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CAPITAL FLOWS IN A GLOBALIZED WORLD:
THE ROLE OF POLICIES AND INSTITUTIONS

Laura Alfaro
Sebnem Kalemli-Ozcan
Vadym Volosovych

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Laura Alfaro, Sebnem Kalemli-Ozcan, and Vadym Volosovych
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ABSTRACT

We describe the patterns of international capital flows in the period 1970 - 2000. We then examine

the determinants of capital flows and capital flows volatility during this period. We find that

institutional quality is an important determinant of capital flows. Historical determinants of current

legal institutions have a direct effect on foreign investments. Policy plays a significant role in

explaining the changes in the level of capital flows over time and their volatility.

Laura Alfaro
Harvard Business School

Sebnem Kalemli-Ozcan
University of Houston
Department of Economics
Houston, TX 77204
and NBER
sebnem.kalemli-ozcan@mail.uh.edu

Vadym Volosovych
University of Houston

1   Introduction

Controversy regarding the costs and benefits of globalization has taken center stage in policy and academic circles. While concerns over the benefits of capital mobility once voiced by John Maynard Keynes during the design of the Bretton-Woods System were nearly forgotten in the 1970s and 1980s, the crises of the last decade have revived the debate over the merits of international financial integration.

The most powerful argument in favor of international capital mobility, voiced among others by Stanley Fischer, Maurice Obstfeld, Kenneth Rogoff, and Larry Summers, is that it facilitates an efficient global allocation of savings by channelling financial resources to their most productive uses, thereby increasing economic growth and welfare around the world. But some other prominent academics are among the skeptics of international financial integration. Paul Krugman, for example, argues that countries that experience full-blown crises should use capital controls. Dani Rodrik claims that international financial liberalization creates higher risk of crises for developing countries. Even Jagdish Bhagwati, a fierce proponent of free trade, wonders if the risks of international financial integration might outweigh its benefits. As a result, recent research has focused on how to minimize the instability of international capital markets. Without a comprehensive understanding of the determinants of capital flows and their volatility, however, it is difficult to evaluate the different proposals that have been put forth to mitigate the negative effects of international capital mobility.

The determinants of international capital flows and their consequences for economic growth have been one of the most important issues in the international macroeconomics literature.[1] However, there is no consensus. Mainly, this is due to the fact that different researchers focus on different samples of countries (OECD countries versus emerging markets), different time-periods (1970s versus 1980s versus 1990s), and different forms of capital flows (foreign direct investment/portfolio equity flows versus debt flows or public flows versus private flows). For example, Calvo, Leiderman and Reinhart (1996) focus on the role of external (push) and internal (pull) factors as potential determinants of foreign investments using a cross-section of developing countries. They find that low interest rates in the U.S. played an important role in accounting for the renewal of capital flows to these countries in the 1990s. Edwards (1991) shows that government size and openness are important determinants of inward foreign direct investment (FDI) from OECD to developing countries, during the period 1971–1981. Wei (2000) and Wei and Wu (2002) use data on bilateral

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[1]See Prasad, Rogoff, Wei and Kose (2003) for an extensive review.

FDI from 18 industrialized source countries to 59 host countries during 1994–1996 and find that corruption reduces the volume of inward FDI and affects the composition of flows by increasing the loan-to-FDI ratio during this period.[2] Using data on bilateral portfolio equity flows from a set of 14 industrialized countries during 1989–1996, Portes and Rey (2005) find evidence that imperfections in the international credit markets can affect the amount and direction of capital flows. Among a set of developing countries, Lane (2004) also finds credit market frictions to be a determinant of debt flows during 1970–1995.

These papers have not paid particular attention to the overall role institutions play in shaping long-term capital flows among a cross-section of developed and developing countries. This is a task we started investigating in Alfaro, Kalemli-Ozcan, and Volosovych (2003) (henceforth AKV). AKV find institutional quality to be a causal determinant of capital inflows, where current institutions are instrumented by their historical determinants.[3,4] In this paper, we re-establish our results from AKV for a different sample using Balance of Payments (BOP) statistics from the IMF.[5] We then extend our original analysis in significant ways by asking three main questions: Is there any direct effect of the legal system on foreign investments other than through its effect on institutions? Is there any role for policy over institutions? Does institutional quality influence the volatility of capital flows?

Our evidence shows that the historical legal origin of a country has a direct impact on capital inflows during 1970–2000. We interpret this finding as evidence that legal origins measure different components of institutional quality, such as investor protection. What about policies? There is an important distinction between policies and institutions. Institutions are a set of rules constraining human behavior.[6] Policies are choices made within a political and social structure, i.e., within a set of institutions. As mentioned, we find institutional quality to have a first order effect over policies as a determinant of capital flows. Given this, it is important to know if there is any role left for policymaking. In order to investigate this question, we look at the changes in the level of capital inflows and regress them on the policy changes and institutional quality changes from the first half

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[2]They also investigate the determinants of bilateral bank flows from 13 industrialized source countries to 83 host countries showing similar results.

[3]The institutional quality is measured as a composite political safety index. It is the sum of all the components rated by an independent agency PRS Group in the *International Country Risk Guide* (ICRG). The components are: government stability, internal conflict, external conflict, no-corruption, militarized politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucratic quality.

[4]See Acemoglu, Johnson and Robinson (2001, 2002) for the historical determinants of current institutions.

[5]AKV calculate inflows using data on foreign-owned stocks estimated by Lane and Milessi-Feretti (1999, 2001) and Kraay, Loayza, Serven, Ventura (2000).

[6]See North (1994, 1995).

to the second half of the sample period. In those regressions, both changes in institutions and policy variables, such as inflation, capital controls, and financial development, are shown to have a role in explaining the changes in capital inflows. This result has important policy implications in the sense that improving institutions and domestic policies can increase the inward foreign investment to a country over time.

Finally, we examine the determinants of the volatility of capital flows and study whether institutions and policies play a role in reducing the instability in the international financial markets. Theoretical research has linked capital flows volatility to periods of liberalization. One argument is that the unprecedented globalization of the securities market in the 1990s resulted in high volatility of capital flows.[7] Other researchers model how frictions in the international financial markets together with weak fundamentals lead to excessive volatility of capital flows.[8] The empirical work focuses more on financial crises. That literature shows that bad policies, such as fiscal deficits, inflation, and bank fragility seem to matter for the financial crises, which may be regarded as episodes of extreme volatility.[9] Our evidence suggests that both low institutional quality and bad policies, in particular bad monetary policies, have played a role explaining the long-run volatility of capital flows during 1970–2000.[10]

The paper is organized as follows. Section 2 presents a preliminary discussion on capital mobility, institutions and policies. Section 3 presents extensive data and overviews the stylized facts related to capital flows mobility and volatility of these flows during 1970–2000. Section 4 presents results on the determinants of capital flows, changes in capital flows overtime and capital flows volatility. Section 5 concludes.

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[7]See Calvo and Mendoza (2000a, 2000b) and Bacchetta and van Wincoop (2000).

[8]See Chari and Kehoe (2003).

[9]See Frankel and Rose (1996), Kaminsky and Reinhart (1999), Corsetti, Pesenti and Roubini (2001), Kaminsky (2003), Frankel and Wei (2004). McKinnon and Pill (1996) model how financial liberalization together with distortions can make boom-bust cycles even more pronounced by fuelling lending booms that lead to the eventual collapse of the banking system. Aizenman (2004) links financial crises to financial opening. Other researchers have found that stabilization programs cause large capital inflows at the early stages of the exchange-rate-stabilization reforms, followed by high capital flows reversals when the lack of credibility behind the peg fuels an attack against the domestic currency. See Calvo and Vegh (1999).

[10]Eichengreen, Hausmann and Panizza (2003) examine the relation between original sin (the inability of countries to borrow abroad in their own currencies) and capital flows volatility for 33 countries. The work by Gavin and Hausmann (1999) and Gavin, Hausmann and Leiderman (1997) establish the volatility patterns for Latin American countries up to the early 1990s and relates them to external shocks and internal policies; see also the IADB Report (1995).

2 Capital Flows and Institutions

Despite the surge in capital mobility over the last decade, capital flows from rich to poor countries have been at much lower levels than predicted by the standard neoclassical models.[11] This particular pattern is usually referred to as the "Lucas paradox."[12] Lucas (1990) examines the question of international capital movements from the perspective of rich and poor countries. Under the standard assumptions—such as countries producing the same goods with the same constant returns to scale production function, same factors of production and same technology— and where there is free capital mobility, new investment will occur only in the poorer economy, and this will continue to be true until the returns to capital in every location are equalized. Hence, Lucas argues that given the implications of the frictionless neoclassical theory, the fact that more capital does not flow from rich countries to poor countries constitutes a "paradox."

Lucas' work has spawned an extensive theoretical literature. Researchers, including Lucas himself, show that with slight modifications of the basic neoclassical theory, such as changing the production structure, adding an internationally immobile factor such as human capital, or introducing frictions, the "paradox" disappears. The main theoretical explanations for the "Lucas paradox," can be broadly grouped into two categories.[13] The first group includes differences in fundamentals that affect the production structure of the economy. Researchers have explored the role of omitted factors of production, government policies, institutions, and differences in technology.[14] The second group of explanations emphasizes international capital market imperfections, mainly sovereign risk and asymmetric information. Although capital is potentially productive and has a high return in

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[11]Section 3 documents this and other facts related to international capital flows.

[12]The "Lucas paradox," the lack of flows from rich to poor countries, is related to some of the major puzzles in the literature: the high correlation between savings and investment in OECD countries (the Feldstein-Horioka puzzle); the lack of investment in foreign capital markets by home country residents (the home bias puzzle); the low correlations of consumption growth across countries (the lack of risk sharing puzzle). All of these puzzles deal with the question of the lack of international capital flows. See Obstfeld and Rogoff (2000) for an overview of the major puzzles in international economies.

[13]For a recent overview of the different explanations behind the "Lucas Paradox," see Reinhart and Rogoff (2004).

[14]For the role of different production functions, see King and Rebelo (1993); for the role of government policies, see Razin and Yuen (1994); for the role of institutions see Tornell and Velasco (1992); for the role of total factor productivity (TFP), see Glick and Rogoff (1995) and Kalemli-Ozcan et al. (2005). Note that it is very difficult to differentiate both theoretically and empirically between the effect of institutions and the effect of TFP on investment opportunities, given that institutional quality is also a determinant of TFP. Prescott (1998) argues that the efficient use of the currently operating technology or the resistance to the adoption of new ones depends on the "arrangements" a society employs. Kalemli-Ozcan et al. (2005) study capital flows between U.S. states, where there is a common institutional structure. They show these flows to be consistent with a simple neoclassical model with total factor productivity (TFP) that varies across states and over time and where capital freely moves across state borders. In this framework capital flows to states that experience a relative increase in TFP.

developing countries, it does not flow there because of market failures.[15]

Empirical research on the "Lucas paradox" is rather limited. As far as indirect evidence goes, O'Rourke and Williamson (1999) find that before World War I British capital chased European emigrants, when both were seeking cheap land and natural resources. Clemens and Williamson (2004), using data on British investment in 34 countries during the 19th century, show that two thirds of the historical British capital exports went to the labor-scarce New World and only about one quarter to labor abundant Asia and Africa for similar reasons. Direct evidence is provided by AKV, who investigate the role of the different explanations for the lack of inflows of capital (FDI, portfolio equity, and debt) from rich to poor countries—the "paradox." Using cross country regressions, and paying particular attention to endogeneity issues, AKV show that during $1970-2000$ institutional quality is the most important causal variable explaining the "Lucas paradox."

What about pre-1970 capital flows? Obstfeld and Taylor (2004) characterize four different periods in terms of the "U-shaped" evolution of capital mobility.[16] An upswing in capital mobility occurred from 1880 to 1914 during the Gold Standard period. Before 1914, capital movements were free and flows reached unprecedented levels. The international financial markets broke up during World War I. In the 1920s, policymakers around the world tried to reconstruct the international financial markets. Britain returned to the gold standard in 1925 and led the way to restoring the international gold standard for a short period. Capital mobility increased between 1925 and 1930. As the world economy collapsed into depression in the 1930s, so did the international capital markets. World War II was followed by a period of limited capital mobility. Capital flows began to increase starting in the 1960s, and further expanded in the 1970s after the demise of the Bretton Woods system. In terms of the "Lucas paradox," Obstfeld and Taylor (2004) argue that capital was somewhat biased towards the rich countries in the first global capital market boom in pre-1914, but it is even more so today. In the pre-1914 boom, there was little difference between net flows and gross flows because most of the flows were uni-directional from rich core to the periphery. Post 1970, however, gross flows (both inflows and outflows) increased tremendously. But net flows (inflows minus outflows) held constant at relatively low levels for the last thirty years. This is consistent with the fact that most flows are between rich countries (so-called north-north as opposed to north-south). Obstfeld and Taylor (2004) conclude that modern capital flows are mostly "diversification finance" rather than "development finance."

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[15]Gertler and Rogoff (1990) show that asymmetric information problems might cause a reversal in the direction of capital flows relative to the perfect information case. Gordon and Bovenberg (1996) develop a model with asymmetric information that explains the differences in corporate taxes and, hence, differences in real interest rates.

[16]See also Eichengreen (2003), and O'Rourke and Williamson (1999).

If the "Lucas paradox" characterized to a certain extent the pre-1914 global capital market, and if it persists today to the extent that poorer countries receive even less flows than during the pre-1914 boom, what is the explanation? We argue that it is differences in institutional quality among the poor and rich countries. Institutions are the rules of the game in a society. They consist of both informal constraints (traditions, customs) and formal rules (regulations, laws, and constitutions). They create the incentive structure of an economy. Institutions are understood to affect economic performance through their effect on investment decisions by protecting the property rights of entrepreneurs against the government and other segments of society and preventing elites from blocking the adoption of new technologies. In general, weak property rights owing to poor quality institutions can lead to lack of productive capacities or uncertainty of returns in an economy.

Lucas (1990) argues that "political risk" cannot explain the lack of flows before 1945 since during that time most poor countries were subject to European legal arrangements imposed through colonialism. He uses the specific example of India to argue that Indian investors were governed by the same rules and regulations as investors in the U.K. However, the recent work on institutions and growth by Acemoglu, Johnson, and Robinson (2001, 2002) illustrates how conditions in the colonies shaped today's institutions. The British institutions in India do not necessarily have the same quality as the British institutions in the U.S. and Australia. They argue that the identity of the colonizer or the legal origin do not matter in terms of shaping institutions, but whether the European colonialists could safely settle in a particular location. If the European settlement was discouraged by diseases or surplus extraction was beneficial via an urbanized and prosperous population, the Europeans set up worse institutions. This is also consistent with Reinhart and Rogoff's (2004) argument, who emphasize the relationship between sovereign risk and historical defaults and conclude that sovereign risk must be the explanation for the "Lucas paradox." Historically bad institutions are strong predictors of sovereign risk and, hence, historical serial default.

In the next section we present an overview of the general patterns of international capital mobility and capital flows volatility over the last 30 years. These data show that, despite the dramatic increase in capital flows over the last two decades, most capital flows to rich countries.

3 International Capital Flows: 1970−2000

3.1 Data

We use data on annual capital flows from the *International Financial Statistics* (IFS) issued by the International Monetary Fund (IMF). Although there are other data sources, the IMF, IFS provides

the most comprehensive and comparable data on international capital flows.[17] These data are described in detail in Appendix.

From the perspective of the financial account (formerly called the capital account), one usually thinks of changes in liabilities as positive (inflows) and changes assets as negative (outflows). In practice, both changes in liabilities and assets are reported as net of any disinvestment and consequently both can have any sign. In the balance of payments accounts, an increase (decrease) in liabilities to foreigners is entered as positive (negative) while an increase (decrease) in foreign assets held by locals is entered as negative (positive).[18,19] Following this convention, net flows of capital are calculated as the sum of the flows of foreign claims on domestic capital (change in liabilities) and the flows of domestic claims on foreign capital (change in assets) in a given year. Gross flows of capital are calculated as the sum of the absolute value of the flows of foreign claims on domestic capital and the absolute value of the flows of domestic claims on foreign capital in a given year. Hence, they are always positive.

The main categories of capital flows are foreign direct investment (FDI), portfolio equity investment, and debt flows. In what follows, we describe the definition and measurement of these categories in great detail.

3.1.1 Total Equity Flows

For FDI, we use direct investment abroad (line 78bdd) and direct investment in reporting economy (line 78bed). These categories include equity capital, reinvested earnings, other capital and financial

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[17]The Balance of Payments (BOP) statistics, also issued by the IMF, presents the same data. But *only* BOP presents detailed data for portfolio equity investment and portfolio equity securities. There are two presentations of the BOP data: Analytical and Standard. IFS and BOP Analytical present the same data and report "exceptional financing" as a separate line. BOP Standard, on the other hand, does not report "exceptional financing" as a separate line and instead includes it in the "other investment" category. Items reported under "exceptional financing" vary from country to country and are described in the country profiles in the corresponding BOP manual.

[18]The balance of payment is a record of a country's transactions with the rest of the world. The financial account within the balance of payments, broadly speaking, keeps track of transactions in financial assets. It reports changes in the asset position (assets and liabilities) of a country vis a vis the rest of the world. For example, if a U.S. firm imports goods from Switzerland for $10M and pays with a check drawn on a U.S. bank, the corresponding transaction in the financial account is recorded as an increase in U.S. liabilities to foreigners (a credit of $10M). If the payment is drawn against an account the U.S. firm has in a Swiss bank, the corresponding transaction in the financial account is recorded as a reduction in U.S. assets (a credit of $10M). Note that a country's balance of payment record is kept according to the principles of double entry book keeping. The corresponding balancing transaction would be a debit (-$10M) in the current account (import of goods).

[19]A specific example is as follows: On September 1st, 1998, as part of a broader set of policies to restrict capital outflows, the Malaysian government eliminated the offshore trading of the Malaysian ringgit by requiring all ringgit offshore to be repatriated within a month. By the end of 1998 the account other investment was -4604 million U.S. dollars. This amount, among other transactions, reflects the repatriation of the ringgit, which will show as a reduction in Malaysian liabilities.

7

derivatives associated with various intercompany transactions between affiliated enterprises. For portfolio equity investment, we use equity security assets (line 78bkd) and equity security liabilities (line 78bmd) which include shares, stock participations, and similar documents (such as American Depository Receipts) that usually denote ownership of equity.

Direct investments include greenfield investments and equity participation giving a controlling stake. When a foreign investor purchases a local firm's securities without exercising control over the firm, the investment is regarded as a portfolio investment. The IMF classifies an investment as direct if a foreign investor holds at least 10 percent of a local firm's equity while the remaining equity purchases are classified under portfolio equity investment. In the regression analysis, we do not distinguish between minority and majority shareholders, as this distinction is not important to our analysis. In addition, because of missing or lack of portfolio data (some countries tend not to receive portfolio flows, in part due to lack of functioning stock markets), we prefer to use total equity flows in the analysis, which is the sum of flows of FDI and flows of portfolio equity.

3.1.2   Debt Flows

For debt flows, we use debt security assets (IFS line 78bld) and debt security liabilities (line 78bnd) as well as other investment assets (line 78bhd) and other investment liabilities (line 78bid). Debt securities include bonds, debentures, notes, and money market or negotiable debt instruments. Other investments include all financial transactions not covered in direct investment, portfolio investment, financial derivatives, or other assets. Major categories are trade credits, loans, transactions in currency and deposits, and other assets.

Note that the IMF data include both private and public issuers and holders of debt securities. Although the IMF presents some data divided by monetary authorities, general government, banks and other sectors, this information is unfortunately not available for most countries for long periods of time. The World Bank's *Global Development Finance* database, which focuses on the liability side, provides data on official and private creditors but not on the debtors. These data are available only for developing countries. As Lane and Milesi-Ferretti (2001) note, for developing countries there are discrepancies between the loan flows reported in the IMF BOP Statistics and the changes in external debt stocks as reported by the World Bank's Global Development Finance Database.[20]

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[20]We thank Gian-Maria Milesi-Ferretti for pointing this out to us and helping us with the data in general.

3.1.3 Data Issues

Although the IMF data are the most comprehensive data, there are several issues associated with the compilation of the BOP Statistics, as discussed in greater detail by Lane and Milesi-Ferretti (2001). Substantial data are missing for many countries, in particular developing countries. In addition, some countries do not report data for all forms of capital flows. Unfortunately, it is difficult to verify whether the data are in fact missing as opposed to simply being zero. For example, portfolio equity data for most countries were negligible until recently. There are additional misreporting issues related to the fact that several countries tend to report data for liabilities only and no data for assets. This is particularly the case for foreign direct investment flows. Some of these data, reported in the liability line, seem to correspond to net flows, i.e., liabilities minus assets. For debt data, there are additional issues. Consequent to the debt crisis there are a number of measurement problems related to different methodologies for recording non-payments, rescheduling, debt forgiveness, and reductions.[21] Finally, the time coverage of the data varies substantially from country to country. Most developed countries begin reporting data in the early 1970s, and a substantial subset of developing countries in the mid 1970s. For other countries, data are not available until the mid 1980s or early 1990s.

3.1.4 Stocks versus Flows and Valuation Effects

The IMF, IFS reports BOP transactions as flows of equity and debt. In 1997, the IMF began to report international investment position for each country, that is, the stocks. However stocks are not just cumulative flows but they also depend capital gains and losses, defaults, i.e., on valuation adjustments. These stocks reported by the IMF are reported by countries themselves. Some calculate them in a pretty sophisticated fashion (surveys etc), while others cumulate flows with valuation adjustments. Kraay, Loayza, Serven, and Ventura (2000) (KLSV) and Lane and Milesi-Ferretti (1999, 2001) (LM) construct consistent estimates of foreign assets and liabilities and their subcomponents for different countries in the 1970s, 1980s, and 1990s, paying particular attention to these valuation effects. LM estimate stocks of equity and foreign direct investment based on the IMF flow data adjusted to reflect changes in financial market prices and exchange rates. In order to estimate FDI stocks, the authors accumulate flows and adjust for the effects of exchange rate changes. For equity stocks, they adjust for changes in the end of year U.S. dollar value of the domestic stock market. KLSV argue against the valuation of stocks using financial market prices

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[21]As noted by Lane and Milessi-Ferretti (2001) these issues create large discrepancies among debt data reported by different methodologies.

maintaining that capital listed on the stock market and the corresponding share prices—especially in developing countries—are not representative of the stock of capital of a country or of the value of a firm. Instead, they use the price of investment goods in local currency, which is the investment deflator. They also adjust for exchange rate changes. LM found the correlation between the first difference of foreign claims on capital and current account to be generally high but significantly below unity for several countries, confirming the importance of valuation adjustments.

3.2 Some Stylized Facts

We express all flows in 1995 U.S. dollars using the U.S. consumer price index (CPI) taken from the World Bank, *World Development Indicators*. We divide these flows by the corresponding country's population taken from the same source. We believe that data expressed as real dollars per capita are consistent with the neoclassical theory and provide a better picture of the evolution of the global capital markets over the last three decades. In terms of the sample, we exclude countries with populations of less than half a million. Small countries tend to distort the picture of capital flows per capita and the volatility thereof relative to the other countries in the sample. We have data on 72 countries for FDI, 68 countries for portfolio equity, and 122 for debt flows.[22]

Total inflows of capital per capita as well as each of the components increased substantially throughout the sample period for most of our countries. Average inflows of capital per capita within our sample grew by 4.8% per year during the sample period. There is, however, variability in terms of the composition. Figure 1 plots the evolution of the composition of inflows of capital per capita for the countries in our sample.[23] The increasing role of FDI and portfolio flows is evident. Based on 72 countries, average inflows of FDI per capita grew by 6.2% over the last thirty years and became the main source of private capital for developing countries during the 1990s. For our sample of 68 countries, average inflows of portfolio equity per capita grew by 9.3%. Finally, based on 122 countries, average inflows of debt per capita grew by 3.3%. Although their role is quite dominant, debt inflows clearly contracted following the 1980s debt crisis. Figure 2 plots the evolution of the composition of the gross flows per capita. The patterns overall are similar to those in Figure 1.

Figures 3, 4, and 5 plot the evolution of FDI, portfolio equity, and debt flows per capita respectively. FDI flows have remained relatively stable for most of the sample period, then increased

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[22]In calculating total equity flows, we treat missing portfolio equity data as zero. We then add zero and FDI for that country. So we also have 72 countries for the total equity flows. The 4 countries with FDI data but no portfolio equity data are Bolivia, Central African Republic, Mauritius, and Papua New Guinea.

[23]See Appendix Tables 13 and 14 for the list of countries.

10

steadily around the mid 1990s. Portfolio equity flows rose as well but fluctuated more. Debt flows also fluctuated, increasing during the 1970s, then crashing following the wake of the 1980s debt crisis and reviving only in the 1990s. Figures 4 and 5 show that net portfolio flows and net debt flows become negative after 1995, a circumstance driven mainly by industrialized countries. With the few countries, in particular the U.S., almost all of the developed countries have negative financial accounts including Japan, Norway, Switzerland, Belgium, and Luxembourg. This is consistent with the results of Lane and Milesi-Ferretti (2001) which show net foreign asset positions on average to be increasing since 1995 for developed countries.

Figure 6a shows total equity inflows, which is the sum of inflows of FDI and inflows of portfolio equity investment for 20 OECD and 52 developing countries. The difference between the two is a stark demonstration of north-north flows, or the "Lucas Paradox." Figure 6b shows the share of total equity inflows to total capital inflows for the OECD and developing countries. Since 1990, almost half of the total inflows were composed of FDI and portfolio equity investment for both rich and poor countries. Total equity flows are clearly an important part of the big picture, especially for poor countries.

Tables 1–4 present a variety of descriptive statistics on the various forms of capital flows for our sample of countries from 1970 to 2000. Table 1 provides descriptive statistics for inflows of capital per capita. Total capital inflows vary from -44.94 to 8320.9 with a mean of 406.29 dollars per capita. During the sample period, debt inflows averaged 284.07 dollars per capita; FDI inflows 169.44 dollars per capita, and total equity inflows 232.70 dollars per capita. Table 2 shows the increasing role of FDI and portfolio inflows per capita over debt inflows per capita for all regions (Sub-Saharan Africa is the exception, where all type of inflows have a declining trend). These trends notwithstanding, the bulk of capital still flows to high income countries which attract 80% of all capital inflows.

Table 3 presents summary statistics on the volatility of inflows of capital per capita. The volatility of inflows of capital is calculated as the standard deviation of the corresponding inflows per capita divided by the mean of gross flows over the sample period, which is the average of the absolute value of the inflows and the absolute value of the outflows per capita (hence always positive). Normalization prevents spuriously higher volatility in the recent period due to higher flow volume. FDI flows are generally less volatile than portfolio flows as they tend to be driven by long term considerations. Debt flows also exhibit higher volatility relative to FDI. Table 4 shows the volatility of the different forms of inflows of capital to have been lower during the 1990s. Inflows of portfolio and debt experienced higher volatility during the 1980s consequent to the debt crises

11

and the increasing role of portfolio flows in the aftermath of the crises. As expected, the volatility of each component of inflows of capital is lower for high income countries than for developing countries. The volatility of inflows has remained relatively constant for South Asian countries, with a slight increase during the 1990s driven by increased volatility of inflows of portfolio in the period before and after the Asian crisis of the late 1990s. Recently opened up countries in Eastern Europe experienced a dramatic increase in the volatility of all forms of inflows of capital during the 1990s. For Latin America, on the other hand, the 1980s were turbulent years mostly driven by the debt crisis. The volatility of inflows of capital has declined during the 1990s. A similar pattern is observed for Sub-Saharan Africa. The volatility of inflows of capital increased substantially in the 1990s for the Middle-Eastern and North African countries.[24]

4   Empirical Analysis

4.1   Determinants of Capital Flows

For the regression analysis, we exclude countries with substantial missing data. In addition, there are various outliers in terms of capital flows per capita. This, of course, should be considered in the econometric analysis. Table 5 lists the countries used in the regression analysis.[25]

The dependent variable is inflows of capital per capita, which is inflows of total equity (FDI and portfolio equity) investment averaged over the sample period. We believe inflows to be a better measure for capturing the foreign investors' prospective points of view. We also believe per capita measures to be more in line with the theoretical literature. We prefer to abstract our analysis from debt flows for the following concerns. First, as mentioned in Section 3.1, following the debt crisis

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[24]Note that a very volatile form of foreign capital is foreign aid which is driven by a host of factors as shown by Alesina and Dollar (2000) and not the focus of this study.

[25]We keep track of the series of countries that have data throughout the whole sample period as shown in Appendix Table 15. The table provides descriptive statistics for a sub-sample of 47 countries for which there is data for both total equity and debt flows throughout the different decades. This sub-sample exhibits similar overall patterns with our regression sample. The 47 countries of this sub-sample are shown in bold letters in Appendix Table 13. Unfortunately, we cannot use this sample in the regressions because there are several outliers. In addition, some of our independent variables do not exist for this sub-sample. Bene-Lux and Singapore are outliers in terms of large inflows. Bahrain, Botswana, Gabon, Burkina Faso, and Niger do not have human capital data. Central African Republic, Fiji, Libya, Mauritius, Swaziland, and Chad are outliers in terms of other independent variables. This leaves us with a sample of 34 countries. In order to increase the number of observations we add the countries shown in italics. Although data for these countries start later in the sample period, there is enough data to construct averages over the period. Out of these 23 late starters, we cannot use Burundi, Switzerland, China, Kuwait, Latvia, Mauritania, Namibia, Slovenia, Trinidad and Tobago, and Uruguay. Switzerland and Kuwait are outliers in terms of large inflows. China is an outlier in terms of very low levels of GDP per capita. Latvia and Slovenia do not have human capital data. The rest are outliers for the other independent variables. So we add the remaining 13 to our 34 and have our 47 country sample for the regression analysis as shown in table 5. Ending up again with a sample of 47 is pure coincidence.

there are important measurement discrepancies in the debt flows data versus the changes in the debt stocks data.[26] Second, in general, debt flows tend to be shaped by different decisions than equity flows. Specifically, flows of debt tend to be shaped by government decisions to a greater extent than flows of equity.[27] In addition, in many countries bank loans have usually been intermediated through poorly regulated financial systems. Hence, in many cases this form of external capital has not responded to market incentives.[28] As mentioned above, we would like to capture market decisions.[29]

Table 6 provides descriptive statistics for our regression sample of 47 countries averaged over the sample period 1970–2000. Following AKV, we use the initial level of human capital (years of total schooling in total population) and institutional quality averaged over the sample period as independent variables to capture the fundamentals of the economy. We use International Country Risk Guide's (ICRG) political safety variables as our measure of institutional quality. This is a composite index is the sum of the indices of government stability, internal conflict, external conflict, no-corruption, non-militarized politics, protection from religious tensions, law and order, protection from ethnic tensions, democratic accountability, and bureaucratic quality.

In the empirical capital flows literature, distance has been used as a proxy for the international capital market failures, mainly asymmetric information.[30] We construct a variable called distant-ness, which is the weighted average of the distances from the capital city of a particular country to the capital cities of the other countries, using the GDP shares of the other countries as weights.[31]

We use additional variables on the right-hand side to capture domestic distortions associated with government policies and also with the financial structure of the economy. These are inflation volatility, capital controls, sovereign risk, corporate tax, and bank credit all averaged over the sample period. Inflation volatility captures macroeconomic instability. It is measured as the standard deviation divided by the mean of the inflation rate over the sample period. Normalization by mean

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[26]See Lane and Milesi-Ferretti (2001).

[27]Until the mid 1970s—following the shutting down of the international markets in the 1930s—debt flows to most developing countries were generally restricted to government/international organizations-to-government loans. During the late 1970s, banks replaced governments of industrial countries as lenders to developing countries. After 1982, following the debt crisis, official creditors once again dominated lending to developing countries. In addition, throughout this period an important share of debt lending to developing countries was captured by governments.

[28]See Henry and Lorentzen (2003) and Obstfeld and Taylor (2004).

[29]Debt data include both private and government debt and it is difficult to break the debt data down by private/public lender and recipient.

[30]Portes and Rey (2005) use a similar interpretation of distance in the context of bilateral capital flows and Wei and Wu (2002) in analyzing the determinants of FDI and bank lending. See also Coval and Moskowitz (1999, 2001).

[31]We construct this variable following Kalemli-Ozcan, Sorensen, and Yosha (2003). We use Arcview software to get latitude and longitude of each capital city and calculate the great arc distance between each pair. The GDP weights capture the positive relation between trade volume and GDP.

is crucial given the differences in average inflation levels across time for the different countries. Our capital controls measure is the average of four dummy variables constructed using data collected by the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER). These dummy variables are; exchange arrangements, payments restrictions on current transactions and on capital transactions, and repatriation requirements for export proceeds. Bank credit is the share of credit provided by deposit money banks, which includes commercial banks and other financial institutions entitled to accept deposits from the public.[32]

It is clear that there is extensive cross-sectional variation on these variables. The institutional quality index varies from 3.4 to 7.3 with a mean of 5.5. Human capital varies from 1 to 10 years with a mean of 4.7 years. Table 7 presents the correlation matrix. Some of our independent variables are highly correlated, such as institutional quality and human capital, and sovereign risk and institutional quality. Hence, it is essential to employ a multiple regression framework with many robustness tests.[33]

Table 8 shows the results. Institutional quality, human capital and distantness are all important determinants of capital inflows.[34] Other potential determinants turn out to be insignificant.[35] Sovereign risk is borderline significant when distantness is left out. Obviously, both are capturing information/market frictions. Figure 7 shows the partial correlation plot for the Institutional Quality variable for the regression shown in column (1) of Table 8. The slope of the fitted line is 5.56 as shown in that column.[36] The strong positive relation between the institutional quality and the inflows of capital per capita is evidently not due to the outliers.

What about endogeneity? It is possible that capital inflows affect the institutional quality of a country. More inflows can generate incentives to reform and create an investor friendly environment by improving property rights. Moreover, because most institutional quality measures are

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[32]In AKV we used a wider range of additional right hand side variables, such as GDP per capita, inflation, government consumption, government budget, trade openness (share of exports plus imports in GDP), restrictions on foreign investment, incentives on foreign investment, government infrastructure (percent of paved roads), stock market capitalization, reuters (number of times the country's name is mentioned in Reuters), foreign banks (share of foreign banks in total), and accounting (an index of accounting standards of corporate firms). In that work, out of all these variables only sovereign risk, corporate tax, and bank credit were significant depending on the specification. Hence, we check their role here again.

[33]We refer the reader to AKV for a sensitivity analysis with a wider range of variables.

[34]In AKV, we also explored the role of each of the components of the composite index that is used as a proxy for the institutional quality. We find institutional quality indicators that are closer proxies of property rights protection, such as the no-corruption index and protection from expropriation, to be important determinants of capital inflows.

[35]We also investigate the effect of the exchange rate regime. The results remain the same.

[36]We first regressed inflows of capital per capita on human capital and distantness. We took the residuals and regressed them on the residuals from a regression of institutional quality on human capital and distantness. Frisch-Waugh theorem says the coefficient from this regression is exactly the same as the one in the multiple regression. The figure plots these two sets of residuals against each other.

14

constructed ex-post, analysts might have a natural bias towards 'assigning' better institutions to countries with higher capital inflows. One way to solve this problem is to find variables not subject to reverse causality that can account for the institutional variation.[37] AKV instrument institutional quality with its historical determinants mainly with settler mortality rates from Acemoglu, Johnson, and Robinson (2001, 2002) (AJR) and show that the effect of institutional quality on capital inflows is causal.[38] AJR argue that the historical mortality rates of European settlers in colonized countries is a good instrument for current institutions of former colonies since if the European settlement there was discouraged by diseases then the Europeans set up worse institutions.

In this paper we investigate whether or not there is any direct effect of some other historical determinants of institutions such as legal origins and legal system. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) emphasize the importance of the historical legal origins in shaping the current financial institutions. They examine the effect of legal origin on the laws governing investor protection, the enforcement of these laws, and the extent of concentration of firm ownership across countries. Most countries' legal rules, either through colonialism, conquest, or outright borrowing, can be traced to one of four distinct European legal systems: English common law, French civil law, German civil law, and Scandinavian civil law. These legal origin variables have been adopted as exogenous determinants of institutional quality, in particular financial institutions, in the economic growth literature. On the other hand, AJR claim that legal origin is a weak instrument for institutional quality, in particular for institutions that protect property rights. They claim it is hard to make a case that legal origins do not have any direct effect on the relevant outcome variables such as income levels.[39] Thus we investigate whether legal origins have a direct effect on capital inflows in addition to their partial effect on institutional quality by adding legal origin as an additional right hand side variable.

Table 9 shows the results. As shown in columns (1)−(4) French legal origin has a negative significant effect and British legal origin has a positive significant effect. It seems these effects are first order in addition to institutions. If institutional quality is left out from the regressions, the

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[37]Another source of endogeneity can come from the possibility that both inflows and institutional quality might be determined by an omitted third factor. We believe the extensive robustness analysis that is undertaken in AKV shows that this is not the case.

[38]AKV also use other instruments such as historical indicators of regime type and political constraints to the executive power from the Polity data set and the fraction of the population speaking English.

[39]AJR stress that successful instruments have to be *theoretically* excludable from the empirical model used by the econometrician and undertaking overidentification tests are not enough. In addition overidentification tests have low power in general. AJR show that in their first stage regression French legal origin is associated with worse institutions. But in their second stage regression, where French legal origin is included as one of the explanatory variables and institutions are instrumented with settler mortality rates, French legal origin has a positive effect on income. The net effect of this variable on income (directly and indirectly via better institutional quality) is positive.

British legal origin variable is only significant at 10% level. We do not tabulate the details but we found in our data that British legal origin is negatively correlated with institutions and this leads to a downward bias in British legal origin when institutional quality is omitted. Column (5) displays an IV regression that instruments institutions with log settler mortality rates from AJR, which is only available for 21 ex-colonies in our sample.[40] If there is a direct effect of legal origin on capital inflows we expect it to be significant in this regression. We find this to be the case.[41] Column (5) also re-establishes the causal effect of institutions, which is already shown by AKV. Column (6) reports the corresponding OLS regression for comparison. We only show the IV regression in column (5) with British legal origin since our sample is composed of *only* British and French legal origin countries. Thus, the corresponding IV regression with French legal origin is exactly the same as in column (5) with a reverse sign on the French legal origin variable.[42] We also investigated the direct effect of the variables proposed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) to capture investor protection, such as shareholder rights, and found similar results. The partial correlation plots given in Figures 8 and 9 show that the significant effects of French and British legal origins are not due to the outliers but rather driven by the countries one would expect, such as Turkey for French origin, and Australia for British origin.

4.2 Determinants of Changes in Capital Flows

Our results thus far suggest that institutional quality has a first order effect over policies in explaining the pattern of capital flows in the period 1970-2000. Is there any role of left for policies? Can a country that improves its institutions or macroeconomic policies expect to receive more inflows? To investigate these questions we run change regressions. We calculate the change in inflows per capita as the difference between average capital inflows per capita over $1970-1993$ and average capital inflows per capita over $1994-2000$. We did the same for the independent variables and we regress changes on changes. The reason for this division of the sample is the fact that visible improvements, if any, in institutional variables occur in the late 1990s as shown in Figure 10.[43]

The results are given in Table 10. We only consider the 23 developing countries out of our 47 country sample since for the OECD the institutional changes are basically zero and this distorts the

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[40]The corresponding first stage regression reports a coefficient of -0.21 on settler mortality rates with a t-statistic of -4.09.

[41]Note that this regression is an interpretable version of an overidentification test.

[42]Institutional quality is estimated to have a higher coefficient in the IV regression since 2SLS regression corrects for the measurement error that causes attenuation bias in the OLS regression.

[43]At first, we cut the sample in the middle and calculated the change from $1970-1985$ to $1986-2000$. However, given the time invariant nature of our variables, this way of dividing the sample do not provide us with much variation.

picture. The results suggest that a country that improves institutions, decreases capital controls and increases its growth is going to receive more capital inflows.[44] The change in institutions is not always very significant though. This is not surprising given the small sample size and low time variation in this variable. Of course we have to interpret the results with caution since most of these right hand side variables are endogenous such as the change in GDP per capita. An interesting result is the positive significant distantness. This variable enters in levels since differencing this variable is going to capture only the change in GDP weights. The result suggests that information frictions have become less important for capital inflows in the 1990s since even the "remote and distant countries" receive higher capital inflows in the 1990s, which is exactly what we expect to find. Overall, these results suggest that there is a role for improved policy and institutions.

4.3   Determinants of Capital Flows Volatility

A natural intermediate step towards understanding the link between capital flows and financial crises is to look at the determinants of volatility of capital flows. There has not been many empirical papers that look at the determinants of capital flows volatility. As a preliminary investigation of the patterns in the data, we run cross-country regressions for the period $1970-2000$. We measure volatility as the standard deviation of inflows of total equity per capita divided by the mean gross flows over the sample period.

Table 11 shows our results. We do find a significant effect of institutional quality on the volatility of the inflows of total equity. However, this effect is sensitive to inclusion of some other independent variables such as sovereign risk and capital controls. We also find the coefficient of inflation volatility to be positive and significant. It appears that countries with lower levels of inflation volatility tend to experience lower levels of uncertainty in terms of the inflows of external capital. Bank credit is positive and significant. This can be due to several reasons. First, as noted in the introduction, the literature has related high volatility of capital flows and currency crisis to bank fragility. Financial liberalization, when not followed by proper regulation and supervision can lead to both greater capital flows intermediated through banks and greater bank credit and later to abrupt reversals in capital flows.[45] Moreover, the positive correlation between bank credit and capital flows volatility might be due to cronyism in the banking sector.[46] We also control for stock

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[44]Note however, that the IMF measure for capital controls does not control for the fact that legal restrictions are sometimes circumvented. See Edwards (2001) for criticisms to the use of this index.

[45]Henry and Lorentzen (2003) argue that liberalization of debt flows exposes countries to the risk of crises stemming from sudden changes in investors' sentiments. Equity market liberalizations, on the other hand, have promoted growth in almost every liberalizing country.

[46]This finding is consistent with Wei (2000) and Wei and Wu (2002). The authors show that corruption within a

market capitalization and trade openness, both of which come in as insignificant.[47]

Figures 11−13 show the partial correlation plots for institutions, inflation volatility and bank credit with slopes -0.42, 0.24, and 0.37 as shown in column (1) of table 11 respectively. Clearly, these significant relations are not due to outliers and driven by volatile countries of Latin America and Asia. The last two columns investigate the role of legal origins, which turn out to be insignificant. This phenomenon might be due to the fact that they work their effect via institutions.

Table 12 looks at the issue of measuring volatility. Our results might be due to the fact that some countries have liberalized their financial accounts over the last 30 years and received huge inflows creating volatility due to this volume and an upward trend, both of which may not be captured by our normalization. We experiment with different ways to deal with these problems: we use standard deviation of inflows, standard deviation of de-trended inflows, and normalized versions of these measures. In columns (1) and (3) volatility is measured as the standard deviation of inflows. In (2) and (4), it is normalized standard deviation of inflows. Normalization is performed by the average gross flows. In (5) and (7), it is the standard deviation of de-trended inflows. De-trending is performed by regressing inflows on a constant and a linear trend and using residuals from that regression as a proxy for inflows. In (6) and (8) it is normalized standard deviation of de-trended inflows. Normalization is performed by the average gross flows.[48] As it is clear, de-trending does not matter and what matters is normalization. Columns (3), (4), (7) and (8) control for the level of inflows on the right hand side. The main conclusion is that normalization does a good job of controlling the volume and trend effects of the level of inflows. Figure 14 plots the partial correlation plot out of column (6), with slope 0.44. Although this is a tighter fit, there are no important differences relative to Figure 11. Figure 15 plots the partial correlation from column (1), with slope 11.56. Scandinavian countries evidently have high volatility due to volume and our normalization takes care of this.

Overall, the results suggest that institutional quality and macroeconomic policy play an important role for capital flows volatility. We should note, however, that we are establishing correlations more than causality. For example, inflation volatility is probably endogenous to the volatility of capital inflows and to institutional quality. Higher volatility can also cause an increase in bank credit or capital controls. Finding good instruments for the policy variables is a rather difficult task and not the focus of this study.

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country increases the loan-to-FDI ratio.

[47]Other measures of credit market and capital market development in general such as liquid liabilities, and total value traded are also insignificant.

[48]We also investigated the effect of a quadratic trend. The results were similar.

5 Conclusions

Over the last thirty years, international capital flows have experienced tremendous growth. The surge in capital flows, and in particular, the crises of the last decade have revived the debate over the merits of international capital mobility. Our objective in this paper has been to overview the main stylized facts behind capital flows mobility over the last thirty years and establish the empirical determinants of capital flows and capital flows volatility. We find institutional quality to be an important determinant of capital inflows. Historical legal origins have a direct effect on capital inflows during the period 1970−2000. Policy plays a significant role in explaining changes in the level of inflows and their volatility.

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Appendix: Data

Foreign Direct Investment: Direct Investment abroad (line 78bdd) and Direct Investment in Reporting Economy, n.i.e (line 78bed) include equity capital, reinvested earnings, other capital and financial derivatives associated with various intercompany transactions between affiliated enterprises. Excluded are inflows of direct investment capital into the reporting economy for exceptional financing such as debt-for-equity swaps. We include only countries with data for both direct investment abroad and direct investment in the reporting economy.

Portfolio Equity Investment: Equity Securities Assets (line 78bkd) and Equity Securities Liabilities (line 78bmd) include shares, stock participations, and similar documents (such as American depository receipts) that usually denote ownership of equity. These are divided in monetary authorities, general government, banks and other sectors. We calculate net portfolio equity flows only for countries with data both for equity security assets and debt security liabilities.

Debt Flows: Debt Securities Assets (line 78bld) and Debt Securities Liabilities (line 78bnd) cover (i) bonds, debentures, notes, etc (divided into monetary authorities, general government, banks, and other sectors) and (ii) money market or negotiable debt instruments (divided into monetary authorities, general government, banks, and other sectors). Other investment assets (line 78bhd) and other investment liabilities (line 78bid) include all financial transactions not covered in direct investment, portfolio investment, financial derivatives or other assets. Major categories are trade credits, loans (divided in monetary authorities, general government, and banks), transactions in currency and deposits (monetary authorities, general government, and banks), and other assets (monetary authorities, general government, and banks). We first calculate total debt assets as the sum of debt securities assets and other investment assets; total debt liabilities correspond to the sum of debt securities liabilities and other investment liabilities. We calculate net total debt flows only for countries that had information for both total debt liabilities and total debt assets.

Total Equity Flows: Sum of foreign direct investment and portfolio equity flows.

Volatility of Inflows: Standard deviation of the corresponding inflows per capita divided by the average of the absolute value of the inflows and outflows of capital per capita.

Independent Variables

Bank Credit: 1970-00, Average value of claims of deposit money banks on nonfinancial domestic sectors as share of claims of central bank and deposit money banks on nonfinancial domestic sectors, in percent.

Capital Controls: 1971-97, The mean value of four dummy variables: 1) Exchange Arrangements: separate exchange rates for some or all capital transactions and/or some or all invisibles; 2) Payments Restrictions: restrictions on payments for current transactions; 3) Payments Restrictions: restrictions on payments for capital transactions; 4) Surrender or Repatriation Requirements for Export Proceeds. From International Monetary Fund, *Annual Report on Exchange Arrangements*

and Exchange Restrictions.

Corporate Taxes: Corporate tax rates from PricewaterhouseCoopers (PwC) for 1990-97, from Wei (2000).

Distance: Thousand of Kms., from Arcview 3.x software.

GDP per Capita: 1971-00, 1995 U.S. dollars from World Bank, *World Development Indicators* (2002).

Human Capital: 1970,75,80,85,90,95, Average years of secondary, higher and total schooling in the total population over 25 years old, from World Bank, World Development Indicators (2002).

Legal Origin: Origin of a country's formal legal code: English common-law, French civil law, German civil law, and Scandinavian civil law, from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998).

Inflation rate: Annual CPI inflation (World Bank, *World Development Indicators*).

Inflation Volatility: Standard deviation of inflation rate over the sample period divided by the corresponding mean.

Institutional Quality: Composite political safety: 1984-98, Sum of all the rating components from International Country Risk Guide except for Socioeconomic Conditions and Investment Profile. Average yearly rating from 0 to 76, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Government Stability:* 1984-98, The government's ability to carry out its declared program(s), and its ability to stay in office. Average yearly rating from 0 to 12, with a higher score meaning lower risk. Data from International Country Risk Guide, the PRS Group.

- *Internal Conflict:* 1984-98, Political violence in the country and its actual or potential impact on governance. Average yearly rating from 0 to 12, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *External Conflict:* 1984-98, Assessment both of the risk to the incumbent government from foreign action, ranging from non-violent external pressure (diplomatic pressures, withholding of aid, trade restrictions, territorial disputes, sanctions, etc) to violent external pressure (cross-border conflicts to all-out war). Average yearly rating from 0 to 12, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Non-corruption Index:* 1984-98, Assessment of corruption within the political system. Average yearly rating from 0 to 6, where a higher score means lower risk. Data from *International Country Risk Guide*e, the PRS Group.

- *Non-militarized Politics:* 1984-98, Protection from the military involvement in politics. Average yearly rating from 0 to 6, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Protection from Religious Tensions:* 1984-98, Protection from the religious tensions in society. Average yearly rating from 0 to 6, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Law and Order:* 1984-98, The Law sub-component is an assessment of the strength and impartiality of the legal system; the Order sub-component is an assessment of popular observance of the law. Average yearly rating from 0 to 6, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Protection from Ethnic Tensions:* 1984-98, Assessment of the degree of tension within a country attributable to racial, nationality, or language divisions. Average yearly rating from 0 to 12, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Democratic Accountability:* 1984-98, Average yearly rating from 0 to 6, with a higher score meaning lower risk. In general, the highest number of risk points is assigned to Alternating Democracies, while the lowest number of risk points is assigned to autarchies. Data from *International Country Risk Guide*, the PRS Group.

- *Quality of Bureaucracy:* 1984-98, Institutional strength and quality of the bureaucracy is another shock absorber that tends to minimize revisions of policy when governments change. Average yearly rating from 0 to 4, with a higher score meaning lower risk. Data from *International Country Risk Guide*, the PRS Group.

- *Protection from Government Repudiation of Contracts:* 1982-95, Average yearly rating from 0 to 10, with a higher score meaning lower risk. Data from IRIS Time-Series of *International Country Risk Guide*, the PRS Group.

- *Protection from Expropriation:* 1984-98, Average yearly rating from 0 to 10, with a higher score meaning lower risk. Data from IRIS Time-Series of *International Country Risk Guide*, the PRS Group.

Sovereign Risk: Index based on Standard&Poor's long term foreign currency denominated sovereign debt ratings, average from 1971-97. Index ranges from 1 (an obligor rated AAA) to 23 (an obligor rated SD (Selective Default)).

Table 1: **Descriptive Statistics: Inflows of Capital (per Capita U.S. dollars)**

Sample: 122 countries (1970–2000)

	Mean	Std. Dev.	Min.	Max.
FDI Inflows	169.44	292.44	-122.51	1723.78
Portfolio Equity Inflows	104.82	273.12	-2.17	1769.21
Debt Inflows	284.07	656.00	-83.56	4827.94
Total Equity Inflows	232.70	487.09	-122.51	3492.99
Capital Inflows	406.29	1012.32	-44.94	8320.92

Notes: Inflows represent flows of foreign claims on domestic capital (liability) divided by population based on IMF data in 1995 U.S. dollars. FDI inflows correspond to Direct Investment in Reporting Economy (line 78bed) which includes equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd) which include shares, stock participations, and similar documents that usually denote ownership of equity. Data on inflows of debt include Debt Securities Liabilities (line 78bnd) which include bonds, notes, and money market or negotiable debt instruments; and Other Investment Liabilities (line 78bid) which include all financial transactions not covered by direct investment, portfolio investment, financial derivatives, or other assets. Inflows of total equity are the sum of FDI and portfolio equity investments. Inflows of capital are the sum of total equity and debt. Total equity data are available for 72 countries; debt data are for 122 countries. See Appendix Tables 13 and 14 for countries in the sample.

Table 2: **Inflows of Capital by Decade and Region (per Capita U.S. dollars)**

Sample: 122 countries (1970–2000)

	1970-2000	1970-1980	1981-1990	1991-2000
FDI Inflows				
US, Japan, Western Europe	348.93	115.73	170.23	684.52
Latin America and Caribbean	92.67	60.18	44.26	158.93
East Asia Pacific	247.90	115.38	208.70	419.82
South Asia	1.96	0.45	1.73	2.87
Europe and Central Asia	109.70	2.03	3.26	116.83
Sub-Saharan Africa	19.67	32.86	22.88	6.49
Middle East and North Africa	55.31	-114.64	29.13	128.67
Portfolio Equity Inflows				
US, Japan, Western Europe	223.24	11.55	92.02	442.02
Latin America and Caribbean	9.06	-0.10	4.99	15.69
East Asia Pacific	33.93	24.72	54.59	53.98
South Asia	1.08	0.06	0.14	1.19
Europe and Central Asia	22.19	n.a.	1.11	22.26
Sub-Saharan Africa	7.91	3.49	-1.15	10.77
Middle East and North Africa	150.73	329.64	113.75	2.62
Debt Inflows				
US, Japan, Western Europe	1136.02	845.29	1048.38	1462.65
Latin America and Caribbean	50.30	331.71	-62.97	39.55
East Asia Pacific	214.92	219.90	233.03	272.45
South Asia	12.05	11.14	15.19	9.59
Europe and Central Asia	124.95	30.83	-1.73	127.13
Sub-Saharan Africa	20.65	44.17	33.10	-5.29
Middle East and North Africa	204.00	382.60	-138.69	435.74
Total Equity Inflows				
US, Japan, Western Europe	546.75	123.11	247.70	1114.20
Latin America and Caribbean	84.05	65.86	38.08	139.61
East Asia Pacific	269.07	125.27	226.90	454.84
South Asia	4.00	1.00	2.80	6.39
Europe and Central Asia	128.01	2.03	3.37	136.07
Sub-Saharan Africa	23.99	33.21	22.61	13.16
Middle East and North Africa	77.86	54.20	32.59	129.51
Capital Inflows				
US, Japan, Western Europe	1636.23	943.80	1277.15	2501.27
Latin America and Caribbean	82.66	348.16	-41.51	92.47
East Asia Pacific	376.36	324.29	384.29	545.35
South Asia	14.12	11.74	16.31	13.43
Europe and Central Asia	209.95	31.64	-0.60	229.18
Sub-Saharan Africa	30.23	56.37	42.61	0.17
Middle East and North Africa	258.08	417.04	-117.95	528.89

Notes: Inflows of each category correspond to foreign claims on domestic capital (liability) divided by population. Data are from IMF in 1995 U.S. dollars. Inflows of total equity represent the sum of FDI and portfolio equity investment. FDI data are for 72 countries; portfolio data are for 68 countries, and debt data are for 122 countries.

Table 3: **Volatility of Inflows of Capital (per Capita U.S. dollars)**

Sample: 122 countries (1970–2000)

	Mean	Std. Dev.	Min.	Max.
Volatility of FDI Inflows	1.03	2.64	0.12	22.35
Volatility of Portfolio Equity Inflows	0.78	0.43	0.16	4.29
Volatility of Debt Inflows	0.74	0.43	0.14	4.42
Volatility of Total Equity Inflows	1.02	2.58	0.12	22.35
Volatility of Capital Inflows	0.75	0.68	0.07	7.26

Notes: Volatility of inflows is the standard deviation of the corresponding inflows per capita divided by the average of the absolute value of the inflows and outflows of capital per capita over time for each country. Data are from IMF in 1995 U.S. dollars. FDI inflows correspond to Direct Investment in Reporting Economy (line 78bed) which includes equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd) which includes shares, stock participations, and similar documents that usually denote ownership of equity. Data on inflows of debt include Debt Securities Liabilities (line 78bnd) which cover bonds, notes, and money market or negotiable debt instruments; and Other Investment Liabilities (line 78bid) which include all financial transactions not covered by direct investment, portfolio investment, financial derivatives or other assets. Inflows of total equity are the sum of FDI and portfolio equity investments. Inflows of capital are the sum of total equity and debt. FDI data are for 72 countries; portfolio data are for 68 countries, and debt data are for 122 countries.

Table 4: **Volatility of Inflows of Capital by Decade and Region (per Capita U.S. dollars)**

Sample: 122 countries (1970–2000)

	1970-2000	1970-1980	1981-1990	1991-2000
Volatility of FDI Inflows				
US, Japan, Western Europe	0.58	0.30	0.33	0.39
Latin America and Caribbean	0.82	0.41	0.78	0.55
East Asia Pacific	0.61	0.41	0.48	0.41
South Asia	0.53	n.a.	0.34	0.44
Europe and Central Asia	0.69	0.35	0.63	0.57
Sub-Saharan Africa	2.41	0.63	0.78	0.78
Middle East and North Africa	0.86	0.64	0.83	0.66
Volatility of Portfolio Equity Inflows				
US, Japan, Western Europe	0.70	0.62	0.83	0.48
Latin America and Caribbean	0.92	0.70	3.85	0.74
East Asia Pacific	0.68	0.42	0.49	0.72
South Asia	0.77	n.a.	n.a.	0.77
Europe and Central Asia	0.75	n.a.	0.33	0.74
Sub-Saharan Africa	1.04	0.93	2.12	0.74
Middle East and North Africa	0.64	0.43	0.56	0.69
Volatility of Debt Inflows				
US, Japan, Western Europe	0.57	0.41	0.50	0.43
Latin America and Caribbean	0.86	0.52	0.85	0.63
East Asia Pacific	1.04	0.35	0.64	0.53
South Asia	0.47	0.32	0.32	0.45
Europe and Central Asia	0.68	0.57	0.67	0.60
Sub-Saharan Africa	0.77	0.52	0.72	0.51
Middle East and North Africa	0.72	0.49	0.64	0.67
Volatility of Total Equity Inflows				
US, Japan, Western Europe	0.62	0.32	0.42	0.38
Latin America and Caribbean	0.79	0.38	0.71	0.44
East Asia Pacific	0.60	0.42	0.48	0.42
South Asia	0.73	n.a.	0.41	0.58
Europe and Central Asia	0.64	0.35	0.58	0.53
Sub-Saharan Africa	2.39	0.62	0.77	0.71
Middle East and North Africa	0.81	0.65	0.79	0.64
Volatility of Capital Inflows				
US, Japan, Western Europe	0.51	0.34	0.44	0.37
Latin America and Caribbean	0.86	0.44	0.98	0.62
East Asia Pacific	1.31	0.26	3.14	0.55
South Asia	0.46	0.31	0.31	0.44
Europe and Central Asia	0.63	0.72	0.66	0.52
Sub-Saharan Africa	0.76	0.45	0.79	0.52
Middle East and North Africa	0.76	0.48	0.62	0.68

Notes: Volatility of inflows is the standard deviation of the inflows per capita divided by the average of the absolute value of the inflows and outflows of capital per capita over time for each country. Data are from IMF in 1995 U.S. dollars. FDI data are for 72 countries; portfolio data are for 68 countries, and debt data are for 122 countries.

Table 5: **Sample of Countries for the Regression Analysis**

(1970–2000)

Argentina	Cyprus	Israel	Pakistan	Sri Lanka
Australia^O	Czech Rep.^{O}	Italy^O	Papua New Guinea	Sweden^O
Austria^O	Denmark^O	Japan^O	Paraguay	Thailand
Bolivia	Egypt	Jordan	Philippines	Tunisia
Brazil	Estonia	Kenya	Poland^O	Turkey^O
Cameroon	Finland^O	Korea^O	Portugal^O	United States^O
Canada^O	France^O	Morocco	Romania	United Kingdom^O
Chile	Germany^O	Netherlands^O	Senegal	
Colombia	Hungary^O	New Zealand^O	South Africa	
Costa Rica	India	Norway^O	Spain^O	

Notes: Base sample of 47 countries for the regression analysis. ^{O}OECD member countries.

Table 6: **Descriptive Statistics**

	Sample	Mean	Std. dev.	Min	Max
Inflows of Total Equity per capita	47	173.81	199.93	1.68	697.97
Vol. of Inflows of Total Equity per capita	47	1.50	0.57	0.71	3.14
Institutional Quality[†]	47	5.56	1.11	3.41	7.27
Human Capital	47	4.65	2.64	0.54	9.55
Distantness (000 kms)	47	7.64	2.48	5.13	14.06
Inflation Volatility	47	0.90	0.71	0.30	4.64
Capital Controls[†]	47	1.53	0.26	1.00	1.96
GDP per capita (000 $s)	47	6.72	6.99	0.21	23.46
Bank Credit (% total credit)	45	83.49	11.95	54.34	98.50
Sovereign Risk[†]	36	6.69	5.06	1.00	13.86
Corporate Taxes (%)	34	33.76	4.83	18.00	42.00
French Legal Origin[†]	47	0.46	0.51	0.00	1.00
British Legal Origin[†]	47	0.31	0.47	0.00	1.00

Notes: [†]Index. *Inflows* are calculated as net change in investment liabilities in a reporting economy. *Volatility* is calculated as the normalized standard deviation of the inflows. Normalization is performed by average gross flows. *Institutional Quality* is represented by the composite political safety index calculated as the sum of all the rating components from International Country Risk Guide (ICRG), averaged from 1984 to 2000, divided by 10. The index takes values from 0 to 76 for each country, where a higher score means lower risk. *Human Capital* is measured as the average years of total schooling over 25 years old in the total population, in 1970. *Distantness* is the weighted average of the distances in thousands of km from the capital city of the particular country to the capital cities of the other countries, using the GDP shares of the other countries as weights, averaged from 1970 to 2000. *Inflation Volatility* is the standard deviation of the annual CPI inflation over the 1970–2000 normalized by the average inflation for that period. *Capital Controls* is an index calculated as the mean value of the four dummy variables—exchange arrangements, payments restrictions on current transactions, and capital transactions, repatriation requirements for export proceeds, averaged from 1971 to 2000; it takes a value between 1 and 2. *GDP per capita* is measured in per capita 1995 U.S. dollars. *Bank Credit* is claims of deposit money banks on nonfinancial domestic sectors as share of claims of central bank and deposit money banks on nonfinancial domestic sectors, in percent, average from 1970 to 2000 (without outliers Bolivia and Hungary). *Sovereign Risk* is an index based on Standard& Poor's long term foreign currency denominated sovereign debt ratings. Index ranges from 1, an obligor rated "AAA", to 23, an obligor rated "SD"—Selective Default (Data are available for Argentina, Australia, Austria, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Denmark, Egypt, Finland, France, Germany, Great Britain, India, Israel, Italy, Jordan, Japan, Korea, Morocco, the Netherlands, Norway, New Zealand, Pakistan, Philippines, Portugal, Paraguay, South Africa, Spain, Sweden, Thailand, Tunisia, Turkey, and the United States). *Corporate Taxes* represents the corporate income tax rate, single year value varying by country (Data are available for Argentina, Australia, Austria, Brazil, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Egypt, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Korea, Morocco, the Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, South Africa, Spain, Sweden, Thailand, Tunisia, and the United States). *French and British Legal Origin* are dummy variables taking the value of 1 if a country's legal code can be traced to French civil law or British common law legal tradition.

Table 7: **Correlation Matrix**

47 country sample
Main explanatory variables

	HK	Dist
Inst.	0.69	−0.41
HK		−0.19

Other explanatory variables

	Infl.V	CCont.	Bank	SRisk	CTax
Obs.	47	47	45	36	34
Inst	−0.09	−0.64	0.61	−0.85	−0.20
HK	0.17	−0.51	0.37	−0.68	−0.18
Dist	0.24	0.30	−0.43	0.53	0.16

Notes: Correlations are for the logarithm of the variables. Upper panel reports the correlation matrix for the main regressions with the 47 country sample. Lower Panel reports the correlation between the main explanatory variables and the other independent variables. Sample sizes vary for these variables. Inst—Institutional Quality; HK—Human Capital; Dist.—Distantness; Infl.V—Inflation Volatility; CCon.—Capital Controls; Bank—Bank Credit; SRisk—Sovereign Risk ratings; CTax–Corporate Tax.

Table 8: **Determinants of Capital Inflows**

Dependent Variable: Inflows of Total Equity per capita

	(1)	(2)	(3)	(4)	(5)	(6)
Countries	47	47	47	45	36	34
Institutional Quality	5.56*** (4.74)	5.29*** (4.57)	4.83*** (4.57)	5.83*** (4.48)	4.10** (2.22)	6.30*** (3.95)
Human Capital	0.47** (2.00)	0.57** (2.40)	0.42* (1.85)	0.46* (1.81)	0.70* (1.88)	0.66** (2.00)
Distantness	−1.16** (−2.07)	−1.04* (−1.92)	−1.11** (−2.03)	−1.27** (−2.03)	−1.56 (−1.54)	−1.37** (−2.06)
Inflation Volatility	– –	−0.36 (−1.29)	– –	– –	– –	– –
Capital Controls	– –	– –	−1.58 (−1.23)	– –	– –	– –
Bank Credit	– –	– –	– –	−0.36 (−0.36)	– –	– –
Sovereign Risk	– –	– –	– –	– –	−0.25 (−0.46)	– –
Corporate Taxes	– –	– –	– –	– –	– –	−0.75 (−0.49)
R^2	0.63	0.64	0.64	0.63	0.66	0.62

Notes: All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. All variables are in logs. *Samples:* 45-country sample excludes outliers Bolivia and Hungary in terms of Bank Credit. 36-country sample includes Argentina, Australia, Austria, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Denmark, Egypt, Finland, France, Germany, Great Britain, India, Israel, Italy, Jordan, Japan, Korea, Morocco, the Netherlands, Norway, New Zealand, Pakistan, Philippines, Portugal, Paraguay, Spain, Sweden, Thailand, Tunisia, Turkey, the United States, and South Africa. The rest of the countries do not have data on Sovereign Risk. 34-country sample includes Argentina, Australia, Austria, Brazil, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Egypt, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Korea, Morocco, the Netherlands, Norway, New Zealand, Philippines, Poland, Portugal, Spain, Sweden, Thailand, Tunisia, the United States, and South Africa. The rest of the countries do not have data on Corporate Taxes.

Table 9: **Determinants of Capital Inflows: Historical Legal Origins**

Dependent Variable: Inflows of Total Equity per capita

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	IV	OLS
Countries	47	47	47	47	21	21
Institutional Quality	5.04*** (5.01)	5.39*** (5.69)	– –	– –	6.91*** (2.90)	4.77*** (5.84)
Human Capital	0.39* (1.90)	0.45** (2.32)	1.26*** (5.96)	1.39*** (5.99)	0.01 (1.40)	0.47* (1.70)
Distantness	−0.97* (−1.81)	−1.44*** (−2.77)	−1.90*** (−2.64)	−2.31*** (−3.34)	−0.12 (−0.20)	−0.28 (−0.34)
French Legal Origin	−0.56** (−2.01)	– –	−0.57** (−1.99)	– –	– –	– –
British Legal Origin	– –	0.84** (2.51)	– –	0.63* (1.64)	0.94* (2.27)	0.79**** (2.50)
R^2	0.64	0.66	0.51	0.51	0.80	0.84

Notes: All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. All variables are in logs except the legal origin variables.

Table 10: **Determinants of Changes in Capital Inflows: Developing countries**

Dependent Variable: Change in Inflows of Total Equity per capita
between the periods of 1994–2000 and 1970–1993

	(1)	(2)	(3)	(4)
Countries	23	23	23	23
ΔInstitutional Quality	1.58*	2.27*	1.45	1.25
	(1.70)	(1.61)	(1.33)	(1.52)
Distantness	0.21***	0.21***	0.20***	0.21***
	(3.34)	(3.40)	(3.80)	(3.60)
ΔCapital Controls	–0.19***	–0.21***	–0.22***	–0.20***
	(–4.73)	(–4.20)	(–4.41)	(–4.90)
ΔGDP per capita	0.81***	0.91***	0.84***	0.75***
	(3.68)	(3.14)	(4.18)	(3.19)
ΔInflation Volatility	–	0.17	–	–
	–	(0.65)	–	–
ΔHuman Capital	–	–	0.22	–
	–	–	(1.27)	–
ΔBank Credit	–	–	–	0.87
	–	–	–	(1.49)
R^2	0.71	0.75	0.75	0.79

Notes: All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. *Sample:* 23 developing country sample includes Argentina, Brazil, Chile, Cameroon, Colombia, Costa Rica, Egypt, Hungary, India, Jordan, Kenya, Sri Lanka, Morocco, Pakistan, Paraguay, Philippines, Poland, Romania, Senegal, Thailand, Tunisia, Turkey, and South Africa (Bolivia, Cyprus, Israel, and South Korea are outliers and dropped). Δ represents the difference between the average value of the corresponding variable between the periods of 1994–2000 and 1970–1993.

Table 11: **Determinants of Volatility of Capital Inflows**

Dependent Variable: Volatility of Inflows of Total Equity per capita

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Countries	47	47	47	47	36	34	47	47
Institutional Quality	−0.42** (−2.29)	−0.50* (−1.76)	−0.47** (−2.55)	−0.33 (−1.55)	0.04 (0.14)	−0.47 (−1.53)	−0.50* (−1.76)	−0.44** (−2.25)
Inflation Volatility	0.24** (2.41)	0.23** (2.19)	0.25** (2.45)	0.26** (2.48)	0.19 (1.57)	0.26** (2.09)	0.23** (2.19)	0.24** (2.35)
Bank Credit	0.37** (2.22)	0.38** (2.29)	0.36** (2.23)	0.43** (2.08)	0.42 (1.27)	0.62*** (2.64)	0.38** (2.29)	0.38** (2.19)
Human Capital	– –	0.03 (0.44)	– –	– –	– –	– –	– –	– –
Distantness	– –	– –	−0.10 (−0.87)	– –	– –	– –	– –	– –
Capital Controls	– –	– –	– –	0.21 (0.80)	– –	– –	– –	– –
Sovereign Risk	– –	– –	– –	– –	0.10 (1.53)	– –	– –	– –
Corporate Taxes	– –	– –	– –	– –	– –	−0.35 (−1.31)	– –	– –
French Legal Origin	– –	– –	– –	– –	– –	– –	−0.07 (−0.91)	– –
British Legal Origin	– –	– –	– –	– –	– –	– –	– –	−0.04 (−0.48)
R^2	0.20	0.21	0.21	0.21	0.14	0.26	0.22	0.21

Notes: Volatility is calculated as normalized standard deviation of inflows. Normalization is performed by average gross flows. All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. All variables are in logs except the legal origin variables. *Samples:* 36-country sample includes Argentina, Australia, Austria, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Denmark, Egypt, Finland, France, Germany, Great Britain, India, Israel, Italy, Jordan, Japan, Korea, Morocco, the Netherlands, Norway, New Zealand, Pakistan, Philippines, Portugal, Paraguay, South Africa, Spain, Sweden, Thailand, Tunisia, Turkey, and the United States. 34-country sample includes Argentina, Australia, Austria, Brazil, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Egypt, Finland, France, Germany, Great Britain, India, Israel, Italy, Japan, Hungary, Korea, Morocco, the Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, South Africa, Spain, Sweden, Thailand, Tunisia, and the United States.

Table 12: **Determinants of Volatility of Capital Inflows: Measurement Issues**

Dependent Variable: Various Estimates for Volatility
of Inflows of Total Equity per capita

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Volatility	$St.Dev.$	$\frac{St.Dev.}{Mean}$	$St.Dev.$	$\frac{St.Dev.}{Mean}$	$St.Dev.(dt1)$	$\frac{St.Dev.(dt1)}{Mean}$	$St.Dev.(dt1)$	$\frac{St.Dev.(dt1)}{Mean}$
Countries	47	47	47	47	47	47	47	47
Institutional Quality	11.56***	−0.42**	−3.37***	−0.63***	8.54***	−0.44**	−2.81***	−0.69***
	(4.26)	(−2.29)	(−2.77)	(−2.99)	(4.01)	(−2.54)	(−2.68)	(−3.74)
Inflation Volatility	−0.22	0.24**	0.46*	0.25**	−0.21	0.13**	0.30	−0.15**
	(−0.33)	(2.41)	(1.77)	(2.51)	(−0.43)	(2.03)	(1.45)	(−2.20)
Bank Credit	0.61	0.37**	1.26	0.38**	0.30	0.29**	0.79	0.30**
	(0.30)	(2.22)	(1.45)	(2.30)	(0.21)	(2.15)	(1.32)	(2.18)
Inflows of Total Equity	–	–	19.77***	0.28	–	–	15.04***	0.33*
	–	–	(11.26)	(1.15)	–	–	(9.42)	(1.72)
R^2	0.44	0.20	0.89	0.22	0.40	0.16	0.85	0.19

Notes: Volatility is calculated as; (1), (3) standard deviation of inflows; (2), (4) normalized standard deviation of inflows; (5), (7) standard deviation of de-trended inflows divided by 100; (6), (8) normalized standard deviation of de-trended inflows divided by 100; All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. All variables are in logs except for inflows of total equity per capita.

Table 13: **Appendix Table: Sample Countries – Total Equity Data**

Sample Total Equity		Sample Total Equity by Decades		
All Countries		1970-1980	1981-1990	1991-2000
Algeria		Algeria	Algeria	Algeria
Argentina		**Argentina**	**Argentina**	**Argentina**
Australia		**Australia**	**Australia**	**Australia**
Austria		**Austria**	**Austria**	**Austria**
Bahrain		**Bahrain**	**Bahrain**	**Bahrain**
Bene-Lux		**Bene-Lux**	**Bene-Lux**	**Bene-Lux**
Bolivia		**Bolivia**	**Bolivia**	**Bolivia**
Botswana		**Botswana**	**Botswana**	**Botswana**
Brazil		**Brazil**	**Brazil**	**Brazil**
Burkina Faso		**Burkina Faso**		**Burkina Faso**
Burundi	*starts 1989*			*Burundi*
Cameroon		**Cameroon**	**Cameroon**	**Cameroon**
Canada		**Canada**	**Canada**	**Canada**
Cent. Afri. Rep.		**Cent. Afri. Rep.**	**Cent. Afri. Rep.**	**Cent. Afri. Rep.**
Chad		**Chad**	**Chad**	**Chad**
Chile		**Chile**	**Chile**	**Chile**
China	*starts 1982*		*China*	*China*
Colombia		**Colombia**	**Colombia**	**Colombia**
Costa Rica		**Costa Rica**	**Costa Rica**	**Costa Rica**
Cyprus	*starts 1985*		*Cyprus*	*Cyprus*
Czech Republic	*starts 1993*			*Czech Republic*
Denmark		**Denmark**	**Denmark**	**Denmark**
Egypt, Arab Rep.		**Egypt, Arab Rep.**	**Egypt, Arab Rep.**	**Egypt, Arab Rep.**
Estonia	*starts 1993*			*Estonia*
Fiji		**Fiji**	**Fiji**	**Fiji**
Finland		**Finland**	**Finland**	**Finland**
France		**France**	**France**	**France**
Gabon		**Gabon**	**Gabon**	**Gabon**
Germany		**Germany**	**Germany**	**Germany**
Hungary	*starts 1992*			*Hungary*
India	*starts 1993*			*India*
Israel		**Israel**	**Israel**	**Israel**
Italy		**Italy**	**Italy**	**Italy**
Japan		**Japan**	**Japan**	**Japan**
Jordan		**Jordan**	**Jordan**	**Jordan**
Kenya		**Kenya**	**Kenya**	**Kenya**
Korea, Rep.		**Korea, Rep.**	**Korea, Rep.**	**Korea, Rep.**
Kuwait	*starts 1993*			*Kuwait*
Latvia	*starts 1992*			*Latvia*

Appendix Table : Sample Countries – Total Equity Data (Cont.)

Sample Total Equity		Sample Total Equity by Decades		
All Countries		1970-1980	1981-1990	1991-2000
Libya		**Libya**	**Libya**	**Libya**
Mauritania	*non available 1990s*	*Mauritania*	*Mauritania*	
Mauritius		**Mauritius**	**Mauritius**	**Mauritius**
Morocco	*starts 1991*			*Morocco*
Namibia	*starts 1989*			*Namibia*
Netherlands		**Netherlands**	**Netherlands**	**Netherlands**
New Zealand		**New Zealand**	**New Zealand**	**New Zealand**
Niger		**Niger**	**Niger**	**Niger**
Norway		**Norway**	**Norway**	**Norway**
Pakistan	*starts 1984*		*Pakistan*	*Pakistan*
Papua New Guinea	*n.a. after 1991*	*Papua New Guinea*	*Papua New Guinea*	
Paraguay		**Paraguay**	**Paraguay**	**Paraguay**
Phillipines	*starts 1993*			*Phillipines*
Poland		**Poland**	**Poland**	**Poland**
Portugal		**Portugal**	**Portugal**	**Portugal**
Romania	*starts 1991*			*Romania*
Senegal		**Senegal**	**Senegal**	**Senegal**
Singapore		**Singapore**	**Singapore**	**Singapore**
Slovak Republic	*starts 1992*			*Slovak Republic*
Slovenia	*starts 1992*			*Slovenia*
South Africa	*starts 1985*		*South Africa*	*South Africa*
Spain		**Spain**	**Spain**	**Spain**
Sri Lanka	*starts 1985*		*Sri Lanka*	*Sri Lanka*
Swaziland		**Swaziland**	**Swaziland**	**Swaziland**
Sweden		**Sweden**	**Sweden**	**Sweden**
Switzerland	*starts 1982*		*Switzerland*	*Switzerland*
Thailand		**Thailand**	**Thailand**	**Thailand**
Trin. and Tobago	*starts 1983*		*Trin. and Tobago*	*Trin. and Tobago*
Tunisia		**Tunisia**	**Tunisia**	**Tunisia**
Turkey	*starts 1987*		*Turkey*	*Turkey*
U.K.		**U.K.**	**U.K.**	**U.K.**
U.S.		**U.S.**	**U.S.**	**U.S.**
Uruguay	*starts 1986*		*Uruguay*	*Uruguay*

Notes: Total equity data are the sum of Foreign Direct Investment (FDI) and Portfolio Equity Investment data. Countries for which either FDI or portfolio equity investment data are available are included in the sample. Countries in italics have data only for certain periods as indicated in the table. Countries in bold have data for both equity and debt flows throughout the whole sample period. FDI data correspond to Direct Investments Abroad (line 78bdd) and Direct Investments in Reporting Economy, n.i.e (line 78bed) and include equity capital, reinvested earnings, other capital and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio Equity Investments corresponds to Equity Security Assets (line 78bkd) and Equity Securities Liabilities (line 78bmd) and include shares, stock participations, and similar documents that usually denote ownership of equity. Data taken from IMF, IFS.

Table 14: **Appendix Table: Sample Countries – Debt Data**

Sample Debt		Sample Debt by Decades		
All Countries		1970-1980	1981-1990	1991-2000
Albania	*starts 1992*			*Albania*
Algeria	*1977-1991*	*Algeria*	*Algeria*	
Angola		Angola	Angola	Angola
Argentina		**Argentina**	**Argentina**	**Argentina**
Australia		**Australia**	**Australia**	**Australia**
Austria		**Austria**	**Austria**	**Austria**
Bahrain		**Bahrain**	**Bahrain**	**Bahrain**
Bangladesh		*Bangladesh*	*Bangladesh*	*Bangladesh*
Belarus	*starts 1993*			*Belarus*
Bene-Lux		**Bene-Lux**	**Bene-Lux**	**Bene-Lux**
Benin		Benin	Benin	Benin
Bolivia		**Bolivia**	**Bolivia**	**Bolivia**
Botswana		**Botswana**	**Botswana**	**Botswana**
Brazil		**Brazil**	**Brazil**	**Brazil**
Bulgaria	*starts 1980*		*Bulgaria*	*Bulgaria*
Burkina Faso			**Burkina Faso**	**Burkina Faso**
Cambodia		Cambodia	Cambodia	Cambodia
Cameroon		**Cameroon**	**Cameroon**	**Cameroon**
Canada		**Canada**	**Canada**	**Canada**
Cent. Afri. Rep.		**Cent. Afri. Rep.**	**Cent. Afri. Rep.**	
Chad		**Chad**	**Chad**	**Chad**
Chile		**Chile**	**Chile**	
China	*starts 1982*		*China*	*China*
Colombia		**Colombia**	**Colombia**	**Colombia**
Comoros	*starts 1983*		*Comoros*	*Comoros*
Congo, Rep.		**Congo, Rep.**	**Congo, Rep.**	**Congo, Rep.**
Costa Rica		**Costa Rica**	**Costa Rica**	**Costa Rica**
Cote d'Ivoire		Cote d'Ivoire	Cote d'Ivoire	Cote d'Ivoire
Croatia	*starts 1993*			*Croatia*
Cyprus		*Cyprus*	*Cyprus*	*Cyprus*
Czech Republic	*starts 1993*			*Czech Republic*
Denmark		**Denmark**	**Denmark**	**Denmark**
Dominican Republic		Dominican Republic	Dominican Republic	Dominican Republic
Ecuador		Ecuador	Ecuador	Ecuador
Egypt, Arab Rep.		**Egypt, Arab Rep.**	**Egypt, Arab Rep.**	**Egypt, Arab Rep.**
El Salvador		El Salvador	El Salvador	El Salvador
Eritrea	*starts 1992*			*Eritrea 1992*
Estonia 1992	*starts 1992*			*Estonia 1992*
Ethiopia		Ethiopia	Ethiopia	Ethiopia
Fiji		**Fiji**	**Fiji**	**Fiji**
Finland		**Finland**	**Finland**	**Finland**
France		**France**	**France**	**France**
Gabon		**Gabon**	**Gabon**	**Gabon**

41

Appendix Table: Sample Countries – Debt Data (Cont.)

Sample Debt		Sample Debt by Decades		
All Countries		1970-1980	1981-1990	1991-2000
Gambia		Gambia	Gambia	Gambia
Germany		**Germany**	**Germany**	**Germany**
Ghana		Ghana	Ghana	Ghana
Guatemala		Guatemala	Guatemala	Guatemala
Guinea	*starts 1987*		*Guinea*	*Guinea*
Guyana	*starts 1992*			*Guyana*
Haiti		Haiti	Haiti	Haiti
Honduras		Honduras	Honduras	Honduras
Hungary	*starts 1982*		*Hungary*	*Hungary*
India		India	India	India
Iran, Islamic Rep.		Iran, Islamic Rep.	Iran, Islamic Rep.	Iran, Islamic Rep.
Ireland		Ireland	Ireland	Ireland
Israel		**Israel**	**Israel**	**Israel**
Italy		**Italy**	**Italy**	**Italy**
Jamaica		Jamaica	Jamaica	Jamaica
Japan		**Japan**	**Japan**	**Japan**
Jordan		**Jordan**	**Jordan**	**Jordan**
Kenya		**Kenya**	**Kenya**	**Kenya**
Korea, Rep.		**Korea, Rep.**	**Korea, Rep.**	**Korea, Rep.**
Kuwait		Kuwait	Kuwait	Kuwait
Lao PDR	*starts 1989*			*Lao PDR*
Latvia		Latvia	Latvia	Latvia
Lesotho		Lesotho	Lesotho	Lesotho
Libya		**Libya**	**Libya**	**Libya**
Lithuania	*starts 1993*			*Lithuania*
Madagascar		Madagascar	Madagascar	Madagascar
Malawi		Malawi	Malawi	Malawi
Malaysia		Malaysia	Malaysia	Malaysia
Mali		Mali	Mali	Mali
Mauritania		Mauritania	Mauritania	Mauritania
Mauritius		**Mauritius**	**Mauritius**	**Mauritius**
Mexico		Mexico	Mexico	Mexico
Mongolia	*starts 1990*			*Mongolia*
Morocco		Morocco	Morocco	Morocco
Namibia	*starts 1990*	*Namibia*	*Namibia*	*Namibia*
Nepal		**Nepal**	**Nepal**	**Nepal**
Netherlands		**Netherlands**	**Netherlands**	**Netherlands**
New Zealand		New Zealand	New Zealand	New Zealand
Nicaragua	*starts 1991*			*Nicaragua*
Niger		**Niger**	**Niger**	**Niger**
Nigeria		Nigeria	Nigeria	Nigeria
Norway		**Norway**	**Norway**	**Norway**
Oman		Oman	Oman	Oman

Appendix Table: Sample Countries – Debt Data (Cont.)

	Sample Debt		Sample Debt by Decades	
	All Countries	1970-1980	1981-1990	1991-2000
Pakistan		Pakistan	Pakistan	Pakistan
Panama		Panama	Panama	Panama
P. N. Guinea		P. N. Guinea	P. N. Guinea	P. N. Guinea
Paraguay		**Paraguay**	**Paraguay**	**Paraguay**
Peru	*starts 1985*		*Peru*	*Peru*
Philippines		Philippines	Philippines	Philippines
Poland		**Poland**	**Poland**	**Poland**
Portugal		**Portugal**	**Portugal**	**Portugal**
Romania		Romania	Romania	Romania
Rwanda		Rwanda	Rwanda	Rwanda
Saudi Arabia		Saudi Arabia	Saudi Arabia	Saudi Arabia
Senegal		**Senegal**	**Senegal**	**Senegal**
Sierra Leone		Sierra Leone	Sierra Leone	Sierra Leone
Singapore		**Singapore**	**Singapore**	**Singapore**
Slovak Republic	*starts 1993*			*Slovak Republic*
Slovenia	*starts 1992*			*Slovenia*
South Africa		South Africa	South Africa	South Africa
Spain		**Spain**	**Spain**	**Spain**
Sri Lanka		Sri Lanka	Sri Lanka	Sri Lanka
Sudan		Sudan	Sudan	Sudan
Swaziland		**Swaziland**	**Swaziland**	**Swaziland**
Sweden		**Sweden**	**Sweden**	**Sweden**
Switzerland		Switzerland	Switzerland	Switzerland
Syria		Syria	Syria	Syria
Tanzania	*starts 1993*			*Tanzania*
Thailand		**Thailand**	**Thailand**	**Thailand**
Togo		Togo	Togo	Togo
Trin. and Tobago		Trin. and Tobago	Trin. and Tobago	Trin. and Tobago
Tunisia		**Tunisia**	**Tunisia**	**Tunisia**
Turkey		Turkey	Turkey	Turkey
Uganda		Uganda	Uganda	Uganda
U.K.		**U.K.**	**U.K.**	**U.K.**
U.S.		**U.S.**	**U.S.**	**U.S.**
Uruguay		Uruguay	Uruguay	Uruguay
Zambia		Zambia	Zambia	Zambia
Zimbabwe		Zimbabwe	Zimbabwe	Zimbabwe

Notes: Countries in italics have data only for certain periods as indicated in the table. Countries in bold have data for both equity (foreign direct investment and portfolio equity investments) and debt flows throughout the whole sample period. Debt data correspond to Debt Securities Assets (line 78bld) and Debt Securities Liabilities (line 78bnd) which cover bonds, notes, and money market or negotiable debt instruments; and other investment assets (line 78bhd) and other investments liabilities (line 78bid) which include all financial transactions not covered in direct investment, portfolio investment, financial derivatives or other assets. Data taken from IMF, IFS.

Table 15: **Appendix Table: Descriptive Statistics - Inflows of Capital and Volatility (per Capita US$)**

Sample: 47 countries (1970–2000)

Capital Inflows

	Mean	Std. Dev.	Min.	Max.
FDI Inflows	166.92	307.64	-122.51	1723.78
Portfolio Equity Inflows	129.44	310.90	-2.17	1769.21
Debt Inflows	501.33	821.60	-84.65	4827.94
Total Equity Inflows	287.47	562.50	-122.51	3492.99
Capital Inflows	795.40	1363.66	-84.65	8320.92

Volatility of Inflows

	Mean	Std. Dev.	Min.	Max.
Volatility of FDI Inflows	0.78	0.32	0.12	1.63
Volatility of Portfolio Equity Inflows	0.80	0.47	0.16	2.29
Volatility of Debt Inflows	0.70	0.24	0.32	1.40
Volatility of Total Equity Inflows	0.93	0.38	0.34	2.01
Volatility of Capital Inflows	0.62	0.24	0.13	1.38

Notes: Inflows represent flows of foreign claims on domestic capital (liability), divided by population based on IMF data in 1995 U.S. dollars. Volatility of Inflows is the standard deviation of the corresponding inflows per capita divided by the average of the absolute value of the inflows and outflows of capital per capita. Data for 47 countries out of the 122 countries sample for which both equity and debt flows data are available throughout the whole sample period. FDI inflows correspond to Direct Investments in Reporting Economy (line 78bed) which includes equity capital, reinvested earnings, other capital and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd) which include shares, stock participations, and similar documents that usually denote ownership of equity. Data on inflows of debt include Debt Securities Liabilities (line 78bnd) which cover bonds and money market or negotiable debt instruments; and Other Investments Liabilities (line 78bid) which include all financial transactions not covered in direct investment, portfolio investment, financial derivatives or other assets. Inflows of total equity are the sum of FDI and portfolio equity investments. Inflows of capital are the sum of total equity and debt.

Figure 1: **Capital Inflows per Capita by Type of Flow, 1970-2000**
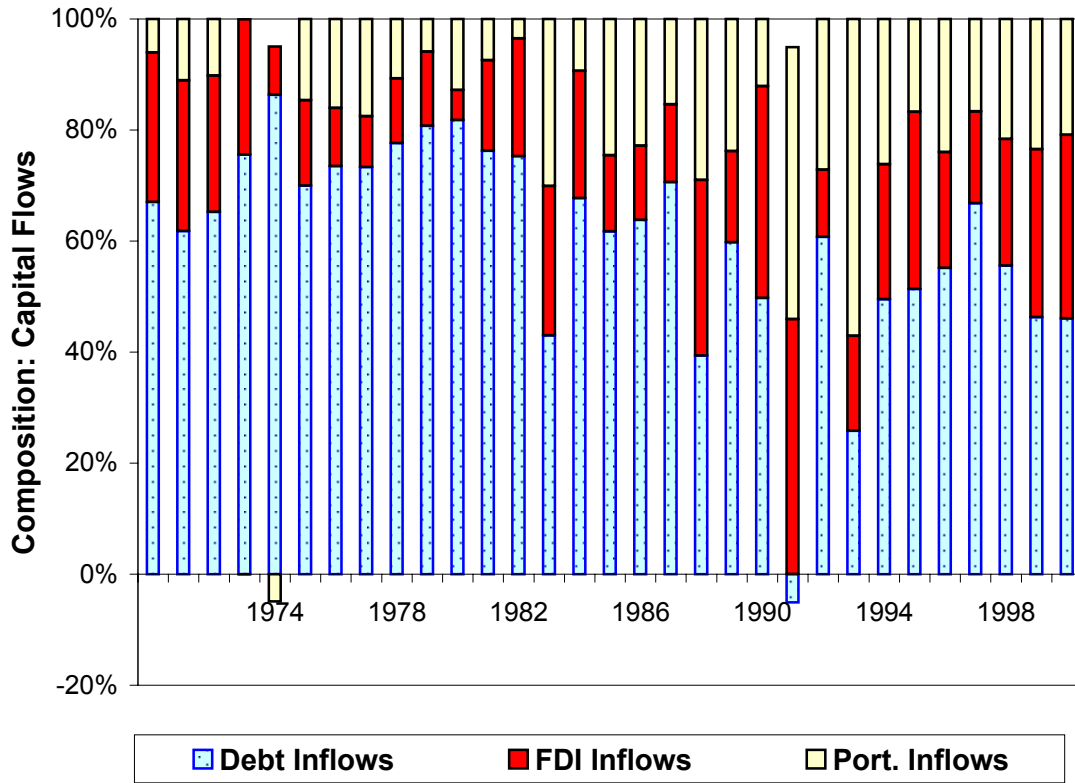
Notes: Inflows represent inflows of FDI, portfolio equity investment, and debt divided by population based on IMF data in 1995 US\$. FDI data are available for 72 countries, portfolio data for 68 countries and debt data for 122 countries. Inflows represent flows of foreign claims on domestic capital (liability). FDI inflows correspond to Direct Investment in Reporting Economy (line 78bed) which includes equity capital, reinvested earnings, other capital and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd), which includes shares, stock participations, and similar documents that usually denote ownership of equity. Data on inflows of debt include Debt Securities Liabilities (line 78bnd) which include bonds, notes, and money market, or negotiable debt instruments; and Other Investment Liabilities (line 78bid) which include all financial transactions not covered by direct investment, portfolio investment, financial derivatives, or other assets.

Figure 2: **Gross Flows per Capita by Type of Flow, 1970-2000**
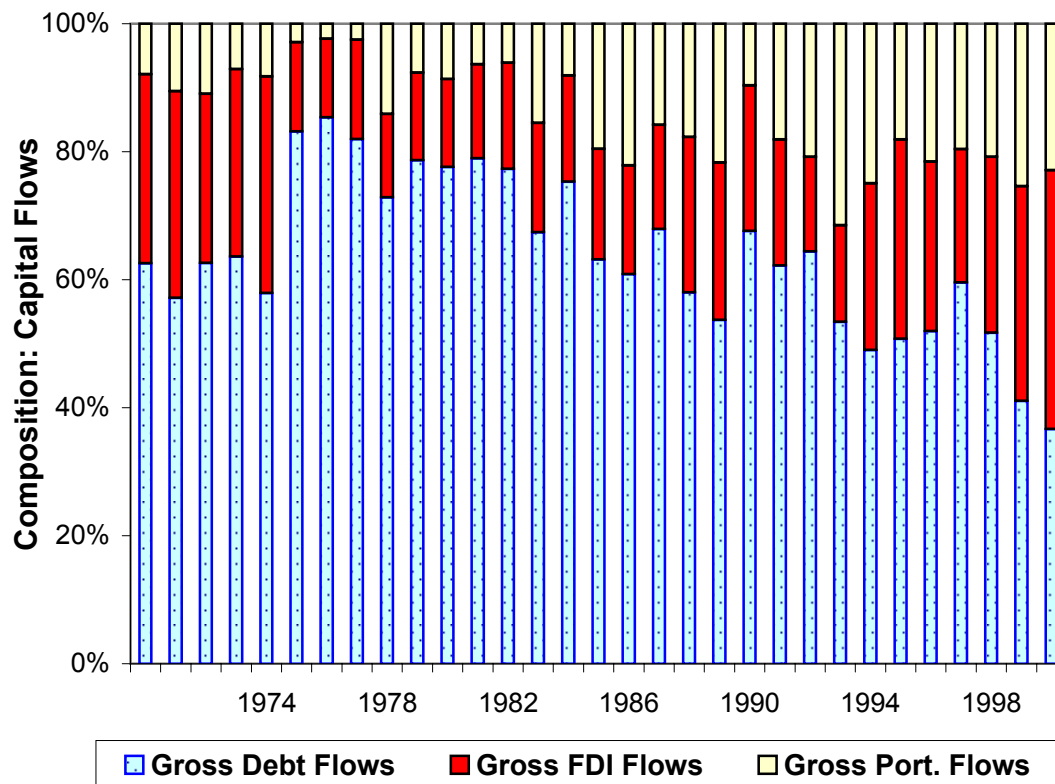
Notes: Gross flows represent gross flows of FDI, portfolio equity investment, and debt divided by population based on IMF data in 1995 US$ and correspond to the sum of the absolute value of the flows of assets (outflows) and liabilities (inflows). FDI data are available for 72 countries, portfolio data for 68 countries and debt data for 122 countries. FDI assets and liabilities correspond respectively to Direct Investment Abroad (line 78bdd) and Direct Investment in Reporting Economy (line 78bed) and include equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio Equity Investment assets and liabilities correspond to Equity Securities Assets (line 78bkd) and Equity Securities Liabilities (line 78bmd) and include shares, stock participations, and similar documents that usually denote ownership of equity. Debt assets and liabilities include Debt Security Assets (line 78bld) and Debt Security Liabilities (line 78bnd) which include bonds and money market or negotiable debt instruments; and other investment assets (line 78bhd) and other investment liabilities (line 78bid) which include all financial transactions not covered by direct investment, portfolio investment, financial derivatives, or other assets.
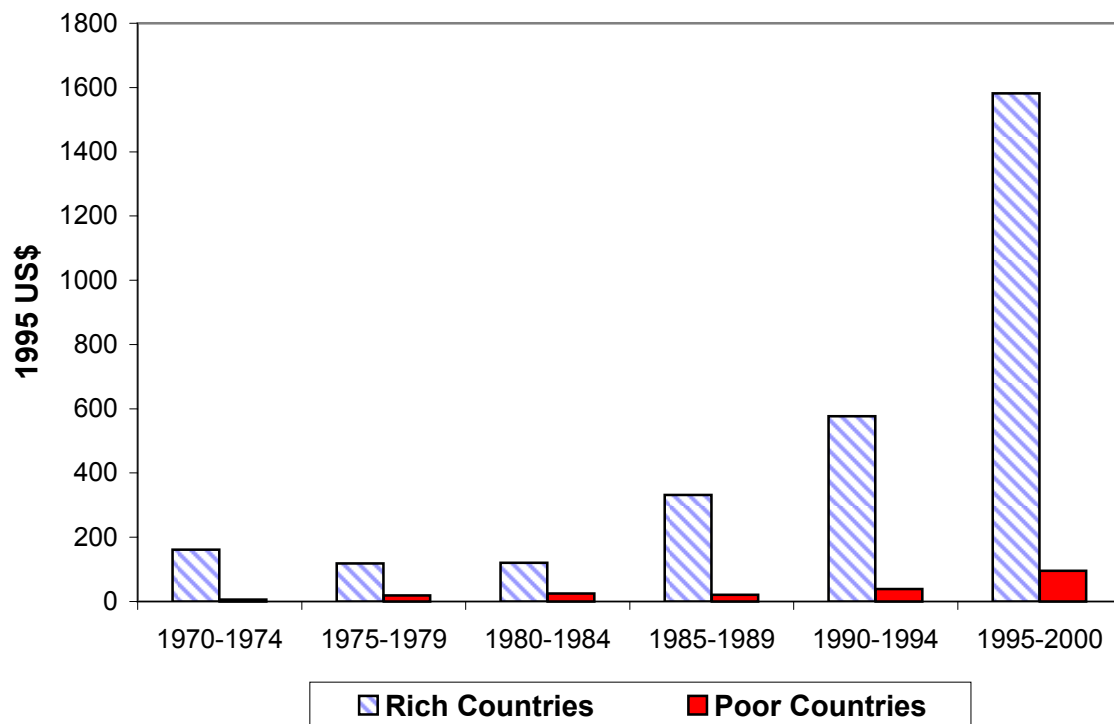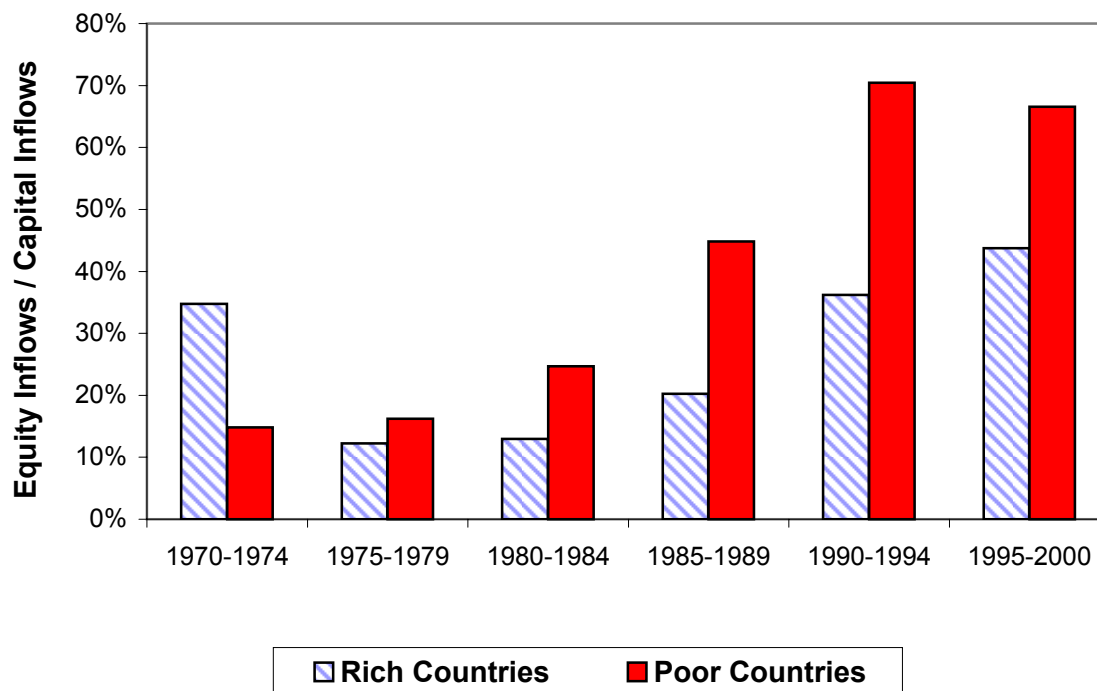
Figure 3: **FDI Flows per Capita, 1970-2000**
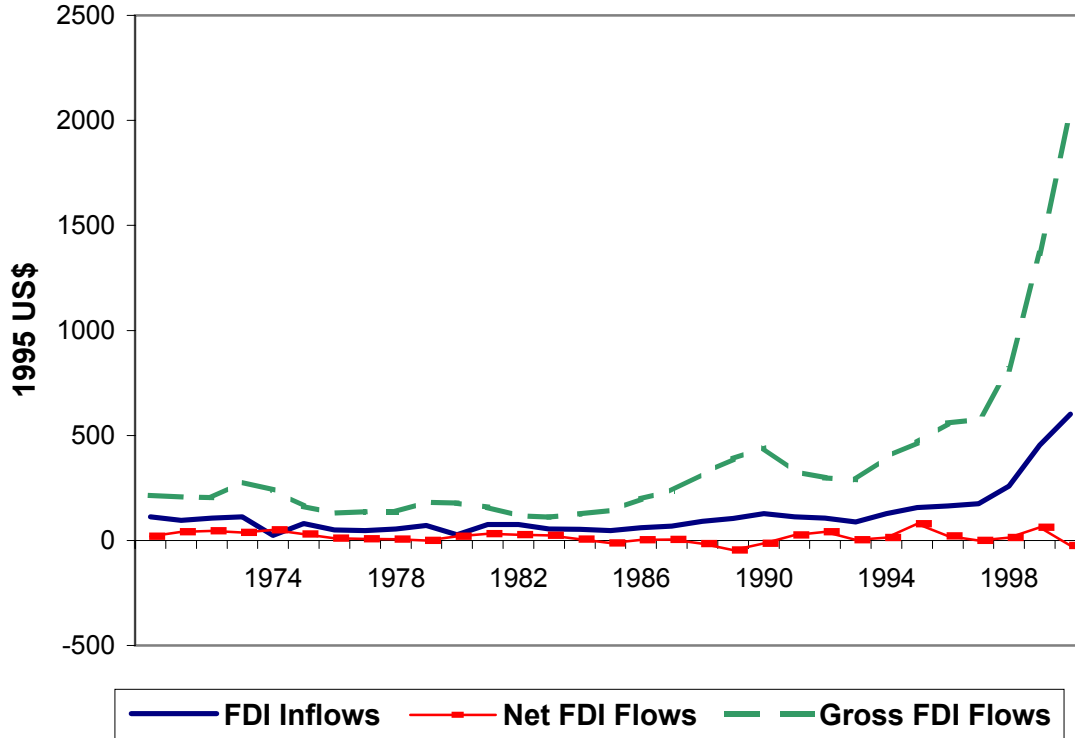
Notes: Flows represent flows of FDI divided by population based on IMF data in 1995 US$. Data are for 72 countries. Inflows represent flows of foreign claims on domestic capital (liability). Net flows are calculated as the difference between corresponding inflows (liabilities) and outflows (assets). Gross flows correspond to the sum of the absolute value of the flows of assets and liabilities. FDI assets and liabilities correspond, respectively, to Direct Investment Abroad (line 78bdd) and Direct Investment in Reporting Economy (line 78bed) and include equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises.

Figure 4: **Portfolio Flows per Capita, 1970-2000**
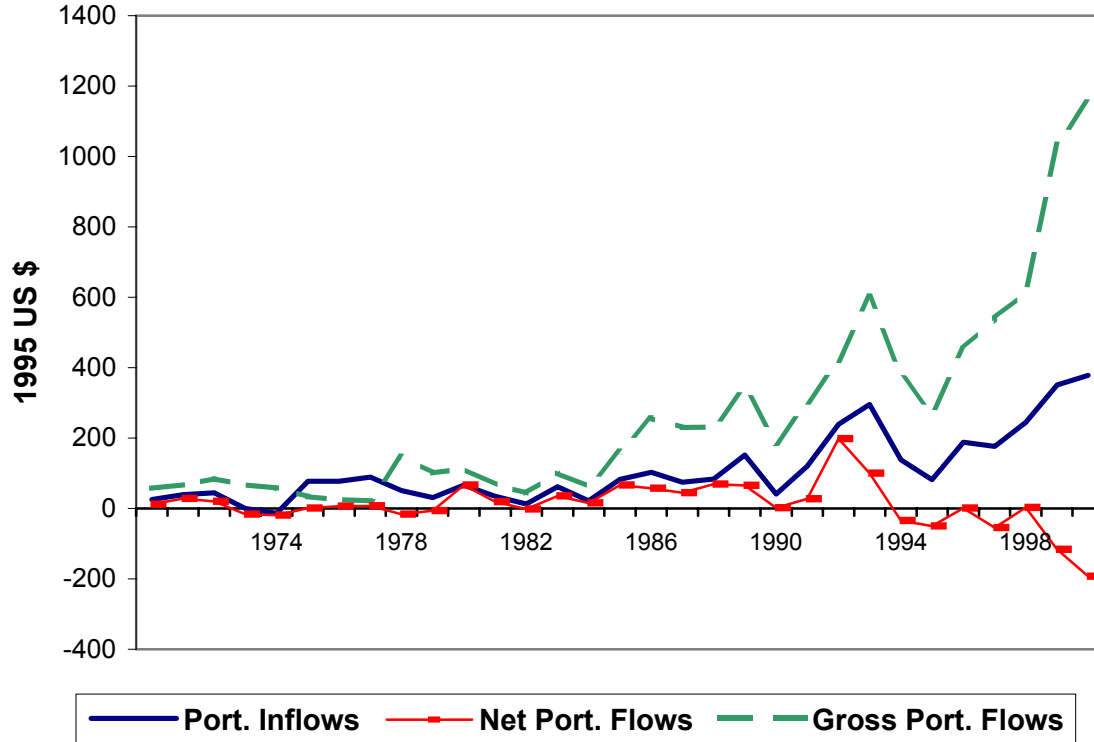

Notes : Flows represent flows of portfolio equity investment divided by population based on IMF data in 1995 US$. Data are for 68 countries. Inflows represent flows of foreign claims on domestic capital (liability). Net flows are calculated as the difference between corresponding inflows (liabilities) and outflows (assets). Gross flows correspond to the sum of the absolute value of the flows of assets and liabilities. Portfolio Equity Investment assets and liabilities correspond, respectively, to Equity Securities Assets (line 78bkd) and Equity Securities Liabilities (line 78bmd) and include shares, stock participations, and similar documents that usually denote ownership of equity.

Figure 5: **Debt Flows per Capita, 1970-2000**
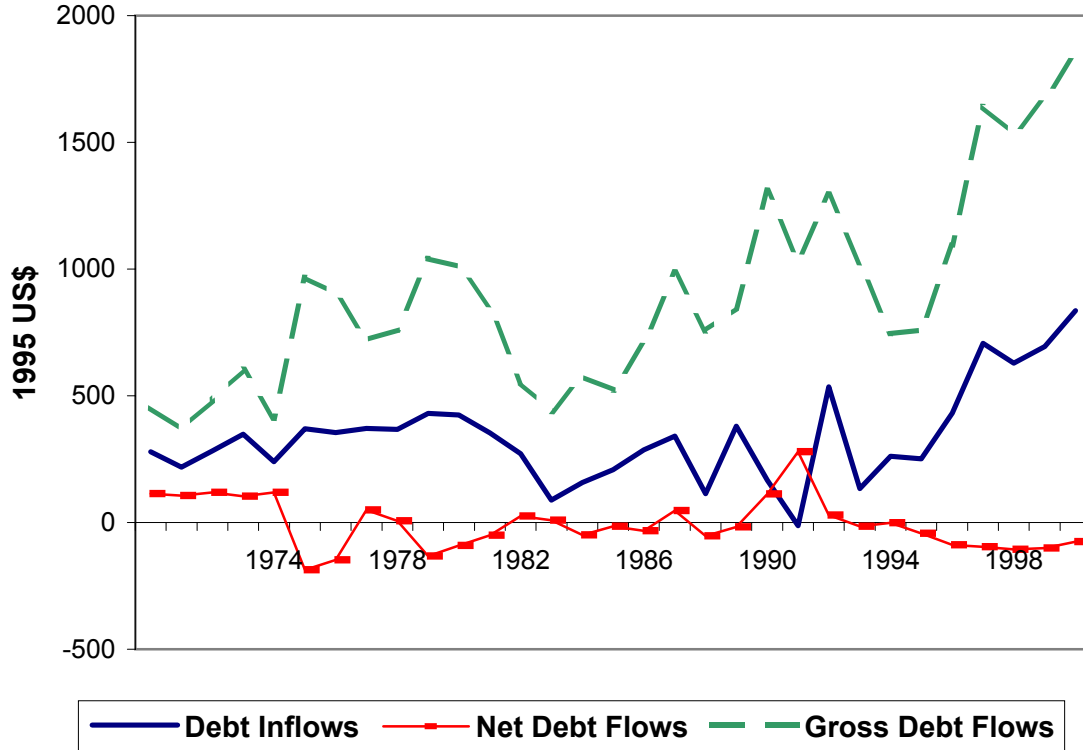
Notes: Flows represent flows of debt divided by population based on IMF data in 1995 US$. Data are for 122 countries. Inflows represent flows of foreign claims on domestic capital (liability). Net flows are calculated as the difference between corresponding inflows (liability) and outflows (asset). Gross flows correspond to the sum of the absolute value of the flows of assets and liabilities. Debt assets and liabilities include respectively Debt Securities Assets (line 78bld) and Debt Securities Liabilities (line 78bnd) which cover bonds, notes, and money market or negotiable debt instruments; and Other Investment Assets (line 78bhd); and Other Investment Liabilities (line 78bid) which include all financial transactions not covered by direct investment, portfolio investment, financial derivatives, or other assets.

Figure 6a: **Equity Inflows to Rich and Poor Countries, 1970-2000**

*Notes*: Inflows represent inflows of equity (FDI and portfolio equity investment) divided by population based on IMF data in 1995 US$. Data are for 72 countries and averaged over 5 year periods. FDI inflows correspond to Direct Investment in Reporting Economy (line 78bed) which includes equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd) which includes shares, stock participations, and similar documents that usually denote ownership of equity. Rich countries denote high-income OECD countries; poor countries denote the remaining ones.

Figure 6b: **Ratio of Equity Inflows to Total Capital Inflows to Rich and Poor Countries, 1970-2000**

Notes: Inflows represent inflows of equity (FDI and portfolio equity investment) to total inflows (equity plus debt), divided by population based on IMF data in 1995 US$. Data are for 72 countries for which equity data are available averaged over 5 year periods. FDI inflows correspond to Direct Inv. in Reporting Econ. (line 78bed) which includes equity capital, reinvested earnings, other capital, and financial derivatives associated with various intercompany transactions between affiliated enterprises. Portfolio equity inflows correspond to Equity Liabilities (line 78bmd) which cover shares, stock participations, and similar documents that usually denote ownership of equity. Data on inflows of debt include Debt Securities Liabilities (line 78bnd) which cover bonds or negotiable debt instruments; and Other Investment Liabilities (line 78bid) which include all financial transactions not covered in direct investment., portfolio investment, financial derivatives, or other assets. Rich countries denote high-income OECD countries; poor countries denote the remaining ones.

Figure 7: **Regression of Inflows of Capital per Capita on Institutional Quality after Controlling for Other Regressors**
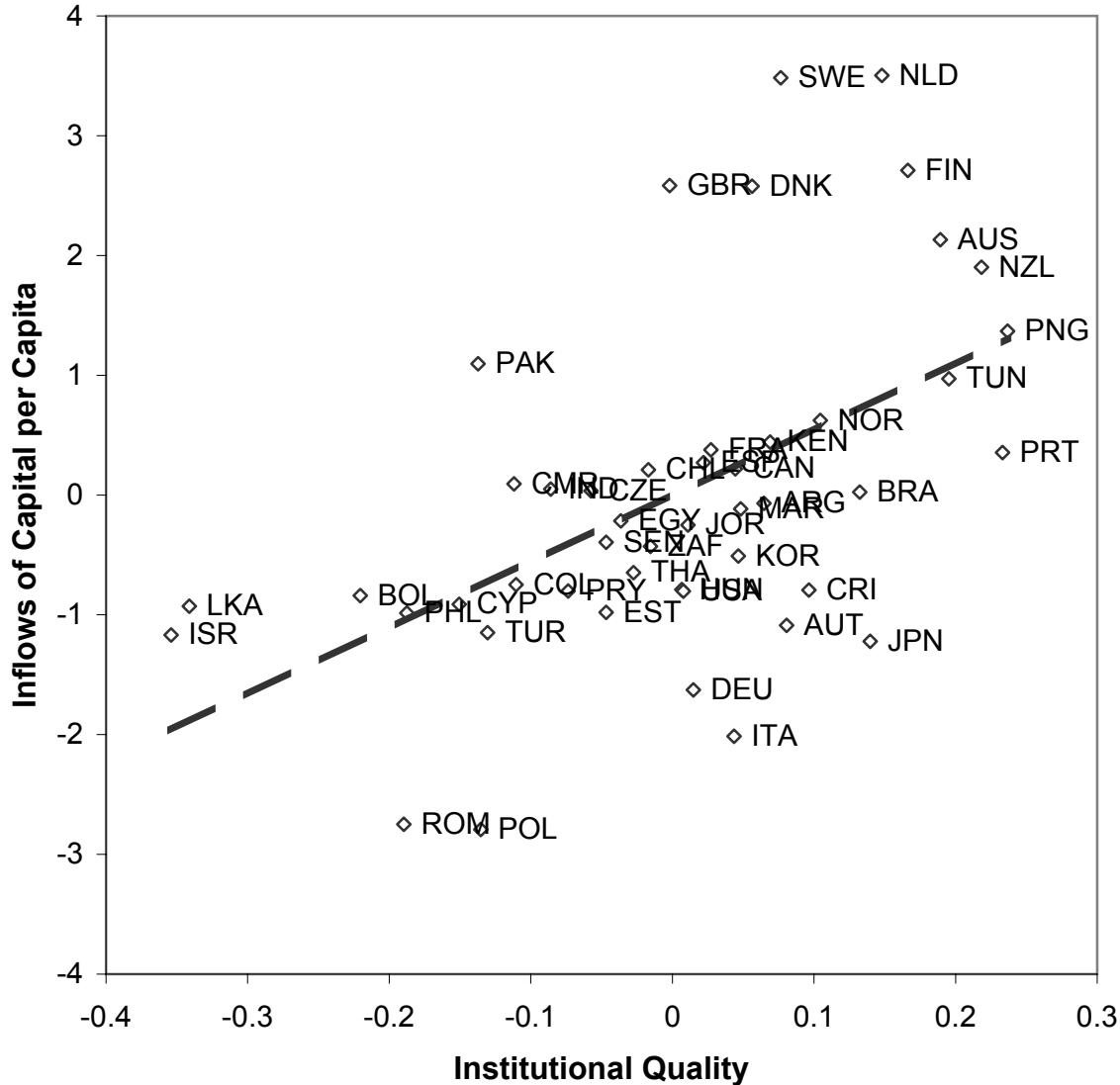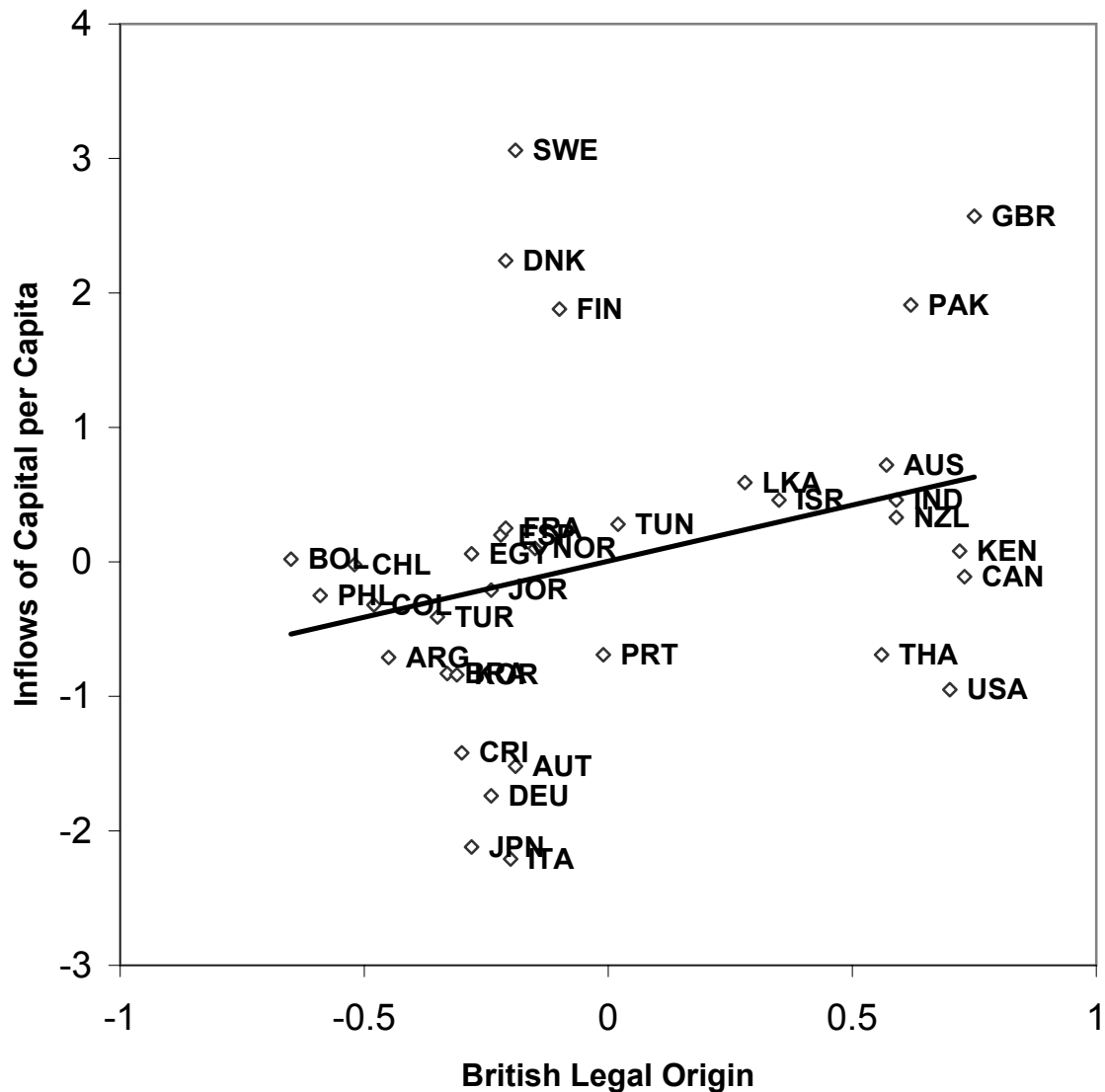
Notes: We first regressed the inflows of capital per capita on the regressors other than institutional quality and took the residuals, which we then regressed on the residuals from a regression of institutional quality on the other regressors (including a constant in both regressions). The coefficient on institutional quality is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.

Figure 8: **Regression of Inflows of Capital per Capita on French Legal Origin Controlling for Other Regressors**
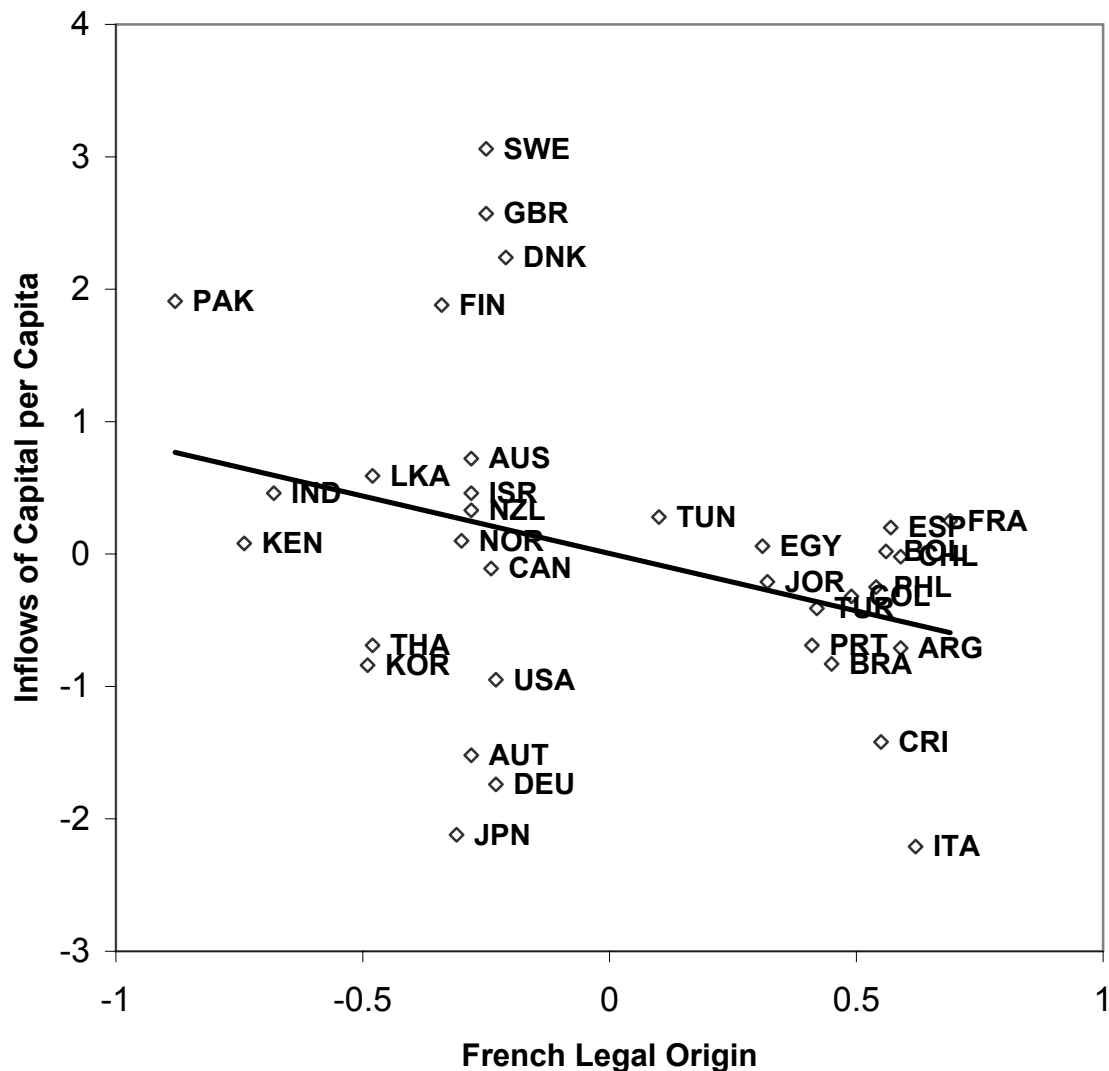
Notes: We first regressed the inflows of capital per capita on the regressors other than French legal origin and took the residuals, which we then regressed on the residuals from a regression of French legal origin on the other regressors (including a constant in both regressions). The coefficient on the French legal origin is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.
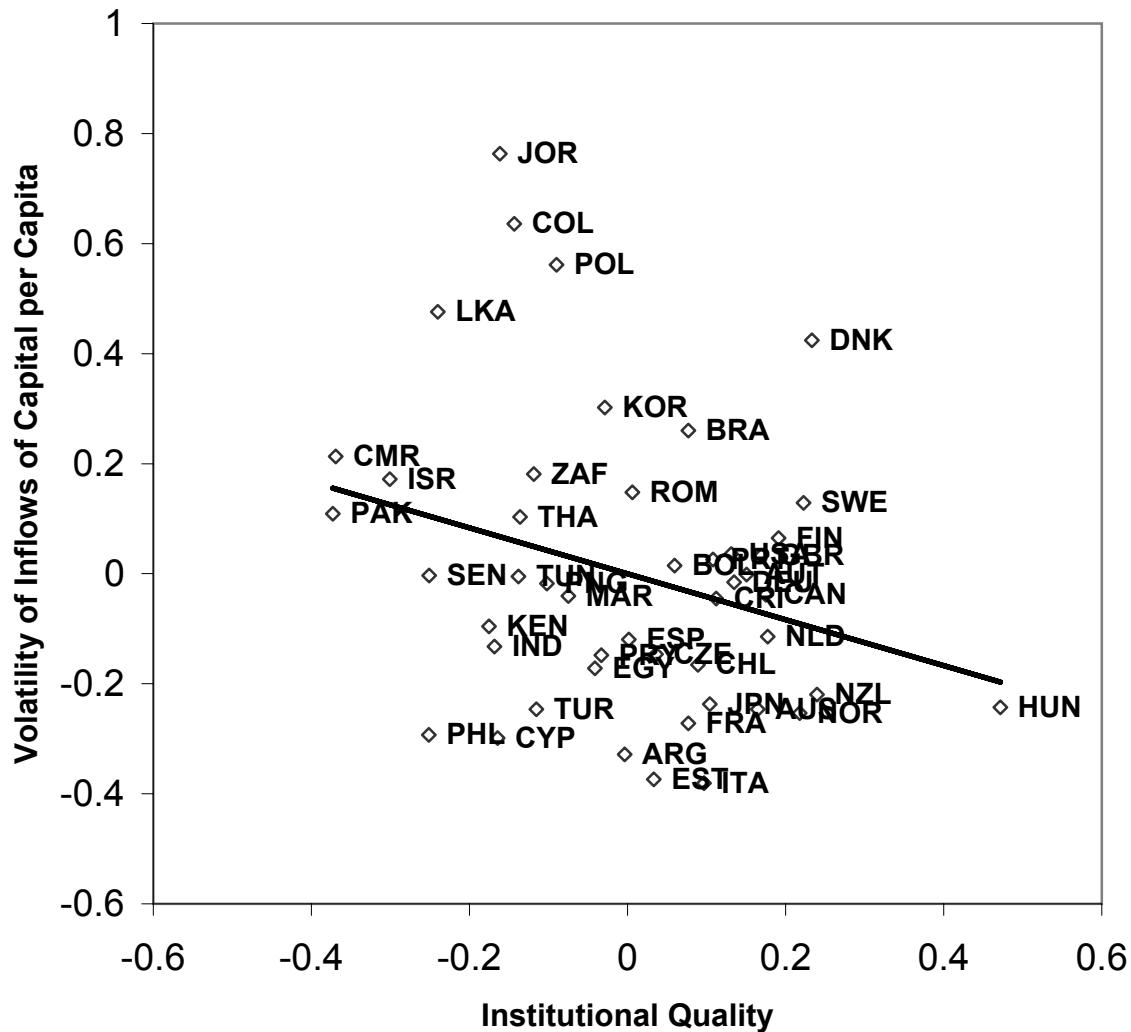
Figure 9: **Regression of Inflows of Capital per Capita on British Legal Origin Controlling for Other Regressors**

Notes: We first regressed the inflows of capital per capita on the regressors other than British legal origin and took the residuals, which we then regressed on the residuals from a regression of British legal origin on the other regressors (including a constant in both regressions). The coefficient on the British legal origin is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.

Figure 10: **Evolution of Institutional Quality**
## (Average of 47 Countries)
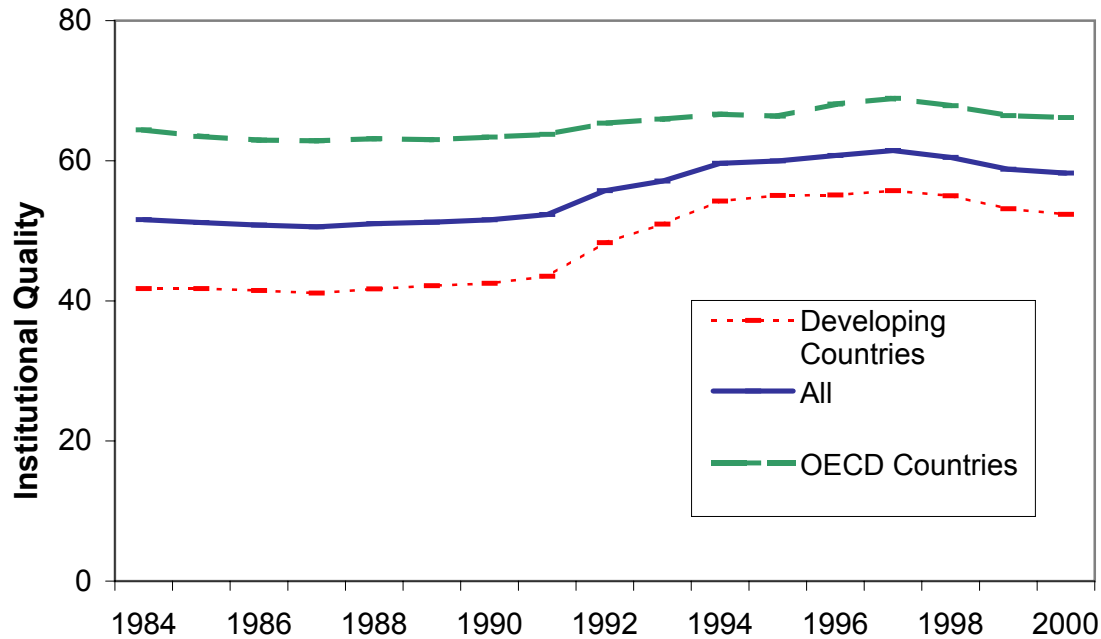
Notes: Institutional Quality Index is a composite political safety index, which is the sum of all the rating components from International Country Risk Guide (ICRG). The components are as follows: Government stability is defined as the government's ability to carry out its declared programs and its ability to stay in office. It ranges from 0 to12. Internal conflict is defined as the political violence in the country and its actual or potential impact on governance. It ranges from 0 to 12. External conflict is the risk to the incumbent government from foreign action, ranging from non-violent external pressure to violent external pressure. It ranges from 0 to 12. No-corruption is an index of the degree of the non-corruption within the political system. It ranges from 0 to 6. Militarized politics is the degree of protection from the military involvement in politics. It ranges from 0 to 6. A religious tension is the degree of the protection from religious tensions in the society. It ranges from 0 to 6. The law component of the law and order index is an assessment of the strength and impartiality of the legal system; the order component is the assessment of the popular observance of the law. It ranges from 0 to 6. Ethnic tensions are the degree of protection from the tensions attributable to racial, nationality or language divisions in the society. It ranges from 0 to 12. Democratic Accountability ranges from 0 to 6, where a higher score represents stable democracies and lower scores represents autocracies. Bureaucratic Quality ranges from 0 to 4 and represents institutional strength and quality of the bureaucracy.

Figure 11: **Regression of Volatility of Inflows of Capital per Capita on Institutions Controlling for Other Regressors**
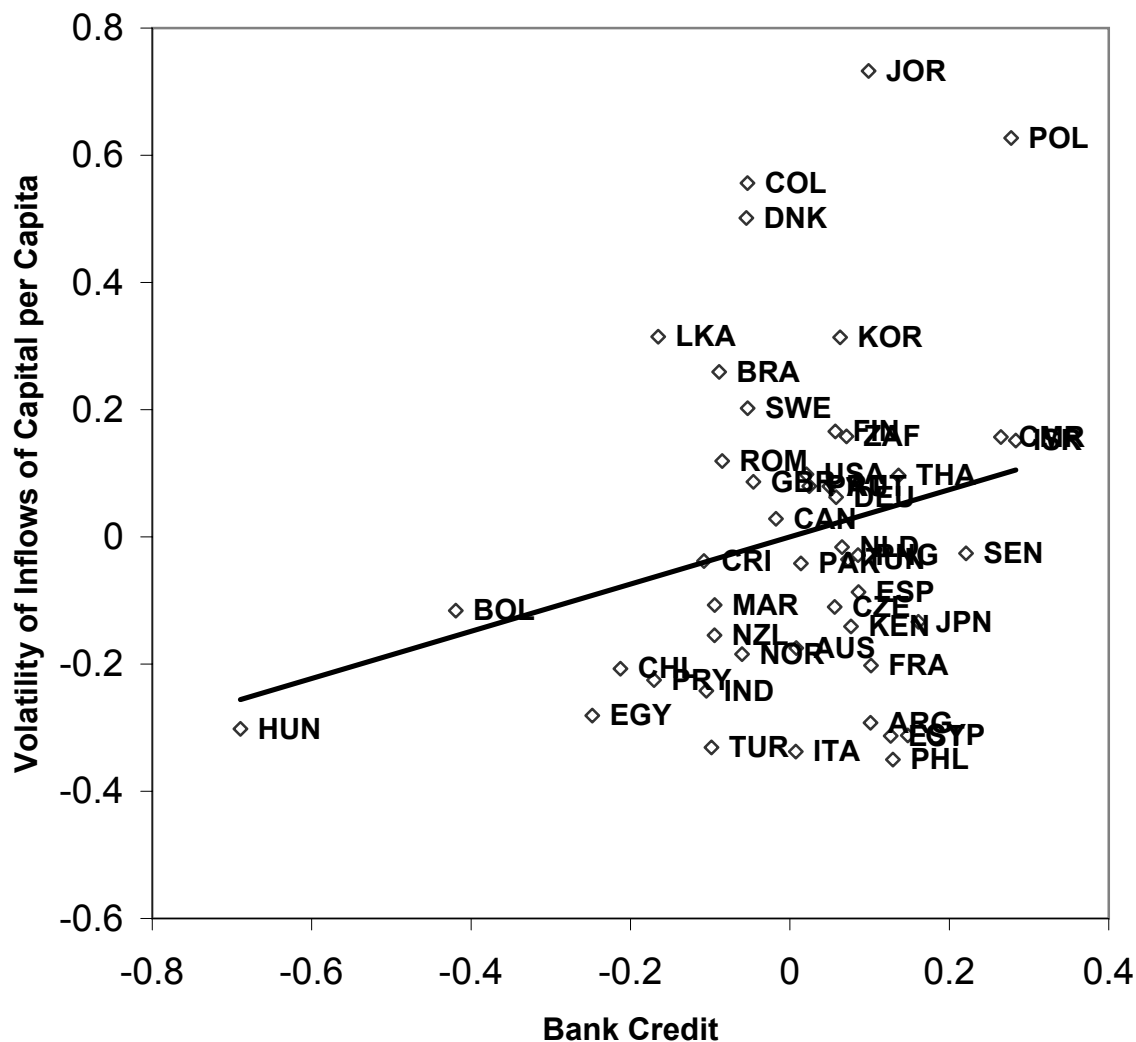
Notes: We first regressed the volatililty of inflows of capital per capita on the regressors other than institutional quality and took the residuals, which we then regressed on the residuals from a regression of institutional quality on the other regressors (including a constant in both regressions). The coefficient on the institutional quality is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set.

Figure 12: **Regression of Volatility of Inflows of Capital per Capita on Inflation Volatility Controlling for Other Regressors**
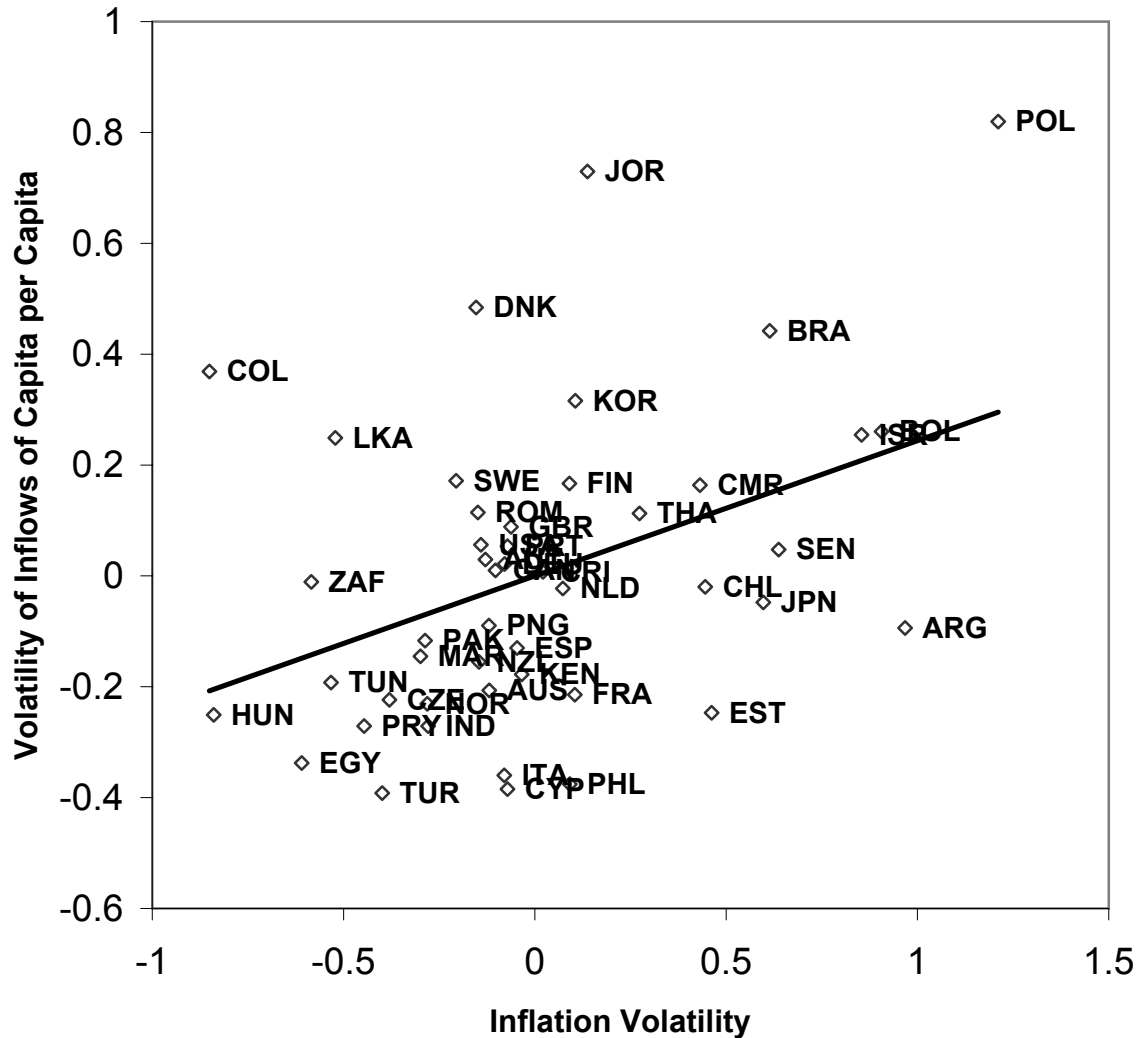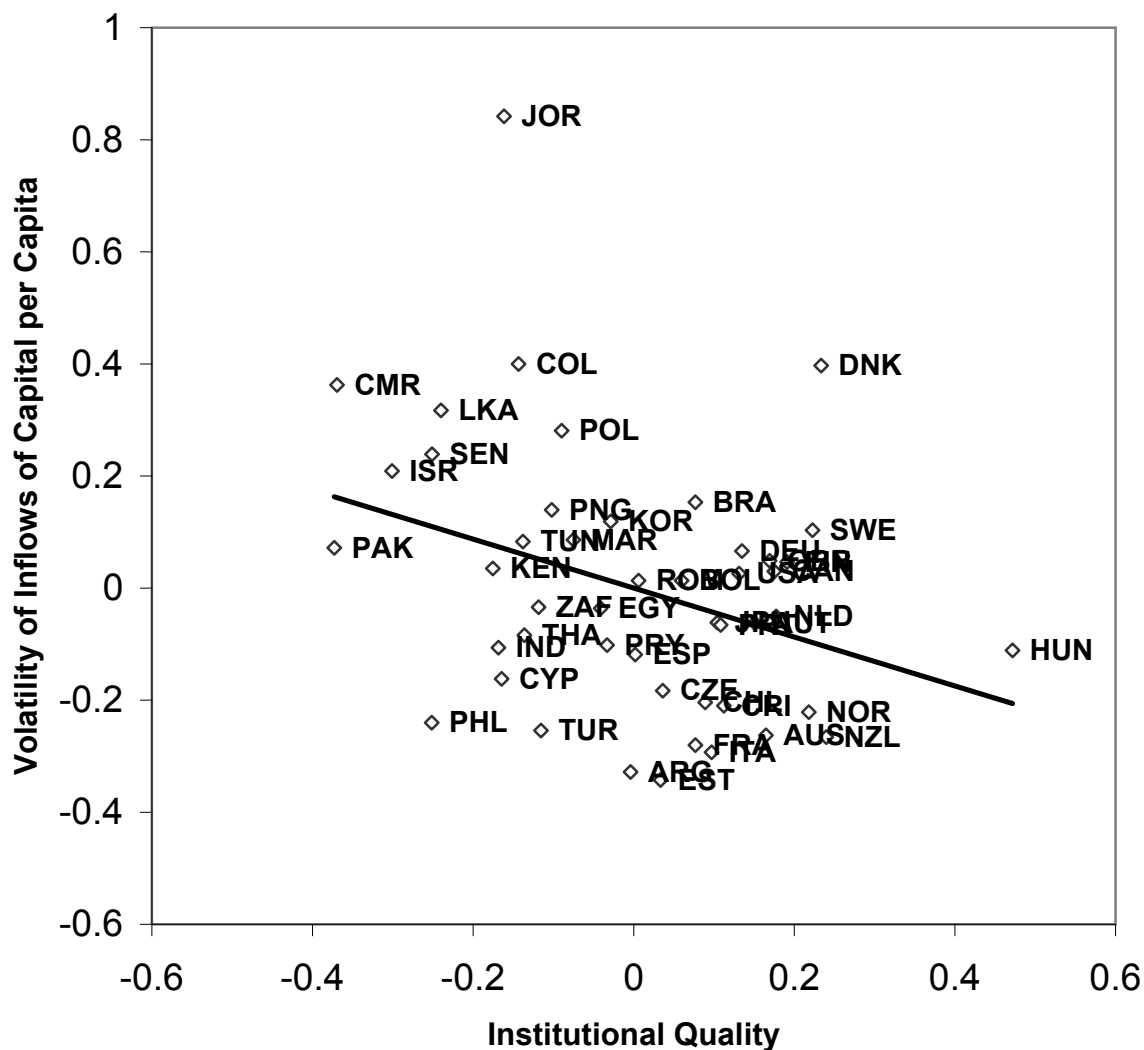
Notes: We first regressed the volatility of inflows of capital per capita on the regressors other than inflation volatility and took the residuals, which we then regressed on the residuals from a regression of inflation volatility on the other regressors (including a constant in both regressions). The coefficient on inflation volatility is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.

Figure 13: **Regression of Volatility of Inflows of Capital per Capita on Bank Credit Controlling for Other Regressors**
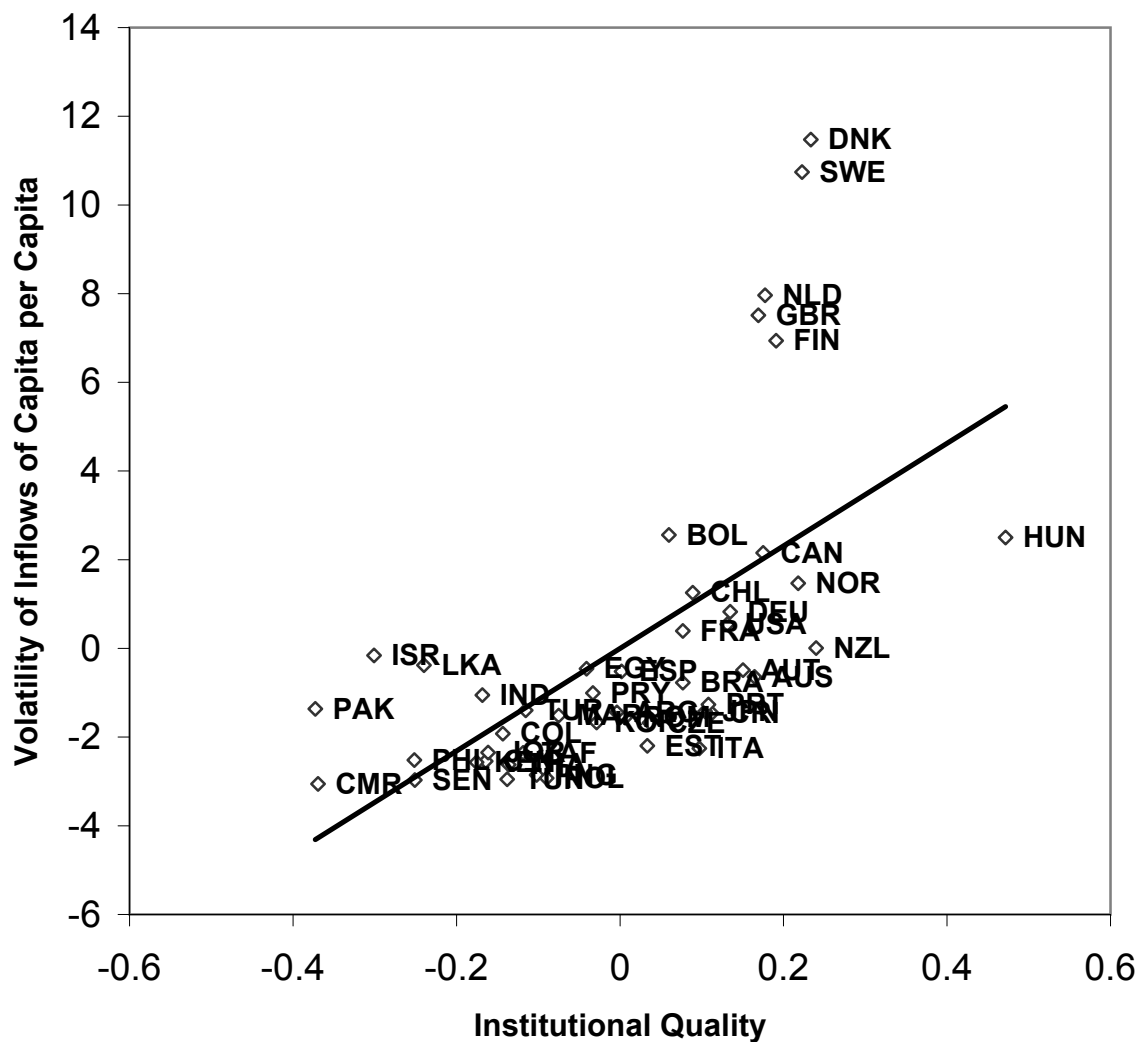
Notes: We first regressed the volatility of inflows of capital per capita on the regressors other than bank credit and took the residuals, which we then regressed on the residuals from a regression of bank credit on the other regressors (including a constant in both regressions). The coefficient on the bank credit is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.

Figure 14: **Regression of Volatility (deviation from the trend) of Inflows of Capital per Capita on Institutions Controlling for Other Regressors**

Notes: We first regressed the volatility of net inflows of capital per capita on the regressors other than institutional quality and took the residuals, which we then regressed on the residuals from a regression of institutional quality on the other regressors (including a constant in both regressions). The coefficient on the institutional quality then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.

Figure 15: **Regression of Volatility (not normalized) of Inflows of Capital per Capita on Institutions Controlling for Other Regressors**

Notes: We first regressed the Volatility of net inflows of capital per capita on the regressors other than institutional quality and took the residuals, which we then regressed on the residuals from a regression of institutional quality on the other regressors (including a constant in both regressions). The coefficient on the institutional quality is then exactly the same as the coefficient in the multiple regression. We plot the first set of residuals against the second set in the figure.