Volatility of Capital Flows: Bad Policies or Bad Institutions?*

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Abstract

We examine the determinants of capital flows volatility. We pay particular attention to the role of institutional weakness versus that of bad policies. Our cross-country regressions show that, for the period 1970−2000, there is an important role for bad fiscal and monetary policies in terms of explaining the high volatility of capital flows. We find that bad policies have a first order effect over that of low institutional quality.

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1 Introduction

Nowadays critics to the globalization are everywhere. The debate over the benefits of international financial integration has taken center stage among policy and academic circles. Similar concerns over the benefits of capital mobility once voiced by John Maynard Keynes during the design of the Bretton-Woods System have almost been forgotten. The crises of the last decade, specifically the Tequila crises in 1994-95, East Asian and Russian crises in 1997-98, Turkey in 2000-01, and Argentina in 2001-02, however, have revived the debate over the merits of international financial integration.

The most powerful argument in favor of capital mobility, voiced among others by Maurice Obstfeld, Stanley Fischer, and Larry Summers, is that it facilitates an efficient global allocation of savings by channelling financial resources into their most productive uses, thereby increasing economic growth and welfare around the world. In this new debate, the skeptics of international financial integration include prominent academic figures as well. For example, Paul Krugman argues that emergency conditions need emergency measures and 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, claims that risks of international financial integration might outweigh its benefits.

Given the importance of capital mobility for growth and stability, it is hard to find another issue where there is more controversy and where the role for policy is huge. Without a better understanding of the underlying reasons behind the financial crises, however, it is hard to evaluate the different proposals to mitigate the severity of such events. That is why the theoretical and the empirical literature focuses on the determinants and consequences of capital flows and even more so on financial crises. However a natural intermediate step is to look at the determinants of volatility of capital flows. Given the links between capital flows, growth, and macroeconomic stability this is an important task.

The empirical literature that looks at financial crises, which may be regarded as episodes of extreme volatility, tends to focus on the role of bad policies such as fiscal deficits and inflation, but has yet to pay attention to the role of domestic institutions behind these outcomes.[1] For example, within the currency crises literature, the fundamentals view argues that large capital outflows and crises can be traced to fundamental weakness in a country's economy.[2] For the developing countries

[1] See Frankel and Rose (1996), Kaminsky and Reinhart (1999), Corsetti, Pesenti and Roubini (2001), Kaminsky (2003).

[2] The fundamentals view builds on Krugman (1979) analysis of balance of payment crises. Alternatively, the self-fulfilling expectations view uses the analogy with bank runs as in Obstfeld (1986).

poor governance, low investor protection, inefficient laws and enforcement, lack of transparency and overall low institutional quality can also account for the instability of the international capital flows.

In this paper we perform a systematic empirical analysis to examine the determinants of capital flows volatility. We pay particular attention to the role of institutional weakness versus that of bad fiscal and monetary policies.[3] Thus, our main objective in this paper is to investigate whether volatility in the international capital markets can be linked to bad government policies or low institutional quality or both. Our empirical evidence shows that policy variables have a first order effect in explaining such volatility.

The empirical literature on the determinants of capital flows has focused on the role of external (push) and internal (pull) factors. Researchers find that external factors, in particular changes in the U.S. interest rates, are related to swings in the foreign lending to developing countries.[4] The literature on the dynamics of exchange rate-based inflation stabilization programs has found that such plans are connected with large capital inflows at the early stages of the reforms. Then, they are followed by high capital flows reversals when the lack of credibility behind the peg fuels an attack against the domestic currency.[5] A strand of the literature relates boom and bust cycles and currency crises to bank fragility.[6] There is theoretical research that links capital flows volatility to periods of liberalization. One argument is that the unprecedented globalization of the securities markets in the 1990s resulted in high volatility of capital flows.[7] Some other researchers model how frictions in the international financial markets together with weak fundamentals lead to excessive volatility of the capital flows.[8] In contrast, financial integration has been linked to lower volatility of macroeconomic variables, such as output and consumption.[9]

We run cross-country regressions using a sample of 97 countries for the period 1970–2000, and for each decade within this period. Overall, our results suggest that there is an important role for bad policies in terms of explaining the high volatility of capital flows in this period. We find

[3]There is an important distinction between policies and institutions. Institutions are the rules and norms constraining human behavior, North (1994). Institutions include both informal constraints (traditions, customs, etc.) and formal rules (rules, laws, constitutions, etc.). Policies are choices made within a political and social structure, i.e., within a set of institutions.

[4]See Calvo, Leiderman and Reinhart (1996). See also Calvo (1998) for an analysis of sudden stops and capital flows reversals.

[5]See Calvo and Vegh (1999).

[6]Kaminsky and Reinhart (1999) documents this fact. McKinnon and Pill (1996) model how financial liberalization together with microeconomic distortions can make boom-bust cycles even more pronounced by fuelling lending booms that lead to the eventual collapse of the banking system. More recently, Aizenman (2004) links financial crises to financial opening.

[7]See Calvo and Mendoza (2000a, 2000b). Bacchetta and Van Wincoop (2000) show that reducing the tax on foreign investors leads to high volatility of capital flows.

[8]See Chari and Kehoe (2003).

[9]Kose, Prasad and Terrones (2003) is a recent example.

the role of bad policies matters beyond that of low institutional quality. Only for the 1990s, both policy variables and institutional weaknesses matter for the volatility of equity flows. In a previous study, we find the institutional quality to be a robust casual determinant of capital flows. We also find that it is the only such determinant that explains the Lucas paradox.[10] Here, we find that bad government policies play a direct role in exacerbating the volatilities of capital flows.

The rest of the paper is organized as follows. Section 2 presents the data. Section 3 performs the empirical analysis. Section 4 concludes.

2 Stylized Facts: Capital Flows

We use data on net flows of capital for 97 countries calculated from gross flows (inflows minus outflows) taken from the International Monetary Fund's *International Financial Statistics*.[11] Capital flows can broadly be divided into flows of debt and flows of foreign capital (flows of equity); the latter can further be divided into foreign direct investment (FDI) and portfolio equity flows.[12] Our analysis is based on investigating the determinants of volatility of each category (FDI, portfolio, debt) of net flows of capital and also volatility of net flows of equity (FDI plus portfolio equity).[13]

Table 2 provides descriptive statistics for the different forms of net flows of capital. All of the capital flows are in per capita terms and in 1995 US dollars. It is clear that there is extensive cross-sectional variation. For example, net flows of FDI vary from -1390.7 dollars per capita to 969.2 dollars per capita with a mean of 30.4 over the sample period. On the other extreme, net flows of portfolio vary from -730.6 dollars per capita to 8939.9 dollars with a mean of 118.5. Finally, net flows of debt vary from -2581.4 dollars per capita to 1616.2 dollars per capita with a mean of 41.0. Overall, average total net flows of capital (FDI, portfolio and equity) correspond to 101.7 dollars per capita throughout the sample period.

Figure 1 plots the evolution of net flows of capital per capita over the last 30 years. The figure presents time series data for each component as well as for the net flows of total capital per capita, averaged across 97 countries. It is clear that there is high variability among the different forms

[10] See Alfaro, Kalemli-Ozcan, Volosovych, 2004.

[11] Appendix I lists the countries included in the sample. Appendix II describes all the data in detail.

[12] When a foreign investor purchases a local firm's securities without exercising control over the firm, that investment is regarded as a portfolio investment; direct investments include greenfield investments and equity participation giving a controlling stake in a company. The International Monetary Fund 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.

[13] Consequent to the 1980s debt crises there are several measurement errors in the debt flows data. Also, because of missing portfolio data (some countries do not tend to receive portfolio flows, in part due to the lack of functioning stock markets) we use equity flows in some of the analysis.

of capital flows. In particular, we can see more volatility in the 1990s. We can also see that total flows mimic the behavior of debt flows. Figures 2 and 3 plot, respectively, the evolution of the composition of total capital inflows and outflows per capita among the different components. Both total capital inflows per capita and total capital outflows per capita, as well as each of the components, have increased substantially throughout the sample period.[14] There is, however, huge variability in terms of the composition. Total inflows as well as outflows have been characterized by an increasing role of FDI and portfolio flows.[15] Although its role is quite dominant, debt flows clearly contracted following the 1980s debt crisis to recuperate during the 1990s.[16]

Table 3 provides information on the volatility of the different forms of net flows of capital.[17] FDI flows are in general less volatile than portfolio flows as they normally tend to be driven by long term considerations.[18] The volatility of net flows of FDI per capita varies between 1.2 and 7.0 with a mean of 3.0; the volatility of portfolio flows per capita varies between 0.0 and 779.7 with a mean of 23.5.[19] Many policy makers and academics contend that FDI can have important positive effects on a host country's development efforts, which stem in part from the lower volatility of such flows compared to portfolio flows. Finally, debt flows volatility has varied between 0.3 and 8.5 with an average of 2.5.

Table 4 provides data on the volatility of net flows of capital for the different decades within the sample. In particular, the volatility of FDI has diminished over the last 30 years from 2.3 during the 1970s to less than 1.6 in the 1990s. The same pattern is observed for portfolio flows, although these flows remain more volatile than FDI flows. On the other hand, as mentioned, the volatility of debt flows increased during the 1980s consequent to the debt crises of that period.

Table 5 provides data on the volatility of net flows of capital for different regions and for different sub periods. As seen in the table, there is huge variability among the different regions. As expected, the volatility of each component of net flows of capital is lower for the industrialized countries than for the developing countries. In addition, the volatility of each component has decreased for the

[14]Total capital inflows per capita have grown at an average rate of 7.9% per year from 1970 to 2000; total capital outflows per capita by 10.6%.

[15]FDI inflows per capita have grown by an average rate of 7.4% in the last thirty years, while FDI outflows per capita have grown by 11.1%. In particular, FDI inflows has become the main source of private capital for developing countries during the 1990s. Both equity inflows and outflows per capita have grown at an average rate close to 18%, however they started from a very low base.

[16]Debt inflows and outflows per capita have grown, respectively, at an average rate of 6.7% and 9.7% between 1970 and 2000.

[17]The volatility of net flows of capital is calculated as the standard deviation of the corresponding net flows per capita over the sample period divided by the average of the absolute values of the average gross inflows and gross outflows of capital per capita over the sample period.

[18]This is also shown by Lipsey (1999) and Bacchetta and Van Wincoop (2000).

[19]For some countries in the sample there are few data points for portfolio flows, thus the low volatility. See Appendix II for more detail on how the volatilities are constructed.

developed countries. Overall, for example, the volatility of net flows of capital in the industrialized world has declined from 0.6 during the 1970s to 0.4 during the 1990s. On the other hand, the volatility of net flows of capital has increased for the developing countries from 1.4 during the 1970s to 2.2 during the 1990s.[20] There is, however, huge variation within the developing countries. The volatility of flows has remained relatively constant for the Asian countries, with a slight increase during the 1990s. This has been driven by an increase in the volatility of portfolio flows 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 net flows of capital during the 1990s. For Latin America, on the other hand, the 1980s were turbulent years, mostly driven by the debt crisis, and the volatility of capital flows has declined during the 1990s. A similar pattern is observed for Sub-Saharan Africa.

We now turn to the empirical analysis of the determinants of the volatility of net flows of FDI, portfolio equity and debt over the last 30 years.

3 Results

3.1 Basic Specification

We run cross-country regressions for our sample of 97 countries, for the period 1970−2000. In all our regressions, the dependent variable is the standard deviation of the net flows divided by the average gross flows of the country.[21]

In the main specification, for the policy variables we use inflation rate and government consumption as percentage of GDP. Data was taken from the *World Bank Development Indicators*. We use these variables as averages over the sample period and also as initial values at the beginning of the sample period; all the variables are included in logarithm form. Figure 4 shows the time series pattern of the average inflation rate for the countries included in our sample. It is clear that there is huge variation throughout the period. Thus, we also use inflation volatility in our regression analysis.[22] We expect inflation and inflation volatility to be positively significant.

An important fundamental characteristic that affects the economic outcomes in an economy

[20] Overall, only net flows of FDI have become less volatile for developing countries during the sample period.

[21] Normalization by the mean of the net flows can create spurious volatility via the low levels of net flows. Since we are interested in removing the scale effects of the different levels of gross flows across time, it is average of the absolute values of the gross flows of capital which we use in denominator.

[22] Inflation volatility is measured as the standard deviation divided by the mean of the inflation rate over the sample period. Normalization by mean is crucial given the differences in average inflation level across time for all the countries.

is the institutional quality. Institutional quality has been found to be an important variable in explaining the pattern of capital flows.[23] We explore whether institutional quality explains the volatility of capital flows. To measure institutional quality we construct a yearly composite index using International Country Risk Guide's (ICRG) political safety variables.[24] We also use the initial level of the logarithm of GDP per capita on the right hand side in each regression to control for the development level of the country. We expect countries with higher development level to exhibit lower volatility of flows.[25] Table 3 provides descriptive statistics for the remaining variables and Table 6 presents the correlation matrix.

We first consider the determinants of the volatility for the three main types of capital flows: FDI, portfolio equity, and debt. Table 7 shows our preliminary results for net flows of FDI. We do not find a significant effect of institutional quality on volatility of FDI. On the other hand, we find the coefficient of inflation volatility to be positive and significant at 5% level when included on its own or together with other explanatory variables, controlling average level of inflation. This means that it is the instability of inflation rather than just high inflation, which is associated with higher volatility of net flows of FDI. Government consumption is also positive and significant in various specifications. GDP per capita is negative and significant. Thus, richer countries with lower volatility of inflation and lower government consumption tend to experience lower levels of uncertainty in terms of the net flows of external capital. We repeat the analysis using the initial values of all the variables as of 1970 obtaining similar results. Overall the results suggest that bad macroeconomic policy has an important role for FDI volatility and its effect is first order over that of institutional quality. The effect of the policy variables is also economically significant. For example reducing inflation volatility one standard deviation reduces the volatility of FDI flows by 30%, which is quite an effect.

Interestingly, when we replicate the exercise for the volatility of the net flows of portfolio equity, as shown in Table 8, we find that the only significant variable is GDP per capita. In fact in the full regression nothing comes in as significant. These regressions for the volatility of net flows of portfolio equity have also lower R^2's compared to the ones for the volatility of net flows of FDI. These results can be due to the fact that portfolio equity investment is driven more by profit making and diversification reasons regardless of the country's fundamentals, creating no role for these at the second moment level.

[23] See Alfaro, Kalemli-Ozcan and Volosovych (2004).

[24] The 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. The index takes values from 0 to 7.6 for each country, where a higher score means lower risk and better quality of institutions.

[25] Acemoglu and Zilibotti (1997) show a strong relationship between initial income and GDP volatility.

We repeat the analysis for the volatility of net flows of debt. As it is shown in Table 9, in this case it is inflation that is positive and significant at 5% level, while GDP per capita is negative and significant at 1%. We conjecture this result is different from the findings for FDI flows because of the different nature of these two types of capital in terms of whom ultimately bears the risk. For debt flows, the sovereign country bears the risk as the foreign investor expects a non-contingent payment.[26] Moreover, debt flows are often driven by the decisions of governments or international financial institutions that are more concerned about overall macroeconomic prudence, and not as much about the particular risks for doing business in a particular country. For FDI flows, the foreign investor bears the risk. Thus, FDI flows tend to respond to the uncertainty about policy (captured by volatility of inflation) that is harmful for the investors day-to-day operations and profits. Once again, the institutional quality variable does not seem to play a role in explaining the volatility of debt flows.

3.2 Decades Analysis

Next, we investigate the role of policy versus institutional quality in shorter time periods. We look at the determinants of the volatility of net equity flows (FDI plus portfolio investment) and net debt flows. We don't run regressions for the volatility of total capital flows since so far we showed that their behavior is quite different, hence there is no point for aggregation.

Table 10 shows the results for equity flows. For the 1970s, inflation volatility remains the main explanatory variable. This was, after all, a period of increasing and variable inflation both in the developed as well as the developing world. For the 1980s, government consumption and GDP per capita matter more. This is not surprising given the excessive government consumption that lead to the 1980s debt crises. However, when we repeat the exercise for the 1990s, as shown in the last column, both the policy variables and the institutional quality matter. These variables are significant at 5% or 10% levels. These three variables are also significant when used on their own.[27]

Table 11 considers the determinants of the volatility of net debt flows. In this case, GDP per capita and inflation appear to be important determinants of debt flows for the 1970s and 1980s, while inflation volatility and GDP per capita matter for the 1990s. Institutional quality appears

[26]Note however, as mentioned by Obstfeld and Rogoff (1996), that even in the case of non-contingent loans, debt crises have shown that payments may be rescheduled, renegotiated or changed unilaterally if the borrower's economy falters and lenders have the option to make new loans or cut off existing credit lines. The fact that debt loans contain a premium to compensate for states of nature in which scheduled payments are not made in full shows that lenders as well as borrowers anticipate such possibilities. Thus, overall, one would expect debt holders to care about the overall macroeconomic situation of the country.

[27]Notice that the ICRG index starts in 1984. The index does not change much over the sample period. Thus we can use the average value of the index in each of the different decades.

the have a positive effect but not significant at the conventional levels.[28]

3.3 Robustness

Additional Control Variables

Table 12 considers the role of external controls and trade in explaining the volatility of equity flows. The IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) codes for four different restrictions (multiple exchange arrangements, payments restrictions on current transactions and on capital transactions, and repatriation requirements for export proceeds) a corresponding dummy variable taking the value of one if the restriction was present in each country each year. Our external controls measure is the average over the sample period of the average of the four dummy variables for each country. We also consider the effect of changes in the capital control policy by controlling for the standard deviation of this index. These variables do not seem to have a significant effect on the volatility of capital flows. Inflation volatility and government consumption, on the other hand, remain positive and significant. The lack of significance of the capital control measures can be due to the difficulties of measuring the actual effectiveness and/or extent of the capital controls in each country. The IMF measure does not control for the fact that legal restrictions are sometimes circumvented. In addition, the way the IMF index is constructed results in a general indicator that distinguishes in a very limited way between different intensities of capital restrictions.[29]

Another variable that might have a role is trade openness. As shown in the last two columns of Table 12, our results are robust to the inclusion of the average value of the trade variable defined as the sum of exports and imports relative to GDP. Experimenting with initial value of trade did change the results.[30]

Table 13 considers the same robustness exercise for the volatility of net debt flows. Inflation rate and volatility are significant alternatively in various specifications, the government consumption is marginally positively significant, and the GDP per capita is negative and significant always. In this case, the external controls variable is significant and enters with a positive sign. This means that

[28] We hypothesis this result can be picking up measurement issues with the data in this period as well as the chaos surrounding the debt crises of the 1980s. During this period, private creditors tended to withhold capital from potential borrowers in all developing countries, not just the conspicuous problem debtor countries; see Eichengreen and Lindert (1989).

[29] See Edwards (2001) for criticisms of this index.

[30] Results not reported due to space considerations.

higher degree of external controls of general types considered by AREAER has on average been associated with higher volatility of the net debt flows, controlling for the other factors. Volatility of external controls and trade are not significant as before. It is hard to speculate the definitive explanation behind the different result for external controls in case of debt flows volatility. It is possible this result can be due to reverse causality: as the volatility of debt flows increased, countries imposed controls.[31] The result, to some extent, can also be driven by the crude character of the AREAER measures of controls.

We also consider other monetary and fiscal policy variables, such as growth in M1 and government budget. We obtain similar results and hence do not report them. We also consider the role of interest rate. In particular, we analyze the role of the volatility of the real interest rate and the volatility of the real interest rate premium over the U.S.[32] Presumably, the variation of the domestic rates and the risk premia would increase the uncertainty for the foreign investors; therefore, the volatility of capital flows would increase. In general, this is not the case. Table 14 reports the main results for volatility of net equity flows and debt flows. The point estimates of coefficients change sign from specification to specification and are insignificant. Inflation level and GDP per capita are still significant. All these results are consistent with the previous findings.

Overall, our results suggest that there is an important role for bad policies in terms of explaining the high volatility of capital flows.

4 Conclusions

Capital flows can be very volatile. Our main objective in this paper is to analyze empirically the role of policy versus institutional quality variables in explaining the volatility of different forms of capital flows: foreign direct investment, equity portfolio investment and debt flows.

Our results show that for the period 1970-2000 policy variables play an important role in explaining such volatility. Institutional quality variables does not seem to play a significant role, with the exception of 1990s. The level of development also is an important variable in explaining

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

[32] The volatility of the real interest rate is the standard deviation of real interest rate on deposits over the sample period divided by the absolute value of the corresponding mean. The volatility of the interest premium is the standard deviation of real interest rate spread versus the U.S. rate over the sample period divided by the absolute value of corresponding mean. The relative risk premium is calculated as the real interest rate spread versus the U.S. rate divided by the cross-section average of the spreads for in-sample countries. See appendix II for the detailed explanation of these variables.

the volatility of capital flows. These results bring the burden back to macroeconomic policies: countries are not passive recipients of the instability of capita flows.

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Appendix I

Table 1: **Sample Countries (97 countries)**

Albania	Gambia	Nigeria
Algeria	Germany	Norway
Angola	Ghana	Pakistan
Argentina	Greece	Panama
Armenia	Guatemala	Papua New Guinea
Australia	Haiti	Paraguay
Austria	Honduras	Peru
Bahrain	Hong Kong	Philippines
Bangladesh	Hungary	Poland
Belgium	Iceland	Portugal
Bolivia	India	Romania
Botswana	Indonesia	Russian Federation
Brazil	Ireland	Saudi Arabia
Bulgaria	Israel	Senegal
Burkina Faso	Italy	Singapore
Cameroon	Jamaica	South Africa
Canada	Japan	Spain
Chile	Jordan	Sri Lanka
China	Kenya	Suriname
Colombia	Korea, Rep.	Sweden
Costa Rica	Latvia	Switzerland
Cote d'Ivoire	Lithuania	Thailand
Cyprus	Madagascar	Togo
Czech Rep.	Malaysia	Trinidad and Tobago
Denmark	Mali	Tunisia
Dominican Rep.	Malta	Turkey
Ecuador	Mexico	United Kingdom
Egypt Arab Rep.	Morocco	United States
El Salvador	Mozambique	Uruguay
Estonia	Netherlands	Venezuela
Finland	New Zealand	Zimbabwe
France	Nicaragua	
Gabon	Niger	

Appendix II

Dependent Variables

Volatility of net flows of capital (per capita) is calculated as the normalized standard deviation of the corresponding net flows per capita over the sample period. Normalization is performed by division of net flows of capital by the average of the absolute values of the average gross inflows and gross outflows of capital per capita over the sample period to avoid dependence on the scale of the flows.
Net flows of capital (per capita) are calculated as the difference of corresponding flows of foreign claims on domestic capital (liability) and domestic claims of foreign capital (asset), divided by population. Flow data in current US$ is from the *International Monetary Fund (IMF)*. We express them in 1995 US$ using the United States consumer price index (CPI). Population and CPI data come from the *World Bank*, World Development Indicators. The categories of capital considered in this paper include individual types of capital as classified by the IMF (foreign direct investment; portfolio equity investment; debt flows).[33, 34]

Explanatory Variables

Inflation rate is the annual CPI inflation (*World Bank*, World Development Indicators).

Inflation Volatility is the standard deviation of inflation rate over the sample period divided by the corresponding mean.

Government Consumption is the general government final consumption expenditure, as percentage of GDP (*World Bank*, World Development Indicators).

Government Budget is the overall budget balance, including grants, as percentage of GDP (*World Bank*, World Development Indicators).

Institutional Quality is represented by the composite political safety index calculated as the sum of all the rating components (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) from *International Country Risk Guide* (ICRG), average from 1984 to 2000.

External Controls is an index calculated as the time average of the mean value of the four dummy variables: exchange arrangements, payments restrictions on current transactions, and capital transactions, repatriation requirements for export proceeds, the *International Monetary Fund* Annual

[33] In calculating flows, we replace any zeros in the data with missing value code.

[34] For some types of capital flows some developing countries have only one observation for the net flows. Naturally, the calculated volatility coefficient for such countries equals zero (no variability). This explains why the minimum value for some categories of capital reported in Table 3 is equal to zero. Normally, such countries are dropped out of regressions as outliers.

Report on Exchange Arrangements and Exchange Restrictions (AREAER).

Volatility of External Controls is a standard deviation across time of the External Controls index.

Multiple Exchange Arrangements is an index calculated as the mean value of the dummy variable representing separate exchange rates for some or all capital transactions, AREAER.

Capital Restrictions—restrictions on payments for capital transactions, AREAER.

Current Restrictions—restrictions on payments for current transactions, AREAER.

Surrender Export Proceeds—surrender or repatriation requirements for export proceeds, AREAER.

Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product, World Bank.

Growth rate of M1 is the log-difference of narrow definition of money supply, as percentage of GDP (*International Monetary Fund*, International Financial Statistics).

Volatility of M1 growth is standard deviation over time of growth rate for M1 over GDP.

Volatility of Real Interest Rate is the standard deviation of real interest rate on deposits over the sample period divided by the absolute value corresponding mean; real interest rate is calculated as the difference between nominal deposit rate (line 60L..ZF in (*International Monetary Fund*, International Financial Statistics)) and CPI inflation (*World Bank*, World Development Indicators).

Volatility of Interest Premium is the standard deviation of real interest rate spread versus the U.S. rate over the sample period divided by the absolute value of corresponding mean; real interest rate is calculated as the difference between nominal deposit rate (line 60L..ZF in *International Monetary Fund*, International Financial Statistics and CPI inflation (*World Bank*, World Development Indicators).

GDP per capita is Gross Domestic Product divided by population in 1970 (in thousands of 1995 US$ (*World Bank*, World Development Indicators)).

Table 2: **Descriptive Statistics**

Sample: 97 countries (1970–2000)

	Mean	Std. dev.	Min	Max
Net Flows of FDI (per capita US$)	30.4	275.3	–1390.7	969.2
Net Flows of Portfolio Equity Inv. (per capita US$)*	118.5	1028.3	–730.6	8939.9
Net Flows of Debt (per capita US$)*	41.0	492.7	–2581.4	1616.2
Net Flows of FDI and Portfolio Equity Inv. (per capita US$)	42.9	336.9	–1390.7	1515.5
Net Flows of Capital (Total) (per capita US$)	101.7	483.5	–3311.7	1463.5

Notes: Net Flows of each category is calculated as the difference of corresponding flows of foreign claims on domestic capital (liability) and domestic claims of foreign capital (asset), divided by population. Flow data is from IMF in 1995 US$. Total Flows of Capital represents sum of FDI, portfolio equity investment, and debt. *Due to missing data, equity flows are based on 79, debt flows are based on 90 country sub-sample.

Table 3: **Descriptive Statistics**

Sample: 97 countries (1970–2000)

	Mean	Std. dev.	Min	Max
Volatility of Net Flows of FDI	3.0	3.7	1.2	7.0
Volatility of Net Flows of Portfolio Equity Inv.*	23.5	88.9	0.0	779.7
Volatility of Net Flows of Debt*	2.6	1.8	0.3	8.5
Volatility of Net Flows of FDI and Portfolio Equity Inv.	2.9	2.8	0.3	20.9
Volatility of Net Flows of Capital (Total)	2.1	2.0	0.1	11.8
Institutional Quality†	5.2	1.1	3.2	7.3
Inflation Rate (%)	64.9	182.6	3.2	1044.5
Inflation Volatility	2.7	0.4	1.8	3.6
Government Consumption (% of GDP)	15.7	5.7	6.4	36.1
External Controls†	0.5	0.3	0.0	1.0
Volatility of External Controls†	0.2	0.1	0.0	0.5
Trade (% of GDP)	70.4	44.6	16.0	329.6
Volatility of Real Interest Rate	6.7	18.6	0.2	167.5
Volatility of Interest Premium	3.6	5.5	0.3	33.0
GDP per capita, initial (thnd. US$)	4.9	6.6	0.1	35.5

Notes: All variables are sample averages except GDP per capita, which is the initial value. Volatility of Net Flows is calculated as the standard deviation of the corresponding net flows per capita over the sample period divided by the average of the absolute values of the average gross inflows and gross outflows of capital per capita over the sample period. Total Flows of Capital represents sum of FDI, portfolio equity investment, and debt. Explanatory variables are described in Appendix II. *Due to missing data, equity flows are based on 79, debt flows are based on 90 country sub-sample. † index number.

Table 4: **Descriptive Statistics by Decades**

	Mean	Std. dev.	Min	Max
1970–1980				
Volatility of Net Flows of FDI	2.3	4.1	0.3	33.2
Volatility of Net Flows of Portfolio Equity Inv.	5.3	6.3	0.01	28.6
Volatility of Net Flows of Debt	1.8	1.6	0.1	9.5
Volatility of Net Flows of FDI and Portfolio Equity Inv.	1.9	1.7	0.3	7.2
Volatility of Net Flows of Capital (Total)	1.3	0.8	0.1	3.8
1980–1990				
Volatility of Net Flows of FDI	1.7	1.4	0.01	6.4
Volatility of Net Flows of Portfolio Equity Inv.	4.6	5.1	0.02	29.3
Volatility of Net Flows of Debt	2.3	2.4	0.0	12.9
Volatility of Net Flows of FDI and Portfolio Equity Inv.	1.7	1.4	0.01	6.4
Volatility of Net Flows of Capital (Total)	2.4	2.9	0.01	15.8
1990–2000				
Volatility of Net Flows of FDI	1.6	1.3	0.2	6.0
Volatility of Net Flows of Portfolio Equity Inv.	3.3	3.2	0.01	12.5
Volatility of Net Flows of Debt	2.1	2.4	0.0	13.3
Volatility of Net Flows of FDI and Portfolio Equity Inv.	1.6	1.3	0.2	6.5
Volatility of Net Flows of Capital (Total)	1.2	1.1	0.0	5.1

Notes: Volatility of Net Flows is calculated as the standard deviation of the corresponding net flows per capita over the sample period divided by the average of the absolute values of the average gross inflows and gross outflows of capital per capita over the sample period. Total Flows of Capital represents sum of FDI, portfolio equity investment, and debt.

Table 5: **Descriptive Statistics by Region**

	1970-2000	1970-1980	1980-1990	1990-2000
Volatility of Net Flows of FDI				
All Countries	3.0	2.6	2.7	1.9
Industrialized Countries	1.1	0.7	1.0	0.7
Developing Countries	3.5	2.6	2.8	2.2
Latin America	2.4	2.0	3.0	1.6
Asia	2.4	1.8	1.6	1.2
Sub-Saharan Africa	4.9	4.8	2.5	3.6
Eastern-Europe	4.6	0.3	0.1	1.7
Other	4.0	3.3	6.3	2.6
Volatility of Net Flows of Portfolio Equity Inv.				
All Countries	23.5	14.8	6.3	5.4
Industrialized Countries	3.8	3.3	2.0	1.4
Developing Countries	30.5	7.4	3.9	5.7
Latin America	57.4	20.4	7.1	3.9
Asia	35.9	1.4	3.8	15.4
Sub-Saharan Africa	6.6	2.6	3.3	2.3
Eastern-Europe	13.2	0.0	0.0	4.7
Other	13.6	0.4	2.2	4.0
Volatility of Net Flows of Debt.				
All Countries	2.6	1.8	2.2	2.1
Industrialized Countries	1.5	1.3	0.5	0.7
Developing Countries	3.1	1.6	2.4	1.8
Latin America	3.6	1.8	3.1	1.4
Asia	2.0	1.0	1.1	1.6
Sub-Saharan Africa	2.5	2.5	2.6	1.8
Eastern-Europe	3.6	0.2	0.4	2.9
Other	3.7	1.8	2.5	1.9
Volatility of Net Flows of Capital (Total)				
All Countries	2.1	1.3	2.0	1.8
Industrialized Countries	0.6	0.6	0.3	0.4
Developing Countries	2.6	1.4	2.3	2.2
Latin America	2.4	1.6	3.4	2.1
Asia	1.4	0.9	0.9	1.1
Sub-Saharan Africa	2.5	1.8	2.3	2.1
Eastern-Europe	3.8	0.3	1.5	3.6
Other	3.1	1.8	2.2	2.2

Notes: Volatility of Net Flows is calculated as the standard deviation of the corresponding net flows per capita over the sample period divided by the average of the absolute values of the average gross inflows and gross outflows of capital per capita over the sample period. Total Flows of Capital represents sum of FDI, portfolio equity investment, and debt. Industrialized Countries: Australia, Austria, Belgium, Canada, Switzerland, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Iceland, Israel, Italy, Japan, Netherlands, Norway, New Zealand, Sweden, USA; Latin America: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Paraguay, El Salvador, Suriname, Trinidad and Tobago, Uruguay, Venezuela; Asia: Bangladesh, China, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand; Africa (Sub Saharan): Angola, Botswana, Burkina Faso, Cote d'Ivoire, Cameroon, Gabon, Ghana, Gambia, Kenya, Mali, Mozambique, Niger, Nigeria, Papua New Guinea, Senegal, Togo, South Africa, Zimbabwe; Eastern European: Albania, Armenia, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia; Other: Bahrain, Cyprus, Algeria, Egypt, Jordan, Malta, Morocco, Madagascar, Saudi Arabia, Tunisia, Turkey.

Table 6: **Correlation Matrix: Main Specification, 1970-2000**

	Inflation	Inflation Volatility	Government Consumpt.	Institut. Quality	GDP per capita
Inflation	1.00	0.52	-0.18	-0.19	-0.16
Inflation Volatility		1.00	-0.13	-0.18	-0.12
Government Consumption			1.00	0.34	0.37
Institutional Quality				1.00	0.81
GDP per capita					1.00

Notes: All explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. See notes to Table 3 for the detailed description of the variables. Sample size is equal to one in the main regressions in corresponding following tables.

Table 7: **Explaining the Volatility of Capital Flows I, 1970-2000**

Dependent Variable: Volatility of Net Flows of FDI

Countries	94	94	94	94	94	94	94
Inflation	0.34**	0.19			0.18		0.21
	(2.19)	(1.16)			(1.14)		(1.31)
Inflation Volatility		0.77**			0.75**		0.77**
		(2.03)			(2.00)		(2.28)
Government Consumption			0.82*			0.86*	1.09**
			(1.84)			(1.91)	(2.13)
Institutional Quality				–1.27	–0.58	–1.43	–0.73
				(–0.85)	(–0.36)	(–0.97)	(–0.47)
GDP per capita	–0.41***	–0.40***	–0.54***	–0.31	–0.33	–0.37*	–0.41*
	(–4.53)	(–4.39)	(–5.27)	(–1.52)	(–1.56)	(–1.82)	(–1.94)
R^2	0.21	0.25	0.16	0.15	0.25	0.17	0.29

Notes: Dependent variable is the volatility of net flows of FDI, calculated as the standard deviation of net FDI flows divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. Bangladesh, Saudi Arabia and Zimbabwe are outliers and dropped from the set of 97 countries. See notes to Table 3 for the detailed description of the variables.

Table 8: **Explaining the Volatility of Capital Flows II, 1970-2000**

Dependent Variable: Volatility of Net Flows of Portfolio Equity Investment

Countries	74	74	74	74	74	74	74
Inflation	1.18	1.11			1.07		0.90
	(1.39)	(1.31)			(1.28)		(1.12)
Inflation Volatility		0.36			0.26		0.25
		(0.21)			(0.14)		(0.14)
Government Consumption			–5.51			–5.34	–4.67
			(–1.53)			(–1.50)	(–1.42)
Institutional Quality				–5.50	–3.62	–4.26	–2.89
				(–0.74)	(–0.44)	(–0.60)	(–0.36)
GDP per capita	–2.35***	–2.35***	–1.96***	–1.85*	–1.93*	–1.48	–1.59
	(–3.25))	(–3.21))	(–2.64))	(–1.65)	(–1.71)	(–1.32)	(–1.42)
R^2	0.18	0.18	0.18	0.15	0.18	0.18	0.20

Notes: Dependent variable is the volatility of net flows of portfolio equity investment, calculated as the standard deviation of net flows of portfolio equity investment divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. Bangladesh, Bolivia, Indonesia, Paraguay, and El Salvador are outliers and dropped from the set of 79 countries. See notes to Table 3 for the detailed description of the variables.

Table 9: **Explaining the Volatility of Capital Flows III, 1970-2000**

Dependent Variable: Volatility of Net Flows of Debt

Countries	89	89	89	89	89	89	89
Inflation	0.53***	0.36**			0.35**		0.39**
	(3.48)	(2.24)			(2.12)		(2.42)
Inflation Volatility		0.80			0.94		0.92
		(1.31)			(1.47)		(1.51)
Government Consumption			0.75			0.73	1.04
			(0.94)			(0.92)	(1.51)
Institutional Quality				1.52	2.62	1.47	2.56
				(0.81)	(1.52)	(0.77)	(1.48)
GDP per capita	–0.63***	–0.64***	–0.80***	–0.91***	–0.95***	–0.97***	–1.04***
	(–4.38)	(–4.39)	(–4.44)	(–3.05)	(–3.43)	(–3.07)	(–3.55)
R^2	0.23	0.25	0.16	0.16	0.27	0.17	0.28

Notes: Dependent variable is the volatility of net flows of debt, calculated as the standard deviation of the net flows of debt divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. New Zealand is an outlier and dropped from the set of 90 countries. See notes to Table 3 for the detailed description of the variables.

Table 10: **Explaining the Volatility of Capital Flows: Decades I**

Dependent Variable: Volatility of Net Flows of FDI and Portfolio Equity Investment

Decade	1970-2000	1970-1980	1980-1990	1990-2000
Countries	94	72	81	93
Inflation	0.25*	0.11	0.11	–0.17**
	(1.66)	(0.35)	(1.12)	(–2.49)
Inflation Volatility	0.64**	1.52**	0.05	0.53***
	(2.13)	(2.18)	(0.31)	(3.19)
Government Consumption	0.94**	0.80	1.03**	0.70**
	(2.01)	(1.32)	(2.14)	(2.01)
Institutional Quality	–0.38	–0.84	–0.75	–2.22**
	(–0.29)	(–0.39)	(–0.94)	(–2.06)
GDP per capita	–0.48***	–0.09	–0.32**	–0.29**
	(–2.87)	(–0.39)	(–2.09)	(–2.01)
R^2	0.33	0.22	0.21	0.42

Notes: Dependent variable is the volatility of net flows of FDI and portfolio equity investment, calculated as the standard deviation of the corresponding net flows divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. Institutional Quality for 1970-80 is the first available observation which is that in 1984. Outliers that are dropped for the 1970-2000: Bangladesh, Saudi Arabia, and Zimbabwe; the 1970s: Bolivia, Botswana, Chile, Zimbabwe; the 1980s: Bangladesh, Bahrain, Panama, and Saudi Arabia; the 1990s: Algeria, Botswana, and Gabon. See notes to Table 3 for the detailed description of the variables.

Table 11: **Explaining the Volatility of Capital Flows: Decades II**

Dependent Variable: Volatility of Net Flows of Debt

Decade	1970-2000	1970-1980	1980-1990	1990-2000
Countries	89	72	81	89
Inflation	0.39**	0.63*	0.36**	0.11
	(2.42)	(1.75)	(2.06)	(0.77)
Inflation Volatility	0.92	–0.10	0.37	0.72**
	(1.51)	(–0.23)	(0.74)	(2.18)
Government Consumption	1.04	0.40	–0.42	0.21
	(1.51)	(0.84)	(–0.78)	(0.42)
Institutional Quality	2.56	0.16	2.01*	1.39
	(1.48)	(0.25)	(1.73)	(0.65)
GDP per capita	–1.04***	–0.44***	–0.69***	–0.53**
	(–3.55)	(–2.74)	(–2.61)	(2.24)
R^2	0.28	0.17	0.17	0.22

Notes: Dependent variable is the volatility of net flows of debt, calculated as the standard deviation of the net flows of debt divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs. All the variables are sample averages except GDP per capita, which is the initial value. Institutional Quality for 1970-80 is the first available observation which is that in 1984. Outliers that are dropped for the 1970-2000: New Zealand; the 1970s: Botswana; the 1980s: Chile; the 1990s: Morocco. See notes to Table 3 for the detailed description of the variables.

Table 12: **Explaining the Volatility of Capital Flows: Robustness I, 1970-2000**

Dependent Variable: Volatility of Net Flows of FDI and Portfolio Equity Inv.

Countries	94	94	94	94	94	94
Inflation	–0.02	–0.09	–0.03	–0.11	–0.02	–0.10
	(–0.20)	(–0.66)	(–0.27)	(–0.76)	(–0.14)	(–0.68)
Inflation	0.46*	0.57*	0.45*	0.57*	0.45*	0.56*
Volatility	(1.73)	(1.80)	(1.72)	(1.80)	(1.66)	(1.74)
Government	0.78*	0.78*	0.77*	0.77*	0.77*	0.76*
Consumption	(1.84)	(1.81)	(1.85)	(1.81)	(1.85)	(1.81)
Institutional	–1.82	–1.93	–1.77	–1.87	–1.82	–1.87
Quality	(–1.51)	(–1.57)	(–1.46)	(–1.52)	(–1.50)	(–1.51)
GDP per	–0.34**	–0.27	–0.34**	–0.27	–0.34**	–0.27
capita	(–2.07)	(–1.32)	(–2.11)	(–1.34)	(–2.07)	(–1.34)
External		0.66		0.69		0.69
Controls		(0.85)		(0.89)		(0.90)
Volatility of			0.42	0.53		0.52
External Controls			(0.32)	(0.42)		(0.42)
Trade					0.02	0.02
					(0.12)	(0.10)
R^2	0.37	0.37	0.37	0.37	0.37	0.37

Notes: Dependent variable is the volatility of net flows of FDI and portfolio equity investment, calculated as the standard deviation of the corresponding net flows divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs, except for External Controls and Volatility of External Controls. All the variables are sample averages except GDP per capita, which is the initial value. Bangladesh, Saudi Arabia, and Zimbabwe are outliers and dropped. See notes to Table 3 for the detailed description of the variables.

Table 13: **Explaining the Volatility of Capital Flows: Robustness II, 1970-2000**

Dependent Variable: Volatility of Net Flows of Debt

Countries	89	89	89	89	89	89
Inflation	0.53***	0.23	0.50***	0.19	0.58***	0.24
	(2.84)	(1.05)	(2.68)	(0.79)	(2.78)	(0.85)
Inflation	0.94	1.47**	0.92	1.45**	0.87	1.38*
Volatility	(1.50)	(2.13)	(1.55)	(2.22)	(1.30)	(1.95)
Government	1.13	1.30*	1.11	1.28*	0.91	1.10
Consumption	(1.60)	(1.75)	(1.61)	(1.77)	(1.15)	(1.34)
Institutional	2.58	2.38	2.68	2.51	2.55	2.48
Quality	(1.44)	(1.34)	(1.43)	(1.36)	(1.44)	(1.35)
GDP per	–1.02***	–0.75**	–1.04***	–0.77**	–1.00***	–0.76**
capita	(–3.37)	(–2.47)	(–3.34)	(–2.54)	(–3.33)	(–2.53)
External		2.74**		2.80**		2.77*
Controls		(2.04)		(2.02)		(1.93)
Volatility of			1.17	1.50		1.38
External Controls			(0.14)	(0.54)		(0.49)
Trade					0.35	0.29
					(0.86)	(0.67)
R^2	0.30	0.33	0.30	0.33	0.30	0.33

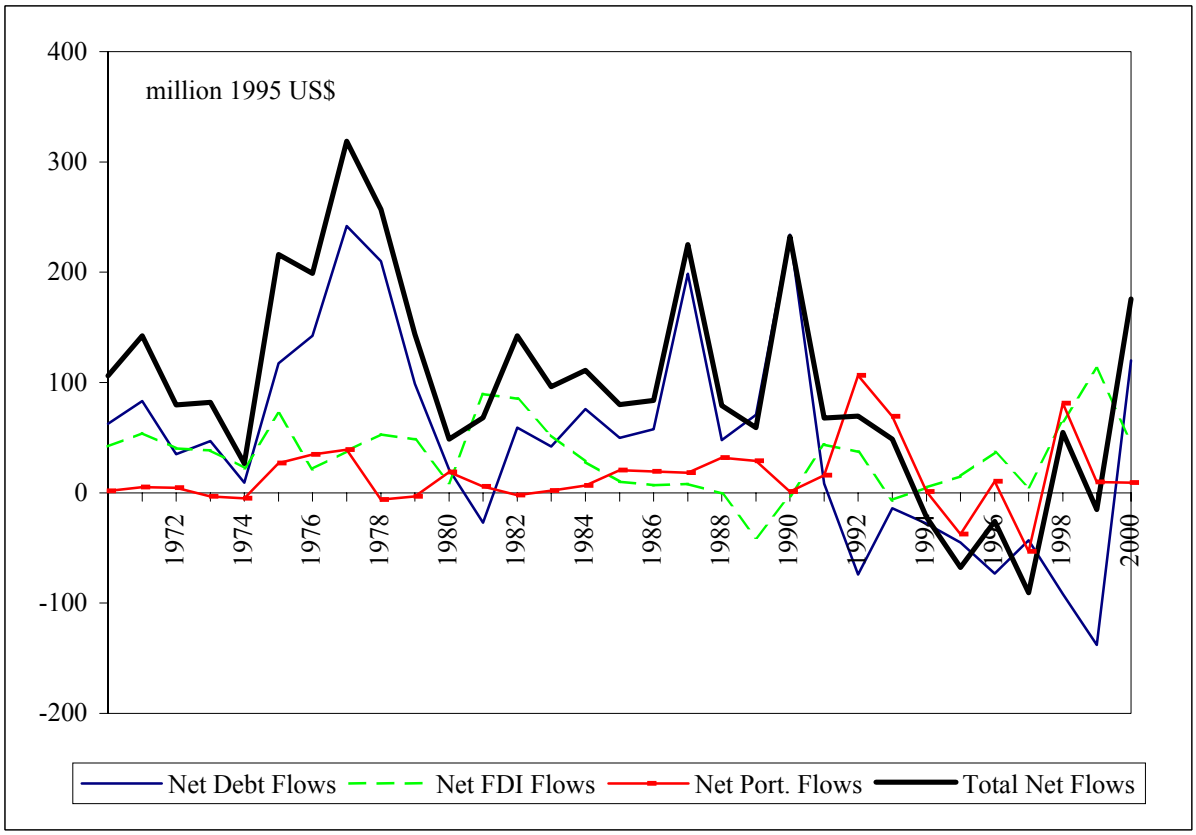
Notes: Dependent variable is the volatility of net flows of debt, calculated as the standard deviation of the corresponding net flows divided by the average of the absolute values of average gross inflows and gross outflows. All regressions include a constant and are estimated by OLS with White's correction of heteroskedasticity. t-statistics are in parentheses denoting *** 1%, ** 5%, and * 10% significance. All explanatory variables are in logs, except for External Controls and Volatility of External Controls. All the variables are sample averages except GDP per capita, which is the initial value. New Zealand is an outlier and dropped. See notes to Table 3 for the detailed description of the variables.

Table 14: **Explaining the Volatility of Capital Flows: Robustness III, 1970-2000**

	(1)	(2)	(3)	(4)
Countries	93	93	88	88
Inflation	0.27*	0.26*	0.35*	0.34*
	(1.82)	(1.69)	(1.90)	(1.88)
Inflation Volatility	0.75**	0.78***	0.88	0.91
	(2.54)	(2.67)	(1.38)	(1.38)
Government Consumption	1.21***	1.18***	1.08	1.06
	(2.60)	(2.58)	(1.50)	(1.52)
Volatility of Real Int. Rate†	0.07		–0.22	
	(0.50)		(–1.34)	
Volatility of Int. Premium†		–0.10		–0.11
		(–0.55)		(–0.30)
Institutional Quality	–0.69	–0.77	2.08	2.19
	(–0.50)	(–0.57)	(1.18)	(1.25)
GDP per capita	–0.45	–0.45***	–1.09***	–1.08***
	(–2.56)	(–2.58)	(–3.67)	(–3.57)
R^2	0.38	0.38	0.30	0.29

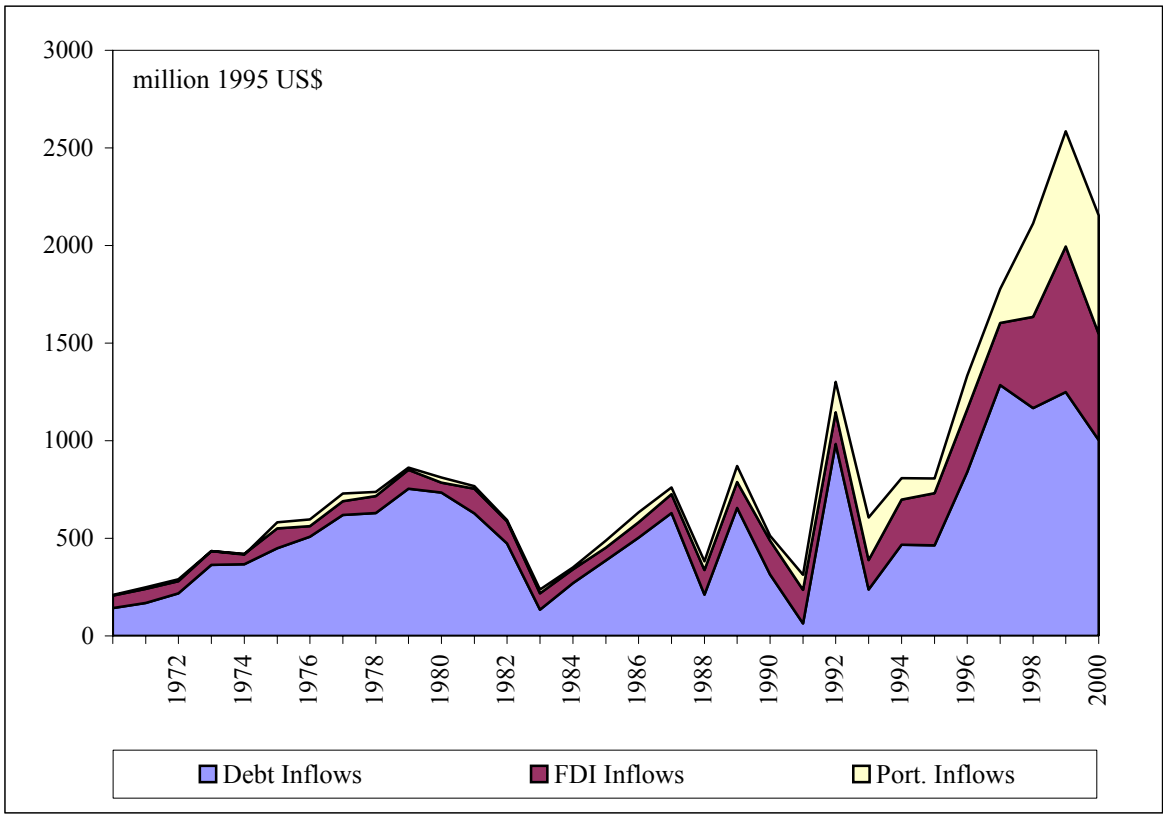
Notes: Dependent variable is the volatility of net flows of FDI and portfolio equity investment in (1)–(2); of net flows of debt in (3)–(4); all calculated as the standard deviation of the corresponding net flows divided by the average of the absolute values of average gross inflows and gross outflows. 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 explanatory variables are in logs, except for External Controls and Volatility of External Controls. All the variables are sample averages except GDP per capita, which is the initial values. Bangladesh, Nicaragua, Saudi Arabia, and Zimbabwe in (1)–(2), Nicaragua and New Zealand in (3)–(4) are outliers and dropped. See notes to Table 3 for the detailed description of the variables. †Use of lending rate instead of deposit rate does not change the result.

Figure 1: **Net Total Capital Flows Over Time per Capita, 1970-2000**



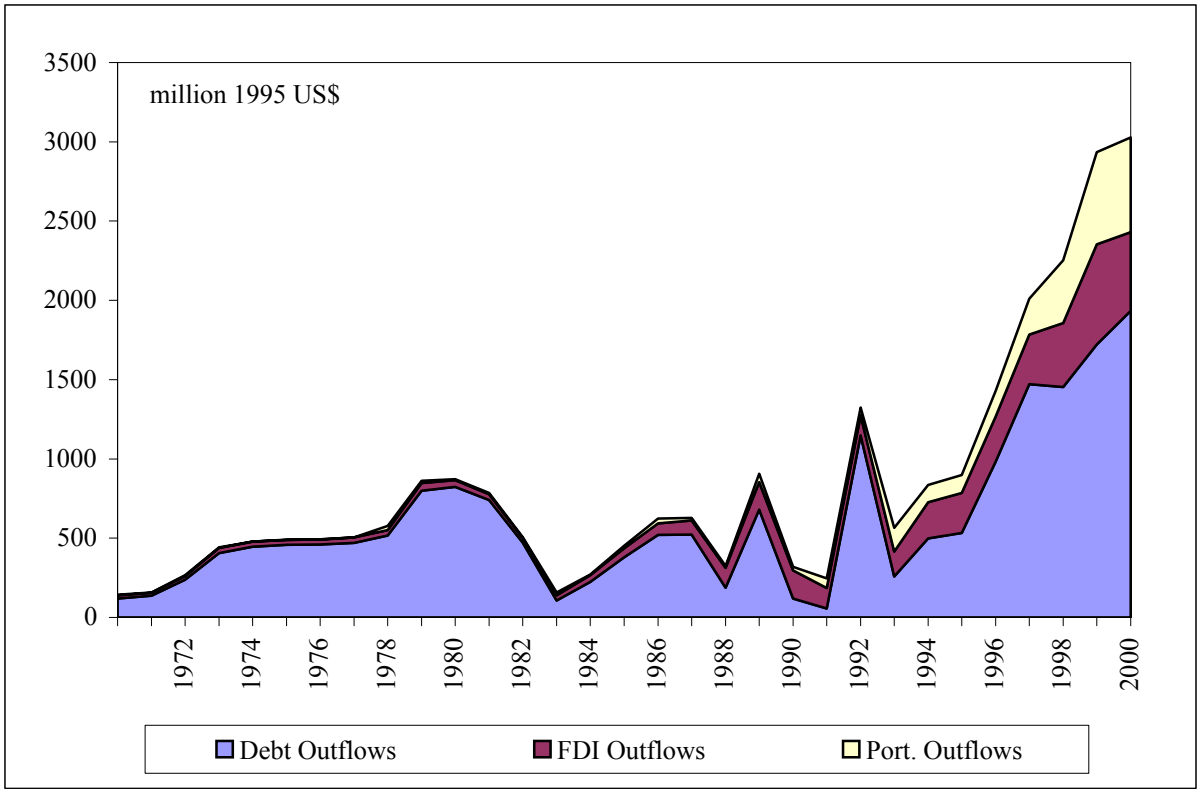
Notes : Netflows represent net flows of FDI, portfolio equity investment and debt, divided by population based on IMF data in 1995 US$. Average across 97 countries. Net flows are calculated as the difference of corresponding inflows (liability) and outflows (asset). Inflows represent flows of foreign claims on domestic capital (liability) and outflows stand for the flows of domestic claims on foreign capital (asset).

Figure 2: **Total Capital Inflows per Capita by Type of Flow, 1970-2000**



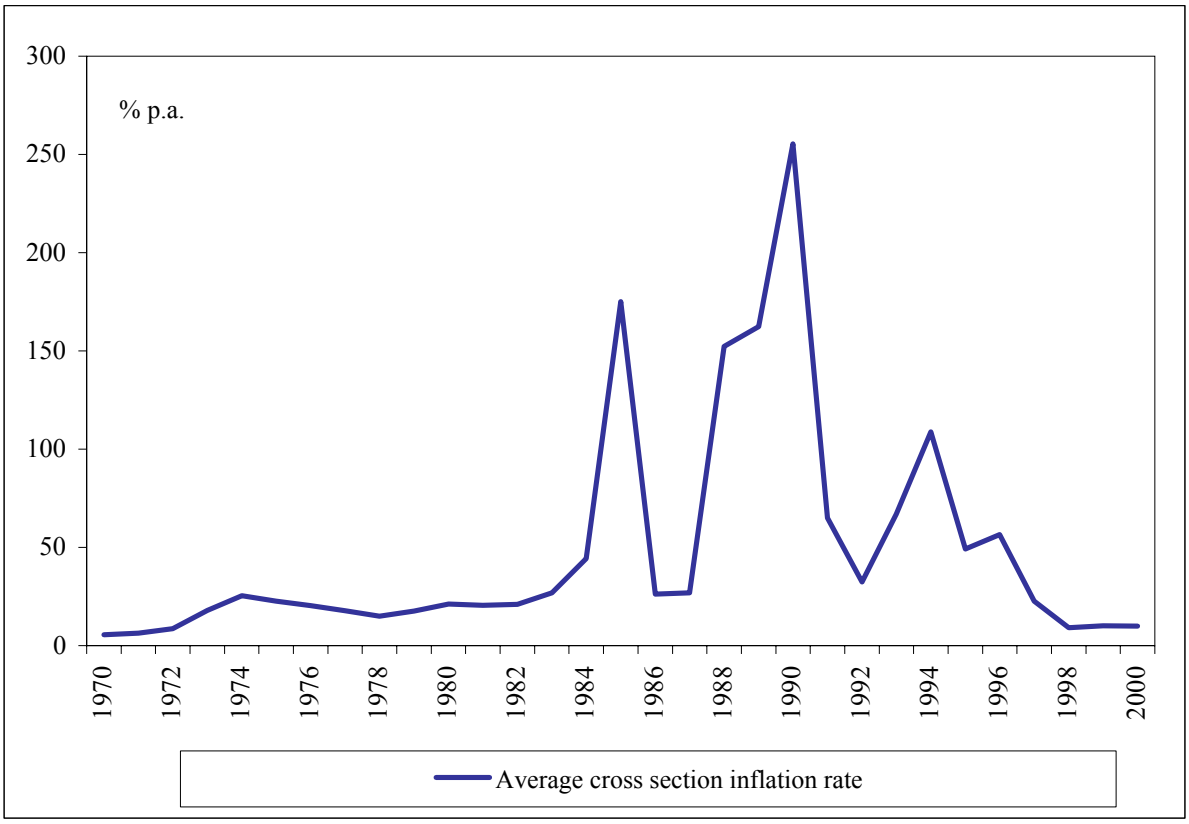
Notes : Inflows represent inflows of FDI, portfolio equity investment and debt, divided by population based on IMF data in 1995 US$. Average across 97 countries. Inflows represent flows of foreign claims on domestic capital (liability).

Figure 3: **Total Capital Outflows per Capita by Type of Flow, 1970-2000**



Notes : Outflows represent outflows of FDI, portfolio equity investment and debt, divided by population based on IMF data in 1995 US$. Average across 97 countries. Outflows stand for the flows of domestic claims on foreign capital (asset).

Figure 4: **Inflation Over Time, 1970-2000**



Notes : Graph represents cross-section average of CPI inflation across 97 countries.