loan-related financial openness also has a positive effect on the liquid liabilities of the financial sector for both industrial and developing countries. However, equity-related financial openness has a negative impact on liquid liabilities in industrial countries and a non-robust effect in developing countries.

Efficiency of financial intermediaries. A negative and significant impact of both equity- and loan-related financial openness on net interest margin is found in most cases, with the coefficient of loan-related financial openness being larger (in absolute value) than that of equity-related financial openness. Equity-related financial openness leads to higher overhead costs and banking concentration for the full sample (and this result is consistent with those found for developing countries).

Stock market development. In most cases higher equity-related financial openness leads to rising stock market capitalization and total value traded in industrial and developing countries while loan-related financial openness has no robust relationship with the measures of stock market depth. Note that larger holdings of loan-related assets cause higher stock market capitalization and value traded among industrial and developing countries in Table 9.

Bond market development and the depth of other financial institutions. Rising equity- and loan-related financial openness has a robust effect on private market bond development in industrial countries while higher loan-related financial openness leads to lower depth of private bond markets. Rising holdings of equity-related assets and/or liabilities significantly causes higher public market bond capitalization in industrial countries while rising loan-related openness would significantly lower public market bond capitalization for all countries. In developing countries equity- and loan-related financial openness has no systematic effects on public market bond capitalization. Life insurance penetration rises due to higher equity-related financial openness in industrial countries and due to loan-related financial openness in developing countries.

4.2 Financial Openness and Financial Depth: the Role of Institutions, Investor Protection and Trade Openness

We have showed that the impact of financial openness on domestic financial development may depend on whether countries accumulate equity-related or loan-related asset and liability holdings. In this section we examine to what extent the role of the structure of external asset and liabilities is driven by differences across countries in three key structural features of the domestic economy: institutional quality, investor protection, and trade openness.

In order to test whether these structural features play a role in explaining the different effects of equity- and loan-related financial openness on domestic financial development (FD), we model the coefficient γ_{it} in equation (1) as:

$$\gamma_{it} \equiv \frac{\partial FD_{it}}{\partial FO_{it}} = \gamma_0 + \gamma_1 IQ_{it} + \gamma_2 IP_{it} + \gamma_3 TO_{it}$$

where IQ is the level of institutional quality, IP is index of investor protection, and TO is the extent of trade openness. According to the literature reviewed, we expect γ_1 , γ_2 and γ_3 to be positive.

Table 10 shows the full regression results of financial market development on our set of control variables, financial openness and its interactions with the three structural features mentioned above. We report the regressions for bank credit, bank deposits and stock market capitalization with different measures of financial openness and for the full sample period. Analogous to the results in Tables 4 and 6, financial markets are deeper in countries with higher income per capita and are shallower in those with higher inflation rates as well as dual or freely falling exchange rates. The impact of trade openness will depend on the level of financial openness.⁸

What is the impact of financial openness on domestic financial development? The effect of financial openness depends on the level of institutions (γ_1), the degree of investor protection (γ_2) and the extent of trade openness (γ_3). Our regressions for bank credit and bank deposits show that the coefficient of financial openness (γ_0) is negative and significant while the interaction coefficients with institutions, investor protection and trade openness (γ_1 , γ_2 and γ_3 , respectively) are positive and significant regardless of the measure of financial openness used in

⁸ Given the results depicted in Table 8, trade openness would raise bank credit and bank deposits in countries with high financial integration.

Table 10. These results imply that rising financial openness may lead to higher financial development –*i.e.* higher bank credit and bank deposits– in countries with medium- to high-levels of institutional quality, investor protection and trade openness (see Figures 2 and 3). The coefficient of financial openness (γ_0) is not significant in the regression of stock market capitalization and the same holds for almost all interaction coefficients, except for some interactions between financial openness and the degree of the investor protection.⁹

Table 11 reports the coefficient estimates of our variable of interest (financial openness) and its interactions with institutional quality, investor protection and trade openness. We report the coefficient estimates for measures of size, activity and efficiency of financial intermediaries, and stock market development, bond market development and the depth of other financial institutions. Similarly, Table 12 reports the coefficient estimates of financial openness and its interactions for developing countries. Due to the limited space we restrict our discussion of the results to the full sample.

Analogous to the results found for bank credit and deposits, we find that the coefficient of financial openness is positive and significant while its interactions are unexpectedly negative and significant for the regressions of deposit bank total assets and liquid liabilities of the financial system. According to Table 11, this implies that rising financial openness may raise the size of financial intermediaries –by increasing bank assets and the liquid liabilities of the financial system– with medium to high levels of institutional quality, investor protection and trade openness (see Figures 4 and 5).

Regarding the impact of financial openness on the efficiency of the banking system we find that: (a) the autonomous and conditional impact of financial openness on overhead costs and banking concentration is not robust across measures of financial openness and across our samples. (b) Using either foreign assets or the sum of foreign assets and liabilities, rising financial openness leads to lower net interest margins in countries with medium to high levels of institutional quality for the full sample, medium to high levels of investor protection for developing countries and high levels of trade openness for both the full sample and developing countries. See Table 11 and Figure 5 for more details on the regression analysis.

Rising financial openness leads to higher stock market development especially when we use the ratio of foreign assets and liabilities to GDP while most of the interactions are not

⁹ Here the coefficient estimate tells us that high levels of investor protection may offset the impact of financial openness on stock market development.

statistically significant. Hence, the level of institutional quality, the degree of investor protection and the extent of international trade integration play no significant role on the impact of financial openness on stock market development.

One strand of the empirical literature argues that an enhanced institutional environment not only deepens local stock markets but also reduces the need to use international markets (Karolyi, 2004). Internationalization of firms in countries with weak institutions becomes more attractive due to the opportunity to participate in a market that offers better protection of investors' rights (Benoch and Weisbach, 2004). Others show that –on the contrary– financial liberalization may lead not only to deeper stock market capitalization but also to greater internationalization (Claessens et al. 2006, 2007; De La Torre et al. 2007).

Finally, although rising financial openness may lead to higher private bond market capitalization with moderate to high levels of institutions and openness, the opposite holds for public bond market capitalization. The unexpected sign for public bond market capitalization may reflect the risks of opening its the market in a country that has not either achieved macroeconomic stability yet or developed strong and stable currencies among other factors.

Quantifying the role of institutions, investor protection and trade openness. Table 13 reports the response of banking credit to a shock in financial openness –*i.e.* 100% increase in our indicator of financial openness— conditional to a structural characteristic (say, institutions) while keeping the other dimensions (say, investor protection and trade openness) constant at their sample median values. We report the conditional response of domestic financial development when one of the structural characteristics is evaluated at high (top quintile or 80th percentile) or low (bottom quintile or 20th percentile) levels and we test whether the difference in those responses are statistically significant.

How quantitatively significant are the estimates of our financial development responses? Assuming that external assets (as a percentage of GDP) double, we evaluate this rise in financial openness with low and high levels of institutional quality, investor protection and trade openness (20th and 80th percentiles of the corresponding variables in their sample distribution). Doubling foreign assets leads to a reduction in bank credit of 5.1% with low institutions and to an increase of 7.3% with high institutions. An analogous increase in financial openness causes a decline in bank credit of 5.3% with low levels of investor protection and an increase of 7.4% with high investor protection. The impact of financial openness on bank credit

leads to a decline of 1.4% in bank credit for low-trade-openness-countries and a slight increase of 4.6% with high integration to international markets of goods.

In the case of bank deposits higher financial openness (as proxied by a 100% increase in the ratio of foreign assets to GDP) leads to a reduction (an increase) in bank deposits of 9.2% (3%) with low (high) levels of institutional quality. Bank deposits would also decline (rise) by 6.5% (0.7%) with low (high) degrees of investor protection. Doubling foreign assets would generate a reduction (jump) in bank deposits of 5.2% (0.1%) with low (high) degrees of trade openness. Therefore, the structural factor plays a role in explaining the differences in response.

Moreover, we find that a shock that doubles foreign assets to GDP would lead to an increase of approximately 2% in bank assets for the representative country. For countries with poor institutions (percentile 20) there is a decline of 3.4% in bank assets while an increase of 6% is predicted for countries with good institutions. An analogous increase in financial openness would lead to a decline of 0.1% in bank assets with lack of investor protection while it increases by 6.7% with good investor protection. Bank assets in closed economies would also increase by 0.1% in the event of rising foreign assets to GDP whereas bank assets in open economies would increase by 3.4% (see Table 13 for more details).

Sensitivity analysis for the “expanded” model. We test whether the coefficient estimates of our “expanded model” are influenced by episodes of sharp fluctuations in domestic financial markets. We also exclude country-year observations where the annual growth of financial variable is larger (in absolute value) than a determined threshold which in our case is determined by two standard deviations from the regression sample-mean. Then we test the sensitivity of our results to changes in measures of: (a) institutional quality (*IQ*), (b) investor protection (*IP*), and (c) trade openness (*TO*). These regressions are conducted by changing one dimension (say, institutions) and keeping the other ones constant (say, investor protection and trade openness).

Table 14 reports the coefficient estimate of financial openness as well as its interactions with institutional quality, investor protection and trade openness after eliminating large observed variations in domestic banking, equity and bond markets. On average, we lose 3-3.5 percent of the regression sample while eliminating these sharp fluctuations. The results are qualitatively similar to those found in Table 11. The response to doubling foreign assets conditional on median values of *IQ*, *IP* and *TO* is smaller in most of the cases when we restrict the sample. For instance, doubling the ratio of foreign assets to GDP would increase private

credit by deposit money banks increases by 1.9% if we use the full sample vs. 1.8% when we eliminate the outliers. The discrepancies are much larger if we examine the effects of an analogous increase in liquid liabilities (4.1% vs. 3.6%) and stock market capitalization (22.7% vs. 20.5%).

Table 15 shows the *sensitivity of our estimates to changes in the measures of institutional quality (IQ)*. Here we use the different components of this aggregate index such as index of political institutions (IQ_1), index of the quality of institutions (IQ_2), index of socio-economic environment (IQ_3), and the index of conflict (IQ_4). We perform this exercise both for foreign assets (FA) and foreign liabilities (FL) and for a selected set of financial development indicators. *Ceteris paribus*, we find that the coefficient estimates of the interaction between FA and the components of IQ are positive and significant when estimating the regression for bank credit, bank deposits, bank assets, and liquid liabilities of the financial system. An analogous result holds for the interaction between FL and the components of IQ in the activity and size of financial intermediaries. The results are not as robust for net interest margin, stock market capitalization and value traded. The interaction coefficient between financial openness (either proxied by FA and FL) and the different measures of IQ is positive and (in most cases) statistically significant. Thus, evidence on the positive impact of financial openness on financial development with strong institutions is robust for the size and activity of banking intermediaries and the depth of private bond markets.

We evaluate the *sensitivity of our results to changes in the measure of investor protection (IP)* and the results are reported in Table 16. We use the components of the investor protection index from the Doing Business report: disclosure index, director liability index, and shareholder suits index. For the measures of size and activity of bank intermediaries such as bank credit and deposits, assets of deposit money banks, and liquid liabilities, we find that the interaction of the different IP measures and FO (approximated by FA or FL) has a positive and statistically significant coefficient. Unfortunately, we do not find a robust coefficient estimate for this interaction while evaluating stock and bond market development.

We also perform *sensitivity analysis of the coefficient estimates to different measures of trade openness (TO)*. Rather than using trade openness we incorporate in the regression analysis trade in manufacturing and in non-manufacturing goods and the interaction of the corresponding measure of financial openness (say, FA or FL) with manufacturing and non-manufacturing trade. Table 17 shows the interaction coefficient of financial openness (FA , FL or

FAL) and trade in manufacturing and non-manufacturing goods. The interaction of *FA* and trade manufacturing is positive and significant for bank and financial credit as well as bank assets and liquid liabilities. This result implies that higher foreign assets would enhance bank credit and enlarge bank assets with higher trade in manufacturing. This interaction coefficient is not as robust when we run our regressions on stock market and bond market development. However, the interaction between *FA* and non-manufacturing trade is negative and significant for financial credit, bank assets, liquid liabilities and stock market development. Hence, financial openness does not seem to have an enhancing effect on bank and stock market developments in countries with higher non-manufacturing trade.

5. Concluding Remarks¹⁰

The main goal of our paper is to evaluate the effect of greater international financial integration on the development of domestic financial market institutions such as commercial banks, stock markets, bond markets, and other financial institutions. We gathered annual information for a sample of 145 countries over the period 1974-2007 and tested: (a) whether integration to world capital markets promoted higher levels of activity in banking and non-banking financial institutions, stock and bond markets, (b) whether the impact of financial openness depends upon the structure of external assets and liabilities held by the country (risky vs. riskless assets and liabilities), and (c) whether the effects of higher integration to international markets of assets depend upon the domestic country's level of institutions, degree of investor protection and extent of trade openness. We find that:

First, higher integration in world capital markets would enhance the development of domestic financial markets by raising bank credit, total assets of the banking system, reducing net interest rate margins, increasing stock market capitalization and total value traded and improving the capitalization of private bond markets.

Second, the structure of external assets and liabilities appears to play a role in explaining the impact of financial openness on domestic financial development. For instance, the accumulation of risky assets (i.e. direct investment and portfolio equity) may lead to an expansion in bank credit and bank deposits while the hoarding of riskless assets (debt and reserve assets) raises bank credit but has no effect on bank deposits.

¹⁰ We particularly thank Augusto De La Torre for conversations on the short-run tensions of opening financial markets and issues of reform sequencing.

Third, the response of domestic financial development to higher international financial integration may depend upon the level of institutional quality, the degree of investor protection and the international trade linkages of the domestic country. In general, we find that banking size and activity will expand in response to an increase in financial openness in countries with moderate to high levels of institutional quality and investor protection and with high trade openness. An analogous result holds for efficiency of commercial banking activities and private bond market development.

Fourth, we should point out that financial globalization may have clear benefits on financial development in the longer term but may create short-run tensions –as pointed out by De La Torre et al. (2007) and Kaminsky and Schmukler (2008). Financial globalization may challenge the efforts to deepen reforms in local stock markets as they may result in rising participation of local firms in international capital markets. This may generate liquidity problems for those firms that remain in local markets –especially, small and medium sized enterprises with limited or no access to world capital markets.

Finally, further avenues of research could be pursued in the following areas: First, we may need to examine whether the liberalization of domestic financial markets leads to higher integration of countries to world capital markets. In this respect, we may need to assess whether the causal relationship from financial openness to domestic financial development dominates the dynamic correlation between these two variables or the other way around. Second, one of the major differences between opening local stock markets vis-à-vis local debt markets is that the quality of the local currency plays a crucial role on the effects of financial globalization on the latter. For instance, having a ‘sound currency’ has allowed emerging market economies (and, especially those in Latin America) to further deepen their local-currency debt markets. This implication may merit further testing. Finally, the sequence of reforms is an important issue at hand. De La Torre et al. (2006) argue that opening financial markets without an adequate institutional and regulatory environment may lead firms and investors to use international markets more intensively in detriment of local financial markets. An analogous behavior may be observed if local debt markets are liberalized before developing a stable local currency and deepening local currency debt markets. Further analysis of the behavior of initial conditions (say, the strength of domestic currency and quality of regulatory framework) around dates of capital account openness may be undertaken.

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Table 1
Financial Openness and Domestic Financial Development: Basic Statistics
Sample of 145 countries, 1974-2007 (annual data)

	All Countries	By level of development		By income level		
		Industrial	Developing	High	Middle	Low
<i>I. Financial Development</i>						
<i>1.1 Measures of (absolute and relative) size</i>						
Deposit money banks assets (% of GDP, in logs)	3.4686	4.3717	3.2169	4.2963	3.3388	2.6973
Financial system assets (% of GDP, in logs)	3.8689	4.7389	3.6558	4.5876	3.6625	3.0242
Deposit vs. Central Bank assets (ratio)	0.7890	0.9439	0.7512	0.9458	0.7861	0.6463
Liquid liabilities (% of GDP, in logs)	3.6075	4.2010	3.5238	4.2247	3.5883	3.1381
<i>1.2. Measures of activity</i>						
Private credit by deposit money banks (% of GDP, in logs)	3.1888	4.1677	2.9141	4.0837	3.0515	2.3408
Private credit by financial system (% of GDP, in logs)	3.2996	4.3082	3.0166	4.2518	3.1403	2.4208
Bank deposits (% of GDP, in logs)	3.3273	4.1326	3.1087	4.0966	3.2103	2.6164
Deposits in the financial system (% of GDP, in logs)	3.3591	4.1638	3.1422	4.1452	3.2275	2.6580
<i>1.3. Measures of efficiency and structure</i>						
Overhead costs (in logs)	1.3049	0.9443	1.3923	0.8430	1.4997	1.5314
Net interest margin (in logs)	4.6569	4.6302	4.6635	4.6319	4.6671	4.6707
Bank concentration (in logs)	4.1841	4.1383	4.1949	4.1470	4.1566	4.3072
<i>1.4. Measures of activity of other financial institutions</i>						
Life insurance penetration (% of GDP, logs)	-0.3002	0.7680	-0.9108	0.5820	-1.1231	-0.7853
Non-Life insurance penetration (% of GDP, logs)	0.4767	1.0773	0.2098	0.9078	0.2134	-0.1972
<i>1.5. Stock markets</i>						
Stock market capitalization (% of GDP, logs)	2.8547	3.7681	2.5800	3.7788	2.4692	2.0133
Stock market total value traded (% of GDP, logs)	1.0769	2.7366	0.5666	2.7906	0.3554	-0.5690
Stock market turnover	2.8746	3.6192	2.6464	3.6756	2.5353	2.0838
Number of listed companies (in logs)	4.8177	5.8010	4.5018	5.5284	4.4255	4.3887
<i>1.6. Bond markets</i>						
Private bond market capitalization (% of GDP, logs)	2.3500	3.2998	1.3337	3.2320	1.0318	-0.4207
Public bond market capitalization (% of GDP, logs)	3.1463	3.6352	2.7235	3.4660	2.7004	3.3246
<i>2. Financial integration</i>						
Foreign assets (% of GDP, logs)	3.4650	4.1772	3.3028	4.5210	3.2762	2.5954
Foreign liabilities (% of GDP, logs)	4.2600	4.4665	4.2130	4.4122	4.2082	4.1802
Foreign assets and liabilities (% of GDP, logs)	4.7522	5.0554	4.6832	5.2638	4.6185	4.4089
Equity-related foreign assets (% of GDP, logs)	-0.0943	2.6855	-0.7093	2.2923	-0.5469	-1.8693
Equity-related foreign liabilities (% of GDP, logs)	2.4236	2.9485	2.3085	2.7439	2.5927	1.7703
Equity-related foreign assets and liabilities (% of GDP, logs)	2.7304	3.5824	2.5418	3.4597	2.7925	1.8326
Loan-related foreign assets (% of GDP, logs)	3.3177	3.8090	3.2060	4.2368	3.1670	2.5415
Loan-related foreign liabilities (% of GDP, logs)	3.9278	4.1353	3.8810	4.0629	3.8132	3.9826
Loan-related foreign assets and liabilities (% of GDP, logs)	4.5137	4.7295	4.4646	4.9857	4.3513	4.2697
Chinn-Ito measure of financial openness	0.1378	1.4369	-0.1569	1.4202	-0.1254	-0.8067
<i>3. Control variables</i>						
Real GDP per capita (Chained prices, in logs)	8.5503	9.8984	8.2619	9.8678	8.5313	7.1453
CPI Inflation Rate (in logs)	4.7748	4.6649	4.7989	4.6684	4.8191	4.8123
Trade openness (% of GDP, logs)	4.0819	3.9739	4.1097	4.1052	4.1858	3.8638
ICRG Political risk index (logs)	4.0950	4.4308	4.0130	4.3402	4.0411	3.8717
Index of investor protection (0-1 index)	0.4998	0.5971	0.4803	0.6101	0.4838	0.4293

Table 2
Financial Openness and Domestic Financial Development: Panel Correlation Analysis

Sample panel correlation between financial openness and the development of domestic financial markets

Sample of 145 countries, 1974-2007 (annual data)

Financial development variables	Total external			Equity-related foreign			Loan-related foreign			Chinn-Ito Measure
	Assets	Liabilities	A + L	Assets	Liabilities	A + L	Assets	Liabilities	A + L	
<i>1. Measures of (absolute and relative) size</i>										
Central bank assets (% of GDP, in logs)	-0.344	-0.086	-0.204	-0.341	-0.259	-0.310	-0.318	0.047	-0.125	-0.286
Deposit money banks assets (% of GDP, in logs)	0.503	0.211	0.342	0.596	0.257	0.389	0.438	0.162	0.292	0.458
Financial system assets (% of GDP, in logs)	0.433	0.208	0.331	0.604	0.212	0.419	0.299	0.132	0.214	0.402
Deposit vs. Central Bank assets (ratio)	0.382	0.020	0.165	0.479	0.238	0.306	0.339	-0.093	0.087	0.392
Liquid liabilities (% of GDP, in logs)	0.510	0.138	0.323	0.468	0.204	0.331	0.467	0.079	0.282	0.328
<i>2. Measures of activity</i>										
Private credit by deposit money banks (% of GDP, in logs)	0.531	0.223	0.358	0.608	0.305	0.430	0.463	0.158	0.299	0.495
Private credit by financial system (% of GDP, in logs)	0.515	0.184	0.332	0.593	0.282	0.411	0.439	0.117	0.270	0.486
Bank deposits (% of GDP, in logs)	0.538	0.216	0.367	0.560	0.317	0.430	0.484	0.144	0.316	0.440
Deposits in the financial system (% of GDP, in logs)	0.529	0.204	0.353	0.559	0.315	0.426	0.473	0.132	0.302	0.417
<i>3. Measures of efficiency and structure</i>										
Overhead costs (in logs)	-0.424	-0.105	-0.312	-0.282	-0.044	-0.199	-0.403	-0.063	-0.294	-0.240
Net interest margin (in logs)	-0.433	-0.176	-0.328	-0.339	-0.150	-0.282	-0.393	-0.135	-0.293	-0.307
Bank concentration (in logs)	-0.046	0.051	0.021	-0.131	-0.072	-0.100	-0.042	0.085	0.048	-0.172
<i>4. Measures of activity of other financial institutions</i>										
Life insurance penetration (% of GDP, logs)	0.400	0.370	0.376	0.589	0.406	0.460	0.295	0.296	0.289	0.419
Non-Life insurance penetration (% of GDP, logs)	0.406	0.429	0.419	0.592	0.392	0.477	0.301	0.391	0.346	0.394
<i>5. Stock markets</i>										
Stock market capitalization (% of GDP, logs)	0.561	0.402	0.524	0.655	0.517	0.616	0.464	0.253	0.413	0.398
Stock market total value traded (% of GDP, logs)	0.412	0.192	0.318	0.569	0.300	0.421	0.318	0.100	0.234	0.363
Stock market turnover	0.117	-0.076	0.010	0.261	-0.007	0.078	0.066	-0.083	-0.020	0.212
Number of listed companies (in logs)	0.037	-0.071	-0.046	0.272	0.022	0.091	-0.063	-0.074	-0.102	0.129
<i>6. Bond markets</i>										
Private bond market capitalization (% of GDP, logs)	0.466	0.280	0.384	0.640	0.275	0.463	0.328	0.232	0.305	0.467
Public bond market capitalization (% of GDP, logs)	0.215	0.196	0.203	0.288	0.136	0.208	0.123	0.191	0.155	0.257

Table 3
Financial integration and domestic financial development: Baseline regression analysis 1/
Methodology: Least Squares with country- and time effects
Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	All Countries				Industrial Countries				Developing Countries			
	Foreign Assets	Foreign Liabilities	Foreign A & L	Chinn-Ito measure	Foreign Assets	Foreign Liabilities	Foreign A & L	Chinn-Ito measure	Foreign Assets	Foreign Liabilities	Foreign A & L	Chinn-Ito measure
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
<i>Activity of financial intermediaries</i>												
Private credit by deposit money banks (% of GDP, in logs)	0.074 ** (0.02)	0.116 ** (0.02)	0.104 ** (0.02)	0.055 ** (0.01)	0.281 ** (0.04)	0.169 ** (0.05)	0.236 ** (0.05)	0.092 ** (0.02)	0.028 (0.02)	0.085 ** (0.03)	0.051 * (0.03)	0.045 ** (0.01)
	2913 / 0.86	2916 / 0.861	2913 / 0.86	2823 / 0.864	721 / 0.759	721 / 0.748	721 / 0.751	711 / 0.738	2192 / 0.808	2195 / 0.809	2192 / 0.808	2112 / 0.815
Private credit by financial system (% of GDP, in logs)	0.026 (0.02)	0.099 ** (0.02)	0.076 ** (0.02)	0.043 ** (0.01)	0.132 ** (0.04)	0.174 ** (0.05)	0.155 ** (0.05)	0.046 ** (0.02)	-0.006 (0.02)	0.063 ** (0.02)	0.028 (0.03)	0.040 ** (0.01)
	2922 / 0.874	2925 / 0.875	2922 / 0.874	2832 / 0.877	723 / 0.772	723 / 0.774	723 / 0.772	713 / 0.759	2199 / 0.824	2202 / 0.824	2199 / 0.824	2119 / 0.831
Bank deposits (% of GDP, in logs)	0.005 (0.02)	-0.004 (0.02)	-0.019 (0.02)	0.032 ** (0.01)	0.059 * (0.03)	-0.002 (0.04)	0.008 (0.04)	-0.003 (0.01)	0.026 (0.02)	0.033 * (0.02)	0.020 (0.02)	0.049 ** (0.01)
	2972 / 0.883	2975 / 0.883	2972 / 0.883	2887 / 0.886	721 / 0.809	721 / 0.808	721 / 0.808	711 / 0.83	2251 / 0.851	2254 / 0.851	2251 / 0.851	2176 / 0.852
Financial deposits (% of GDP, in logs)	0.008 (0.02)	-0.012 (0.02)	-0.029 * (0.02)	0.017 ** (0.01)	-0.041 (0.03)	-0.049 (0.03)	-0.071 ** (0.04)	-0.025 ** (0.01)	0.050 ** (0.02)	0.039 * (0.02)	0.031 (0.02)	0.035 ** (0.01)
	2991 / 0.882	2994 / 0.882	2991 / 0.882	2906 / 0.882	721 / 0.843	721 / 0.843	721 / 0.843	711 / 0.855	2270 / 0.847	2273 / 0.847	2270 / 0.847	2195 / 0.846
<i>Size of financial intermediaries</i>												
Total assets of deposit money banks (% of GDP, in logs)	0.056 ** (0.02)	0.077 ** (0.02)	0.074 ** (0.02)	0.041 ** (0.01)	0.305 ** (0.04)	0.164 ** (0.04)	0.248 ** (0.05)	0.056 ** (0.01)	0.020 (0.02)	0.061 ** (0.02)	0.042 * (0.02)	0.036 ** (0.01)
	2927 / 0.886	2930 / 0.886	2927 / 0.886	2832 / 0.893	721 / 0.797	721 / 0.782	721 / 0.787	711 / 0.77	2206 / 0.843	2209 / 0.843	2206 / 0.843	2121 / 0.856
Total assets of the financial system (% of GDP, in logs)	-0.042 * (0.02)	0.090 ** (0.03)	0.054 * (0.03)	-0.014 (0.01)	-0.116 ** (0.04)	0.018 (0.04)	-0.053 (0.05)	-0.038 * (0.02)	-0.030 (0.03)	0.095 ** (0.03)	0.075 ** (0.03)	-0.005 (0.01)
	1199 / 0.91	1202 / 0.91	1199 / 0.91	1179 / 0.908	272 / 0.898	272 / 0.895	272 / 0.895	255 / 0.894	927 / 0.865	930 / 0.866	927 / 0.865	924 / 0.864
Assets of deposit money banks vs. central bank assets	0.016 ** (0.00)	-0.061 ** (0.01)	-0.049 ** (0.01)	0.019 ** (0.00)	0.043 ** (0.01)	-0.006 (0.01)	0.015 * (0.01)	0.024 ** (0.00)	0.021 ** (0.01)	-0.060 ** (0.01)	-0.047 ** (0.01)	0.020 ** (0.00)
	3102 / 0.779	3105 / 0.788	3102 / 0.783	2985 / 0.783	713 / 0.675	713 / 0.654	713 / 0.655	693 / 0.708	2389 / 0.752	2392 / 0.76	2389 / 0.755	2292 / 0.757
Liquid liabilities (% of GDP, in logs)	0.063 ** (0.01)	0.072 ** (0.01)	0.073 ** (0.01)	0.007 (0.01)	0.156 ** (0.03)	0.030 (0.03)	0.093 ** (0.03)	0.018 (0.01)	0.062 ** (0.01)	0.079 ** (0.01)	0.077 ** (0.01)	0.007 (0.01)
	3030 / 0.888	3033 / 0.888	3030 / 0.888	2901 / 0.886	455 / 0.923	455 / 0.916	455 / 0.917	423 / 0.907	2575 / 0.868	2578 / 0.868	2575 / 0.868	2478 / 0.87
<i>Efficiency of financial intermediaries</i>												
Overhead costs (in logs)	-0.015 (0.03)	-0.029 (0.03)	-0.006 (0.03)	-0.010 (0.01)	-0.184 * (0.12)	-0.052 (0.11)	-0.102 (0.13)	-0.167 ** (0.04)	-0.041 (0.03)	-0.095 ** (0.03)	-0.072 ** (0.04)	0.016 * (0.01)
	1573 / 0.834	1573 / 0.834	1573 / 0.834	1532 / 0.855	345 / 0.689	345 / 0.687	345 / 0.687	348 / 0.725	1228 / 0.854	1228 / 0.855	1228 / 0.854	1187 / 0.878
Net interest margin (in logs)	-0.010 ** (0.00)	-0.007 ** (0.00)	-0.009 ** (0.00)	0.001 (0.00)	-0.007 ** (0.00)	-0.003 * (0.00)	-0.005 ** (0.00)	-0.003 ** (0.00)	-0.011 ** (0.00)	-0.007 ** (0.00)	-0.010 ** (0.00)	0.002 ** (0.00)
	1547 / 0.768	1547 / 0.765	1547 / 0.766	1509 / 0.771	344 / 0.791	344 / 0.786	344 / 0.786	347 / 0.815	1203 / 0.72	1203 / 0.717	1203 / 0.718	1162 / 0.723
Bank concentration (in logs)	0.063 ** (0.02)	0.099 ** (0.02)	0.114 ** (0.02)	-0.001 (0.01)	0.027 (0.07)	0.050 (0.06)	0.053 (0.07)	-0.031 * (0.02)	0.038 ** (0.02)	0.067 ** (0.02)	0.081 ** (0.02)	0.003 (0.01)
	1607 / 0.797	1607 / 0.8	1607 / 0.8	1562 / 0.806	346 / 0.822	346 / 0.822	346 / 0.822	349 / 0.849	1261 / 0.807	1261 / 0.808	1261 / 0.809	1213 / 0.807
<i>Stock markets</i>												
Stock market capitalization (% of GDP, in logs)	0.295 ** (0.06)	0.235 ** (0.06)	0.328 ** (0.07)	0.132 ** (0.02)	0.665 ** (0.09)	0.527 ** (0.10)	0.658 ** (0.11)	0.104 ** (0.04)	0.175 ** (0.08)	0.224 ** (0.08)	0.290 ** (0.10)	0.092 ** (0.02)
	1579 / 0.838	1579 / 0.838	1579 / 0.838	1544 / 0.857	392 / 0.932	392 / 0.927	392 / 0.929	395 / 0.921	1187 / 0.806	1187 / 0.807	1187 / 0.807	1149 / 0.836
Stock market total value traded (% of GDP, in logs)	0.746 ** (0.10)	0.149 (0.10)	0.401 ** (0.12)	0.151 ** (0.03)	1.461 ** (0.16)	0.560 ** (0.18)	1.039 ** (0.19)	0.258 ** (0.06)	0.395 ** (0.12)	-0.086 (0.12)	0.025 (0.15)	0.004 (0.04)
	1631 / 0.845	1631 / 0.839	1631 / 0.84	1590 / 0.853	411 / 0.927	411 / 0.913	411 / 0.917	417 / 0.91	1220 / 0.82	1220 / 0.818	1220 / 0.818	1173 / 0.843
Stock market turnover	0.438 ** (0.08)	-0.039 (0.08)	0.142 * (0.09)	0.011 (0.03)	0.725 ** (0.12)	0.010 (0.13)	0.352 ** (0.14)	0.086 * (0.05)	0.165 * (0.10)	-0.328 ** (0.10)	-0.272 ** (0.12)	-0.104 ** (0.03)
	1550 / 0.765	1550 / 0.76	1550 / 0.76	1521 / 0.78	390 / 0.892	390 / 0.888	390 / 0.882	395 / 0.894	1160 / 0.754	1160 / 0.755	1160 / 0.754	1126 / 0.774
Number of listed companies (in logs)	0.015 (0.06)	0.073 (0.06)	0.033 (0.07)	-0.043 ** (0.02)	-0.178 ** (0.08)	-0.332 ** (0.08)	-0.314 ** (0.09)	0.092 ** (0.03)	0.160 ** (0.08)	0.333 ** (0.08)	0.330 ** (0.10)	-0.060 ** (0.02)
	1532 / 0.891	1532 / 0.891	1532 / 0.891	1514 / 0.926	413 / 0.951	413 / 0.953	413 / 0.952	416 / 0.949	1119 / 0.861	1119 / 0.862	1119 / 0.862	1098 / 0.913
<i>Bond markets</i>												
Private bond market capitalization (% of GDP, in logs)	-0.163 * (0.10)	-0.252 ** (0.11)	-0.273 ** (0.11)	-0.006 (0.03)	0.634 ** (0.10)	0.555 ** (0.12)	0.659 ** (0.12)	-0.047 (0.04)	-0.746 ** (0.18)	-0.610 ** (0.20)	-0.838 ** (0.23)	0.090 * (0.06)
	629 / 0.904	629 / 0.905	629 / 0.905	610 / 0.903	336 / 0.899	336 / 0.892	336 / 0.894	329 / 0.884	293 / 0.874	293 / 0.87	293 / 0.872	281 / 0.865
Public bond market capitalization (% of GDP, in logs)	-0.333 ** (0.08)	-0.212 ** (0.08)	-0.337 ** (0.09)	-0.063 ** (0.03)	0.079 * (0.05)	0.233 ** (0.06)	0.220 ** (0.06)	0.101 ** (0.02)	-0.160 (0.14)	0.131 (0.15)	0.035 (0.17)	-0.056 (0.04)
	730 / 0.804	730 / 0.8	730 / 0.803	694 / 0.82	352 / 0.911	352 / 0.915	352 / 0.914	345 / 0.915	378 / 0.758	378 / 0.758	378 / 0.757	349 / 0.798
<i>Insurance</i>												
Life insurance penetration (volume of premium as % of GDP, in logs)	0.083 ** (0.04)	0.143 ** (0.04)	0.165 ** (0.04)	0.071 ** (0.02)	0.038 (0.06)	0.135 ** (0.06)	0.137 * (0.07)	0.152 ** (0.03)	0.070 (0.05)	0.143 ** (0.06)	0.161 ** (0.07)	-0.026 (0.02)
	1713 / 0.918	1713 / 0.918	1713 / 0.918	1659 / 0.918	672 / 0.895	672 / 0.896	672 / 0.895	665 / 0.862	1041 / 0.889	1041 / 0.889	1041 / 0.889	994 / 0.906
Non-life insurance penetration (volume of premium as % of GDP, in logs)	-0.031 (0.03)	0.065 ** (0.03)	0.060 * (0.03)	-0.019 ** (0.01)	-0.148 ** (0.03)	0.009 (0.03)	-0.077 ** (0.03)	-0.031 ** (0.01)	0.031 (0.04)	0.188 ** (0.05)	0.239 ** (0.06)	-0.018 (0.01)
	1263 / 0.89	1263 / 0.89	1263 / 0.89	1224 / 0.9	421 / 0.926	421 / 0.92	421 / 0.921	424 / 0.916	842 / 0.82	842 / 0.823	842 / 0.824	800 / 0.836

1/ Our baseline regression analysis includes the PPP-adjusted real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects

Table 4
Financial integration and domestic financial development: Baseline regression analysis
Methodology: Instrumental Variables with country- and time effects 1/
Sample of 145 countries, 1974-2007 (annual observations)

Explanatory variable	Bank credit <i>(as % of GDP, in logs)</i>			Bank deposit <i>(as % of GDP, in logs)</i>			Stock market capitalization <i>(as % of GDP, in logs)</i>		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
<i>Financial Openness (FO)</i>									
Foreign assets <i>as % of GDP (in logs)</i>	0.083 ** (0.02)	..	..	-0.008 (0.02)	..	..	0.508 ** (0.08)	..	..
Foreign liabilities <i>as % of GDP (in logs)</i>	..	0.094 ** (0.03)	..	..	-0.045 ** (0.02)	..	..	0.349 ** (0.08)	..
Foreign assets and liabilities <i>as % of GDP (in logs)</i>	..	..	0.094 ** (0.03)	..	..	-0.050 ** (0.02)	..	..	0.451 ** (0.09)
<i>Control variables</i>									
Income per capita, lagged <i>(in logs)</i>	0.616 ** (0.05)	0.641 ** (0.05)	0.629 ** (0.05)	0.211 ** (0.04)	0.209 ** (0.04)	0.214 ** (0.04)	0.873 ** (0.13)	1.048 ** (0.13)	0.999 ** (0.13)
Trade openness, lagged <i>(Exports and imports, % of GDP, logs)</i>	0.288 ** (0.04)	0.288 ** (0.04)	0.288 ** (0.04)	0.156 ** (0.03)	0.164 ** (0.03)	0.165 ** (0.03)	0.165 * (0.11)	0.208 * (0.11)	0.196 * (0.11)
Inflation, lagged <i>(in logs)</i>	-0.225 ** (0.03)	-0.232 ** (0.03)	-0.231 ** (0.03)	-0.210 ** (0.02)	-0.205 ** (0.02)	-0.205 ** (0.02)	-0.220 ** (0.07)	-0.223 ** (0.07)	-0.215 ** (0.07)
Falling exchange rate <i>(lagged)</i>	-0.188 ** (0.04)	-0.192 ** (0.04)	-0.191 ** (0.04)	-0.188 ** (0.03)	-0.183 ** (0.03)	-0.183 ** (0.03)	-0.354 ** (0.09)	-0.317 ** (0.08)	-0.344 ** (0.09)
Dual exchange rate regimes <i>(lagged)</i>	-0.174 * (0.10)	-0.143 (0.10)	-0.152 * (0.10)	-0.280 ** (0.07)	-0.285 ** (0.07)	-0.284 ** (0.07)	-0.246 (0.17)	-0.219 (0.17)	-0.228 (0.17)
Observations	2441	2441	2441	2470	2470	2470	1380	1380	1380
R**2	0.856	0.857	0.857	0.880	0.880	0.880	0.849	0.851	0.851
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1/ To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 5
Financial integration and domestic financial development: Baseline regression analysis
Methodology: Instrumental Variables with country- and time effects 1/
Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	All Countries			Industrial Countries			Developing Countries		
	Foreign Assets	Foreign Liabilities	Foreign A & L	Foreign Assets	Foreign Liabilities	Foreign A & L	Foreign Assets	Foreign Liabilities	Foreign A & L
	[1]	[2]	[3]	[4]	[5]	[6]	[4]	[5]	[6]
<i>Activity of financial intermediaries</i>									
Private credit by deposit money banks (% of GDP, in logs)	0.083 ** (0.02)	0.094 ** (0.03)	0.094 ** (0.03)	0.375 ** (0.05)	0.194 ** (0.06)	0.295 ** (0.06)	-0.0005 (0.03)	0.042 (0.03)	0.012 (0.04)
	2441 / 0.856	2441 / 0.857	2441 / 0.857	696 / 0.752	696 / 0.741	696 / 0.744	1745 / 0.8	1745 / 0.801	1745 / 0.8
Private credit by financial system (% of GDP, in logs)	0.058 ** (0.02)	0.079 ** (0.02)	0.070 ** (0.03)	0.197 ** (0.05)	0.176 ** (0.05)	0.180 ** (0.06)	0.0150 (0.03)	0.034 (0.03)	0.015 (0.04)
	2450 / 0.868	2450 / 0.869	2450 / 0.869	698 / 0.762	698 / 0.763	698 / 0.762	1752 / 0.812	1752 / 0.813	1752 / 0.812
Bank deposits (% of GDP, in logs)	-0.008 (0.02)	-0.045 ** (0.02)	-0.050 ** (0.02)	0.131 ** (0.04)	0.022 (0.04)	0.057 (0.05)	0.0129 (0.02)	-0.004 (0.03)	-0.008 (0.03)
	2470 / 0.888	2470 / 0.888	2470 / 0.888	696 / 0.811	696 / 0.81	696 / 0.81	1774 / 0.839	1774 / 0.839	1774 / 0.839
Financial deposits (% of GDP, in logs)	-0.003 (0.02)	-0.052 ** (0.02)	-0.059 ** (0.02)	0.003 (0.03)	-0.046 (0.04)	-0.053 (0.04)	0.059 ** (0.03)	0.017 (0.03)	0.023 (0.03)
	2488 / 0.871	2488 / 0.872	2488 / 0.872	696 / 0.847	696 / 0.847	696 / 0.848	1792 / 0.824	1792 / 0.824	1792 / 0.824
<i>Size of financial intermediaries</i>									
Total assets of deposit money banks (% of GDP, in logs)	0.069 ** (0.02)	0.052 ** (0.02)	0.059 ** (0.02)	0.374 ** (0.04)	0.166 ** (0.05)	0.278 ** (0.05)	0.013 (0.02)	0.032 (0.03)	0.020 (0.03)
	2453 / 0.883	2453 / 0.883	2453 / 0.883	696 / 0.803	696 / 0.787	696 / 0.791	1757 / 0.835	1757 / 0.835	1757 / 0.835
Total assets of the financial system (% of GDP, in logs)	-0.018 (0.03)	0.066 ** (0.03)	0.04 (0.03)	-0.095 ** (0.05)	0.016 (0.05)	-0.044 (0.05)	-0.004 (0.04)	0.068 * (0.04)	0.063 (0.05)
	1102 / 0.899	1102 / 0.901	1102 / 0.9	272 / 0.898	272 / 0.895	272 / 0.895	830 / 0.846	830 / 0.848	830 / 0.847
Assets of deposit money banks vs. central bank assets	0.018 ** (0.01)	-0.055 ** (0.01)	-0.045 ** (0.01)	0.051 ** (0.01)	-0.003 (0.01)	0.021 ** (0.01)	0.029 ** (0.01)	-0.050 ** (0.01)	-0.037 ** (0.01)
	2546 / 0.797	2546 / 0.804	2546 / 0.801	689 / 0.682	689 / 0.657	689 / 0.666	1857 / 0.771	1857 / 0.775	1857 / 0.772
Liquid liabilities (% of GDP, in logs)	0.034 ** (0.01)	0.003 (0.02)	0.006 (0.02)	0.199 ** (0.03)	0.036 (0.03)	0.113 ** (0.04)	0.031 * (0.02)	0.008 (0.02)	0.005 (0.02)
	2413 / 0.885	2413 / 0.884	2413 / 0.885	455 / 0.922	455 / 0.916	455 / 0.917	1958 / 0.861	1958 / 0.861	1958 / 0.861
<i>Efficiency of financial intermediaries</i>									
Overhead costs (in logs)	-0.048 (0.04)	0.042 (0.04)	0.035 (0.04)	-0.236 * (0.14)	-0.027 (0.12)	-0.101 (0.14)	-0.131 ** (0.05)	-0.047 (0.04)	-0.062 (0.05)
	1298 / 0.851	1298 / 0.851	1298 / 0.851	336 / 0.688	336 / 0.686	336 / 0.686	962 / 0.885	962 / 0.885	962 / 0.885
Net interest margin (in logs)	-0.018 ** (0.00)	-0.012 ** (0.00)	-0.015 ** (0.00)	-0.009 ** (0.00)	-0.003 * (0.00)	-0.006 ** (0.00)	-0.021 ** (0.00)	-0.015 ** (0.00)	-0.019 ** (0.00)
	1273 / 0.831	1273 / 0.829	1273 / 0.83	335 / 0.788	335 / 0.781	335 / 0.784	938 / 0.787	938 / 0.785	938 / 0.784
Bank concentration (in logs)	0.099 ** (0.03)	0.113 ** (0.02)	0.125 ** (0.03)	0.014 (0.08)	0.031 (0.07)	0.032 (0.08)	0.063 * (0.04)	0.076 ** (0.03)	0.085 ** (0.03)
	1316 / 0.787	1316 / 0.789	1316 / 0.79	337 / 0.822	337 / 0.822	337 / 0.822	979 / 0.788	979 / 0.789	979 / 0.789
<i>Stock markets</i>									
Stock market capitalization (% of GDP, in logs)	0.508 ** (0.08)	0.349 ** (0.08)	0.451 ** (0.09)	0.768 ** (0.11)	0.599 ** (0.11)	0.752 ** (0.12)	0.384 ** (0.11)	0.373 ** (0.11)	0.439 ** (0.12)
	1380 / 0.849	1380 / 0.851	1380 / 0.851	381 / 0.933	381 / 0.928	381 / 0.93	999 / 0.82	999 / 0.823	999 / 0.823
Stock market total value traded (% of GDP, in logs)	1.057 ** (0.13)	0.434 ** (0.13)	0.733 ** (0.14)	1.732 ** (0.18)	0.667 ** (0.21)	1.231 ** (0.22)	0.599 ** (0.16)	0.218 (0.17)	0.377 * (0.20)
	1419 / 0.847	1419 / 0.846	1419 / 0.846	399 / 0.929	399 / 0.914	399 / 0.918	1020 / 0.823	1020 / 0.824	1020 / 0.823
Stock market turnover	0.692 ** (0.10)	0.180 * (0.10)	0.413 ** (0.11)	0.941 ** (0.13)	0.106 (0.15)	0.529 ** (0.16)	0.311 ** (0.13)	-0.175 (0.13)	-0.051 (0.15)
	1357 / 0.76	1357 / 0.758	1357 / 0.758	379 / 0.892	379 / 0.88	379 / 0.882	978 / 0.741	978 / 0.744	978 / 0.743
Number of listed companies (in logs)	-0.174 ** (0.07)	0.023 (0.07)	-0.077 (0.07)	-0.202 ** (0.09)	-0.409 ** (0.09)	-0.381 ** (0.10)	-0.076 (0.10)	0.443 ** (0.12)	0.244 * (0.13)
	1281 / 0.914	1281 / 0.914	1281 / 0.914	401 / 0.951	401 / 0.953	401 / 0.952	880 / 0.889	880 / 0.889	880 / 0.888
<i>Bond markets</i>									
Private bond market capitalization (% of GDP, in logs)	-0.350 ** (0.13)	-0.354 ** (0.13)	-0.434 ** (0.14)	0.607 ** (0.11)	0.628 ** (0.14)	0.690 ** (0.14)	-1.100 ** (0.27)	-0.843 ** (0.32)	-1.113 ** (0.34)
	593 / 0.903	593 / 0.904	593 / 0.904	327 / 0.9	327 / 0.894	327 / 0.896	266 / 0.866	266 / 0.863	266 / 0.865
Public bond market capitalization (% of GDP, in logs)	-0.299 ** (0.09)	-0.272 ** (0.09)	-0.336 ** (0.10)	0.017 (0.06)	0.217 ** (0.06)	0.186 ** (0.07)	0.043 (0.19)	0.257 (0.21)	0.244 (0.23)
	675 / 0.806	675 / 0.806	675 / 0.807	343 / 0.904	343 / 0.908	343 / 0.907	332 / 0.76	332 / 0.759	332 / 0.759
<i>Insurance</i>									
Life insurance penetration (volume of premium as % of GDP, in logs)	0.174 ** (0.04)	0.188 ** (0.04)	0.220 ** (0.05)	0.039 (0.07)	0.153 ** (0.07)	0.148 * (0.08)	0.232 ** (0.07)	0.230 ** (0.07)	0.278 ** (0.08)
	1589 / 0.926	1589 / 0.926	1589 / 0.927	646 / 0.899	646 / 0.9	646 / 0.9	943 / 0.903	943 / 0.903	943 / 0.903
Non-life insurance penetration (volume of premium as % of GDP, in logs)	-0.081 ** (0.03)	-0.009 (0.03)	-0.031 (0.04)	-0.140 ** (0.03)	0.015 (0.03)	-0.070 * (0.04)	-0.037 (0.05)	0.065 (0.07)	0.068 (0.07)
	1161 / 0.9	1161 / 0.899	1161 / 0.899	408 / 0.929	408 / 0.924	408 / 0.925	753 / 0.825	753 / 0.826	753 / 0.826

1/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 6
Financial integration and domestic financial development: Robustness to outliers
Methodology: Instrumental Variables with country- and time effects 1 /
Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	Eliminating large fluctuations in domestic financial markets 2 /					
	Foreign assets	Nobs / R**2	Foreign liabilities	Nobs / R**2	For. Assets & liabilities	Nobs / R**2
	[1]		[2]		[3]	
<i>Activity of financial intermediaries</i>						
Private credit by deposit money banks (% of GDP, in logs)	0.076 ** (0.02)	2360 0.859	0.102 ** (0.03)	2360 0.860	0.100 ** (0.03)	2360 0.859
Private credit by financial system (% of GDP, in logs)	0.053 ** (0.02)	2366 0.871	0.090 ** (0.02)	2366 0.872	0.079 ** (0.03)	2366 0.872
Bank deposits (% of GDP, in logs)	-0.003 (0.02)	2401 0.881	-0.044 ** (0.02)	2401 0.881	-0.047 ** (0.02)	2401 0.881
Financial deposits (% of GDP, in logs)	-0.003 (0.02)	2419 0.871	-0.056 ** (0.02)	2419 0.871	-0.062 ** (0.02)	2419 0.871
<i>Size of financial intermediaries</i>						
Total assets of deposit money banks (% of GDP, in logs)	0.041 ** (0.02)	2374 0.886	0.039 * (0.02)	2374 0.886	0.039 * (0.02)	2374 0.886
Total assets of the financial system (% of GDP, in logs)	-0.014 (0.03)	1045 0.901	0.071 ** (0.03)	1045 0.902	0.049 (0.04)	1045 0.901
Assets of deposit money banks vs. central bank assets	0.014 ** (0.01)	2480 0.812	-0.062 ** (0.01)	2480 0.821	-0.053 ** (0.01)	2480 0.817
Liquid liabilities (% of GDP, in logs)	0.030 ** (0.01)	2365 0.894	0.000 (0.02)	2365 0.894	0.001 (0.02)	2365 0.894
<i>Efficiency of financial intermediaries</i>						
Overhead costs (in logs)	-0.059 (0.04)	1249 0.873	0.018 (0.03)	1249 0.873	0.015 (0.04)	1249 0.873
Net interest margin (in logs)	-0.015 ** (0.00)	1228 0.860	-0.010 ** (0.00)	1228 0.858	-0.013 ** (0.00)	1228 0.859
Bank concentration (in logs)	0.132 ** (0.03)	1247 0.811	0.146 ** (0.02)	1247 0.814	0.165 ** (0.02)	1247 0.815
<i>Stock markets</i>						
Stock market capitalization (% of GDP, in logs)	0.499 ** (0.08)	1338 0.855	0.353 ** (0.07)	1338 0.856	0.455 ** (0.08)	1338 0.856
Stock market total value traded (% of GDP, in logs)	1.087 ** (0.13)	1367 0.859	0.438 ** (0.12)	1367 0.858	0.749 ** (0.14)	1367 0.859
Stock market turnover	0.789 ** (0.10)	1306 0.775	0.249 ** (0.10)	1306 0.772	0.511 ** (0.11)	1306 0.773
Number of listed companies (in logs)	-0.186 ** (0.06)	1256 0.926	-0.057 (0.06)	1256 0.926	-0.141 ** (0.07)	1256 0.926
<i>Bond markets</i>						
Private bond market capitalization (% of GDP, in logs)	-0.169 * (0.11)	559 0.926	-0.286 ** (0.11)	559 0.926	-0.323 ** (0.12)	559 0.926
Public bond market capitalization (% of GDP, in logs)	-0.328 ** (0.09)	654 0.811	-0.313 ** (0.09)	654 0.811	-0.383 ** (0.10)	654 0.812
<i>Insurance</i>						
Life insurance penetration (volume of premium as % of GDP, in logs)	0.187 ** (0.04)	1540 0.934	0.237 ** (0.04)	1540 0.934	0.272 ** (0.05)	1540 0.935
Non-life insurance penetration (volume of premium as % of GDP, in logs)	-0.066 ** (0.03)	1147 0.938	0.024 (0.03)	1147 0.937	0.001 (0.03)	1147 0.937

1/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and endogeneity of financial openness (FO), we use the following instruments: lagged FO, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code). 2/ To eliminate observations associated with financial bubbles or collapse, we excluded from our regression analysis the variations in the several financial indicators that were larger than twice the standard deviation of the corresponding FD variable in the regression sample.

Table 7
Financial integration and domestic financial development: Is the impact of financial openness constant over time?
Methodology: Instrumental Variables with country- and time effects 1/
Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	Foreign Assets (FA)				Foreign Liabilities (FL)				Foreign Assets and Liabilities (FAL)			
	Foreign assets (FA)	FA \times D(90-98)	FA \times D(99-07)	Nobs./R**2	Foreign liabs (FL)	FL \times D(90-98)	FL \times D(99-07)	Nobs./R**2	Foreign assets & liabs (FAL)	FAL \times D(90-98)	FAL \times D(99-07)	Nobs./R**2
	[1]				[2]				[3]			
<i>Activity of financial intermediaries</i>												
Private credit by deposit money banks (% of GDP, in logs)	0.044 *	0.054 **	0.097 **	2441	0.013	0.113 **	0.171 **	2441	0.016	0.096 **	0.153 **	2441
	(0.03)	(0.02)	(0.02)	0.858	(0.03)	(0.03)	(0.03)	0.859	(0.03)	(0.03)	(0.03)	0.858
Private credit by financial system (% of GDP, in logs)	0.027	0.065 **	0.073 **	2450	0.010	0.115 **	0.132 **	2450	0.003	0.109 **	0.120 **	2450
	(0.03)	(0.02)	(0.02)	0.869	(0.03)	(0.03)	(0.03)	0.870	(0.03)	(0.03)	(0.03)	0.870
Bank deposits (% of GDP, in logs)	-0.009	0.020	0.007	2470	-0.092 **	0.082 **	0.093 **	2470	-0.078 **	0.053 **	0.054 **	2470
	(0.02)	(0.02)	(0.02)	0.880	(0.02)	(0.03)	(0.03)	0.881	(0.03)	(0.03)	(0.03)	0.880
Financial deposits (% of GDP, in logs)	-0.002	0.030 *	0.006	2488	-0.116 **	0.117 **	0.122 **	2488	-0.100 **	0.088 **	0.077 **	2488
	(0.02)	(0.02)	(0.02)	0.872	(0.03)	(0.03)	(0.03)	0.873	(0.03)	(0.03)	(0.03)	0.873
<i>Size of financial intermediaries</i>												
Total assets of deposit money banks (% of GDP, in logs)	0.044 **	0.054 **	0.059 **	2453	0.001	0.058 **	0.119 **	2453	0.011	0.061 **	0.094 **	2453
	(0.02)	(0.02)	(0.02)	0.884	(0.03)	(0.03)	(0.03)	0.884	(0.03)	(0.03)	(0.03)	0.884
Total assets of the financial system (% of GDP, in logs)	-0.027	0.053 *	0.007	1102	-0.010	0.147 **	0.089 *	1102	-0.035	0.154 **	0.058	1102
	(0.03)	(0.03)	(0.04)	0.900	(0.04)	(0.05)	(0.05)	0.901	(0.04)	(0.05)	(0.06)	0.901
Assets of deposit money banks vs. central bank assets	0.034 **	-0.016 **	-0.041 **	2546	-0.050 **	-0.011	-0.008	2546	-0.030 **	-0.024 **	-0.029 **	2546
	(0.01)	(0.01)	(0.01)	0.801	(0.01)	(0.01)	(0.01)	0.805	(0.01)	(0.01)	(0.01)	0.802
Liquid liabilities (% of GDP, in logs)	0.028 *	0.018	0.030 **	2413	0.000	-0.008	0.035 *	2413	0.004	-0.006	0.029	2413
	(0.02)	(0.01)	(0.01)	0.885	(0.02)	(0.02)	(0.02)	0.885	(0.02)	(0.02)	(0.02)	0.885
<i>Efficiency of financial intermediaries</i>												
Overhead costs (in logs)	..	-0.091 **	0.076 **	1298	..	-0.044	0.053 *	1298	..	-0.051	0.053 *	1298
		(0.04)	(0.02)	0.853		(0.04)	(0.03)	0.853		(0.04)	(0.03)	0.853
Net interest margin (in logs)	..	-0.008 **	-0.010 **	1273	..	-0.006 **	0.002 *	1273	..	-0.007 **	-0.007 **	1273
		(0.00)	(0.00)	0.835		(0.00)	(0.00)	0.832		(0.00)	(0.00)	0.833
Bank concentration (in logs)	..	0.077 **	0.106 **	1316	..	0.120	-0.007	1316	..	0.130 **	0.005	1316
		(0.02)	(0.02)	0.788		(0.02)	(0.02)	0.789		(0.02)	(0.02)	0.790
<i>Stock markets</i>												
Stock market capitalization (% of GDP, in logs)	0.718 **	-0.340 **	-0.308 **	1380	0.367 **	-0.071	-0.021	1380	0.695 **	-0.326 **	-0.297 **	1380
	(0.10)	(0.07)	(0.07)	0.850	(0.14)	(0.12)	(0.12)	0.851	(0.14)	(0.11)	(0.11)	0.851
Stock market total value traded (% of GDP, in logs)	1.381 **	-0.374 **	-0.540 **	1419	0.497 **	-0.061	-0.136	1419	1.158 **	-0.419 **	-0.582 **	1419
	(0.16)	(0.10)	(0.11)	0.847	(0.21)	(0.19)	(0.19)	0.845	(0.21)	(0.17)	(0.17)	0.846
Stock market turnover	0.805 **	-0.030	-0.200 **	1357	0.243	-0.048	-0.122	1357	0.595 **	-0.123	-0.270 *	1357
	(0.13)	(0.09)	(0.09)	0.760	(0.18)	(0.16)	(0.16)	0.758	(0.18)	(0.14)	(0.15)	0.757
Number of listed companies (in logs)	-0.104	-0.061	-0.081	1281	0.229	-0.103	-0.267 **	1281	0.083	-0.083	-0.181 *	1281
	(0.09)	(0.06)	(0.06)	0.915	(0.16)	(0.13)	(0.13)	0.914	(0.14)	(0.10)	(0.11)	0.914
<i>Bond markets</i>												
Private bond market capitalization (% of GDP, in logs)	..	-0.254 **	-0.124	593	..	-0.618 **	0.436 **	593	..	-0.554 **	-0.242 **	593
		(0.11)	(0.11)	0.905		(0.13)	(0.08)	0.910		(0.13)	(0.12)	0.908
Public bond market capitalization (% of GDP, in logs)	..	-0.192 **	-0.193 **	675	..	-0.122	-0.369 **	675	..	-0.162 *	-0.388 **	675
		(0.08)	(0.04)	0.814		(0.09)	(0.08)	0.812		(0.09)	(0.08)	0.813
<i>Insurance</i>												
Life insurance penetration (volume of premium as % of GDP, in logs)	0.166 **	-0.008	-0.021	1589	0.249 **	-0.188 **	-0.103 **	1589	0.267 **	-0.132 **	-0.088 *	1589
	(0.05)	(0.03)	(0.03)	0.926	(0.05)	(0.05)	(0.05)	0.927	(0.06)	(0.05)	(0.05)	0.927
Non-life insurance penetration (volume of premium as % of GDP, in logs)	-0.073 *	0.002	-0.021	1161	-0.044	0.052	0.038	1161	-0.046	0.026	0.015	1161
	(0.04)	(0.02)	(0.03)	0.900	(0.06)	(0.05)	(0.05)	0.899	(0.06)	(0.04)	(0.04)	0.899

1/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 8
Financial integration and domestic financial development: Effects of the structure of foreign assets and liabilities
Methodology: Instrumental Variables with country- and time effects 1/
Sample of 145 countries, 1974-2007 (annual observations)

Explanatory variable	Bank credit <i>(as % of GDP, in logs)</i>			Bank deposit <i>(as % of GDP, in logs)</i>			Stock market capitalization <i>(as % of GDP, in logs)</i>		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
<i>Financial Openness (FO)</i>									
Equity-related foreign assets <i>as % of GDP (in logs)</i>	0.038 ** (0.01)	..	..	0.019 ** (0.01)	..	..	0.091 ** (0.03)	..	..
Loan-related foreign assets <i>as % of GDP (in logs)</i>	0.028 (0.02)	..	..	0.006 (0.02)	..	..	0.418 ** (0.08)	..	..
Equity-related foreign liabilities <i>as % of GDP (in logs)</i>	..	0.022 * (0.01)	..	..	0.029 ** (0.01)	..	..	0.623 ** (0.06)	..
Loan-related foreign liabilities <i>as % of GDP (in logs)</i>	..	0.083 ** (0.02)	..	..	-0.053 ** (0.02)	..	..	0.055 (0.06)	..
Equity-related foreign assets and liabilities <i>as % of GDP (in logs)</i>	..	..	0.032 ** (0.01)	..	..	0.019 ** (0.01)	..	..	0.633 ** (0.07)
Loan-related foreign assets and liabilities <i>as % of GDP (in logs)</i>	..	..	0.055 ** (0.03)	..	..	0.006 (0.02)	..	..	0.091 (0.08)
<i>Control variables</i>									
Income per capita, lagged <i>(in logs)</i>	0.609 ** (0.05)	0.647 ** (0.05)	0.617 ** (0.05)	0.207 ** (0.04)	0.188 ** (0.04)	0.207 ** (0.04)	0.797 ** (0.13)	1.044 ** (0.13)	0.943 ** (0.13)
Trade openness, lagged <i>(Exports and imports, % of GDP, logs)</i>	0.292 ** (0.04)	0.287 ** (0.04)	0.287 ** (0.04)	0.140 ** (0.03)	0.140 ** (0.03)	0.140 ** (0.03)	0.254 ** (0.11)	-0.050 (0.11)	-0.014 (0.11)
Inflation, lagged <i>(in logs)</i>	-0.217 ** (0.03)	-0.232 ** (0.03)	-0.225 ** (0.03)	-0.209 ** (0.02)	-0.202 ** (0.02)	-0.209 ** (0.02)	-0.202 ** (0.07)	-0.142 ** (0.07)	-0.130 * (0.07)
Falling exchange rate 1/ <i>(lagged)</i>	-0.185 ** (0.04)	-0.195 ** (0.04)	-0.188 ** (0.04)	-0.193 ** (0.03)	-0.180 ** (0.03)	-0.193 ** (0.03)	-0.350 ** (0.08)	-0.295 ** (0.08)	-0.317 ** (0.08)
Dual exchange rate regimes 1/ <i>(lagged)</i>	-0.173 * (0.10)	-0.152 * (0.10)	-0.160 * (0.10)	-0.275 ** (0.07)	-0.272 ** (0.07)	-0.275 ** (0.07)	-0.224 (0.17)	-0.136 (0.17)	-0.192 (0.17)
Observations	2426	2441	2426	2455	2470	2455	1374	1381	1374
R ² *	0.857	0.857	0.857	0.880	0.881	0.880	0.853	0.859	0.860
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1/ To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 9
Financial integration and domestic financial development: Effects of the structure of foreign assets and liabilities
Methodology: Instrumental Variables with country- and time effects ^{1/}
Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	ALL Countries									Industrial Countries						Developing Countries														
	Foreign assets			Foreign liabilities			Foreign assets & liabilities			Foreign assets			Foreign liabilities			Foreign assets & liabilities			Foreign assets			Foreign liabilities			Foreign assets & liabilities					
	Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related		Equity-related	Loan-related				
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]		
<i>Activity of financial intermediaries</i>																														
Private credit by deposit money banks (% of GDP, in lags)	0.038 ** (0.01)	0.028 (0.02)	0.022 * (0.01)	0.083 ** (0.02)	0.032 ** (0.01)	0.055 ** (0.03)	0.115 ** (0.03)	0.212 ** (0.05)	-0.068 ** (0.03)	0.262 ** (0.05)	-0.051 (0.04)	0.333 ** (0.06)	0.037 ** (0.01)	-0.021 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	0.023 (0.03)	0.033 ** (0.02)	-0.026 (0.04)
Private credit by financial system (% of GDP, in lags)	0.032 ** (0.01)	0.009 (0.02)	0.004 (0.01)	0.095 ** (0.02)	0.011 (0.01)	0.056 ** (0.03)	0.034 (0.03)	0.098 ** (0.05)	-0.111 ** (0.05)	0.309 ** (0.05)	-0.130 ** (0.04)	0.328 ** (0.06)	0.034 ** (0.01)	-0.010 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	0.041 (0.03)	0.019 (0.02)	-0.010 (0.04)
Bank deposits (% of GDP, in lags)	0.019 ** (0.01)	0.006 (0.02)	0.029 ** (0.01)	-0.053 ** (0.02)	0.033 ** (0.01)	-0.066 ** (0.02)	-0.073 ** (0.04)	0.178 ** (0.04)	-0.093 ** (0.04)	0.087 ** (0.04)	-0.156 ** (0.03)	0.207 ** (0.05)	0.018 ** (0.01)	0.017 (0.02)	0.050 ** (0.01)	-0.039 * (0.02)	0.054 ** (0.01)	-0.057 ** (0.02)	0.054 ** (0.01)	-0.057 ** (0.02)	0.054 ** (0.01)	-0.057 ** (0.02)	0.054 ** (0.01)	-0.057 ** (0.02)						
Financial deposits (% of GDP, in lags)	0.028 ** (0.01)	0.014 (0.02)	0.019 * (0.01)	-0.036 ** (0.02)	0.024 ** (0.01)	-0.052 ** (0.02)	-0.109 ** (0.03)	0.091 ** (0.02)	-0.115 ** (0.03)	0.068 ** (0.02)	-0.185 ** (0.04)	0.153 ** (0.04)	0.028 ** (0.01)	0.059 ** (0.02)	0.043 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	0.049 ** (0.01)	0.004 (0.02)	-0.004 (0.03)	
Size of financial intermediaries	0.041 ** (0.01)	0.027 (0.02)	0.004 (0.01)	0.056 ** (0.02)	0.019 * (0.01)	0.092 ** (0.03)	0.240 ** (0.04)	-0.019 (0.03)	0.176 ** (0.04)	0.011 (0.05)	0.254 ** (0.05)	0.040 ** (0.02)	-0.006 (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)
Total assets of deposit money banks (% of GDP, in lags)	0.041 ** (0.01)	0.027 (0.02)	0.004 (0.01)	0.056 ** (0.02)	0.019 * (0.01)	0.092 ** (0.03)	0.240 ** (0.04)	-0.019 (0.03)	0.176 ** (0.04)	0.011 (0.05)	0.254 ** (0.05)	0.040 ** (0.02)	-0.006 (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)	0.040 ** (0.01)	0.005 (0.02)
Total assets of the financial system (% of GDP, in lags)	-0.021 ** (0.01)	-0.021 (0.03)	0.015 (0.02)	0.083 ** (0.03)	0.003 (0.04)	0.028 (0.04)	-0.199 ** (0.05)	-0.012 (0.04)	-0.102 ** (0.05)	0.070 (0.05)	-0.196 ** (0.05)	0.061 (0.05)	-0.016 (0.04)	0.008 (0.05)	0.032 (0.04)	0.099 ** (0.03)	0.024 (0.05)	0.032 (0.04)	0.099 ** (0.03)	0.024 (0.05)	0.032 (0.04)	0.099 ** (0.03)	0.024 (0.05)	0.032 (0.04)	0.099 ** (0.03)	0.024 (0.05)	0.032 (0.04)	0.099 ** (0.03)	0.024 (0.05)	0.032 (0.04)
Assets of deposit money banks vs. central bank assets (% of GDP, in lags)	0.003 (0.00)	0.020 ** (0.01)	0.015 ** (0.00)	-0.064 ** (0.01)	-0.059 ** (0.01)	0.011 ** (0.00)	0.038 ** (0.01)	-0.003 (0.00)	0.002 (0.01)	0.006 (0.01)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)	0.002 (0.01)	0.001 (0.00)
Liquid liabilities (% of GDP, in lags)	0.011 ** (0.01)	0.038 ** (0.01)	-0.009 (0.01)	0.031 ** (0.01)	-0.007 (0.01)	0.026 * (0.02)	-0.068 ** (0.03)	0.212 ** (0.03)	-0.108 ** (0.03)	0.149 ** (0.03)	-0.130 ** (0.02)	0.243 ** (0.03)	0.009 * (0.01)	0.034 ** (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)	0.000 (0.01)	0.028 * (0.02)
Efficiency of financial intermediaries	0.029 * (0.02)	-0.050 (0.04)	0.072 ** (0.03)	0.001 (0.03)	0.066 ** (0.03)	-0.010 (0.04)	-0.168 * (0.09)	-0.014 (0.15)	0.119 (0.08)	-0.186 * (0.10)	0.077 (0.09)	-0.240 * (0.09)	0.041 ** (0.06)	-0.106 ** (0.04)	0.046 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.070 * (0.04)	0.056 (0.03)	-0.088 * (0.05)
Net interest margin (in lags)	0.002 ** (0.00)	-0.016 ** (0.00)	-0.003 ** (0.00)	-0.010 ** (0.00)	-0.004 ** (0.00)	-0.014 ** (0.00)	-0.004 ** (0.00)	-0.006 ** (0.00)	-0.001 (0.00)	-0.004 ** (0.00)	-0.002 (0.00)	-0.006 ** (0.00)	0.002 (0.00)	-0.017 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	-0.015 ** (0.00)	-0.004 ** (0.00)	
Bank concentration (in lags)	0.029 ** (0.01)	0.056 ** (0.03)	0.011 (0.02)	0.080 ** (0.02)	0.016 (0.02)	0.087 ** (0.02)	0.105 ** (0.05)	-0.064 (0.04)	0.076 ** (0.04)	-0.029 (0.05)	0.075 (0.07)	0.093 ** (0.05)	0.042 (0.01)	0.027 ** (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)	0.044 (0.02)	0.086 * (0.03)
Stock markets	0.091 ** (0.03)	0.418 ** (0.08)	0.623 ** (0.06)	0.055 (0.06)	0.633 ** (0.07)	0.091 (0.08)	0.463 ** (0.09)	0.156 (0.13)	0.547 ** (0.10)	0.157 * (0.09)	0.743 ** (0.08)	-0.136 (0.12)	0.122 ** (0.03)	0.259 ** (0.10)	0.586 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)	0.616 ** (0.08)	0.096 (0.09)
Stock market total value traded (% of GDP, in lags)	0.043 (0.04)	1.019 ** (0.13)	0.997 ** (0.10)	0.046 (0.11)	0.932 ** (0.11)	0.247 * (0.13)	0.448 ** (0.16)	0.880 ** (0.23)	0.834 ** (0.12)	0.042 (0.14)	1.078 ** (0.14)	-0.039 (0.22)	0.152 ** (0.05)	0.522 ** (0.15)	0.881 ** (0.12)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)	0.923 ** (0.11)	-0.101 (0.13)
Stock market turnover (in lags)	-0.045 (0.03)	0.726 ** (0.10)	0.353 ** (0.08)	0.097 (0.08)	0.232 ** (0.09)	0.333 ** (0.11)	0.889 ** (0.17)	0.279 ** (0.08)	-0.097 (0.12)	0.279 ** (0.08)	-0.097 (0.11)	0.279 ** (0.04)	0.129 (0.04)	0.319 ** (0.12)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	0.104 (0.11)	0.837 (0.10)	
Number of listed companies (in lags)	-0.058 * (0.03)	-0.137 ** (0.06)	0.475 ** (0.05)	-0.130 ** (0.05)	0.523 ** (0.07)	-0.309 ** (0.07)	0.318 ** (0.10)	-0.598 ** (0.14)	-0.117 ** (0.06)	-0.300 ** (0.08)	0.093 (0.07)	-0.537 ** (0.11)	-0.080 ** (0.04)	-0.023 (0.08)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	0.102 (0.09)	0.727 ** (0.07)	
Bond markets	0.493 ** (0.08)	-0.570 ** (0.11)	-0.040 (0.11)	-0.263 ** (0.10)	0.351 ** (0.12)	-0.593 ** (0.13)	0.179 * (0.10)	0.329 ** (0.14)	0.203 ** (0.08)	0.538 ** (0.11)	0.208 ** (0.09)	0.503 ** (0.15)	0.456 ** (0.13)	-0.876 ** (0.19)	-0.167 (0.22)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	-0.677 ** (0.22)	0.182 (0.25)	
Public bond market capitalization (% of GDP, in lags)	0.052 (0.05)	-0.178 ** (0.09)	0.039 (0.07)	-0.348 ** (0.07)	0.027 (0.07)	-0.314 ** (0.09)	0.129 ** (0.04)	-0.052 (0.05)	0.230 ** (0.04)	-0.010 (0.05)	0.202 ** (0.04)	-0.052 (0.04)	0.056 (0.05)	0.040 (0.15)	-0.021 (0.12)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	0.067 (0.16)	-0.007 (0.13)	
Insurance	-0.013 (0.02)	0.131 ** (0.04)	0.073 ** (0.02)	0.107 ** (0.04)	0.061 ** (0.03)	0.147 ** (0.05)	-0.002 (0.04)	0.128 * (0.07)	0.153 ** (0.04)	0.083 (0.05)	0.155 ** (0.05)	0.093 (0.06)	-0.013 (0.02)	0.166 ** (0.06)	0.038 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	0.149 ** (0.06)	0.034 (0.03)	
Non-life insurance penetration (in lags)	0.040 (0.01)	-0.067 ** (0.03)	0.010 (0.02)	0.041 (0.03)	0.008 (0.02)	-0.014 (0.03)	-0.092 ** (0.04)	-0.048 (0.05)	-0.107 ** (0.03)	0.088 ** (0.04)	-0.149 ** (0.05)	0.103 ** (0.04)	0.015 (0.02)	-0.035 (0.05)	0.052 (0.02)	0.051 (0.03)	0.052 (0.02)	0.051 (0.03)	0.052 (0.02)	0.051 (

Table 10

Financial integration and domestic financial development: Role of institutions, investment protection and trade openness

Methodology: Instrumental Variables with country- and time effects 1/

Sample of 145 countries, 1974-2007 (annual observations)

Explanatory variable	Bank credit			Bank deposit			Stock market capitalization		
	Foreign Assets	Foreign Liabilities	Foreign A & L	Foreign Assets	Foreign Liabilities	Foreign A & L	Foreign Assets	Foreign Liabilities	Foreign A & L
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
<i>Financial Openness (FO)</i>									
Financial openness (FO)	-2.190 **	-2.369 **	-2.118 **	-2.013 **	-2.162 **	-1.900 **	0.669	-0.259	0.669
<i>as % of GDP (in logs)</i>	(0.28)	(0.25)	(0.25)	(0.20)	(0.19)	(0.19)	(1.04)	(0.93)	(1.04)
FA x Institutional quality	0.354 **	0.266 **	0.240 **	0.348 **	0.258 **	0.228 **	0.084	0.089	0.084
	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.11)	(0.06)	(0.11)
FA x Investor protection	0.801 **	1.409 **	1.339 **	0.457 **	0.970 **	0.888 **	-1.440 **	-0.338	-1.440 **
	(0.12)	(0.17)	(0.17)	(0.08)	(0.13)	(0.13)	(0.63)	(0.80)	(0.63)
FA x Trade openness	0.086 **	0.159 **	0.123 **	0.076 **	0.136 **	0.104 **	0.007	0.088	0.007
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.08)	(0.08)	(0.08)
<i>Control variables</i>									
Income per capita, lagged	0.420 **	0.455 **	0.429 **	0.061	0.073 *	0.074 *	1.098 **	1.028 **	1.098 **
<i>(in logs)</i>	(0.06)	(0.06)	(0.06)	(0.05)	(0.04)	(0.04)	(0.19)	(0.17)	(0.19)
Trade openness, lagged	0.073	-0.327 **	-0.211 **	-0.030	-0.350 **	-0.247 **	0.107	-0.113	0.107
<i>(Exports and imports, % of GDP, logs)</i>	(0.08)	(0.10)	(0.10)	(0.06)	(0.08)	(0.08)	(0.21)	(0.28)	(0.21)
Inflation, lagged	-0.176 **	-0.160 **	-0.164 **	-0.168 **	-0.143 **	-0.149 **	-0.219 **	-0.238 **	-0.219 **
<i>(in logs)</i>	(0.05)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)	(0.07)
Falling exchange rate 1/	-0.182 **	-0.188 **	-0.183 **	-0.173 **	-0.168 **	-0.165 **	-0.332 **	-0.303 **	-0.332 **
<i>(lagged)</i>	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.09)	(0.09)	(0.09)
Dual exchange rate regimes 1/	-0.030	0.012	0.002	-0.152 **	-0.113 *	-0.119 *	-0.380 **	-0.222	-0.380 **
<i>(lagged)</i>	(0.10)	(0.10)	(0.10)	(0.07)	(0.07)	(0.07)	(0.19)	(0.18)	(0.19)
Observations	2395	2395	2395	2424	2424	2424	1375	1375	1375
R**2	0.860	0.864	0.864	0.874	0.878	0.880	0.854	0.852	0.854
Country Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1/ To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 11

Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)

Methodology: Instrumental Variables with country- and time effects 1/

Sample of 145 countries, 1974-2007 (annual observations)

Dependent variable	Foreign Assets (FA)					Foreign Liabilities (FL)					Foreign Assets and Liabilities (FAL)				
	FA	FA x IQ	FA x IP	FA x TO	Nobs./R2	FL	FL x IQ	FL x IP	FL x TO	Nobs./R2	FAL	FAL x IQ	FAL x IP	FAL x TO	Nobs./R2
<i>Activity of financial intermediaries</i>															
Private credit by deposit money banks (% of GDP, in logs)	-2.190 ** (0.28)	0.354 ** (0.04)	0.801 ** (0.12)	0.086 ** (0.02)	2395 0.860	-2.369 ** (0.25)	0.266 ** (0.02)	1.409 ** (0.17)	0.159 ** (0.02)	2395 0.864	-2.118 ** (0.25)	0.240 ** (0.02)	1.339 ** (0.17)	0.123 ** (0.02)	2395 0.864
Private credit by financial system (% of GDP, in logs)	-1.978 ** (0.27)	0.340 ** (0.04)	0.735 ** (0.12)	0.051 ** (0.02)	2404 0.870	-2.334 ** (0.25)	0.273 ** (0.02)	1.454 ** (0.17)	0.135 ** (0.02)	2404 0.872	-2.067 ** (0.25)	0.243 ** (0.02)	1.362 ** (0.17)	0.099 ** (0.02)	2404 0.873
Bank deposits (% of GDP, in logs)	-2.013 ** (0.20)	0.348 ** (0.03)	0.457 ** (0.08)	0.076 ** (0.02)	2424 0.874	-2.162 ** (0.19)	0.258 ** (0.02)	0.970 ** (0.13)	0.136 ** (0.02)	2424 0.878	-1.900 ** (0.19)	0.228 ** (0.02)	0.888 ** (0.13)	0.104 ** (0.02)	2424 0.880
Financial deposits (% of GDP, in logs)	-1.323 ** (0.20)	0.265 ** (0.03)	-0.104 (0.09)	0.067 ** (0.02)	2442 0.871	-1.615 ** (0.20)	0.213 ** (0.02)	0.461 ** (0.13)	0.113 ** (0.02)	2442 0.870	-1.316 ** (0.19)	0.183 ** (0.02)	0.300 ** (0.13)	0.085 ** (0.02)	2442 0.872
<i>Size of financial intermediaries</i>															
Total assets of deposit money banks (% of GDP, in logs)	-1.532 ** (0.23)	0.268 ** (0.03)	0.517 ** (0.10)	0.047 ** (0.02)	2407 0.882	-1.747 ** (0.21)	0.192 ** (0.02)	0.986 ** (0.14)	0.124 ** (0.02)	2407 0.883	-1.521 ** (0.20)	0.173 ** (0.02)	0.928 ** (0.14)	0.090 ** (0.02)	2407 0.883
Total assets of the financial system (% of GDP, in logs)	-1.489 ** (0.28)	0.279 ** (0.04)	0.579 ** (0.12)	-0.006 (0.03)	1079 0.906	-1.617 ** (0.26)	0.221 ** (0.03)	0.927 ** (0.17)	0.088 ** (0.03)	1079 0.908	-1.516 ** (0.27)	0.206 ** (0.03)	1.001 ** (0.18)	0.050 * (0.03)	1079 0.906
Assets of deposit money banks vs. central bank assets (in logs)	-0.193 ** (0.07)	0.059 ** (0.01)	-0.0002 (0.03)	-0.008 (0.01)	2507 0.803	-0.349 ** (0.06)	0.044 ** (0.01)	0.131 ** (0.04)	0.012 ** (0.01)	2507 0.808	-0.301 ** (0.06)	0.041 ** (0.01)	0.113 ** (0.04)	0.008 (0.01)	2507 0.805
Liquid liabilities (% of GDP, in logs)	-0.999 ** (0.16)	0.199 ** (0.02)	0.1280 * (0.07)	0.041 ** (0.02)	2368 0.880	-1.714 ** (0.19)	0.160 ** (0.01)	1.051 ** (0.15)	0.134 ** (0.02)	2368 0.860	-1.362 ** (0.18)	0.140 ** (0.01)	0.827 ** (0.14)	0.084 ** (0.02)	2368 0.868
<i>Efficiency of financial intermediaries</i>															
Overhead costs (in logs)	-0.819 * (0.49)	0.077 (0.05)	0.2103 (0.26)	0.076 * (0.04)	1281 0.849	0.312 (0.47)	-0.026 (0.04)	-0.453 (0.39)	0.013 (0.04)	1281 0.851	0.061 (0.49)	-0.007 (0.03)	-0.199 (0.41)	0.022 (0.04)	1281 0.851
Net interest margin (in logs)	0.047 * (0.03)	-0.007 ** (0.00)	-0.0019 (0.01)	-0.005 ** (0.00)	1257 0.835	-0.051 ** (0.02)	0.001 (0.00)	0.044 ** (0.02)	0.003 * (0.00)	1257 0.820	-0.076 ** (0.03)	0.002 (0.00)	0.071 ** (0.02)	0.004 ** (0.00)	1257 0.813
Bank concentration (in logs)	-0.030 (0.31)	0.013 (0.04)	0.0587 (0.15)	0.010 (0.03)	1299 0.784	0.593 ** (0.28)	-0.017 (0.02)	-0.452 ** (0.23)	-0.035 * (0.02)	1299 0.784	0.411 (0.29)	-0.006 (0.02)	-0.267 (0.24)	-0.022 (0.02)	1299 0.786
<i>Stock markets</i>															
Stock market capitalization (% of GDP, in logs)	0.669 (1.04)	0.084 (0.11)	-1.440 ** (0.63)	0.007 (0.08)	1375 0.854	-0.259 (0.93)	0.089 (0.06)	-0.338 (0.80)	0.088 (0.08)	1375 0.852	1.194 (0.99)	0.021 (0.06)	-1.669 * (0.86)	-0.002 (0.08)	1375 0.852
Stock market total value traded (% of GDP, in logs)	1.099 (1.59)	0.120 (0.18)	-1.774 ** (0.91)	0.005 (0.12)	1412 0.851	0.309 (1.36)	0.124 (0.10)	-1.646 (1.13)	0.105 (0.12)	1412 0.848	2.829 * (1.48)	0.009 (0.10)	-3.689 ** (1.25)	-0.055 (0.12)	1412 0.845
Stock market turnover (in logs)	1.748 (1.32)	-0.127 (0.14)	-0.934 (0.79)	-0.057 (0.10)	1352 0.757	2.857 ** (1.22)	-0.130 * (0.09)	-3.176 ** (1.05)	-0.107 (0.10)	1352 0.745	4.218 ** (1.32)	-0.177 ** (0.08)	-4.121 ** (1.15)	-0.205 * (0.11)	1352 0.732
Number of listed companies (in logs)	0.535 (0.88)	-0.002 (0.10)	-1.001 ** (0.46)	-0.037 (0.07)	1267 0.914	1.569 ** (0.80)	-0.001 (0.05)	-1.708 ** (0.60)	-0.156 ** (0.08)	1267 0.914	1.449 * (0.85)	-0.011 (0.05)	-1.816 ** (0.64)	-0.117 (0.08)	1267 0.914
<i>Bond markets</i>															
Private bond market capitalization (% of GDP, in logs)	-6.325 ** (1.95)	0.993 ** (0.29)	1.869 ** (0.87)	0.118 (0.09)	593 0.890	-6.753 ** (1.46)	0.685 ** (0.15)	2.401 ** (0.74)	0.419 ** (0.13)	593 0.890	-8.171 ** (1.66)	0.756 ** (0.16)	3.158 ** (0.86)	0.505 ** (0.14)	593 0.875
Public bond market capitalization (% of GDP, in logs)	5.020 ** (0.99)	-0.672 ** (0.14)	-2.879 ** (0.46)	-0.132 ** (0.07)	675 0.787	3.431 ** (0.83)	-0.329 ** (0.08)	-2.538 ** (0.48)	-0.181 ** (0.08)	675 0.816	3.179 ** (0.87)	-0.303 ** (0.07)	-2.623 ** (0.50)	-0.133 * (0.08)	675 0.816
<i>Insurance</i>															
Life insurance penetration (volume of premium as % of GDP, in logs)	1.749 ** (0.46)	-0.108 * (0.07)	-1.059 ** (0.17)	-0.121 ** (0.04)	1580 0.926	1.743 ** (0.38)	-0.047 (0.04)	-1.544 ** (0.24)	-0.117 ** (0.04)	1580 0.927	1.906 ** (0.39)	-0.045 (0.04)	-1.591 ** (0.23)	-0.129 ** (0.04)	1580 0.927
Non-life insurance penetration (volume of premium as % of GDP, in logs)	0.183 (0.31)	-0.008 (0.04)	-0.221 * (0.14)	-0.024 (0.03)	1152 0.900	-0.185 (0.31)	0.031 (0.03)	0.083 (0.20)	0.005 (0.03)	1152 0.899	-0.036 (0.32)	0.018 (0.03)	-0.093 (0.20)	0.000 (0.03)	1152 0.899

1/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and likely endogeneity of financial openness (FO), we use the following instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandinavian civil code).

Table 12
Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)
Robustness to sample changes: Sample of 121 Developing Countries
Methodology: Instrumental Variables with country- and time effects //
Sample period: 1974-2007 (annual observations)

Dependent variable	Foreign Assets (FA)					Foreign Liabilities (FL)					Foreign A	
	FA	FA x IQ	FA x IP	FA x TO	Nobs./R2	FL	FL x IQ	FL x IP	FL x TO	Nobs./R2	FAL	FAL x IQ
<i>Activity of financial intermediaries</i>												
Private credit by deposit money banks (% of GDP, in logs)	-2.856 ** (0.54)	0.441 ** (0.05)	1.300 ** (0.34)	0.114 ** (0.05)	1706 0.798	-4.965 ** (0.61)	0.422 ** (0.04)	4.754 ** (0.64)	0.231 ** (0.04)	1706 0.776	-4.612 ** (0.67)	0.381 (0.04)
Private credit by financial system (% of GDP, in logs)	-2.992 ** (0.54)	0.452 ** (0.05)	1.555 ** (0.34)	0.108 ** (0.05)	1713 0.812	-5.160 ** (0.61)	0.427 ** (0.04)	5.033 ** (0.63)	0.238 ** (0.04)	1713 0.786	-4.942 ** (0.68)	0.393 (0.04)
Bank deposits (% of GDP, in logs)	-3.161 ** (0.37)	0.456 ** (0.04)	1.139 ** (0.23)	0.201 ** (0.04)	1735 0.814	-3.745 ** (0.43)	0.339 ** (0.03)	3.041 ** (0.44)	0.211 ** (0.03)	1735 0.809	-3.318 ** (0.45)	0.299 (0.02)
Financial deposits (% of GDP, in logs)	-2.209 ** (0.37)	0.353 ** (0.04)	0.306 (0.23)	0.178 ** (0.04)	1753 0.819	-2.821 ** (0.43)	0.272 ** (0.03)	2.075 ** (0.45)	0.176 ** (0.03)	1753 0.810	-2.163 ** (0.45)	0.227 (0.02)
<i>Size of financial intermediaries</i>												
Total assets of deposit money banks (% of GDP, in logs)	-2.073 ** (0.43)	0.336 ** (0.04)	0.906 ** (0.28)	0.072 * (0.04)	1718 0.823	-3.702 ** (0.50)	0.304 ** (0.03)	3.545 ** (0.52)	0.181 ** (0.03)	1718 0.800	-3.387 ** (0.55)	0.274 (0.03)
Total assets of the financial system (% of GDP, in logs)	-1.962 ** (0.40)	0.355 ** (0.05)	0.959 ** (0.23)	0.008 (0.04)	809 0.861	-2.460 ** (0.40)	0.296 ** (0.03)	2.160 ** (0.38)	0.082 ** (0.03)	809 0.867	-2.755 ** (0.49)	0.304 (0.04)
Assets of deposit money banks vs. central bank assets	-0.188 * (0.12)	0.056 ** (0.01)	-0.004 (0.08)	-0.003 (0.01)	1825 0.778	-0.443 ** (0.14)	0.048 ** (0.01)	0.276 * (0.15)	0.017 * (0.01)	1825 0.775	-0.344 ** (0.15)	0.042 (0.01)
Liquid liabilities (% of GDP, in logs)	-1.567 ** (0.23)	0.249 ** (0.02)	0.507 ** (0.14)	0.092 ** (0.02)	1919 0.840	-2.620 ** (0.30)	0.196 ** (0.02)	2.549 ** (0.32)	0.140 ** (0.02)	1919 0.802	-2.334 ** (0.30)	0.176 (0.02)
<i>Efficiency of financial intermediaries</i>												
Overhead costs (in logs)	-0.849 (0.70)	0.069 (0.06)	0.643 (0.50)	0.038 (0.05)	952 0.880	0.350 (0.92)	-0.021 (0.04)	-0.633 (1.23)	-0.001 (0.04)	952 0.886	-0.178 (0.92)	-0.003 (0.04)
Net interest margin (in logs)	-0.006 (0.04)	-0.003 (0.00)	0.038 (0.03)	-0.003 (0.00)	929 0.797	-0.243 ** (0.07)	0.007 ** (0.00)	0.333 ** (0.10)	0.009 ** (0.00)	929 0.687	-0.290 ** (0.07)	0.007 (0.00)
Bank concentration (in logs)	-0.341 (0.45)	0.020 (0.04)	0.558 * (0.32)	0.013 (0.04)	969 0.787	-0.850 (0.61)	0.043 * (0.03)	1.372 * (0.81)	0.014 (0.03)	969 0.782	-1.370 ** (0.59)	0.054 (0.02)
<i>Stock markets</i>												
Stock market capitalization (% of GDP, in logs)	3.430 ** (1.33)	-0.226 * (0.13)	-3.366 ** (1.02)	-0.155 * (0.10)	994 0.821	1.442 (1.92)	-0.035 (0.11)	-1.988 (2.17)	0.024 (0.10)	994 0.824	5.969 ** (2.01)	-0.233 (0.10)
Stock market total value traded (% of GDP, in logs)	1.914 (2.05)	-0.161 (0.21)	-1.746 (1.51)	-0.038 (0.15)	1013 0.825	-1.862 (2.50)	0.087 (0.15)	0.921 (2.72)	0.277 * (0.15)	1013 0.825	3.378 (2.87)	-0.157 (0.15)
Stock market turnover	-0.336 (1.56)	-0.063 (0.15)	0.822 (1.17)	0.067 (0.12)	973 0.745	-0.596 (2.24)	-0.036 (0.12)	-0.295 (2.53)	0.166 (0.12)	973 0.747	-0.158 (2.22)	-0.049 (0.11)
Number of listed companies (in logs)	0.028 (1.33)	0.003 (0.13)	-0.506 (0.96)	0.037 (0.11)	873 0.888	5.299 ** (2.25)	-0.135 (0.10)	-5.953 ** (2.61)	-0.306 ** (0.13)	873 0.874	3.891 * (2.20)	-0.093 (0.09)
<i>Bond markets</i>												
Private bond market capitalization (% of GDP, in logs)	-5.962 * (3.68)	1.043 ** (0.36)	0.652 (3.33)	0.204 (0.20)	266 0.864	-3.313 (4.36)	0.518 * (0.28)	-0.921 (4.90)	0.294 (0.21)	266 0.866	-2.270 (3.71)	0.428 (0.21)
Public bond market capitalization (% of GDP, in logs)	4.165 * (2.46)	-0.249 (0.22)	-5.151 ** (2.08)	-0.101 (0.17)	332 0.760	9.576 ** (3.21)	-0.440 ** (0.17)	-11.542 ** (3.64)	-0.328 * (0.17)	332 0.738	6.001 ** (2.81)	-0.229 (0.14)
<i>Insurance</i>												
Life insurance penetration (volume of premium as % of GDP, in logs)	2.274 ** (1.10)	-0.156 (0.12)	-0.987 * (0.61)	-0.240 ** (0.10)	934 0.895	1.889 * (1.07)	-0.032 (0.06)	-2.381 ** (1.19)	-0.063 (0.08)	934 0.898	1.257 (1.18)	0.000 (0.06)
Non-life insurance penetration (volume of premium as % of GDP, in logs)	0.516 (0.71)	-0.020 (0.07)	-0.611 (0.49)	-0.044 (0.06)	744 0.825	-0.942 (0.89)	0.055 (0.04)	1.269 (1.06)	0.042 (0.06)	744 0.822	-0.405 (0.99)	0.042 (0.04)

See footnote in Table 11

Table 13

The Role of Structural Characteristics: Conditional response of domestic financial development to an increase in financial openness

(Response to doubling our measure of financial openness)

Structural characteristic	Response of bank credit			Response of bank deposits			Response of bank assets			Response of liquid liabilities		
	Shock to lfay	Shock to lfly	Shock to lfaly	Shock to lfay	Shock to lfly	Shock to lfaly	Shock to lfay	Shock to lfly	Shock to lfaly	Shock to lfay	Shock to lfly	Shock to lfaly
<u>Effect at medians</u>	0.019 (0.02)	0.063 ** (0.02)	0.034 * (0.02)	-0.024 ** (0.01)	-0.033 ** (0.01)	-0.058 ** (0.01)	0.019 * (0.01)	0.037 ** (0.01)	0.019 (0.02)	0.041 ** (0.01)	0.019 * (0.01)	0.011 (0.01)
<u>Institutions</u>												
Percentile 20	-0.051	0.011	-0.013	-0.092	-0.084	-0.103	-0.034	-0.001	-0.015	0.002	-0.013	-0.016
Percentile 80	0.073	0.104	0.071	0.030	0.0070	-0.023	0.060	0.067	0.046	0.072	0.043	0.033
Difference (p-value)	0.124 ** (0.00)	0.093 ** (0.00)	0.084 ** (0.00)	0.122 ** (0.00)	0.091 ** (0.00)	0.080 ** (0.00)	0.094 ** (0.00)	0.067 ** (0.00)	0.061 ** (0.01)	0.070 ** (0.00)	0.056 ** (0.00)	0.049 ** (0.00)
<u>Investor protection</u>												
Percentile 20	-0.053	-0.063	-0.087	-0.065	-0.120	-0.138	-0.028	-0.052	-0.064	0.029	-0.076	-0.063
Percentile 80	0.074	0.161	0.127	0.008	0.034	0.004	0.055	0.105	0.084	0.050	0.092	0.068
Difference (p-value)	0.128 ** (0.00)	0.225 ** (0.00)	0.214 ** (0.00)	0.073 ** (0.00)	0.155 ** (0.00)	0.142 ** (0.00)	0.082 ** (0.00)	0.157 ** (0.00)	0.148 ** (0.00)	0.020 (0.17)	0.168 ** (0.00)	0.132 ** (0.00)
<u>Trade openness</u>												
Percentile 20	-0.014	0.003	-0.013	-0.052	-0.084	-0.097	0.001	-0.010	-0.015	0.025	-0.032	-0.025
Percentile 80	0.046	0.115	0.074	0.001	0.011	-0.024	0.034	0.077	0.048	0.054	0.062	0.041
Difference (p-value)	0.060 ** (0.01)	0.112 ** (0.00)	0.086 ** (0.00)	0.053 ** (0.01)	0.095 ** (0.00)	0.073 ** (0.00)	0.033 * (0.11)	0.087 ** (0.00)	0.063 ** (0.01)	0.029 ** (0.05)	0.094 ** (0.00)	0.066 ** (0.00)

Note: The different columns describe the shocks to the different measures of financial openness: Each shock represents doubling the ratio of foreign assets to GDP (lfay), foreign liabilities to GDP (lfly), and foreign assets and liabilities to GDP (lfaly). The different rows indicate the response of the different measures of financial development to each shock conditional to the structural characteristic included in the model. The "Effect at medians" row displays the response of the financial development indicator when all structural characteristics are evaluated at their sample medians. The following rows show the responses obtained when each individual characteristic is allowed to vary between its 20th and 80th sample percentile levels, respectively. The structural characteristic that is varying is indicated in underlined typeface. The rows labeled "Difference" show the differences between the conditional responses when that feature is evaluated at its 80th and 20th percentile levels.

** (*) implies that the response is statistically significant at 5 (10) percent level.

Table 14
Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)
Robustness to outliers: Eliminating large observed variations in domestic banking, equity and bond markets 1/
Methodology: Instrumental Variables with country- and time effects 2/
Sample period: 1974-2007 (annual observations)

Dependent variable	Foreign Assets (FA)					Foreign Liabilities (FL)					Foreign A	
	FA	FA x IQ	FA x IP	FA x TO	Nobs./R2	FL	FL x IQ	FL x IP	FL x TO	Nobs./R2	FAL	FAL x IQ
<i>Activity of financial intermediaries</i>												
Private credit by deposit money banks (% of GDP, in logs)	-2.168 ** (0.28)	0.350 ** (0.04)	0.773 ** (0.11)	0.088 ** (0.02)	2314 0.863	-2.274 ** (0.26)	0.258 ** (0.02)	1.340 ** (0.17)	0.153 ** (0.02)	2314 0.868	-2.052 ** (0.25)	0.234 (0.02)
Private credit by financial system (% of GDP, in logs)	-2.026 ** (0.28)	0.344 ** (0.04)	0.729 ** (0.11)	0.059 ** (0.02)	2320 0.873	-2.268 ** (0.25)	0.269 ** (0.02)	1.390 ** (0.17)	0.132 ** (0.02)	2320 0.876	-2.025 ** (0.25)	0.240 (0.02)
Bank deposits (% of GDP, in logs)	-2.005 ** (0.19)	0.351 ** (0.03)	0.439 ** (0.08)	0.073 ** (0.02)	2355 0.877	-2.113 ** (0.19)	0.258 ** (0.02)	0.922 ** (0.13)	0.130 ** (0.02)	2355 0.882	-1.842 ** (0.18)	0.227 (0.02)
Financial deposits (% of GDP, in logs)	-1.357 ** (0.20)	0.274 ** (0.03)	-0.105 (0.09)	0.067 ** (0.02)	2373 0.871	-1.625 ** (0.19)	0.217 ** (0.02)	0.447 ** (0.13)	0.112 ** (0.02)	2373 0.871	-1.328 ** (0.19)	0.187 (0.02)
<i>Size of financial intermediaries</i>												
Total assets of deposit money banks (% of GDP, in logs)	-1.599 ** (0.22)	0.271 ** (0.03)	0.552 ** (0.09)	0.049 ** (0.02)	2328 0.884	-1.734 ** (0.21)	0.190 ** (0.02)	1.001 ** (0.14)	0.116 ** (0.02)	2328 0.887	-1.518 ** (0.21)	0.170 (0.02)
Total assets of the financial system (% of GDP, in logs)	-1.355 ** (0.29)	0.269 ** (0.04)	0.522 ** (0.12)	-0.022 (0.03)	1022 0.909	-1.484 ** (0.27)	0.213 ** (0.03)	0.831 ** (0.18)	0.074 ** (0.03)	1022 0.911	-1.357 ** (0.28)	0.197 (0.03)
Assets of deposit money banks vs. central bank assets	-0.196 ** (0.06)	0.059 ** (0.01)	-0.014 (0.03)	-0.006 (0.01)	2441 0.818	-0.370 ** (0.06)	0.044 ** (0.01)	0.113 ** (0.04)	0.018 ** (0.01)	2441 0.825	-0.325 ** (0.06)	0.041 (0.01)
Liquid liabilities (% of GDP, in logs)	-0.951 ** (0.15)	0.190 ** (0.02)	0.110 * (0.07)	0.040 ** (0.02)	2323 0.890	-1.643 ** (0.18)	0.154 ** (0.01)	0.993 ** (0.14)	0.128 ** (0.02)	2323 0.871	-1.303 ** (0.17)	0.134 (0.01)
<i>Efficiency of financial intermediaries</i>												
Overhead costs (in logs)	-0.880 * (0.47)	0.072 * (0.05)	0.263 (0.26)	0.087 ** (0.04)	1232 0.871	0.467 (0.49)	-0.029 (0.03)	-0.710 * (0.44)	0.006 (0.04)	1232 0.872	0.153 (0.51)	-0.010 (0.03)
Net interest margin (in logs)	0.058 ** (0.02)	-0.008 ** (0.00)	-0.012 (0.01)	-0.006 ** (0.00)	1212 0.857	-0.017 (0.02)	0.000 (0.00)	0.011 (0.02)	0.000 (0.00)	1212 0.857	-0.033 * (0.02)	0.000 (0.00)
Bank concentration (in logs)	-0.263 (0.34)	0.046 (0.04)	0.098 (0.16)	0.030 (0.03)	1230 0.807	0.756 ** (0.31)	-0.023 (0.02)	-0.600 ** (0.25)	-0.043 * (0.02)	1230 0.807	0.601 * (0.32)	-0.011 (0.02)
<i>Stock markets</i>												
Stock market capitalization (% of GDP, in logs)	-0.326 (1.09)	0.186 * (0.11)	-0.879 (0.65)	0.071 (0.08)	1333 0.859	-0.575 (0.88)	0.117 * (0.06)	-0.100 (0.74)	0.105 (0.08)	1333 0.858	0.751 (0.95)	0.057 (0.06)
Stock market total value traded (% of GDP, in logs)	1.478 (1.54)	0.102 (0.17)	-2.023 ** (0.88)	-0.030 (0.12)	1360 0.863	-0.129 (1.28)	0.161 * (0.10)	-1.336 (1.06)	0.137 (0.11)	1360 0.861	2.434 * (1.40)	0.042 (0.09)
Stock market turnover (in logs)	2.198 * (1.31)	-0.154 (0.13)	-1.175 * (0.77)	-0.091 (0.10)	1301 0.769	3.283 ** (1.18)	-0.142 * (0.08)	-3.419 ** (1.00)	-0.151 * (0.10)	1301 0.756	4.898 ** (1.30)	-0.198 (0.08)
Number of listed companies (in logs)	0.559 (0.85)	-0.015 (0.09)	-1.018 ** (0.43)	-0.027 (0.07)	1242 0.926	0.991 (0.76)	0.018 (0.05)	-1.403 ** (0.56)	-0.088 (0.08)	1242 0.926	1.001 (0.80)	0.000 (0.05)
<i>Bond markets</i>												
Private bond market capitalization (% of GDP, in logs)	-2.826 * (1.70)	0.424 * (0.24)	0.585 (0.63)	0.098 (0.09)	559 0.926	-6.749 ** (1.42)	0.600 ** (0.15)	1.969 ** (0.59)	0.546 ** (0.13)	559 0.915	-8.009 ** (1.62)	0.678 (0.15)
Public bond market capitalization (% of GDP, in logs)	3.478 ** (0.82)	-0.508 ** (0.12)	-2.255 ** (0.39)	-0.032 (0.06)	654 0.817	2.637 ** (0.77)	-0.296 ** (0.07)	-2.206 ** (0.42)	-0.081 (0.08)	654 0.826	2.172 ** (0.78)	-0.258 (0.07)
<i>Insurance</i>												
Life insurance penetration (volume of premium as % of GDP, in logs)	1.526 ** (0.44)	-0.092 (0.06)	-1.007 ** (0.16)	-0.092 ** (0.04)	1531 0.934	1.845 ** (0.37)	-0.059 * (0.04)	-1.562 ** (0.23)	-0.120 ** (0.04)	1531 0.934	2.044 ** (0.37)	-0.060 (0.03)
Non-life insurance penetration (volume of premium as % of GDP, in logs)	0.308 (0.24)	-0.030 (0.03)	-0.224 ** (0.11)	-0.028 (0.02)	1138 0.937	0.133 (0.24)	0.009 (0.02)	0.018 (0.16)	-0.033 (0.03)	1138 0.937	0.278 (0.24)	-0.004 (0.02)

1/ To eliminate observations associated with financial bubbles or financial collapse, we excluded from our regression analysis the variations in the several financial indicators that were larger than twice the standard deviation of the corresponding FD variable in the s
2/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and likely endoge instruments: lagged financial openness, lagged real GDP, lagged level of institutions, lagged level of natural resource abundance, surface area of the country (in logs), and dummies of legal origin (British common law, French civil code, German civil code, and Scandina

Table 15
Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)
Robustness to different measures of institutional quality (IQ)
Methodology: Instrumental Variables with country- and time effects 1/
Sample period: 1974-2007 (annual observations)

Dependent variable	Bank credit				Bank deposits				Bank assets			
	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
<i>Foreign assets</i>												
Foreign assets (FA)	0.112	-0.416 **	0.145	-1.120 **	0.360 **	-0.215 *	0.261	-1.043 **	0.251 *	-0.050	0.417 **	-0.576 **
(% of GDP, in logs)	(0.20)	(0.20)	(0.24)	(0.30)	(0.15)	(0.14)	(0.18)	(0.22)	(0.16)	(0.16)	(0.19)	(0.24)
FA x Institutional quality	0.038 **	0.157 **	0.038 **	0.201 **	0.053 **	0.159 **	0.048 **	0.187 **	0.052 **	0.129 **	0.004	0.129 **
	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
FA x Investor protection	0.182	0.409 **	0.151	0.593 **	-0.165 *	0.072	-0.131	0.347 **	0.018	0.130	-0.047	0.315 **
	(0.14)	(0.13)	(0.14)	(0.14)	(0.10)	(0.09)	(0.10)	(0.10)	(0.11)	(0.10)	(0.12)	(0.12)
FA x Trade openness	-0.055 *	-0.014	-0.064 **	0.053 *	-0.086 **	-0.039 *	-0.082 **	0.057 **	-0.068 **	-0.053 **	-0.081 **	0.011
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.05)	(0.03)
No. Observations	2394	2395	2395	2395	2423	2424	2424	2424	2406	2407	2407	2407
R**2	0.858	0.869	0.856	0.863	0.880	0.895	0.878	0.878	0.885	0.893	0.880	0.885
<i>Foreign liabilities</i>												
Foreign liabilities (FL)	-0.763 **	-0.968 **	-0.751 **	-1.699 **	-0.370 **	-0.726 **	-0.419 **	-1.361 **	-0.499 **	-0.580 **	-0.372 **	-1.117 **
(% of GDP, in logs)	(0.21)	(0.20)	(0.23)	(0.25)	(0.16)	(0.15)	(0.17)	(0.20)	(0.17)	(0.16)	(0.19)	(0.21)
FL x Institutional quality	0.063 **	0.125 **	0.038 **	0.188 **	0.057 **	0.135 **	0.061 **	0.153 **	0.053 **	0.097 **	0.025 **	0.118 **
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
FL x Investor protection	0.793 **	0.857 **	0.712 **	1.219 **	0.205	0.379 **	0.176	0.731 **	0.470 **	0.462 **	0.350 **	0.765 **
	(0.18)	(0.17)	(0.19)	(0.19)	(0.14)	(0.13)	(0.14)	(0.15)	(0.15)	(0.14)	(0.15)	(0.16)
FL x Trade openness	0.089 **	0.091 **	0.080 **	0.140 **	0.034 *	0.052 **	0.031	0.110 **	0.060 **	0.053 **	0.048 **	0.010 **
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
No. Observations	2394	2395	2395	2395	2423	2424	2424	2424	2406	2407	2407	2407
R**2	0.866	0.874	0.863	0.866	0.886	0.899	0.883	0.880	0.889	0.895	0.885	0.886

Dependent variable	Net interest margin				Stock market capitalization				Stock market value traded			
	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>	<i>Political institutions</i>	<i>Quality of institutions</i>	<i>Socio-economic environment</i>	<i>Index of conflict</i>
	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]
<i>Foreign assets</i>												
Foreign assets (FA)	-0.025	-0.014	-0.021	-0.069 *	2.553 **	1.888 **	2.311 **	4.205 **	5.189 **	3.709 **	3.818 **	7.025 **
(% of GDP, in logs)	(0.03)	(0.03)	(0.03)	(0.04)	(0.79)	(0.80)	(0.72)	(0.99)	(1.28)	(1.24)	(1.15)	(1.59)
FA x Institutional quality	-0.0011 *	-0.0008	-0.0020 **	0.0053	-0.001	0.099 **	0.029	-0.355 **	-0.073 *	0.151 **	0.105 **	-0.677 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.04)	(0.05)	(0.10)	(0.04)	(0.07)	(0.05)	(0.17)
FA x Investor protection	0.029	0.021	0.029	0.049 **	-2.759 **	-2.282 **	-2.610 **	-3.288 **	-4.610 **	-3.632 **	-3.782 **	-4.590 **
	(0.02)	(0.02)	(0.02)	(0.02)	(0.69)	(0.69)	(0.63)	(0.66)	(1.08)	(1.04)	(0.97)	(1.01)
FA x Trade openness	-0.0002	-0.0016	-0.00004	0.0028	-0.176 *	-0.133	-0.161 *	-0.234 **	-0.419 **	-0.312 **	-0.321 **	-0.387 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.10)	(0.09)	(0.09)	(0.09)	(0.16)	(0.15)	(0.14)	(0.15)
No. Observations	1256	1257	1257	1257	1374	1375	1375	1375	1411	1412	1412	1412
R**2	0.834	0.835	0.835	0.823	0.849	0.854	0.851	0.843	0.837	0.845	0.844	0.834
<i>Foreign liabilities</i>												
Foreign liabilities (FL)	-0.095 **	-0.093 **	-0.085 **	-0.098 **	1.330 *	0.541	1.246 *	1.925 **	2.747 **	1.561	1.698 *	3.388 **
(% of GDP, in logs)	(0.02)	(0.02)	(0.02)	(0.02)	(0.74)	(0.73)	(0.72)	(0.79)	(1.14)	(1.12)	(1.11)	(1.21)
FL x Institutional quality	-0.0005	-0.0008	-0.0007	0.0034 **	0.0130	0.1064 **	0.0264	-0.1271 **	-0.0293	0.1706 **	0.1172 **	-0.2233 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)	(0.05)	(0.05)	(0.04)	(0.04)	(0.09)
FL x Investor protection	0.091 **	0.092 **	0.084 **	0.087 **	-1.615 **	-0.898	-1.582 **	-1.877 **	-3.574 **	-2.513 **	-2.749 **	-3.624 **
	(0.03)	(0.03)	(0.03)	(0.02)	(0.77)	(0.76)	(0.74)	(0.72)	(1.16)	(1.13)	(1.11)	(1.08)
FL x Trade openness	0.0081 **	0.0082 **	0.0075 **	0.0073 **	-0.0353	0.0052	-0.0327	-0.0412	-0.0770	-0.0372	-0.0335	-0.0695
	(0.00)	(0.00)	(0.00)	(0.00)	(0.08)	(0.08)	(0.08)	(0.08)	(0.13)	(0.13)	(0.13)	(0.12)
No. Observations	1256	1257	1257	1257	1374	1375	1375	1375	1411	1412	1412	1412
R**2	0.800	0.800	0.805	0.799	0.850	0.855	0.850	0.850	0.843	0.848	0.846	0.842

1/ The specification of our regression includes the following control variables: PPP real GDP per capita (in logs), trade openness, inflation, dummies for dual and falling exchange rates, country-effects and time-effects. To control for reverse causality and likely endogeneity

Table 16
Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)
Robustness to different measures of investor protection (IP)
Methodology: Instrumental Variables with country- and time effects 1/
Sample period: 1974-2007 (annual observations)

Dependent variable	Bank credit			Bank deposits			Bank assets			Deposit vs. Central Bank Assets		
	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>
	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
<i>Foreign assets</i>												
Foreign assets (FA)	-1.961 **	-1.676 **	-1.760 **	-1.893 **	-1.815 **	-1.787 **	-1.381 **	-1.202 **	-1.285 **	-0.084	-0.229 **	-0.205 **
(% of GDP, in logs)	(0.25)	(0.22)	(0.24)	(0.19)	(0.16)	(0.17)	(0.21)	(0.18)	(0.20)	(0.06)	(0.05)	(0.06)
FA x Institutional quality	0.344 **	0.319 **	0.315 **	0.350 **	0.339 **	0.327 **	0.262 **	0.247 **	0.244 **	0.049 **	0.061 **	0.060 **
	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.01)	(0.01)	(0.01)
FA x Investor protection	0.365 **	0.339 **	0.387 **	0.146 **	0.272 **	0.248 **	0.229 **	0.197 **	0.287 **	-0.076 **	0.077 **	0.008
	(0.07)	(0.07)	(0.08)	(0.05)	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.02)	(0.02)	(0.02)
FA x Trade openness	0.095 **	0.064 **	0.074 **	0.084 **	0.066 **	0.068 **	0.052 **	0.035 *	0.039 **	-0.014 **	-0.011 *	-0.008
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
No. Observations	2395	2395	2395	2424	2424	2424	2407	2407	2407	2507	2507	2507
R**2	0.860	0.862	0.861	0.875	0.878	0.878	0.882	0.884	0.884	0.808	0.804	0.803
<i>Foreign liabilities</i>												
Foreign liabilities (FL)	-1.828 **	-1.705 **	-1.820 **	-1.796 **	-1.768 **	-1.808 **	-1.394 **	-1.277 **	-1.463 **	-0.233 **	-0.276 **	-0.336 **
(% of GDP, in logs)	(0.19)	(0.18)	(0.22)	(0.15)	(0.14)	(0.16)	(0.16)	(0.15)	(0.18)	(0.05)	(0.04)	(0.05)
FL x Institutional quality	0.248 **	0.239 **	0.241 **	0.251 **	0.245 **	0.242 **	0.183 **	0.176 **	0.178 **	0.038 **	0.040 **	0.044 **
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
FL x Investor protection	0.539 **	0.598 **	0.665 **	0.321 **	0.480 **	0.492 **	0.371 **	0.347 **	0.602 **	0.006	0.062 **	0.017 **
	(0.07)	(0.09)	(0.12)	(0.06)	(0.07)	(0.09)	(0.06)	(0.07)	(0.10)	(0.02)	(0.02)	(0.03)
FL x Trade openness	0.158 **	0.141 **	0.143 **	0.138 **	0.126 **	0.124 **	0.127 **	0.116 **	0.114 **	0.007	0.008	0.011 **
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
No. Observations	2395	2395	2395	2424	2424	2424	2407	2407	2407	2507	2507	2507
R**2	0.865	0.866	0.865	0.880	0.882	0.881	0.884	0.885	0.885	0.810	0.810	0.808
<i>Net interest margin</i>												
Dependent variable	Net interest margin			Stock market capitalization			Stock market value traded			Private bond market capitalization		
	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>	<i>Disclosure</i>	<i>Director</i>	<i>Shareholder</i>
	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>	<i>Index</i>	<i>liability</i>	<i>suís</i>
	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]
<i>Foreign assets</i>												
Foreign assets (FA)	0.057 **	0.033 *	0.051 **	0.222	-0.686	-0.969	1.588	-1.066	-0.922	-6.355 **	-2.815 **	-4.287 **
(% of GDP, in logs)	(0.02)	(0.02)	(0.02)	(0.96)	(0.65)	(0.71)	(1.30)	(1.07)	(1.15)	(2.10)	(1.21)	(1.40)
FA x Institutional quality	-0.008 **	-0.007 **	-0.008 **	0.061	0.182 **	0.294 **	0.017	0.297 **	0.396 **	1.071 **	0.537 **	0.680 **
	(0.00)	(0.00)	(0.00)	(0.11)	(0.09)	(0.08)	(0.18)	(0.15)	(0.14)	(0.33)	(0.21)	(0.22)
FA x Investor protection	-0.010	0.015 **	-0.004	-0.118	-0.551 **	-0.888 **	-0.961 **	0.268	-1.240 **	1.099 *	0.027	0.936 **
	(0.01)	(0.01)	(0.01)	(0.32)	(0.21)	(0.31)	(0.48)	(0.34)	(0.47)	(0.57)	(0.34)	(0.48)
FA x Trade openness	-0.006 **	-0.005 **	-0.006 **	-0.028	0.099	0.119 *	-0.091	0.082	0.144	0.143 *	0.052	0.091
	(0.00)	(0.00)	(0.00)	(0.09)	(0.07)	(0.07)	(0.13)	(0.11)	(0.12)	(0.09)	(0.08)	(0.09)
No. Observations	1257	1257	1257	1375	1375	1375	1412	1412	1412	593	593	593
R**2	0.855	0.838	0.835	0.851	0.852	0.852	0.849	0.851	0.852	0.890	0.906	0.902
<i>Foreign liabilities</i>												
Foreign liabilities (FL)	-0.033 *	-0.031 *	-0.027	-0.700	-1.016 *	-0.815	-0.219	-1.815 *	-0.546	-6.713 **	-4.650 **	-5.610 **
(% of GDP, in logs)	(0.02)	(0.02)	(0.02)	(0.66)	(0.62)	(0.72)	(1.05)	(0.95)	(1.09)	(1.50)	(1.20)	(1.24)
FL x Institutional quality	0.0011	0.0004	-0.0003	0.0979 *	0.1429 **	0.1763 **	0.1267	0.2446 **	0.2745 **	0.7537 **	0.5524 **	0.5572 **
	(0.00)	(0.00)	(0.00)	(0.06)	(0.06)	(0.05)	(0.10)	(0.10)	(0.09)	(0.17)	(0.14)	(0.14)
FL x Investor protection	0.011	0.019 *	0.020	0.466 *	0.077	-0.844 *	-0.393	0.973 **	-2.237 **	1.276 **	0.368	1.752 **
	(0.01)	(0.01)	(0.01)	(0.30)	(0.33)	(0.47)	(0.47)	(0.50)	(0.69)	(0.43)	(0.44)	(0.52)
FL x Trade openness	0.005 *	0.003	0.002	0.077	0.158 **	0.196 **	0.074	0.168	0.244 **	0.478 **	0.366 **	0.360 **
	(0.00)	(0.00)	(0.00)	(0.08)	(0.08)	(0.08)	(0.12)	(0.12)	(0.12)	(0.14)	(0.13)	(0.13)
No. Observations	1257	1257	1257	1375	1375	1375	1412	1412	1412	593	593	593
R**2	0.825	0.826	0.828	0.853	0.851	0.853	0.848	0.849	0.851	0.889	0.899	0.897

See footnote in Table 15.

Table 17
Financial integration and domestic financial development: Role of institutions (IQ), investment protection (IP) and trade openness (TO)
The role of trade in manufacturing vs. trade in non-manufacturing goods
Methodology: Instrumental Variables with country- and time effects 1/
Sample period: 1974-2007 (annual observations)

Dependent variable	Activity of financial intermediaries				Size of financial intermediaries				Bank efficiency			
	Bank credit [1]	Financial credit [2]	Bank deposits [3]	Financial deposits [4]	Bank assets [5]	Financial assets [6]	Deposit vs. central bank assets [7]	Liquid liabilities [8]	Overhead costs [9]	Net interest margin [10]	Bank concentration [11]	Stock market capitalization [12]
<i>Foreign assets</i>												
Foreign assets (FA)	-1.205 **	-1.108 **	-1.346 **	-0.956 **	-0.779 **	-0.955 **	-0.018	-0.487 **	-0.320	-0.038 **	-0.165	2.932 **
(% of GDP, in logs)	(0.19)	(0.18)	(0.13)	(0.14)	(0.16)	(0.24)	(0.05)	(0.11)	(0.36)	(0.02)	(0.22)	(0.59)
FA x Institutional quality	0.242 **	0.235 **	0.274 **	0.234 **	0.160 **	0.182 **	0.027 **	0.143 **	0.057	0.001	0.021	-0.180 **
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.01)	(0.02)	(0.05)	(0.00)	(0.05)	(0.08)
FA x Investor protection	0.576 **	0.521 **	0.414 **	-0.045	0.315 **	0.467 **	-0.073 **	0.013	0.021	0.028 **	0.171	-2.936 **
	(0.11)	(0.11)	(0.08)	(0.08)	(0.10)	(0.13)	(0.05)	(0.07)	(0.25)	(0.01)	(0.15)	(0.46)
FA x Trade in Manufacturing	0.024 **	0.016 **	0.001	0.006	0.022 **	0.027 **	-0.005 **	0.010 **	0.018 **	0.001 **	0.006	-0.023
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.02)
FA x Non-manufacturing trade	-0.011	-0.025 **	0.002	0.009	-0.013 *	-0.046 **	-0.006 **	-0.017 **	-0.002	0.002 **	0.019 **	-0.077 **
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.02)
No. Observations	2533	2542	2570	2588	2545	1174	2613	2542	1334	1306	1352	1433
R**2	0.858	0.867	0.883	0.873	0.871	0.889	0.796	0.878	0.850	0.834	0.794	0.856
<i>Foreign liabilities</i>												
Foreign liabilities (FL)	-1.110 **	-1.115 **	-1.200 **	-1.010 **	-0.765 **	-0.879 **	-0.168 **	-0.726 **	0.450	-0.054 **	-0.058	2.385 **
(% of GDP, in logs)	(0.17)	(0.17)	(0.12)	(0.13)	(0.15)	(0.23)	(0.04)	(0.11)	(0.30)	(0.02)	(0.18)	(0.60)
FL x Institutional quality	0.196 **	0.200 **	0.207 **	0.183 **	0.124 **	0.142 **	0.028 **	0.111 **	-0.035	0.003 *	0.014	-0.081
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.05)	(0.00)	(0.02)	(0.06)
FL x Investor protection	0.908 **	0.922 **	0.717 **	0.369 **	0.636 **	0.762 **	0.034	0.536 **	-0.596 *	0.043 **	0.122	-2.626 **
	(0.15)	(0.15)	(0.11)	(0.12)	(0.13)	(0.18)	(0.04)	(0.11)	(0.31)	(0.02)	(0.18)	(0.64)
FL x Trade in Manufacturing	-0.005	-0.009 *	-0.001	0.002	-0.004	-0.009	0.002 *	-0.002	0.014 **	0.001 **	0.000	-0.026 *
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.02)
FL x Non-manufacturing trade	0.010	0.007	0.019 **	0.024 **	0.026 **	0.029 **	-0.004 *	0.015 **	0.000	0.003 **	0.013 **	-0.067 **
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.02)
No. Observations	2533	2542	2570	2588	2545	1174	2613	2542	1334	1306	1352	1433
R**2	0.861	0.871	0.886	0.873	0.872	0.889	0.800	0.872	0.851	0.825	0.795	0.856
<i>Foreign assets and liabilities</i>												
Foreign assets and liabilities (FAL)	-1.049 **	-1.026 **	-1.087 **	-0.790 **	-0.675 **	-1.046 **	-0.121 **	-0.549 **	0.315	-0.060 **	-0.126	2.934 **
(% of GDP, in logs)	(0.17)	(0.16)	(0.12)	(0.12)	(0.14)	(0.22)	(0.04)	(0.11)	(0.30)	(0.02)	(0.18)	(0.55)
FAL x Institutional quality	0.179 **	0.180 **	0.178 **	0.154 **	0.115 **	0.142 **	0.025 **	0.098 **	-0.019	0.002	0.019	-0.092 *
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)	(0.00)	(0.01)	(0.05)	(0.00)	(0.02)	(0.05)
FAL x Investor protection	0.883 **	0.861 **	0.620 **	0.202 *	0.548 **	0.900 **	0.005	0.367 **	-0.429	0.057 **	0.205	-3.309 **
	(0.15)	(0.15)	(0.11)	(0.12)	(0.13)	(0.19)	(0.04)	(0.11)	(0.32)	(0.02)	(0.19)	(0.61)
FAL x Trade in Manufacturing	0.000 *	0.004	0.004	0.007 *	0.008 *	0.014 **	0.000	0.004	0.012 **	0.001 **	0.001	-0.033 **
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.02)
FAL x Non-manufacturing trade	-0.009	-0.013 *	0.005	0.006	-0.001	-0.006	-0.004 *	-0.003	0.000	0.002 **	0.015 **	-0.064 **
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.02)
No. Observations	2533	2542	2570	2588	2545	1174	2613	2542	1334	1306	1352	1433
R**2	0.859	0.869	0.886	0.874	0.870	0.884	0.796	0.874	0.851	0.824	0.795	0.856

See footnote in Table 15.

Table A.1
Sample of Countries

Latin America and the Caribbean (21)

ARG	Argentina	UMC	ECU	Ecuador	LMC	NIC	Nicaragua	LMC
BOL	Bolivia	LMC	SLV	El Salvador	LMC	PAN	Panama	UMC
BRA	Brazil	LMC	GTM	Guatemala	LMC	PRY	Paraguay	LMC
CHL	Chile	UMC	HTI	Haiti	LIC	PER	Peru	LMC
COL	Colombia	LMC	HND	Honduras	LMC	TTO	Trinidad and Tobago	UMC
CRI	Costa Rica	UMC	JAM	Jamaica	LMC	URY	Uruguay	UMC
DOM	Dominican Republic	LMC	MEX	Mexico	UMC	VEN	Venezuela, Rep. Bol.	UMC

East Asia and the Pacific (15)

BRN	Brunei Darussalam	HIC	IDN	Indonesia	LMC	PHL	Philippines	LMC
KHM	Cambodia	LIC	LAO	Lao P.D.R.	LIC	SGP	Singapore	HIC
CHN	China	LMC	MYS	Malaysia	UMC	TWN	Taiwan	HIC
FJI	Fiji	LMC	MMR	Myanmar	LIC	THA	Thailand	LMC
HKG	Hong Kong	HIC	PNG	Papua New Guinea	LIC	VNM	Vietnam	LIC

Eastern Europe and Central Asia (28)

ALB	Albania	LMC	GEO	Georgia	LMC	RUS	Russia	UMC
ARM	Armenia	LMC	HUN	Hungary	UMC	SVK	Slovak Republic	UMC
AZE	Azerbaijan	LMC	KAZ	Kazakhstan	LMC	SVN	Slovenia	HIC
BLR	Belarus	LMC	KGZ	Kyrgyz Republic	LIC	TJK	Tajikistan	LIC
BIH	Bosnia & Herzegovina	LMC	LVA	Latvia	UMC	TUR	Turkey	UMC
BGR	Bulgaria	LMC	LTU	Lithuania	UMC	TKM	Turkmenistan	LMC
CIV	Côte d'Ivoire	UMC	MKD	Macedonia	LMC	UKR	Ukraine	LMC
CZE	Czech Republic	UMC	MDA	Moldova	LMC	UZB	Uzbekistan	LIC
EST	Estonia	UMC	POL	Poland	UMC	YSR	Yugoslavia	LMC
			ROM	Romania	UMC			

Industrial Economies (24)

AUS	Australia	HIC	GRC	Greece	HIC	NZL	New Zealand	HIC
AUT	Austria	HIC	ISL	Iceland	HIC	NOR	Norway	HIC
BEL	Belgium	HIC	IRL	Ireland	HIC	PRT	Portugal	HIC
CAN	Canada	HIC	ITA	Italy	HIC	ESP	Spain	HIC
DNK	Denmark	HIC	JPN	Japan	HIC	SWE	Sweden	HIC
FIN	Finland	HIC	KOR	Korea	HIC	CHE	Switzerland	HIC
FRA	France	HIC	LUX	Luxembourg	HIC	GBR	United Kingdom	HIC
DEU	Germany	HIC	NLD	Netherlands	HIC	USA	United States	HIC

Middle East and North Africa (19)

DZA	Algeria	LMC	JOR	Jordan	LMC	QAT	Qatar	HIC
BHR	Bahrain	HIC	KWT	Kuwait	HIC	SAU	Saudi Arabia	HIC
CYP	Cyprus	HIC	LBN	Lebanon	UMC	SYR	Syrian Arab Republic	LMC
EGY	Egypt	LMC	LBY	Libya	UMC	TUN	Tunisia	LMC
IRN	Iran, I.R.	LMC	MLT	Malta	HIC	ARE	United Arab Emirates	HIC
ISR	Israel	HIC	MAR	Morocco	LMC	YEM	Yemen, Republic of	LIC
			OMN	Oman	UMC			

South Asia (5)

BGD	Bangladesh	LIC	NPL	Nepal	LIC	LKA	Sri Lanka	LMC
IND	India	LIC	PAK	Pakistan	LIC			

Sub-Saharan Africa

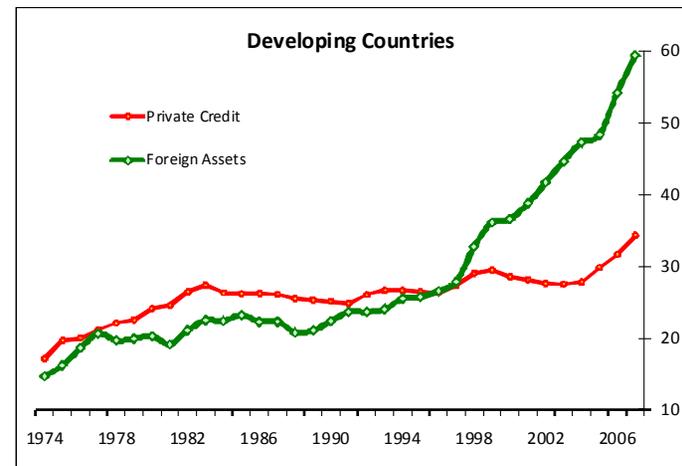
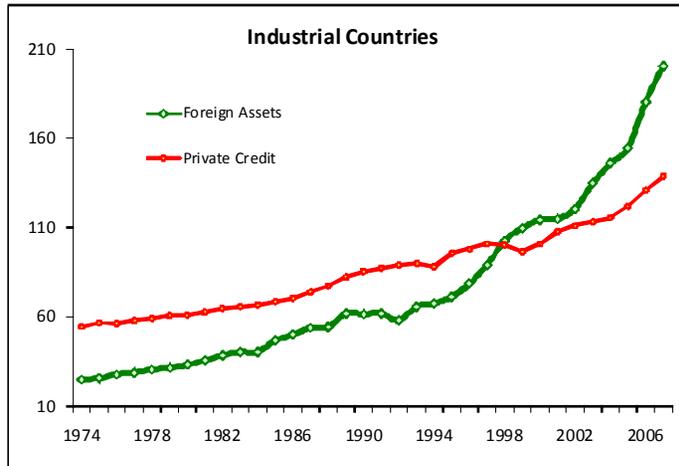
AGO	Angola	LMC	GAB	Gabon	UMC	NGA	Nigeria	LIC
BEN	Benin	LIC	GHA	Ghana	LIC	RWA	Rwanda	LIC
BWA	Botswana	UMC	GIN	Guinea	LIC	SEN	Senegal	LIC
BFA	Burkina Faso	LIC	KEN	Kenya	LIC	ZAF	South Africa	UMC
CMR	Cameroon	LMC	MDG	Madagascar	LIC	SDN	Sudan	LIC
TCD	Chad	LIC	MWI	Malawi	LIC	SWZ	Swaziland	LMC
ZAR	Congo, Dem. Rep. of	LIC	MLI	Mali	LIC	TZA	Tanzania	LIC
COG	Congo, Republic of	LMC	MUS	Mauritius	UMC	TGO	Togo	LIC
HRV	Croatia	LIC	MOZ	Mozambique	LIC	UGA	Uganda	LIC
GNQ	Equatorial Guinea	UMC	NAM	Namibia	LMC	ZMB	Zambia	LIC

Table A.2
Definitions and Sources of Variables Used in Regression Analysis

Variable	Definition and Construction	Source
Bank credit	Private credit by deposit money banks (percentage of GDP, in logs)	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000), "A New Database on Financial Development and Structure," World Bank Economic Review 14, 597-605.
Financial credit	Private credit by deposit money banks and other financial institutions (percentage of GDP, in logs)	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Bank deposit	Bank deposits (percentage of GDP, in logs)	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Financial deposit	Financial system deposits (percentage of GDP, in logs)	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Bank assets	Ratio of deposit money bank claims on domestic nonfinancial real sector to total financial claims on nonfinancial real sector.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Financial assets	Ratio of deposit money banks and other financial institutions' claims on domestic nonfinancial real sector to total financial assets.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Deposit money bank to central bank assets	Ratio of deposit money bank claims on domestic nonfinancial real sector to the sum of deposit money bank and Central Bank claims on domestic nonfinancial real sector.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Liquid liabilities	Ratio of liquid liabilities to GDP, calculated using the following deflation method: $\{(0.5) * [F_t/P_{e,t} + F_{t-1}/P_{e,t-1}]\} / [GDP_t/P_{a,t}]$ where F is liquid liabilities, P _e is end-of period CPI, and P _a is average annual CPI	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Overhead costs	Accounting value of a bank's overhead costs as a share of its total assets.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Net interest margin	Accounting value of bank's net interest revenue as a share of its interest-bearing (total earning) assets.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Bank concentration	Assets of three largest banks as a share of assets of all commercial banks.	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Life insurance	Life insurance premium volume as a share of GDP	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Non-life insurance	Nonlife insurance premium volume as a share of GDP	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Stock market capitalization	Value of listed shares to GDP, calculated using the following deflation method: $\{(0.5) * [F_t/P_{e,t} + F_{t-1}/P_{e,t-1}]\} / [GDP_t/P_{a,t}]$ where F is stock market capitalization, P _e is end-of period CPI, and P _a is average annual CPI	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Stock market value traded	Total shares traded on the stock market exchange to GDP	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Stock market turnover	Ratio of the value of total shares traded to average real market capitalization, the denominator is deflated using the following method: $T_t/P_{a,t} / \{(0.5) * [M_t/P_{e,t} + M_{t-1}/P_{e,t-1}]\}$ where T is total value traded, M is stock market capitalization, P _e is end-of period CPI P _a is average annual CPI	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Private bond market capitalization	Private domestic debt securities issued by financial institutions and corporations as a share of GDP, calculated using the following deflation method: $\{(0.5) * [F_t/P_{e,t} + F_{t-1}/P_{e,t-1}]\} / [GDP_t/P_{a,t}]$ where F is amount outstanding of private domestic debt securities, P _e is end-of period CPI, and P _a is average annual CPI	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
Public bond market capitalization	Public domestic debt securities issued by government as a share of GDP, calculated using the following deflation method: $\{(0.5) * [F_t/P_{e,t} + F_{t-1}/P_{e,t-1}]\} / [GDP_t/P_{a,t}]$ where F is amount outstanding of public domestic debt securities, P _e is end-of period CPI, and P _a is average annual CPI	Beck, T., A. Demirgüç-Kunt and R. Levine, (2000)
GDP	Real Gross Domestic Product. GDP is in 2000 PPP-adjusted US\$ (Chained prices).	Authors' construction using Summers, Heston and Aten (2006) and The World Bank's World Development Indicators
GDP per capita	GDP divided by total population (in logs)	Summers, Heston and Aten (2006) and The World Bank's World Development Indicators
Trade Openness: Outcome Measure	Exports and imports (in 1995 US\$) as a percentage of GDP (in 1995 US\$).	The World Bank's World Development Indicators (WDI).
Inflation	CPI inflation rate measured as: $\ln[(P_t / P_{t-1}) * 100]$	The World Bank's WDI
Financial Openness: Outcome Measure	(a) Foreign assets, (b) Foreign liabilities, (c) Foreign assets and liabilities. All variables expressed as percentage of GDP in logs	Lane and Milesi-Ferreti (2001, 2006) and national central banks.
Financial Openness: Composition	(a) Equity-related foreign assets and liabilities, defined as the sum of FDI assets and liabilities as well as portfolio equity assets and liabilities. (b) Loan-related foreign assets and liabilities comprise debt assets and liabilities, financial derivatives assets and liabilities and reserve assets. We also compute equity-related and loan related foreign assets and foreign liabilities (separately)	Lane and Milesi-Ferreti (2001, 2006).
Dummy for Dual Rates	Dummy takes the value of one whenever there is a dual market in which parallel market data is missing	Author's calculations with data from Ilzetzki, Reinhart and Rogoff (2008)
Dummy for Falling Exchange Rates	Dummy takes the value of one for freely falling exchange rates (<i>i.e.</i> countries with inflation over 40% or that have recently experienced an exchange rate crisis)	Author's calculations with data from Ilzetzki, Reinhart and Rogoff (2008)

Figure 1
Financial Openness and Financial Development
Medians by group of countries

1.1 Holdings of foreign assets and private credit by domestic financial institutions



1.2 Holdings of foreign assets and deposits in domestic financial institutions

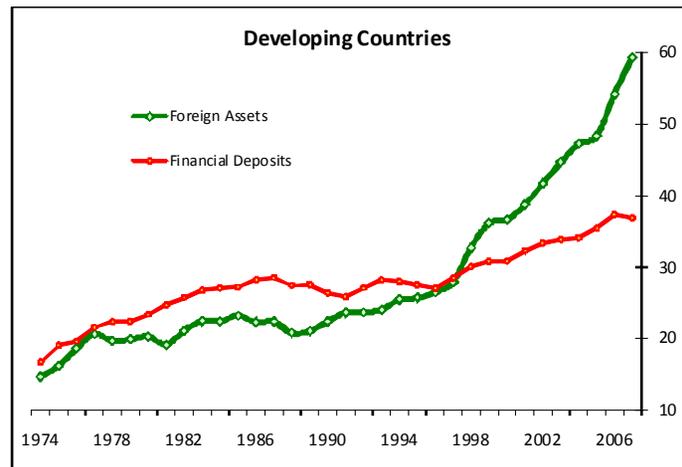
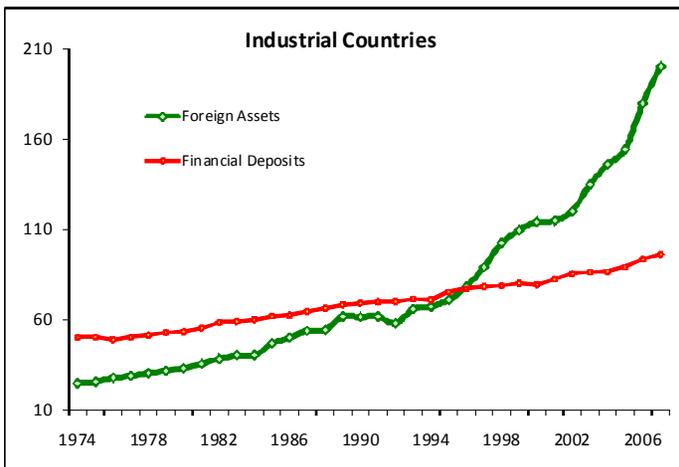
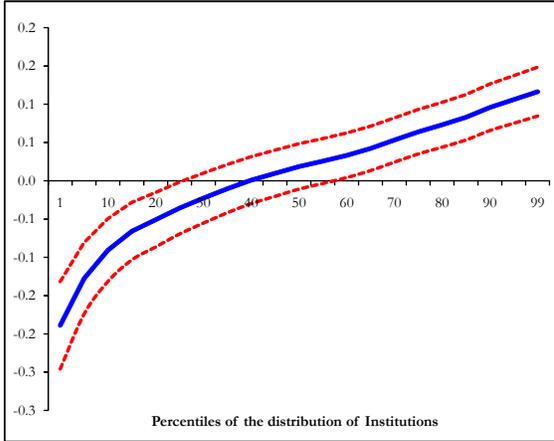


Figure 2
Response of bank credit to rising financial openness

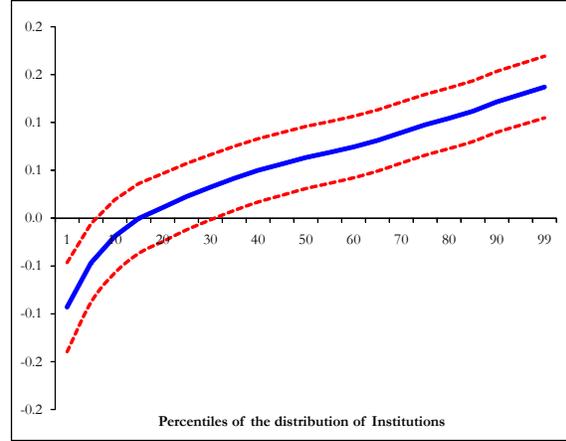
2.1 Response to doubling foreign assets

(a) Conditional to the level of institutional quality

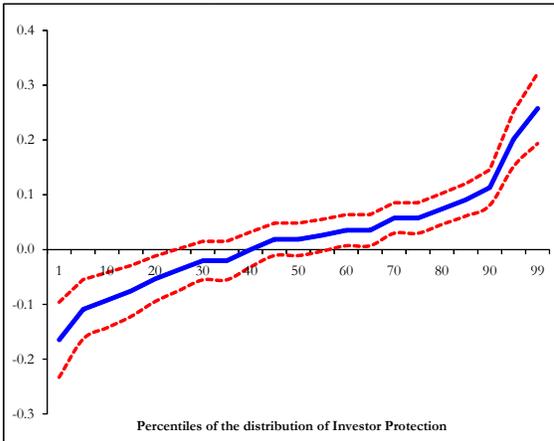


2.2 Response to doubling foreign liabilities

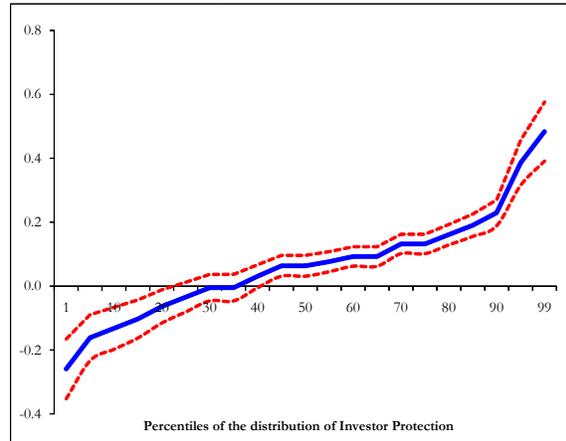
(a) Conditional to the level of institutional quality



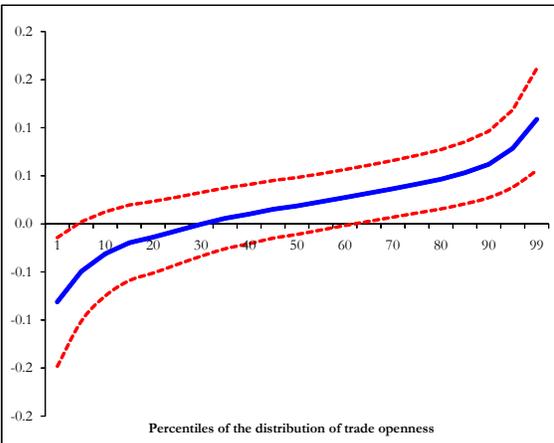
(b) Conditional to the level of investor protection



(b) Conditional to the level of investor protection



(c) Conditional to the level of trade openness



(c) Conditional to the level of trade openness

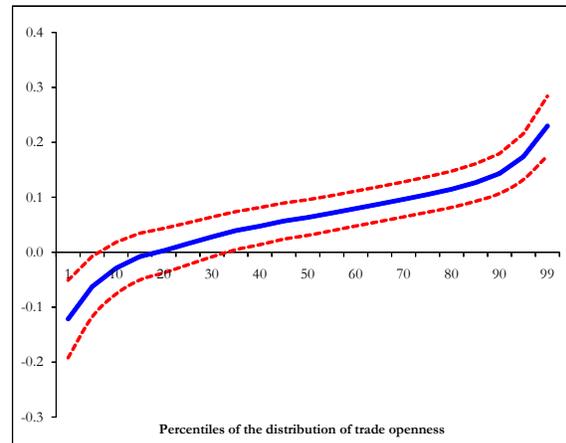
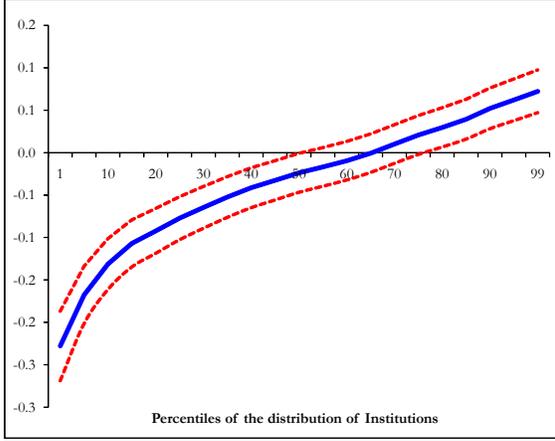


Figure 3
Response of bank deposits to rising financial openness

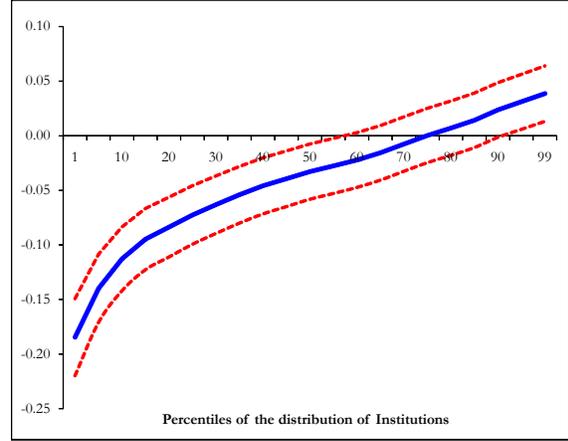
3.1 Response to doubling foreign assets

(a) Conditional to the level of institutional quality

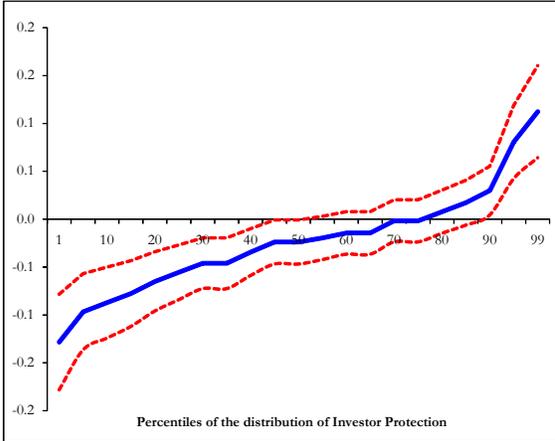


3.2 Response to doubling foreign liabilities

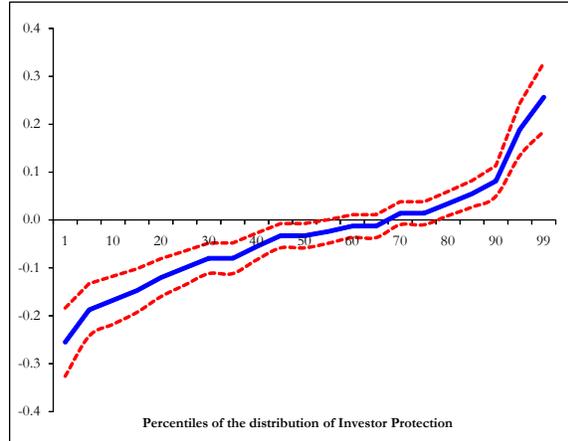
(a) Conditional to the level of institutional quality



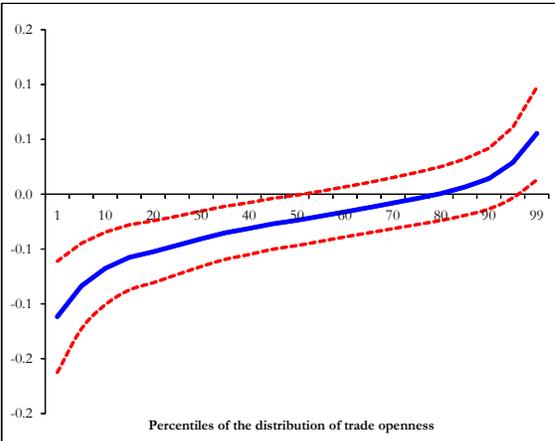
(b) Conditional to the level of investor protection



(b) Conditional to the level of investor protection



(c) Conditional to the level of trade openness



(c) Conditional to the level of trade openness

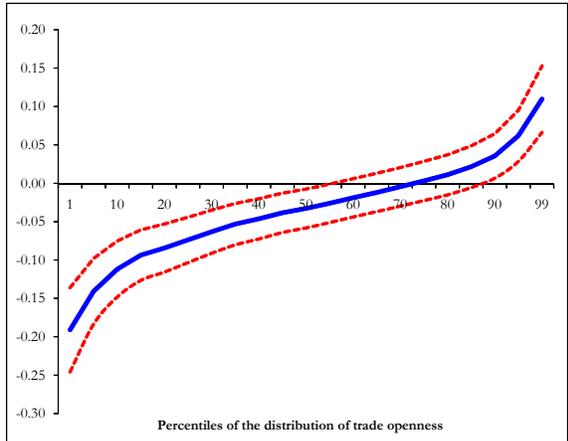
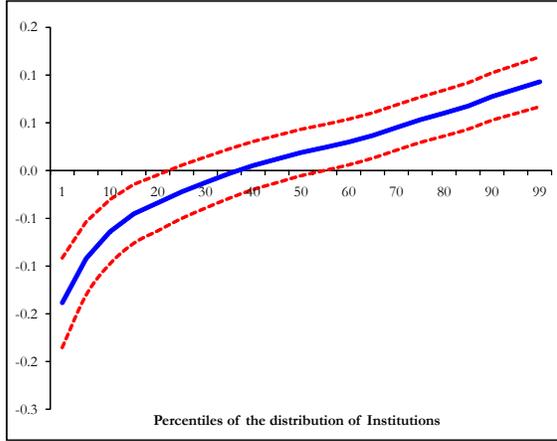
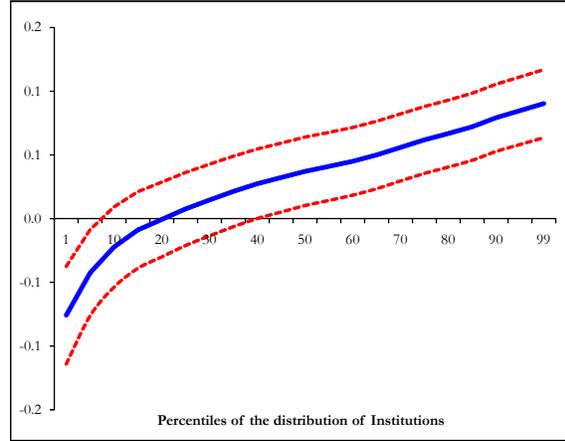


Figure 4
Response of bank assets to rising financial openness

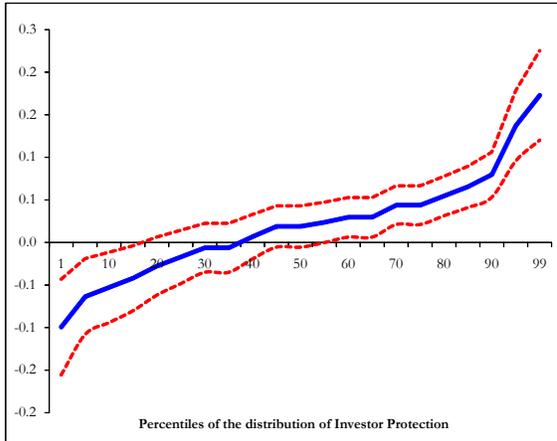
4.1 Response to doubling foreign assets
(a) Conditional to the level of institutional quality



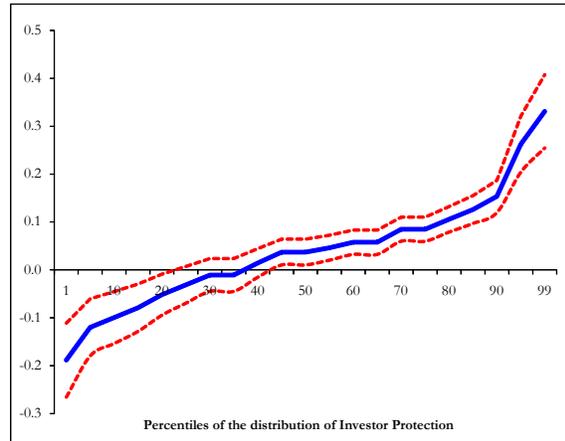
4.2 Response to doubling foreign liabilities
(a) Conditional to the level of institutional quality



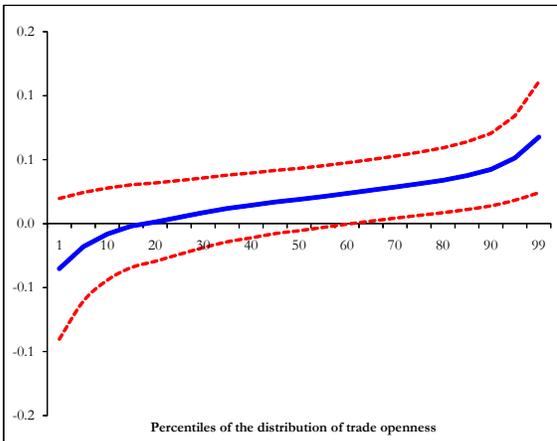
(b) Conditional to the level of investor protection



(b) Conditional to the level of investor protection



(c) Conditional to the level of trade openness



(c) Conditional to the level of trade openness

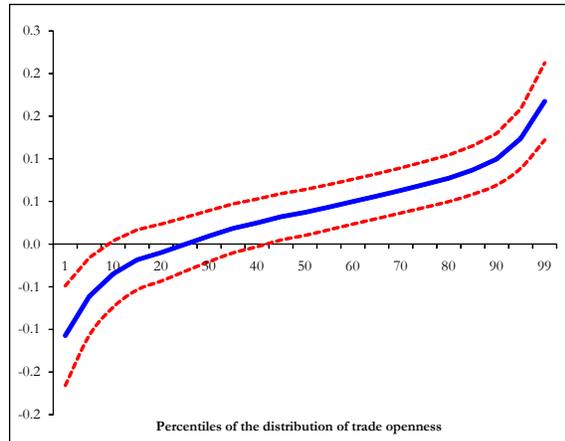
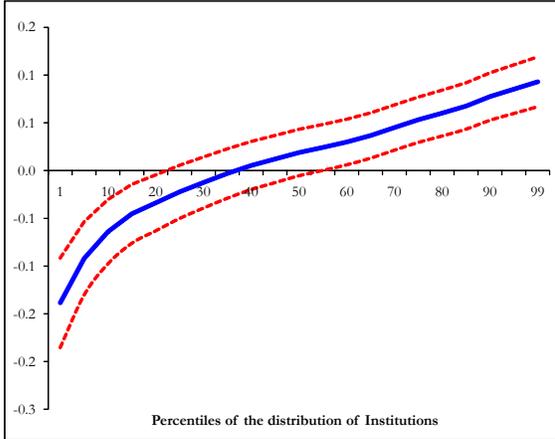


Figure 5
Response of liquid liabilities to rising financial openness

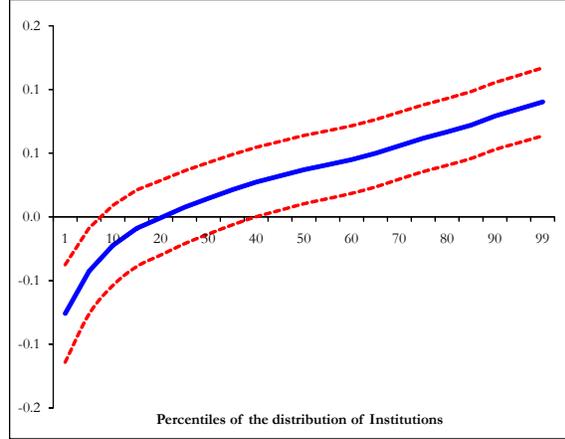
5.1 Response to doubling foreign assets

(a) Conditional to the level of institutional quality

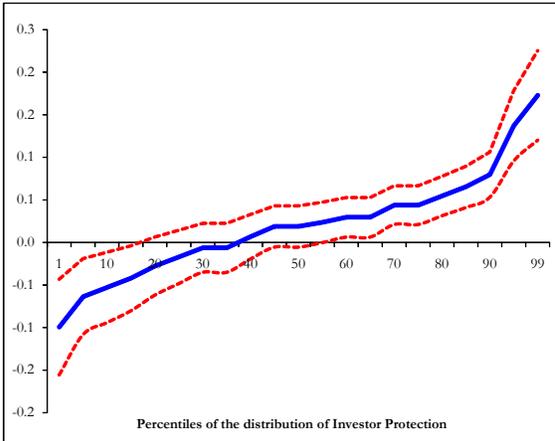


5.2 Response to doubling foreign liabilities

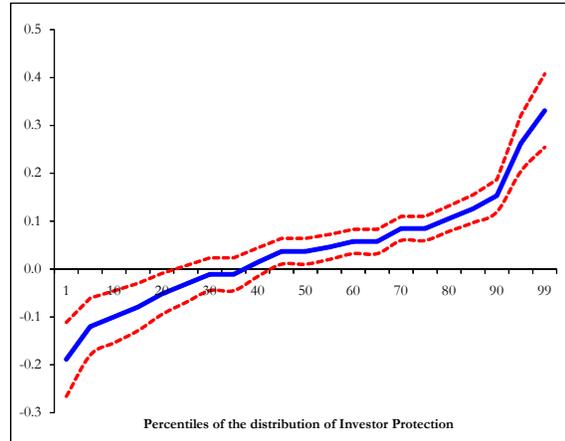
(a) Conditional to the level of institutional quality



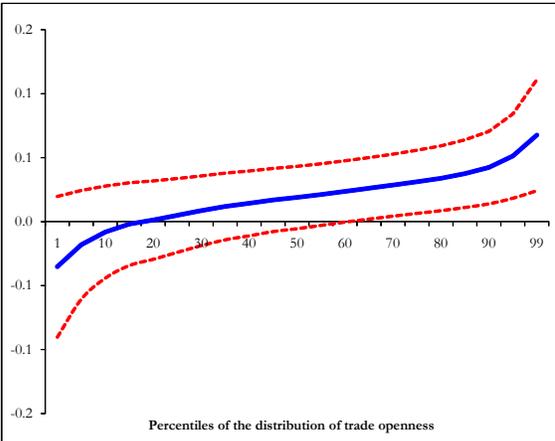
(b) Conditional to the level of investor protection



(b) Conditional to the level of investor protection



(c) Conditional to the level of trade openness



(c) Conditional to the level of trade openness

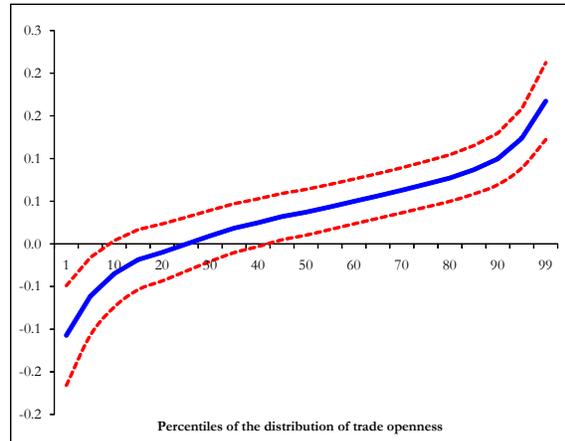
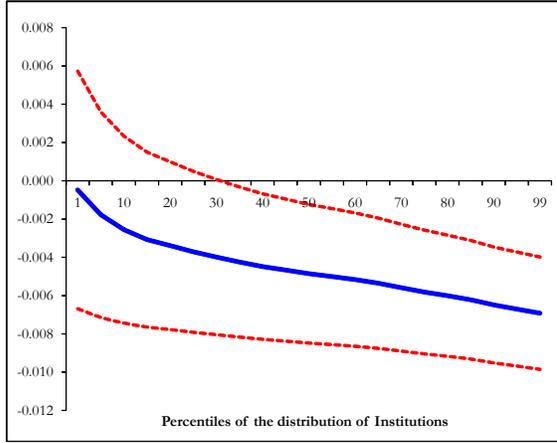


Figure 6
Response of net interest margin to rising financial openness

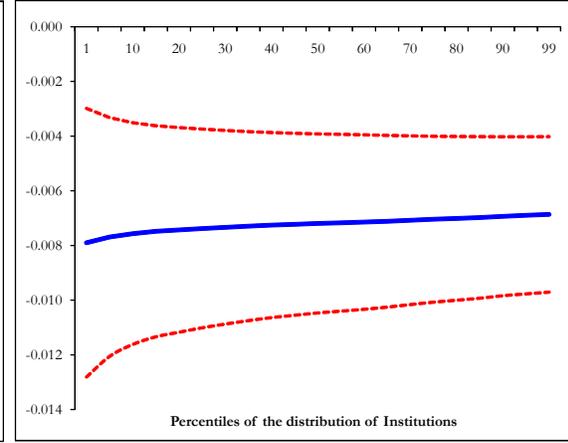
6.1 Response to doubling foreign assets

(a) Conditional to the level of institutional quality

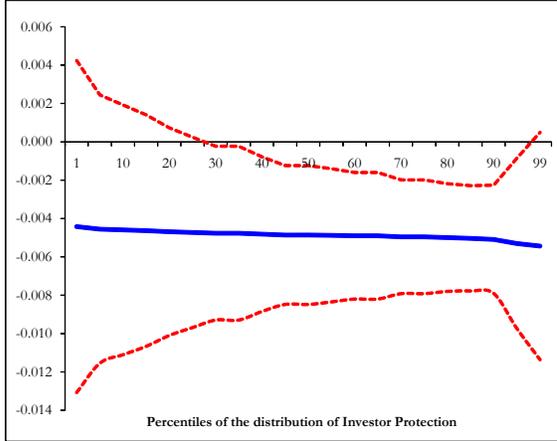


6.2 Response to doubling foreign liabilities

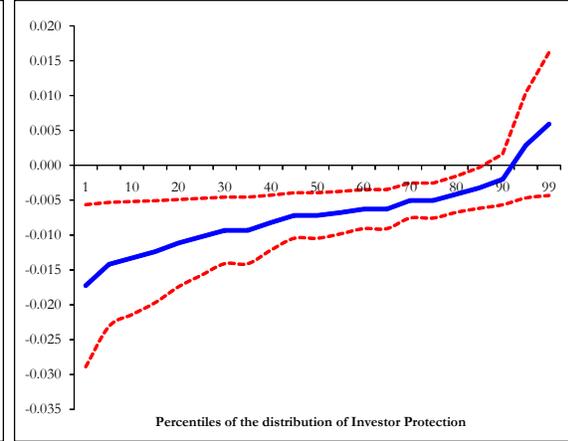
(a) Conditional to the level of institutional quality



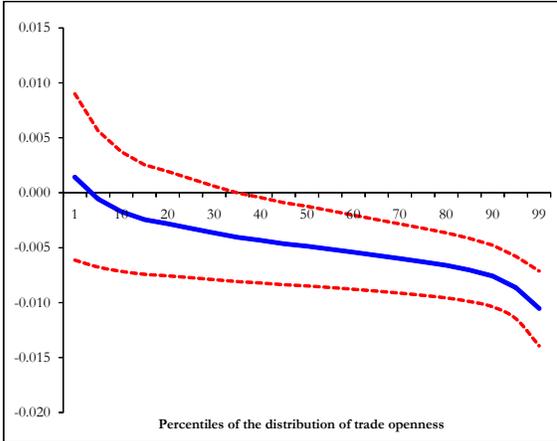
(b) Conditional to the level of investor protection



(b) Conditional to the level of investor protection



(c) Conditional to the level of trade openness



(c) Conditional to the level of trade openness

