Stocks, Flows and Valuation Effects of Foreign Assets and Liabilities: Do They Matter?*

Conference Version: October 30, 2006

Alfredo Pistelli
Research Department
Central Bank of Chile

Jorge Selaive
Research Department
Central Bank of Chile

Rodrigo Valdés
Research Department
Central Bank of Chile

Abstract

Large holdings of foreign assets and liabilities along with increasing relevance of valuation effects—capital gains or losses—have characterized global financial integration. In this paper, we assess empirically the implications of stocks, flows and valuation adjustments in external crises (current account reversals and currency crises), sovereign credit ratings and the long-run real exchange rates (RER), in both industrial and developing economies. We find support for the view that foreign assets and liabilities are rather distinctive external holdings with different implications in the occurrence of external crisis. Valuation adjustments have an impact on crises, although quantitatively not very large. Portfolio liabilities (particularly equity) increase the probability of crises. In the case of sovereign credit ratings, we find a noteworthy effect of the stock and flows of FDI liabilities on improving sovereign ratings. Finally, as for the RER, gross assets and liabilities appear equally important, but components of external holdings have considerably different effects. Whereas the cumulative current account is associated with real depreciation, the valuation effect is strongly linked with real currency appreciations in developing economies. As a case study, Chile also shows substantial heterogeneity on the effect of different components of NFA on the real exchange rate.

JEL Classification: F31, F32, F34, F36.
Keywords: Net foreign assets, current account reversal, currency crisis, real exchange rate, sovereign ratings.

---

* Prepared for the Tenth Annual Conference "*Current Account and External Financing*" organized by the Central Bank of Chile, November 9-10, 2006. We thank the Balance of Payment Department of the Central Bank of Chile for preparing a unique database on quarterly series of the international investment position, Sebastián Edwards and César Calderón for kindly facilitating their databases on current account reversals and real exchange rate, respectively. We also thank Emerson Melo for providing research assistance and Rodrigo Caputo and Sergio Godoy for sharing some data with us. All remaining errors are ours and the views expressed in the paper do not necessarily represent those of the Central Bank of Chile.

Address correspondence to Agustinas 1180, Santiago, Chile. Phone: (562) 670-2404. Fax: (562) 670-2208. E-mails: apistelli@bcentral.cl; jselaive@bcentral.cl; rvaldes@bcentral.cl.

I. Introduction

Globalization has changed the way countries interplay in several dimensions. Financial integration and its underpinnings are probably among the most important ones. Although cross-border capital flows and external debt have been closely monitored, until recently little was known about the stocks of foreign assets and liabilities accumulated by various countries, especially in the developing world. In this respect, Lane and Milesi-Ferretti (2001, 2006) made an important contribution by assembling a comprehensive dataset for 145 countries over the period 1970-2004.[2]

According to these authors, despite several external crises, financial integration has intensified in recent decades among both industrial and developing countries. This has been accompanied by significant changes in the composition of countries' international investment position. For instance, protracted current account deficits have led a number of countries to decrease their net foreign assets (NFA) considerably. In other cases, including Chile, financial integration has resulted in substantial and simultaneous expansions of gross international liabilities and assets.

Another interesting stylized fact that emerges from this dataset is the existence of some persistent differences between the change in the net foreign assets position and the current account balance, which highlights the importance of valuation effects—capital gains and losses—as a source of external wealth. This has drawn increasing interest in studying the consequences and relevance of the two basic components of changes in the net foreign position, namely cumulative flows and valuation effects of both assets and liabilities. In some cases, valuation effects can be substantial. For instance, despite having a rather large and persistent current account deficit between 2003 and 2005 (roughly 6% of GDP each year), which cumulatively should have deteriorated its external position by around 12 percentage points of GDP, the US's net foreign asset to GDP ratio improved 3 percentage points of GDP during the same period. The difference is due to valuation effects under the traditional accounting rules. Hausmann and Sturzenegger (2005) propose a different set of accounting rules based on the income generated by the financial position for which the external position of the US appears fairly stable over the last twenty years.[3]

Finally, another aspect that seems important to consider when studying the implications of changes in the stock of net foreign assets is that both international assets and liabilities can take very different forms. Changes in debt contracts, portfolio flows (including bonds and equity), foreign direct investment (FDI) and international reserves (foreign liquid assets), all explain changes in NFA, but are quite different in nature.

---

[2] Previous contributions include Sinn (1990) and Rider (1994). Rider (1994) builds a dataset for the period 1970-87, missing the effect of the significant increase of cross-border capital flows during last decade. Official data is also scarce. Data on international investment positions have been published by the International Monetary Fund (IMF) in recent years for most industrial countries but only for a few developing countries. For the latter group of countries, IMF stock data is generally available only for gross external debt and foreign exchange reserves.

[3] There is ongoing debate on Hausmann- Sturzenegger's approach, which is beyond the scope of this work.

The objective of this paper is to empirically evaluate the role of NFA and their different components in particular key outcomes, namely the probability of an external crisis, the perceived country creditworthiness and the real exchange rate (RER). For that purpose we systematically assess the effects of NFA and their alternative break ups on external crises, both current account reversals and currency crises, on countries' sovereign credit ratings (by both Moody's and Standard and Poor's), and on the long-term equilibrium real exchange rate.

We extend previous contributions and consider detailed information on countries' international investment positions from Lane and Milesi-Ferretti's new dataset. The empirical literature on external crises has limited the analysis of foreign assets and liabilities to international reserves, stock and composition of external debt and the size and composition of capital flows.[4] To our knowledge, maybe due to dearth of available data, the same is true for empirical research on the determinants of credit ratings and RER literature. Although research in real exchange rates consistently assesses the role of net foreign assets, no distinction is made between different components.

The methodology we follow is straightforward: we augment empirical models used and validated by other authors to study determinants of particular outcomes and assess the role of the different stocks compounding NFA, as well as the implicit flows that explain its variation. In all but one case (a time series for Chile) we analyze large panels of countries. For this purpose, we merge the dataset compiled by Lane and Milesi-Ferretti with a few others commonly used to study the outcomes we focus on.

Supplementing this analysis, we also examine the role of the relationship between exchange rates and valuation effects on determining the probability of external crises. If valuation effects are important for the external adjustment process (see, e.g., Gourinchas and Rey, 2005 and Lane and Milesi-Ferretti, 2005) or, more generally, if there is cross sectional variation in the denomination of international liabilities—with some countries having only foreign–currency denominated liabilities, a phenomenon known as "original sin" (see., e.g., Eichengreen et al., 2003)— valuation effects arising from RER fluctuation may change the likelihood of external crises. We empirically assess this question by evaluating the impact of the country-specific average RER influence on valuation effects on the key economic outcomes we analyze.

Our paper tackles a number of important questions from a policy perspective. First, it assesses whether the size of NFA (a stock beyond current flows) is an important determinant of crises and creditworthiness. Second, it evaluates whether gross external assets and liabilities have differentiated roles in determining the likelihood of crises, the real exchange rate and creditworthiness. As global financial integration entails higher external assets and liabilities, a differentiated role sheds light on the effects of integration and the mechanism behind. Third, it estimates the effects of different components of net external assets on different outcomes. For instance, whether FDI is safer or at least

[4] Among the variables that have been considered is foreign direct investment vs. portfolio flows, long-term vs. short-term external debt, fixed-rate vs. floating-rate borrowing, the ratio of short-term external debt to international reserves, the ratio of short-term external debt to GDP, and the ratio of debt services to exports.

perceived as safer than, say, portfolio investment, or whether it has a different effect on the exchange rate. If alternative components of NFA have dissimilar effects on the outcomes we analyze, there could be an argument in favor of some type of flows or of hoarding international reserves as a counterpart. Finally, it evaluates whether valuation effects are different from the impact of accumulated flows in different dimensions. In particular, it assesses the relevance of the RER-to-valuation effects ratio, which sheds light on the importance of an "international pesification" of emerging economies.

The paper is organized as follows. Section II presents probit models for currency crises and current account reversals, both based on large panels of countries. It also explores whether the effect of exchange rate movements on valuation effects is an empirically relevant mechanism in external crises. Section III analyzes the determinants of country credit ratings using ordered probit models. Section IV presents cointegrating models of RER determination for both a large sample of countries and a quarterly time series for Chile. We conclude in section V.

II. Foreign Assets and Liabilities and External Crises

Empirical researchers on external crises, namely current account reversals and currency crises have limited their analysis of foreign assets and liabilities to the stock of international reserves, the stock and composition of external debt, and the size and composition of capital flows.

Several papers have analyzed the effect of these variables on the probability of occurrence of these crises. Frankel and Rose (1996) find that low ratios of FDI flows to external debt increase the probability of currency crashes. Both Radelet and Sachs (1998) and Rodrik and Velasco (1999) find that the ratio of external debt to international reserves is a robust predictor of capital flow reversals, highlighting the importance of liquidity problems as precursors of financial crises. Milesi-Ferretti and Razin (1998) examine current account reversal episodes and find that the ratio of external debt to GDP helps predict these events, while the ratio of FDI flows to GDP and the share of short-term debt to total external debt have an effect that is not statistically significant. Edwards (2005a, 2005b) finds that countries with high current account deficits are more likely to suffer a reversal, while the ratio of international reserves to GDP and the ratio external debt to GDP have no statistically significant effect.

In this section we consider standard empirical models used in the external crisis literature, augmenting it with partitions of net foreign asset stocks and flows. We analyze two types of crisis indicators: current account reversals and exchange rate market pressure indexes. Estimations consider maximum-likelihood panel probit models and yearly observations for the period 1975-2004. While the whole sample includes more than 100 countries, we also perform estimations using the samples of developing countries and industrial countries

according to World Bank classification.[5] Not every country has data for every year, so our panel estimations are unbalanced. For details on data construction, sources and sample of economies included, see appendix.

II.1. Current Account Reversals

Our basic specification for the probability of current account reversal follows closely Milesi-Ferretti and Razin (1998) and Edwards (2005a, 2005b). We consider current account reversal episodes as years where the current account deficit suffers a reduction of at least 4% of GDP over a one year period, and an accumulated reduction of at least 5% of GDP in three years. Therefore, our dependent variable ($CAR_{i,t}$) takes a value of one if country *i* experiences a current account reversal in year *t*, and zero otherwise.

The initial set of explanatory variables includes: a sudden stop dummy that is equal to one if the country suffered a sudden stop (SS), a measure of regional contagion represented by the relative occurrence of sudden stops in the country's region (SSR), the ratio of imports to GDP as a measure of openness (OPEN), and the percentage change in terms of trade (TOT).[6]

We consider this set of variables as controls and evaluate the effect of the components of alternative partitions of net foreign assets. Because one key flow variable to explain a CAR—identified in Milesi-Ferretti and Razin (1998) and Edwards (2005a)—is the first lag of the current account deficit, and to be able to identify the effects of flows vs. stocks more easily, estimates include two-year lags of stock variables (STOCK) and one-year lags of change in stocks (ΔSTOCK). We consider maximum-likelihood probit estimations and estimate relationships of the following type:

$$\Pr(CAR_{i,t} = 1) = \Phi[\beta_1 SS_{i,t-1} + \beta_2 SSR_{i,t-1} + \beta_3 OPEN_{i,t-1} + \beta_4 TOT_{i,t-1} + \alpha_1 STOCK_{i,t-2} + \alpha_2 \Delta STOCK_{i,t-1}]$$

In order to evaluate alternative partitions of the net foreign asset position, we estimate nine different specifications, each one for three country samples: all, developing, and industrial countries. The alternative partitions considered are: (i) the overall net foreign asset position; (ii) total gross assets and total gross liabilities; (iii) net FDI assets, net portfolio equity assets, net portfolio debt assets and international reserves; (iv) gross FDI assets, gross portfolio equity assets, gross portfolio debt assets, gross FDI liabilities, gross portfolio equity liabilities, gross portfolio debt liabilities and international reserves; and (v)

[5] Estimation results when the sample is restricted to industrial economies should be taken with special consideration since we identify only six episodes of current account reversal and five currency crisis episodes. List of economies included in each group in the appendix.

[6] Following Edwards (2005b) we define sudden stop as a reduction in net capital inflows of at least 5% of GDP in one year. The country in question must have received an inflow of capital larger to its region's third quartile during the previous two years prior to the sudden stop. We considered a number of other covariates which did not result to be statistically relevant. Among others, these include GDP per capita, fiscal deficit, domestic credit growth, US interest rate, and OECD output growth.

cumulative current account balance and cumulative valuation effects. We also include alternative measures of the change in stocks[7].

Tables II.1, II.2 and II.3 present the results for all, developing and industrial economies, respectively. Because probit coefficients are not easily interpretable, we report the marginal effects of one-unit changes in regressors on the probability of CA (expressed in percentage points), evaluated at the mean of the data.

Estimated coefficients for our initial set of explanatory variables are in line with findings by Milesi-Ferretti and Razin (1998) and Edwards (2005a, 2005b). As expected, the lagged current account deficit is a very important determinant of the likelihood of a CAR. Also, lagged sudden stops increase the probability of a reversal. Among developing economies, evidence confirms the importance of regional contagion. In this respect, higher incidence of sudden stops in a country's region increases the probability of reversal. Also, an increment in the terms of trade reduces the probability of a reversal. However, this last variable is not always significant at conventional levels. The effect of openness (import to GDP) on probability of reversal seems positive but not robust to different specifications.

More importantly for this paper, column [3] shows that a higher stock of NFA (first lag) decreases the probability of a CAR. However, if we consider NFA (second lag) and the current account deficit (column [6]) simultaneously, the result changes completely: Having larger NFA seems not to affect the likelihood of a CAR once we control for the current account deficit. Apparently, the result [3] is driven by the lagged current account deficit implicit in NFA. Recall that, by definition, $NFA_t = NFA_{t-1} + CA_t + VA_t$, where NFA are stocks at the end of the year and CA and VA are the current account balance and valuation adjustments, respectively. The basic conclusion is that transaction flows, represented by the current account deficit, is the most significant determinant of CAR. Its marginal effect on the probability of reversals is much higher than the other explanatory variables

Despite the significant role of the current account deficit, there are other components of NFA that show up as quite relevant. As for stocks, the results show that a higher stock of net portfolio equity assets is statistically significant in reducing the probability of a reversal (column [8]). The results across samples show that this finding seems to be driven by developing countries. According to column [9], what drives the portfolio equity effect is the gross stock of portfolio equity liabilities, while the gross stock of portfolio equity assets has no statistically significant effect. *Ceteris paribus*, countries that accumulate more portfolio equity investment from abroad face a higher probability of current account reversal. Quantitatively, the effect of a 1% GDP increment of the current account deficit on the probability of current account reversal is more than three times the effect of a 1% GDP increase in the stock of portfolio equity liabilities.

The analysis by NFA components also shows that net FDI assets increase the CAR probability, a result that originates within industrial countries. Having accumulated FDI

[7] Due to the significance of current account deficit as determinant of current account reversals, main tables consider this variable and valuations adjustments as measures of change in stocks. The appendix presents results for alternative partitions of the change of the stock of net foreign asset.

flows decreases the likelihood of CAR. Interestingly, in the industrial countries sample, a larger stock of international reserves (to GDP) increases the probability of reversal. However, its marginal effect is close to zero.

We also find a statistically important role of valuation effects, apparently driven by what happens in the developing countries sample. When we partition the stock of NFA into cumulative financial transactions (cumulative current account balance) and cumulative valuation adjustments, the results confirm that this last component reduces the probability of reversal. The cumulative VA appears to matter independently of whether we control for the lagged current account deficit (column [4] or [5]). Unexpectedly, the lagged valuation adjustment (a flow) appears to be very significant, independently of the sample considered, with a positive sign. However, the (puzzling) marginal effect of this flow component is around 1/6 the effect of the current account.

II.2. Exchange Rate Market Pressure

Our second external crisis indicator is an index of currency crashes. We also consider here a large sample of country experiences, and try to empirically evaluate the role of foreign assets and liabilities in the likelihood of episodes of significant pressure on the exchange rate market. As in the previous section, we do not attempt to test specific theories on this matter, but to examine the role played by foreign assets and liabilities, and the valuation effects that emerge from these holdings usually denominated in different currencies and experiencing large capital gains. The basic question is whether foreign assets and/or liabilities are relevant in explaining a country's vulnerability to an exchange rate crash.

The exchange rate market pressure (ERMP) measure considered here is the standard index defined by Eichengreen et al. (1995), which includes both large exchange rate depreciations and speculative attacks that are successfully warded off by the authorities. The latter include episodes characterized by large and sudden falls in international reserves (and/or increases in interest rates). Concretely, a speculative attack exists when the ERMP index is above a certain threshold. The index is a weighted average of real exchange rate (*RER*) changes and international reserves (*res*) changes for country *i* in month *t*:

$$ERMP_{i,t} = \omega_{RER}\left(\frac{RER_{i,t} - RER_{i,t-1}}{RER_{i,t-1}}\right) + \omega_{res}\left(\frac{res_{i,t} - res_{i,t-1}}{res_{i,t-1}}\right)$$

The weights ω_{RER} and ω_{res} are the relative precision of each variable, defined as the inverse of the variance for each variable for all countries and over the full sample period. Due to lack of comparable data, we do not consider interest rates in constructing the index.

The rationale for using this measure to characterize a currency crisis is that it captures the options faced by a government. At one moment in time, authorities may let the currency depreciation or avoid it through intervention (or by raising the interest rate). We consider that a currency crisis episode occurs when this index exceeds its mean by more than three standard deviations. The mean and the standard deviation are country specific:

$$CR_{i,t} = \begin{cases} 1 & \text{if } ERMP_{i,t} > \overline{ERMP_i} + 3 \cdot SD(ERMP_i) \\ 0 & \text{if otherwise} \end{cases}$$

We assume that there is a well defined function that relates macroeconomic variables to the probability of a crisis in country *i* in period *t*. The estimation procedure follows closely previous contributions, including Eichengreen et al. (1995), Milessi-Ferretti and Razin (1998), Bussiere and Fratzscher (2002) and, more recently, García and Soto (2004). We estimate a probit model using maximum likelihood and considering several explanatory variables other than foreign assets and liabilities. All these variables are lagged one year and their inclusion follows the large literature on currency crises. As before, we report marginal effects, that is effects of one-unit changes in regressors on the probability of a crash (expressed in percentage points), evaluated at the mean of the data. Although estimates cannot be interpreted in a structural way, they allow us to characterize currency crises.

Numerous theoretical models have been used to explain the causes and origins of currency crises[8]. First-generation models (Krugman 1979; Blanco and Garber 1986) emphasize the role of inconsistencies between fiscal, monetary and exchange-rate policies. Key variables that emerge from this approach are the exchange-rate regime, domestic credit growth, the level of international reserves, and the fiscal balance. Second-generation models, such as Obstfeld (1996) consider that governments face tradeoffs (output-inflation) so its decisions are not state-invariant. From the point of view of the government, it may be optimal to abandon a fixed exchange rate regime even if it might have been possible (at some cost) to maintain it. A key variable that emerges is the overvaluation of the real exchange rate. *Ceteris paribus*, the more overvalued the real exchange rate is, the bigger the incentives for the government to abandon a fixed exchange rate regime and, therefore, the higher is the probability of having a currency crisis in the coming months.

Third-generation models focus on moral hazard and imperfect information, highlighting the importance of banking problems and over-borrowing as determinants of a currency crisis. Diaz Alejandro (1985) and Velasco (1987) model banking problems as determinants of currency crises, whereby Central Banks financing of the rescue of the financial system could be inconsistent with a managed exchange rate regime. These models suggest that the growth of banking credit may play an important role in currency crises.

More recent models highlight the relevance of capital flows as possible source of instability (Calvo, 1998, and Calvo, Izquierdo, and Talvi, 2003). A sudden stop of capital inflows can generate a liquidity crisis and trigger a significant depreciation of the domestic currency. Variables such as foreign interest rates, the amount of external debt and the composition of foreign assets and liabilities might play an important role.

Our set of control variables is rather standard and follows previous empirical contributions on the determinants of speculative attacks and currency crises. We closely follow Frankel

[8] For a review of the economic literature on currency crises see Eichengreen et al. (1995), Flood and Marion (1998), and Kaminsky (2003).

and Rose (1996) and Milesi-Ferretti (1998) to examine seven variables related to domestic macroeconomic conditions and currency crises literature: the rate of growth of bank credit; the fiscal balance to GDP ratio; the current account deficit as a percentage of GDP; the real growth rate of GDP; the real growth rate of exports; the degree of overvaluation of the real exchange rate; and the stock of international reserves. Additionally, we include foreign variables such as the US interest rate and the growth rate of OECD countries' real GDP; a dummy variable for fixed exchange rate regime, and a measure of trade openness represented by the ratio of imports to GDP. It is important to mention that our measure of real exchange rate overvaluation is the deviation of the actual value of the real exchange rate from the trend component of a rolling Hodrick-Prescott filter.

The growth of bank credit is intended to capture the monetary policy stance and over-borrowing. Crashes are more likely to occur in countries where the real exchange rate is appreciated relative to its historical average. We take a step forward on this variable and introduce the real exchange rate misalignment estimated from a rolling –real time– Hodrick-Prescott filter. As suggested by second-generation models, sluggish GDP growth may trigger difficulties to repay the debt burden and the government may be more reluctant to implement stabilization programs if output is already slowing down (Bussiere and Fratzscher, 2002). Trade openness, on the one hand, exposes the country to external shocks but, on the other hand, may benefit the economy through gained opportunities to share risk with the rest of the world. Export growth can have a role as a driving force for economic growth or as a proxy for misalignment. Finally, the US interest rate is a measure of how "easy" are foreign borrowing conditions. Other variables have been included in the literature to explain currency crashes. Nevertheless, there is no clear consensus on their importance and significance, so we avoid over-parameterizing our benchmark model and take the most parsimonious specification which we extend with stocks, cumulative flows and valuation effects of foreign assets and liabilities, distinguishing between net and gross components.

After removing non-significant variables, our basic model is reduced to five variables: the degree of over-valuation or misalignment of the real exchange rate, the rate of growth of bank credit, the growth rate of real GDP, the growth rate of exports, and the US interest rate. This model is extended with alternative partitions of net foreign asset position.

Table II.4 reports the results for the full sample, and tables II.5 and II.6 for the samples developing and industrial countries. Real exchange rate misalignment measured by the rolling HP of the effective real exchange rate has the expected sign but is not always statistically significant[9]. Banking credit is significant in most of the models estimated, suggesting a significant role for financial variables in line with third-generation models of currency crises. GDP growth turns out to be significant for developing countries. Thus, currency crises seem to be systematically correlated with GDP growth before the event. This last result is in line with Milesi-Ferretti and Razin (1998)'s finding for currency

[9] We also performed estimations including the cyclical component of the HP filter using the whole sample. Although the coefficient turned out to be highly significant under this procedure, we prefer a real time variable to avoid over-fitting of currency attacks. An *ex-post* filter is equivalent to using information that will only be available in the future to determine whether domestic currency is presently undervalued. Even though fitting improves, main results are the same.

crises.[10] We report a negative and significant association between crashes and export growth. Finally, an increase in the US interest rate increases the probability of a crisis.

The previous period's current account deficit—the main component of the change of NFA—appears to have no link to a currency crisis (column [2]), in sharp contrast with the results of CAR. Milesi-Ferretti and Razin (1998) also report a statistically non-significant link between these variables when they include a large sample of middle- and low-income economies.

The NFA position (as a ratio to GDP) is negatively related to currency crises (columns [3] and [6]). The average external position is close to -40% for the sample period. The marginal contribution of 1% of indebtedness in foreign assets over GDP triggers a decrease of 0.02 in the probability of a currency crash. Result for developing economies is similar in size, but not statistically significant at conventional levels.

Interestingly, if we split NFA between cumulative current account and cumulative valuation adjustments (columns [4] and [5]), it turns out that both are significantly reducing the probability of a currency crash, although cumulative valuation effects are generally more significant and have a larger effect (marginal contributions of -0.02 and -0.04, respectively). Cumulative current accounts are not significant for the group of developing countries. The overall results do not change if we consider the lagged current account and valuation adjustment separately (column [5]).

Disaggregating net foreign assets into total gross assets and gross liabilities (column [7]) shows that both assets and liabilities have a significant role. However, the marginal effect of total gross assets on the probability of crisis almost doubles the contribution of total gross liabilities.

Taking a closer look at developing economies, we find a significant role of international reserves in reducing the probability of currency crises. Also, a higher of the stock of net portfolio assets, both net portfolio debt assets and net portfolio equity assets, contributes positively to reduce the likelihood of a crisis. A large hoarding of reserves is still an effective—not necessarily efficient—way to avoid crashes in emerging market economies (García and Soto, 2004, report similar results). At the same time, a larger stock of portfolio debt assets and a smaller stock of portfolio debt liabilities help by developing countries contribute positively to reduce the speculative pressure in the exchange rate market.

Finally, portfolio equity liabilities (associated to foreign holdings of stocks and shares in domestic firms) appear to play a relevant role. Large stocks of these liabilities in developing countries increase the probability of currency attacks with a marginal contribution close to 0.8, which is the component that has the largest effect among net foreign asset gross components. Remarkably, this type of liabilities also appeared quite important in determining current account reversals.
In sum, there are a number of interesting results about the role played by assets and liabilities on the probability of both current account reversals and currency crises. Our

[10] Remarkably, the authors report no statistical association between reversals and GDP growth.

results support the view that assets and liabilities are rather different external holdings. Furthermore, cumulative valuation adjustments seem to have a significant impact on both types of crises, although their quantitative effect is not large. In general, financial flows do not matter for currency crises and are first order for current account reversals. Gross portfolio liabilities seem to be the most relevant stock in determining the likelihood of external crises, at least for developing countries.

II.3. Valuation Effects as an External Adjustment Mechanism

In this section we focus on the valuation channel of exchange rate adjustments. Currency variations affect the external adjustment process not only through the trade balance, but also through the rates of return on stocks of foreign assets and liabilities, which is called the valuation channel. If the valuation channel is important on the external adjustment process, as suggested by Gourinchas and Rey (2005) and Lane and Milesi-Ferretti (2005), we would expect that valuation effects arising from RER variations may affect the likelihood of external crises. We empirically assess this question by evaluating the impact of the country specific average RER influence on valuation effects on the probability of having an external crisis, namely current account reversals and significant pressure on the exchange rate market.

The changes in a country's net foreign asset position in dollars, NFA, may be defined as:

$$NFA_t - NFA_{t-1} = CA_t + KG_t$$

We are abstracting from errors and omissions and the capital account balance. Here, *CA* corresponds to the current account balance and *KG* to net capital gains (or valuation adjustments) in dollars. Taking ratios of GDP (denoted by lower cases), we can express the previous identity as:

$$\Delta nfa_t = \frac{NetExports_t}{GDP_t} + \frac{Net\,\mathrm{Re}\,nt_t}{GDP_t} + \frac{CapitalGains_t}{GDP_t} - \frac{z_t}{1+z_t} nfa_{t-1} \quad ,$$

z_t is GDP growth expressed in US dollars. Rearranging this expression we get:

$$\Delta nfa_t = ca_t + \chi_t nfa_t - \left[\frac{\pi_t - \varepsilon_t}{(1+g_t)(1+\pi_t)} + \frac{g_t}{1+g_t} \right] nfa_{t-1} \quad ,$$

where π_t corresponds to the rate of inflation, ε_t corresponds to the depreciation of the local currency with respect to the US dollar, g_t is the economy's real growth rate, nfa_t corresponds to the ratio of net foreign assets to GDP, and χ_t is the ratio of net capital gains to net foreign assets in period *t*.

From the previous equation, we know that changes in the net external position come from different sources associated to exchange rate changes, real GDP growth, current account

balance, and net capital gains in dollars. To analyze the sensitivity of net capital gains to movements in real exchange rates (*reer*), we perform the following linear regression for each country:

$$\chi_t = \alpha - \beta \Delta log(reer)_t + e_t \quad .$$

The left-hand side of the previous expression captures the net return on assets and liabilities. Alternatively, we can estimate the correlation of the real domestic-currency return on foreign assets and liabilities (Lane and Milesi-Ferretti, 2005). We take the previous approximations as a broadly available variable for the sample of countries included in this work.[11]

A positive β implies that the valuation channel may be a significant adjustment mechanism in improving net external liability positions as the real exchange rate depreciates. We introduce the estimated β coefficients in benchmark specifications for current account reversals and exchange rate market pressure models. Our results are presented in tables II.7 and II.8, respectively.

For current account reversal, we do not observe a significant role of the response of valuation effects to real exchange rate (β*NFA/GDP). On the other hand, when we introduce the interaction variable in the speculative model, we observe a strong negative association with the probability of currency crises in developing economies. Countries that have a positive response of valuation effects to exchange rate depreciations face a smaller probability of a currency crisis. The intuition follows directly from the deterrence faced by investors to attack a currency when the economy has a positive return (instantaneous transfer of wealth to residents) as the currency depreciates.

These results do not imply a significant and distinctive role of valuation effects on crises, but certainly suggest a promising avenue for further research on this matter.

III. Foreign Assets and Liabilities and Sovereign Credit Ratings

In this section our approach consists of modeling sovereign ratings within a maximum likelihood, ordered probit framework. The credit standing of an obligor, at the end of the period, is assumed to be governed by a latent variable consisting of a random error plus an index of macroeconomic variables[12].

As a main objective, we want to identify whether the size and composition of foreign assets and liabilities help explain the sovereign risk ratings awarded by the rating agencies to developing economies. This, together with other macroeconomic variables that influence credit ratings, could be indicators which emerging economies may want to improve upon,

[11] Valuation effects may be correlated with real exchange rate, based on the way they are constructed in the balance of payments. We abstract from this issue since this bias is probably present for all economies.

[12] In this section we follow closely Godoy (2006) defining the benchmark dependent variables and the sample of economies which is listed in the appendix.

given that agency-generated risk ratings of a given country carry a series of knock-on effects regarding that country's macroeconomic management.

Indices such as the EMBI, assembled on the basis of price movements in emerging economy secondary bond markets, are related to the borrowing costs of sovereign or private bond issuers. The correlation and possible causality between qualitative ratings of sovereign risk on the one hand, and indices of the premia charged in the secondary sovereign bond markets on the other, are important factors since they have a bearing on the interest rates in emerging economies. This is a direct channel of influence exercised by risk ratings on the macroeconomic management of emerging economies.

The principal international official and private credit risk rating agencies (Moody's, Standard & Poor's) regularly carry out sovereign risk rating exercises. The rating agencies dealing with sovereign risk seek to assess the capacity and willingness of a sovereign government to service its debt within the maturity dates and in accordance with the conditions agreed upon with the creditors at the time the loans were contracted. The outcome of this assessment is synthesized in ratings, which essentially are estimations of the probability of a given government defaulting—default meaning not only the suspension of interest payments or non payment of the principal at maturity date but also its swap or "involuntary" restructuring.

Risk ratings are straightforward indicators available in the public domain, and their fairly widespread use to manage risk exposure is a sign that investors consider them to be appropriate indicators of the probability of default. Ratings are indicators of relative risk across countries. A given country rated as "Aa" does not mean that the country will remain creditworthy, but only that this situation tends to occur more frequently over time than in the case of economies with lower risk ratings. Default rates are sensitive to economic factors at the time that they are calculated, and vary considerably in line with world and local economic cycles. In this sense, our exercise tries to disentangle the role of holdings of assets and liabilities controlling for variables usually reported as explanatory of credit ratings (see e.g., Cantor and Parker, 1996, for cross-section estimation, and Hu et al., 2002, for panel estimation).

Variables commonly used in past studies of credit ratings may be classified in *liquidity variables*: debt-service-to-export ratio, interest-service ratio and liquidity-gap ratios capturing short-run financing problems. Most empirical results point to the debt-service-to-export indicator as the most significant (Hu et al. 2002). *Solvency variables*: reserves-to-imports and debt-to-GDP measuring the medium- to long-term ability to service its debt. *Macroeconomic fundamentals*: inflation rate, investment/GDP and GDP growth; and *external variables* such as US Treasury interest rates and commodity prices.

We estimate an ordered probit model for the period 1990-2004 and a sample of 52 developing economies. Block and Vaaler (2004) and Hu et al. (2002) use the same estimation procedure based on its better forecasting ability with respect to linear procedures. We consider sovereign credit ratings of Moody's and Standard & Poor's separately.

The assumption of ordered probit estimation, relatively standard for credit ratings, considers that for $j+1$ rating categories and the initial rating of a particular obligor i, the terminal rating at the end of one period j is determined by the realization of a latent variable, R:

$$\begin{cases} j = 0 & if \quad R \le 0 \\ j = 0 & if \quad 0 < R \le Z_2 \\ \ldots \\ j = J + 1 & if \quad Zj \le R \end{cases}$$

Zs are scalar cut-off points. It is assumed that $R = \beta X + \xi$, where X is a vector of predetermined variables and ε is assumed to have a standard normal distribution.

Therefore, the probabilities of being in each category are: Prob($j=0$) = $\Phi(-\beta X)$, Prob($j=1$) = $\Phi(Z_1 - \beta X)$, …, Prob($j=J+1$)=1- $\Phi(Z_j - \beta X)$.

Our dataset of credit rating is collected directly from *Bloomberg* and is ordered such that AAA (Aaa) corresponds to 20 and D corresponds to 0 under S&P (Moody's) classification. Table III.1 presents the results of the baseline estimation. The benchmark variables in the baseline model are the ones we might expect would influence credit ratings standing, but also the ones that past empirical studies have incorporated as determinants of sovereign ratings. Overall, there is a robust selection of liquidity, solvency and macro variables, abstracting from external variables which are partially captured in the domestic macro variables.[13]

As expected and widely reported in previous contributions, we observe a significant role for GDP growth in S&P ratings. Remarkably, per-capita income, inflation rate and fiscal deficit are significant in all specifications. Debt-service-to-export is not significant in Moody's ratings, and has the wrong sign in S&P's. A larger current account deficit is associated to a better rating. Most likely, this reflects a reverse causality problem.

Including different measures of stocks of foreign assets and liabilities yield several interesting results. Our estimates suggest a significant role for net foreign assets for one of the rating agencies only (S&P's, column [7]). Furthermore, the split between gross assets and gross liabilities shows that while Moody's ratings appear not to depend on any of them, S&P's reacts to both with effects that are broadly similar (columns [4] and [9]).

As regards to net and gross components of NFA (columns [3], [5], [8] and [10]), the results show the role played in the aggregate for S&P's is not only explained by the role of debt, but also by a significant role for FDI liabilities and equity liabilities. Allowing non-residents to hold larger shares on domestic stocks and firms seems to be positively associated with credit ratings. Interestingly, debt assets, associated to lending to the rest of

[13] We also perform estimations including the real oil price and results were unaltered. The model is estimated including country and time dummies.

world, are positively associated with Moody's ratings. Similarly, equity assets, related to the acquisitions of stocks in external financial markets, seem to be quite significant for S&P's ratings.

To check the robustness of the result indicating that current account deficits are associated with improvements in ratings, we also construct an indicator function for each period to control for deficits below the "sustainable" current account deficit:

$$Indicator \quad SCAD = \begin{cases} 1 & if \quad CAD \geq SCAD \\ 0 & if \quad CAD < SCAD \end{cases}$$

SCAD is obtained directly from Edwards (2001) for 25 economies. For the rest of the countries, SCAD is calculated as the average of *NFA/GDP* times (*Inflation rate + Real GDP Growth*), taking the sample mean of inflation rate and real GDP growth for the period under analysis. Results for this estimation are presented in the appendix, table A.7.

Again, the indicator function reveals a role of current account deficits when they are below the sustainable deficit which is against the conventional wisdom. This result may be explained by the endogeneity of the series but also because developing countries have been experiencing a strong process of financial integration –mainly through larger indebtness with the rest of the world— during the 90s which does not bring enough cross-section variability as explanatory variable. Block and Vaaler (2004) report a similar result for a sample of 17 emerging market economies.

Finally, we evaluate the role of changes in gross assets and liabilities distinguishing aggregate components (table III.2). We do not include the current account to avoid colinearity with the other explanatory variables. As expected, increases in debt liabilities are negatively associated with credit ratings. Again, we observe a significant role for FDI liabilities improving credit ratings.

The previous exercises confirms a significant role of assets and liabilities in credit ratings of emerging market economies, but also raises the importance of distinguishing the different components of countries' international investment position. We find support for the view of a noteworthy role of FDI liabilities in sovereign ratings, in a context, where FDI has been usually associated to large potential of generating employment, raising productivity, transferring skills and technology, enhancing exports and contributing to the long-term economic development of the recipient country.

IV. Foreign Assets and Liabilities and the Real Exchange Rate

There are several papers linking NFA to the RER level. In this section we evaluate whether the alternative components of net foreign assets affect the RER in the same way, both considering a large panel of countries and using quarterly data for the Chilean economy.

IV.1. NFA and RER in a Panel of Countries

As the starting point, we consider the same basic specification that has been used elsewhere to evaluate the effect of fundamentals on the RER. In particular, we consider the same specification and country sample of Aguirre and Calderón (2006). They construct a series of "equilibrium" real exchange rate measures for a large group of countries to obtain misalignment estimates that, in a second stage, are used to evaluate how they affect growth using standard empirical growth equations.

The specification follows the so-called single equation approach, which relates the RER to a particular set of fundamentals on a reduced form and has a long tradition in empirical international finance. Among others, Edwards (1989), Obstfeld and Rogoff (1995) and Faruqee (1994) provide theoretical underpinnings that motivate the type of fundamentals to be considered. Almost all of them have an effect on the real exchange rate from a flow perspective: Higher productivity will appreciate the domestic currency in real terms (appreciate the RER herein) through the well known Balassa-Samuelson effect. More favorable terms of trade allow the country to spend more, thereby pressuring non-tradable goods prices and appreciating the RER. A larger participation of government spending will appreciate the RER through a composition effect (it is usually assumed that it is relatively more non-tradable intensive) o just as an aggregate demand effect if there is not perfect capital mobility.

More importantly for the purpose of this paper, the stock of NFA (as a ratio to GDP) should influence the RER because owning more assets has larger revenues earned (a surplus in factor payments) as a counterpart, which in turn can finance a larger sustainable commercial deficit in steady state. This larger commercial deficit is coherent only with a more appreciated real exchange rate. Of all fundamentals considered, NFA is the only one that is a stock. Its effect, however, stems from its flow effect on the current account.

In principle, if all components of NFA have the same rate of return, they should have the same effect on the equilibrium RER, for they would produce the exact income flow. However, expected returns may differ across particular assets and liabilities and, more importantly, the different components of NFA can have very different valuation effects, which in turn may depend on the exchange rate. Moreover, the dynamics of the RER could also be influenced by the flows associated with the changing stocks. In such case, it could happen that an increase on a particular asset would end up depreciating the exchange rate, at least temporarily.

Several studies use a specification similar to the one we use here to study the effects of different fundamentals on the RER. Goldfajn and Valdés (1999) use a very similar

approach to calculate misalignments and study the way they are resolved. Valdés and Délano (1999) use the same type of model to explore the quantitative relevance of the Balassa-Samuelson effect. Razin and Collins (1997) consider panel fundamental RER equations to study the effects of misalignments on growth. Edwards and Savastano (2000) survey other papers which make use of this approach.

The basic specification we consider includes an RER constructed with the domestic CPI and the WPI of trading partners, while productivity is measured as the relative tradable to non-tradable labor productivity. NFA corresponds to the series constructed by Lane and Milessi Ferreti (2001), updated with capital account information.

The results of the basic specification (column [1] in table IV.2) are the same as in Aguirre and Calderón (2006), as they should. The four fundamentals have the expected sign and are highly significant: higher productivity, improved terms of trade, a larger share of government consumption in GDP, and higher NFA (as a percentage of GDP) all are correlated with a more appreciated domestic currency in real terms. Furthermore, the tests on the stationarity of residuals show that the variables cointegrate (table IV.1). [14]

Once we split the whole sample into industrial and developing countries, the results of the former continue meet expectations.[15] However, in the developing countries' sub-sample productivity is no longer statistically significant, whereas terms of trade shocks appear to depreciate the RER. Cointegration continues to hold.

More interestingly for the purposes of this paper, once we consider alternative partitions of NFA, the results show in all three cases that gross assets and gross liabilities have quite similar effects (with the opposite sign) on the RER (column [2]). More external assets or less gross liabilities in the equivalent of one percentage point of GDP appreciate the RER by approximately 0.1% if one considers the large sample and the industrial countries' only sample. For developing countries, assets appear to appreciate the RER by almost 0.15%, while liabilities depreciate it by 0.1%.

Although gross assets and liabilities appear roughly equally important for RER determination, different components of NFA have considerably different effects (column [3]). Considering all countries together, we find that while the cumulative current account has a positive effect on the RER (as expected in theory), the valuation effect has a negative one, albeit smaller in magnitude. Within samples, the current account result still holds (with a larger effect in developing countries) but the valuation effect has a positive impact in industrial countries and a negative and rather large effect in developing countries. Part of this could be the result of a reverse causality problem: in developing countries RER depreciation may have a larger adverse consequence for valuation effects (a larger share of their liabilities is denominated in foreign currency).

As for different components by type of flows (column [4]), the results show that, if one considers the entire sample, FDI does not have any significant impact on the RER, whereas

[14] Rank cointegration test upon request.
[15] The list of countries included in each group is in the appendix.

net portfolio and net debt assets have a strong positive effect. International reserve assets appear to depreciate the RER. Some of these results do not hold for both samples simultaneously. In fact, both net debt and reserve accumulation appear to be quite relevant for developing countries' RER determination, which is not the case in industrial economies.[16] Actually, net portfolio significantly appreciates the RER only in the industrial countries sample.

IV.2. Fundamental Equilibrium Exchange Rate in Chile

The final exercise we consider analyzes how the alternative components of NFA affect the RER using time series data for Chile. We use *quarterly* data especially prepared by the Balance of Payments Department of the Central Bank of Chile encompassing net and gross foreign assets, as well as cumulative flows and valuation effects, plus the following subcomponents: FDI flows, Portfolio flows, International reserves and Other investment.

The methodology we consider follows what we have done in previous sections. Namely, we augment an otherwise standard empirical equation that has been validated in other studies in order to assess the potentially different role of the various components of foreign assets. In this case we use an RER equation similar to the one considered in the previous section. In particular we estimate cointegrating relationships of the following type:

$$q_t = \beta + \beta_1 TNT_t + \beta_2 TOT_t + \beta_3 (G/Y)_t + \beta_4 (NFA/Y)_t + \beta_5 TARIFF_t$$

where *TNT* is the relative productivity of the tradable and non tradable sectors (again trying to capture a Balassa-Samuleson effect), *G/Y* is government expenditures over GDP, *TOT* denotes the terms of trade, *NFA/Y* refers to the share of NFA to GDP, and TARIFF is the average tariff level. See Faruqee (1995) and Calderón (2004) for further details. It is expected that all β_i are positive, in a context in which tradable goods prices are determined internationally.

There are several papers that have estimated relationships like this one for the Chilean economy. For example, Calderón (2004), Soto and Valdés (1998), Céspedes and De Gregorio (1999) and Caputo and Dominichetti (2005) all estimate equations of this type using Chilean quarterly data. They usually find positive and statistically significant β_i coefficients. Here, we follow closely Caputo and Dominichetti (2005).

We estimate the relationship between the RER and its fundamentals using DOLS. Thus, we assume that the exchange rate adjusts in order to correct deviations between its current level and the one dictated by fundamentals. In the sample we consider (1983Q1-2005Q4) the basic specification cointegrates. All RER determinants have the expected sign, but not all of them are statistically significant. Most importantly for our purposes, however, NFA is highly significant, in the order of magnitude found in the literature for the Chilean economy.

[16] The results should be compared with some care considering that the actual samples change due to data availability.

Table IV.3 describes basic statistics and the relative importance of the different components of NFA in Chile that may help to interpret the results of different splits. As a percentage of quarterly GDP, the component "Other investment" appears as the most important one considering its mean, volatility and average first difference, particularly its gross liability component, but also net. Portfolio assets and liabilities (as well as net portfolio assets) seem to be the least important component. All ratios between different gross assets and GDP have similar volatilities except for international reserves, which have less. The same statistics separating valuation effects from cumulative flows show a similar picture. Cumulative NFA flows (the cumulative current account) is about five times more volatile and almost ten times larger than the valuation effect.[17]

The estimations of the alternative specifications considering different partitions of NFA show a number of interesting results (tables IV.5 and IV.6). First, once valuation effects are separated from the accumulation of flows, it turns out that while both coefficients have the expected sign (and are significantly different from zero), valuation effects are much stronger (table IV.6, column [1]). This, is in spite of their relative smaller size and volatility and probably reflects that there is some reverse causality: the RER is one of the main determinants of the valuation effects.[18]

Second, despite the fact that the coefficient associated to NFA has the expected sign and is highly significant, once we differentiate between gross assets and gross liabilities, it is the latter that explains the NFA result (column [3]). Indeed, higher gross assets have a positive effect on the exchange rate (they depreciate it). If gross measures include valuation effects, the coefficient for assets is even larger than for liabilities, although because of the relative variation of each component, the overall effect of liabilities ends up dominating the results. If valuation effects are considered separately, gross assets cease to have a significant coefficient.

And third, turning to specific components of NFA (columns [2] and [4] in tables IV.5 and IV.6), the results show that Other investment is the only component that has consistently the expected effect and seems to drive the aggregate result. Given their relative size and volatility the overall result is no surprise. Portfolio assets and liabilities have significant effects with a sign contrary to what one would have thought *a priori*. This result is independent of considering net or gross measures or treating valuation effects separately. Finally, greater international reserves are related to a weaker currency.

In sum, the Chilean data shows that there is substantial heterogeneity in the effect of different components of NFA on the real exchange rate. The categories v*aluation effects* and o*ther investment* component seem to be the only ones having the expected effect on real exchange rate. Portfolio flows and international reserves appear to have an effect

[17] Table IV.4 presents the results of the Johansen test of cointegration. Although the vector has a large number of variables, the test remarkably suggests a reduced number of cointegrating relations with the exception of model [4].

[18] Pistelli *et al.* (2006) evaluates á la Gourinchas and Rey (2004) the role of valuation effects forecasting real exchange rate changes in Chile using quarterly series of assets and liabilities. Their results show that the lagging error correction term of a cointegrating equation of assets, liabilities, exports and imports beats significantly the random walk and an AR(1) over a horizon of 1 and 2 quarters.

contrary to what the standard stock approach predicts. This heterogeneity is also present in the cross-country evidence of the previous section.

V. Conclusions

Despite several external crises, financial integration has intensified in recent decades in industrial and developing countries. This has been accompanied by significant changes in the composition of countries' international investment position. Large holdings of foreign assets and liabilities, along with increasing relevance of the valuation effects, have characterized the international financial integration of economies.

In this paper, we have assessed empirically the implications of stocks, flows and valuation adjustments in current account reversal, speculative attacks and sovereign ratings, as well as in the long-run dynamics of real exchange rates in industrial and developing economies.

Our paper has tackled a number of policy oriented questions. First, it assessed whether the size of NFA (a stock beyond current flows) is an important determinant of crises and creditworthiness. Second, it evaluated whether gross external assets and liabilities have differentiated roles in determining the likelihood of crises, the real exchange rate and creditworthiness. As global financial integration entails an increase in both external assets and liabilities, a differentiated role sheds light on the effects of integration and the mechanism behind. Third, it estimated the effects of different components of net external assets on different outcomes. Finally, it explored the differences and similarities between valuation effects and the impact of accumulated flows in different dimensions.

We found support for the view that assets and liabilities are rather distinctive external holdings with different implications regarding the occurrence of an external crisis. Furthermore, valuation adjustments seem to have a significant impact on both types of crises, although their quantitative effect is not large. In general, flows do not matter for currency attacks and are first order for current account reversals. Portfolio liabilities, in particular equity liabilities, seem to be the most relevant stock in determining the likelihood of external problems, at least for developing countries.

In the long-run dynamics of the real exchange rate, gross assets and liabilities appeared equally important, but components of external holdings have considerably different effects. While the cumulative current account is associated with real depreciation of the currency on the long-run, valuation effect is strongly linked with real currency appreciations in developing economies.

As an emerging economy case of study, we analyzed Chile's assets and liabilities in the long-run dynamics of the real exchange rate. We observed that the categories *valuation effects* and *other investment* are the only ones that have the expected relationship with the real exchange rate. Portfolio flows and International reserves appear to contradict the standard stock approach's predictions.

From an economic policy perspective, our work shed light on the importance of the manner a developing economy integrates to the rest of world. The amount of assets and liabilities the economy accumulates is not innocuous. Some assets and liabilities, and the flows associated with them, may trigger important valuation effects that, along with the external holdings, certainly play a significant role in the adjustment mechanism to external shocks, and in the constraints the economy faces in the international financial markets. Further research in this issue is unquestionably a must for the academia and policy makers.

REFERENCES

Aguirre, Alvaro and César Calderón (2006). "Real Echange Rate Misaligment and Economic Performance." Mimeo, Central Bank of Chile.

Blanco, Herminio and Peter Garber (1986). "Recurrent Devaluations and Speculative Attacks on the Mexican Peso," *Journal of Political Economy*. February: 148-166.

Block, Steven and Paul Vaaler (2004). "The price of democracy: sovereign risk ratings, bond spreads and political business cycles in developing countries," *Journal of International Money and Finance* 23(6): 917-946.

Borensztein, Eduardo, José De Gregorio, and Jong-Wha Lee (1995). "How Does Foreign Direct Investment Affect Economic Growth?." NBER Working Paper No. 5057, March.

Bussiere, Matthieu and Marcel Fratzscher (2002). "Towards a New Early Warning System of Financial Crises," European Central Bank, Working Paper Series 145.

Calderón, César (2004). "Un Análisis del Comportamiento del Tipo de Cambio Real en Chile." *Economía Chilena* 7(1): 5-29.

Calvo, Guillermo (1998), "Capital Flows and Capital-Market Crises: The Simple Economics of Sudden Stops," Journal of Applied Economics, November 1998.

Calvo, Guillermo, Alejandro Izquierdo, and Ernesto Talvi (2003). "Sudden Stops, the Real Exchange Rate, and Fiscal Sustainability: Argentina's Lessons." NBER Working Paper No. 9828. July.

Cantor, Richard and Frank Parker, (1996). "Determinants and Inputs of Sovereign Credit Ratings," *Economic Policy Review* 2: 37–53.

Caputo, Rodrigo and Bernardo Dominichetti (2005). "Revisión Metodológica en el Cálculo del IPE e Implicancias sobre los Modelos de Serie de Tiempo Para el TCR." Nota de Investigación, *Economía Chilena* 8(1): 77-88.

Céspedes, Luis Felipe and José De Gregorio (1999). "Tipo de Cambio Real, Desalineamiento y Devaluaciones: Teoría y Evidencia para Chile." Mimeo, DII Universidad de Chile.

Díaz Alejandro, Carlos (1985). "Good-Bye Financial Repression, Hello Financial Crash," *Journal of Development Economics* (19).

Edwards, Sebastián (1989). *Real Exchange Rates, Devaluation and Adjustmet*. Cambridge, Mass.: The MIT Press.

Edwards, Sebastián (2001). "Does the Current Account Matter?" Prepared for presentation at the NBER's conference on "Crisis Prevention," Florida, January 2001.

_____ (2005a). "Capital Controls, Sudden stops and Current Account Reversals" NBER Working Paper No. 11170, March.

_____ (2005b). "The end of large current account deficits, 1970-2002: Are there lessons for the United States?" NBER Working Paper No. 11669, September.

Edwards, Sebastián and Manuel Savastano (2000). "Exchange Rate in Emerging Economies: What Do We Know? What Do We Need to Know?" In Krueger, A.O. (ed.) *Economic Policy Reform: The Second Stage*. Chicago and London: University of Chicago Press.

Eichengreen, Barry, Andrew Rose, Charles Wyplosz, Bernard Dumas, and Axel Dumas (1995). "Exchange Market Mayhem: The Antecedents and Aftermath of Speculative Attacks." *Economic Policy* 10(21):249-312.

Eichengreen, B., Ricardo Hausmann, and Ugo Panizza (2003). "Currency Mismatches, Debt Intolerance and Original Sin: Why They Are Not the Same and why it Matters." NBER Working Paper No. 10036.

Faruqee, Hamid (1994). "Long-Run Determinants of the Real Exchange Rate - A Stock-Flow Perspective." IMF Working Paper No. 94/90.

Flood, Robert P. and Garber, Peter M. (1984). "Collapsing Exchange Rate Regimes: Some Linear Examples." *Journal of International Economics* 17(1-2): 1-13.

Flood, Robert P. and Nancy Marion (1998). "Perspectives on the Recent Currency Crisis Literature." NBER Working Paper No. 6380.

Frankel, Jeffrey and Andrew K. Rose (1996). "Currency Crashes in Emerging Markets: An Empirical Treatment" *International Finance Discussion Papers*, January.

García, Pablo and Claudio Soto (2004). "A Large Hoarding of International Reserves: Are They Worth It?" IX Conference of External Vulnerability organized by the Central Bank of Chile.

Godoy, Sergio (2006). "Determinantes de las Clasificaciones de Riesgo Soberano de las Economías Emergentes." *Nota de Investigación*, Revista Economía Chile, December.

Goldfajn, Ilan and Rodrigo Valdés. 1999. "The Aftermath of Appreciations." *Quarterly Journal of Economics* 114(1):229-62.

Hausmann, Ricardo and Federico Sturzenegger (2005). "Global imbalances or bad accounting? The missing dark matter in the wealth of nations." CID Working Paper No. 124, Harvard University.

Hu, Yen-Ting; Rudiger Kiesel and William Perraudin (2002). "Estimation of transition matrices for sovereign credit risk," *Journal of Banking and Finance* 26(7):1383-1406.

Kaminsky, Graciela (2003). "Varieties of Currency Crises." NBER Working Paper No. 10193.

Krugman, Paul (1979). "A Model of Balance-of-Payment Crises." *Journal of Money, Credit, and Banking*, August 1979, *11*(3). pp. 311-25.

_____ (1999). "Balance Sheets, the Transfer Problem, and Financial Crises." *International Tax and Public Finance*, November 1999, *6*(4). pp. 459-72.

Krugman, Paul and Julio Rotemberg (1991). "SpeculativeAttacks on Target Zones." in Krugman, P. and M. Miller (eds.) *Target Zones and Currency Bands,* Oxford University Press, Oxford.

Lane, Philip, and Gian Maria Milesi-Ferretti (2001). "The External Wealth of Nations: Measures of Foreign Assets and Liabilities for Industrial and Developing Countries" *Journal of International Economics* 55: 263–94. December.

Lane, Philip and Gian Maria Milesi-Ferretti (2005). "Financial Globalization and Exchange Rates." IMF Working Paper No. 05/3.

Lane, Philip and Gian Maria Milesi-Ferretti (2006). "The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004." IMF Working Paper No. 06/69.

Milesi-Ferretti, Gian Maria and Assaf Razin (1998). "Current Account Reversals and Currency Crises: Empirical Regularities" NBER Working Paper No. 6620, June.

Obstfeld, Maurice (1984). "Balance of Payments Crises and Devaluation," *Journal of Money, Credit and Banking* 16(5): 208-217.

_____ (1994). "The Logic of Currency Crises." *Cahiers Economiques et Monetaires* 43 : 189-213, Banque de France.

Obstfeld, Maurice and Kenneth Rogoff (1995). "Exchange Rate Dynamics Redux." *Journal of Political Economy* 103(3): 624-60.

Obstfeld, Maurice (1996). "Models of Currency Crises with Self-fulfilling Features," European Economic Review, April 1996, pp. 1037-1047.

Ozkan, F. Gulcin and Alan Sutherland (1994). "A Model of the ERM Crisis" CEPR Discussion Paper No.879.

Pistelli, Alfredo, Jorge Selaive and Rodrigo Valdés (2006). "Valuation Effects of Assets and Liabilities Forecasting the Real Exchange Rate in Chile." *Work in progress*.

Radelet, Steven and Jeffrey Sachs (1998). "The Onset of the East Asian Financial Crisis." NBER Working Paper No. 6680, August.

Razin, Ofair and Susan Collins (1997). "Real Exchange Rate Misalignments and Growth." Working Paper 6174, National Bureau of Economic Research.

Rider, Mark (1994). "External Debt and Liabilities of Industrial Countries." Reserve Bank of Australia. Discussion Paper 9405, November.

Rodrik, Dani and Andrés Velasco (1999). "Short-term Capital Flows" NBER Working Paper No. 7364, September.

Sinn, Stefan, 1990, "Net External Asset Positions of 145 Countries." Kieler Studien No. 224, Institut für Weltwirtschaft an der Universität Kiel, Tübingen: J.C.B. Mohr.

Soto, Claudio and Rodrigo Valdés (1998). "Exchange Rate Volatility and Risk Premium and Exchange Rate Regime" Working Paper No.46, Central Bank of Chile.

Soto, Marcelo (2000). "Capital Flows and Growth in Developing Countries: Recent Empirical Evidence." OECD Development Centre, Working Paper No. 160, July.

Valdés, Rodrigo and Valentín Délano (1999). "Productividad y Tipo de Cambio Real de Largo Plazo." *Revista de Análisis Económico* 14(1):3-21.

Velasco, Andrés (1987). "Financial and Balance-of-Payments Crises," *Journal of Development Economics*, (27): 263-283.

Table II.1
PROBIT ESTIMATION: CURRENT ACCOUNT REVERSAL - ALL COUNTRIES
Coefficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Sudden stop (1st lag)	0.053	0.026	0.042	0.043	0.024	0.020	0.023	0.017	0.014
	[0.029]**	[0.022]**	[0.039]**	[0.039]**	[0.029]**	[0.052]*	[0.035]**	[0.041]**	[0.045]**
Openness: Imports to GDP (1st lag)	0.132	0.020	0.115	0.117	0.017	0.022	0.017	0.002	0.004
	[0.000]***	[0.099]*	[0.000]***	[0.000]***	[0.110]	[0.070]*	[0.174]	[0.845]	[0.714]
Perc of sudden stops in region (1st lag)	0.187	0.046	0.157	0.155	0.040	0.041	0.039	0.028	0.023
	[0.000]***	[0.005]***	[0.000]***	[0.000]***	[0.002]***	[0.005]***	[0.007]***	[0.013]**	[0.018]**
Terms of trade, change % (1st lag)	-0.001	0.000	-0.001	-0.001	0.000	0.000	0.000	0.000	0.000
	[0.021]**	[0.225]	[0.013]**	[0.012]**	[0.211]	[0.083]*	[0.111]	[0.081]*	[0.072]*
NFA a GDP (1st lag)			-0.033						
			[0.001]***						
Cumm. Current Account to GDP (1st lag)				-0.031					
				[0.004]***					
Cumm. Valuation Adjust. to GDP (1st lag)				-0.040					
				[0.014]**					
Cumm. Current Account to GDP					0.006				
					[0.302]				
Cumm. Valuation Adjust. to GDP					-0.021				
					[0.007]***				
NFA to GDP						-0.001			
						[0.908]			
Total Assets to GDP							0.009		
							[0.200]		
Total Liabilities to GDP							-0.002		
							[0.783]		
Net FDI Assets to GDP								0.022	
								[0.095]*	
Net Port Equity Assets to GDP								-0.087	
								[0.004]***	
Net Port Debt Assets to GDP								-0.003	
								[0.614]	
Int Reserves to GDP								0.025	0.022
								[0.339]	[0.296]
FDI Assets to GDP									0.014
									[0.686]
Portfolio equity Assets to GDP									-0.118
									[0.140]
Port Debt Assets to GDP									-0.007
									[0.456]
FDI Liabilities to GDP									-0.021
									[0.113]
Portfolio equity Liabilities to GDP									0.079
									[0.007]***
Debt Liabilities to GDP									0.002
									[0.762]
Current Account Deficit to GDP (1st lag)		0.426			0.354	0.369	0.393	0.294	0.242
		[0.000]***			[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Valuation Adjust. to GDP (1st lag)					0.065	0.056	0.055	0.047	0.044
					[0.005]***	[0.024]**	[0.024]**	[0.012]**	[0.020]**
Observations	1248	1243	1242	1236	1232	1232	1232	1178	1178
pseudo R^2	0.13	0.35	0.17	0.17	0.40	0.37	0.39	0.40	0.41
N crisis	55	55	55	55	55	55	55	47	47

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.2
PROBIT ESTIMATION: CURRENT ACCOUNT REVERSAL - DEVELOPING COUNTRIES
Coefficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Sudden stop (1st lag)	0.084	0.064	0.081	0.085	0.058	0.052	0.054	0.048	0.047
	[0.022]**	[0.011]**	[0.018]**	[0.016]**	[0.017]**	[0.029]**	[0.020]**	[0.026]**	[0.029]**
Openness: Imports to GDP (1st lag)	0.171	0.047	0.171	0.169	0.040	0.053	0.042	0.006	0.007
	[0.000]***	[0.074]*	[0.000]***	[0.000]***	[0.072]*	[0.044]**	[0.096]*	[0.854]	[0.824]
Perc of sudden stops in region (1st lag)	0.212	0.090	0.211	0.208	0.079	0.086	0.073	0.059	0.059
	[0.001]***	[0.012]**	[0.001]***	[0.001]***	[0.005]***	[0.009]***	[0.016]**	[0.027]**	[0.024]**
Terms of trade, change % (1st lag)	-0.001	0.000	-0.001	-0.001	0.000	-0.001	0.000	-0.001	-0.001
	[0.040]**	[0.263]	[0.026]**	[0.027]**	[0.255]	[0.105]	[0.139]	[0.083]*	[0.084]*
NFA a GDP (1st lag)			-0.031						
			[0.129]						
Cumm. Current Account to GDP (1st lag)				-0.025					
				[0.258]					
Cumm. Valuation Adjust. to GDP (1st lag)				-0.050					
				[0.053]*					
Cumm. Current Account to GDP					0.013				
					[0.315]				
Cumm. Valuation Adjust. to GDP					-0.043				
					[0.009]***				
NFA to GDP						-0.001			
						[0.962]			
Total Assets to GDP							0.024		
							[0.147]		
Total Liabilities to GDP							-0.008		
							[0.573]		
Net FDI Assets to GDP								0.056	
								[0.150]	
Net Port Equity Assets to GDP								-0.218	
								[0.010]**	
Net Port Debt Assets to GDP								-0.004	
								[0.788]	
Int Reserves to GDP								0.056	0.054
								[0.351]	[0.351]
FDI Assets to GDP									0.072
									[0.527]
Portfolio equity Assets to GDP									0.270
									[0.500]
Port Debt Assets to GDP									-0.006
									[0.791]
FDI Liabilities to GDP									-0.059
									[0.152]
Portfolio equity Liabilities to GDP									0.202
									[0.019]**
Debt Liabilities to GDP									0.005
									[0.734]
Current Account Deficit to GDP (1st lag)		0.818			0.664	0.711	0.714	0.591	0.591
		[0.000]***			[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Valuation Adjust. to GDP (1st lag)					0.138	0.118	0.115	0.116	0.112
					[0.006]***	[0.030]**	[0.034]**	[0.025]**	[0.028]**
Observations	812	812	806	805	801	801	801	757	757
pseudo R^2	0.12	0.30	0.14	0.14	0.36	0.32	0.35	0.36	0.36
N crisis	49	49	49	49	49	49	49	42	42

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.3
PROBIT ESTIMATION: CURRENT ACCOUNT REVERSAL - INDUSTRIAL COUNTRIES
Coefficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Sudden stop (1st lag)									
Openness: Imports to GDP (1st lag)	0.047	-0.001	0.013	0.007	0.000	0.000	0.000	0.000	0.000
	[0.004]***	[0.114]	[0.015]**	[0.025]**	[0.029]**	[0.042]**	[0.078]*	[0.004]***	[.]
Perc of sudden stops in region (1st lag)	0.074	0.000	0.021	0.008	0.000	0.000	0.000	0.000	0.000
	[0.268]	[0.583]	[0.197]	[0.371]	[0.663]	[0.676]	[0.801]	[0.313]	[.]
Terms of trade, change % (1st lag)	-0.001	0.000	-0.001	0.000	0.000	0.000	0.000	0.000	0.000
	[0.024]**	[0.035]**	[0.000]***	[0.000]***	[0.474]	[0.424]	[0.702]	[0.187]	[.]
NFA a GDP (1st lag)			-0.011						
			[0.000]***						
Cumm. Current Account to GDP (1st lag)				-0.008					
				[0.003]***					
Cumm. Valuation Adjust. to GDP (1st lag)				0.003					
				[0.452]					
Cumm. Current Account to GDP					0.000				
					[0.093]*				
Cumm. Valuation Adjust. to GDP					0.000				
					[0.450]				
NFA to GDP						0.000			
						[0.006]***			
Total Assets to GDP							0.000		
							[0.007]***		
Total Liabilities to GDP							0.000		
							[0.007]***		
Net FDI Assets to GDP								0.000	
								[0.006]***	
Net Port Equity Assets to GDP								0.000	
								[0.044]**	
Net Port Debt Assets to GDP								0.000	
								[0.863]	
Int Reserves to GDP								0.000	0.000
								[0.001]***	[.]
FDI Assets to GDP									0.000
									[.]
Portfolio equity Assets to GDP									0.000
									[.]
Port Debt Assets to GDP									0.000
									[.]
FDI Liabilities to GDP									0.000
									[.]
Portfolio equity Liabilities to GDP									0.000
									[.]
Debt Liabilities to GDP									0.000
									[.]
Current Account Deficit to GDP (1st lag)		0.006			0.002	0.002	0.002	0.000	0.000
		[0.000]***			[0.000]***	[0.000]***	[0.000]***	[0.001]***	[.]
Valuation Adjust. to GDP (1st lag)					0.000	0.000	0.000	0.000	0.000
					[0.018]**	[0.024]**	[0.042]**	[0.004]***	[.]
Observations	419	414	419	414	414	414	414	404	404
pseudo R^2	0.11	0.58	0.28	0.31	0.62	0.62	0.63	0.73	1.00
N crisis	6	6	6	6	6	6	6	5	5

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.4
PROBIT ESTIMATIONS: EXCHANGE RATE MARKET PRESSURE INDEX - ALL COUNTRIES
Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
REER dev HP rolling trend (1st lag)	-0.024	-0.025	-0.022	-0.022	-0.021	-0.023	-0.018	-0.021	-0.021
	[0.066]*	[0.068]*	[0.085]*	[0.095]*	[0.139]	[0.106]	[0.142]	[0.137]	[0.075]*
Real Bank Credit Growth (1st lag)	0.030	0.031	0.029	0.030	0.031	0.030	0.030	0.033	0.032
	[0.002]***	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.000]***	[0.000]***
Real GDP Growth (1st lag)	-0.084	-0.094	-0.071	-0.076	-0.074	-0.077	-0.068	-0.092	-0.094
	[0.190]	[0.158]	[0.252]	[0.240]	[0.249]	[0.230]	[0.257]	[0.162]	[0.115]
Real Export Growth (1st lag)	-0.077	-0.065	-0.079	-0.070	-0.075	-0.078	-0.082	-0.080	-0.083
	[0.073]*	[0.132]	[0.060]*	[0.093]*	[0.079]*	[0.068]*	[0.044]**	[0.067]*	[0.042]**
US interest rate (1st lag)	0.004	0.004	0.004	0.005	0.005	0.005	0.004	0.006	0.005
	[0.022]**	[0.014]**	[0.017]**	[0.009]***	[0.006]***	[0.006]***	[0.010]***	[0.002]***	[0.003]***
NFA to GDP (1st lag)			-0.022						
			[0.060]*						
Cumm. Current Account to GDP (1st lag)				-0.019					
				[0.074]*					
Cumm. Valuation Adjust. to GDP (1st lag)				-0.042					
				[0.034]**					
Cumm. Current Account to GDP					-0.026				
					[0.017]**				
Cumm. Valuation Adjust. to GDP					-0.046				
					[0.013]**				
NFA to GDP						-0.030			
						[0.005]***			
Total Assets to GDP							-0.046		
							[0.014]**		
Total Liabilities to GDP							0.026		
							[0.036]**		
Net FDI Assets to GDP								-0.036	
								[0.285]	
Net Port Equity Assets to GDP								-0.105	
								[0.485]	
Net Port Debt Assets to GDP								-0.034	
								[0.016]**	
Int Reserves to GDP								-0.014	0.002
								[0.856]	[0.972]
FDI Assets to GDP									-0.080
									[0.357]
Portfolio equity Assets to GDP									0.021
									[0.838]
Port Debt Assets to GDP									-0.082
									[0.037]**
FDI Liabilities to GDP									0.030
									[0.398]
Portfolio equity Liabilities to GDP									0.159
									[0.168]
Debt Liabilities to GDP									0.021
									[0.232]
Current Account Deficit to GDP (1st lag)		0.057			-0.041	-0.056	-0.102	-0.074	-0.134
		[0.590]			[0.752]	[0.649]	[0.409]	[0.547]	[0.339]
Valuation Adjust. to GDP (1st lag)					-0.001	-0.009	-0.007	0.008	0.007
					[0.984]	[0.904]	[0.932]	[0.903]	[0.921]
Observations	1304	1280	1304	1275	1257	1257	1257	1206	1206
pseudo R^2	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.09
N crisis	55	54	55	54	54	54	54	53	53

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.5
PROBIT ESTIMATIONS: EXCHANGE RATE MARKET PRESSURE INDEX - DEVELOPING COUNTRIES
Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
REER dev HP rolling trend (1st lag)	-0.021	-0.023	-0.021	-0.021	-0.019	-0.022	-0.018	-0.016	-0.022
	[0.195]	[0.165]	[0.196]	[0.207]	[0.303]	[0.222]	[0.259]	[0.345]	[0.181]
Real Bank Credit Growth (1st lag)	0.040	0.040	0.040	0.040	0.041	0.040	0.039	0.044	0.043
	[0.003]***	[0.003]***	[0.003]***	[0.002]***	[0.002]***	[0.003]***	[0.001]***	[0.000]***	[0.000]***
Real GDP Growth (1st lag)	-0.196	-0.211	-0.179	-0.183	-0.190	-0.198	-0.183	-0.219	-0.204
	[0.033]**	[0.024]**	[0.052]*	[0.050]*	[0.045]**	[0.037]**	[0.041]**	[0.011]**	[0.016]**
Real Export Growth (1st lag)	-0.072	-0.054	-0.074	-0.059	-0.053	-0.059	-0.065	-0.076	-0.077
	[0.173]	[0.294]	[0.169]	[0.251]	[0.312]	[0.276]	[0.218]	[0.182]	[0.184]
US interest rate (1st lag)	0.007	0.008	0.008	0.008	0.008	0.008	0.007	0.008	0.008
	[0.009]***	[0.005]***	[0.006]***	[0.003]***	[0.004]***	[0.004]***	[0.007]***	[0.002]***	[0.002]***
NFA to GDP (1st lag)			-0.021						
			[0.117]						
Cumm. Current Account to GDP (1st lag)				-0.015					
				[0.323]					
Cumm. Valuation Adjust. to GDP (1st lag)				-0.060					
				[0.013]**					
Cumm. Current Account to GDP					-0.021				
					[0.195]				
Cumm. Valuation Adjust. to GDP					-0.061				
					[0.016]**				
NFA to GDP						-0.029			
						[0.041]**			
Total Assets to GDP							-0.080		
							[0.006]***		
Total Liabilities to GDP							0.032		
							[0.073]*		
Net FDI Assets to GDP								0.040	
								[0.526]	
Net Port Equity Assets to GDP								-0.877	
								[0.000]***	
Net Port Debt Assets to GDP								-0.038	
								[0.065]*	
Int Reserves to GDP								-0.349	-0.322
								[0.012]**	[0.017]**
FDI Assets to GDP									0.029
									[0.866]
Portfolio equity Assets to GDP									-0.052
									[0.908]
Port Debt Assets to GDP									-0.073
									[0.053]*
FDI Liabilities to GDP									-0.033
									[0.595]
Portfolio equity Liabilities to GDP									0.830
									[0.000]***
Debt Liabilities to GDP									0.044
									[0.058]*
Current Account Deficit to GDP (1st lag)		0.054			0.082	0.061	0.051	0.083	0.100
		[0.752]			[0.631]	[0.728]	[0.792]	[0.678]	[0.636]
Valuation Adjust. to GDP (1st lag)					-0.054	-0.073	-0.080	-0.021	-0.040
					[0.626]	[0.526]	[0.496]	[0.861]	[0.721]
Observations	814	802	814	802	788	788	788	747	747
pseudo R^2	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.12	0.13
N crisis	50	49	50	49	49	49	49	48	48

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.6
PROBIT ESTIMATIONS: EXCHANGE RATE MARKET PRESSURE INDEX - INDUSTRIAL COUNTRIES
Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
REER dev HP rolling trend (1st lag)	0.001	0.000	0.001	-0.001	-0.001	0.002	0.002	0.001	-0.001
	[0.869]	[0.921]	[0.687]	[0.841]	[0.855]	[0.812]	[0.809]	[0.940]	[0.729]
Real Bank Credit Growth (1st lag)	0.007	0.007	0.007	0.006	0.005	0.007	0.007	0.004	0.003
	[0.041]**	[0.039]**	[0.036]**	[0.025]**	[0.024]**	[0.028]**	[0.038]**	[0.103]	[0.064]*
Real GDP Growth (1st lag)	0.059	0.056	0.059	0.040	0.036	0.053	0.053	0.044	0.023
	[0.003]***	[0.008]***	[0.002]***	[0.008]***	[0.077]*	[0.031]**	[0.030]**	[0.039]**	[0.030]**
Real Export Growth (1st lag)	-0.066	-0.057	-0.059	-0.048	-0.048	-0.055	-0.055	-0.047	-0.029
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.001]***	[0.000]***	[0.000]***
US interest rate (1st lag)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.830]	[0.814]	[0.875]	[0.854]	[0.852]	[0.914]	[0.916]	[0.848]	[0.609]
NFA to GDP (1st lag)			0.002						
			[0.380]						
Cumm. Current Account to GDP (1st lag)				0.003					
				[0.265]					
Cumm. Valuation Adjust. to GDP (1st lag)				0.016					
				[0.011]**					
Cumm. Current Account to GDP					-0.001				
					[0.616]				
Cumm. Valuation Adjust. to GDP					0.013				
					[0.008]***				
NFA to GDP						-0.001			
						[0.599]			
Total Assets to GDP							-0.001		
							[0.601]		
Total Liabilities to GDP							0.001		
							[0.875]		
Net FDI Assets to GDP								0.016	
								[0.106]	
Net Port Equity Assets to GDP								0.014	
								[0.151]	
Net Port Debt Assets to GDP								-0.004	
								[0.176]	
Int Reserves to GDP								0.016	0.014
								[0.338]	[0.318]
FDI Assets to GDP									0.023
									[0.029]**
Portfolio equity Assets to GDP									0.011
									[0.176]
Port Debt Assets to GDP									-0.003
									[0.056]*
FDI Liabilities to GDP									-0.014
									[0.300]
Portfolio equity Liabilities to GDP									-0.018
									[0.088]*
Debt Liabilities to GDP									-0.005
									[0.556]
Current Account Deficit to GDP (1st lag)		-0.027			-0.027	-0.035	-0.035	-0.028	-0.010
		[0.360]			[0.219]	[0.308]	[0.306]	[0.261]	[0.407]
Valuation Adjust. to GDP (1st lag)					0.020	0.034	0.035	0.031	0.023
					[0.089]*	[0.023]**	[0.098]*	[0.023]**	[0.112]
Observations	490	478	490	473	469	469	469	459	459
pseudo R^2	0.11	0.13	0.12	0.18	0.19	0.15	0.15	0.20	0.25
N crisis	5	5	5	5	5	5	5	5	5

Robust p values in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.7

Probit Estimation, CAR, Sensitivity of Valuation Adjustments to Depreciations

MARGINAL EFFECTS	All countries	Developing countries
	[1]	[2]
Sudden stop (1st lag)	0.016	0.046
	[0.125]	[0.095]*
Openness: Imports to GDP (1st lag)	0.021	0.06
	[0.072]*	[0.034]**
perc of sudden stops in region (1st lag)	0.036	0.075
	[0.011]**	[0.033]**
Term of trade, change % (1st lag)	0.000	-0.001
	[0.169]	[0.183]
Current Account Deficit to GDP (1st lag)	0.345	0.770
	[0.000]***	[0.000]***
Response Valuations to REER (β)* (NFA/GDP $_{t-1}$)	0.002	-0.006
	[0.650]	[0.800]
Observations	915	564
pseudo R^2	0.37	0.32
N crisis	40	35

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table II.8

Probit Estimation, ERMP Index, Sensitivity of Valuation Adjustments to Depreciations

MARGINAL EFFECTS	All countries	Developing countries
	[1]	[2]
REE dev HP rolling trend (1st lag)	-0.016	-0.014
	[0.314]	[0.493]
Openness: Imports to GDP (1st lag)	-0.014	-0.02
	[0.565]	[0.793]
Real Bank Credit Growth (1 st lag)	0.033	0.044
	[0.000]***	[0.000]***
Real GDP Growth (1st lag)	-0.041	-0.153
	[0.553]	[0.128]
Real Export Growth (1st lag)	-0.088	-0.083
	[0.079]*	[0.162]
US Treasury Bill	0.005	0.008
	[0.015]**	[0.009]***
Response Valuations to REER (β)* (NFA/GDP $_{t-1}$)	-0.012	-0.101
	[0.168]	[0.010]**
Observations	962	572
pseudo R^2	0.07	0.09
N crisis	39	35

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table III.1: Credit Ratings, Ordered Probit Estimation, stocks: 1990-2004.
(all stocks in first lag)

	Moody´s Ratings 1/					Standard & Poors´ Ratings 1/				
Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Real GDP Growth	0.016	0.016	0.018	0.016	0.018	0.039	0.036	0.041	0.036	0.045
	[0.279]	[0.286]	[0.249]	[0.277]	[0.243]	[0.015]**	[0.019]**	[0.017]**	[0.022]**	[0.015]**
Per-capita Real GDP (PPP)	0.96	0.936	0.703	0.918	0.691	7.407	7.588	7.362	7.575	8.299
	[0.007]***	[0.007]***	[0.026]**	[0.008]***	[0.035]**	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Inflation rate	-0.294	-0.309	-0.219	-0.311	-0.226	-0.227	-0.195	-0.07	-0.195	-0.069
	[0.000]***	[0.000]***	[0.022]**	[0.000]***	[0.020]**	[0.039]**	[0.068]*	[0.561]	[0.070]*	[0.574]
Fiscal Deficit / GDP	-6.831	-6.696	-6.234	-6.768	-5.869	-12.922	-12.638	-13.23	-12.525	-8.356
	[0.007]***	[0.008]***	[0.021]**	[0.008]***	[0.030]**	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.018]**
Debt-services / Exports	1.352	0.789	1.499	0.805	1.593	2.188	2.491	3.608	2.419	4.092
	[0.169]	[0.442]	[0.129]	[0.433]	[0.109]	[0.061]*	[0.045]**	[0.002]***	[0.055]*	[0.001]***
Current Account Deficit / GDP	13.318	13.866	11.373	13.829	11.092	16.819	16.087	14.236	16.209	11.141
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
NFA / GDP		-0.191					1.936			
		[0.770]					[0.008]***			
Net FDI /GDP			-5.127					-5.204		
			[0.002]***					[0.001]***		
Net portfolio equity / GDP			-2.178					1.556		
			[0.342]					[0.544]		
Net debt /GDP			2.462					4.391		
			[0.001]***					[0.000]***		
Assets / GDP				-0.43					2.347	
				[0.673]					[0.022]**	
Liabilities / GDP				0.205					-1.944	
				[0.752]					[0.009]***	
Reserves / GDP			1.398		1.566			1.457		2.02
			[0.601]		[0.557]			[0.599]		[0.467]
FDI assets / GDP					-3.175					-2.885
					[0.479]					[0.445]
FDI liabilities / GDP					4.981					4.512
					[0.003]***					[0.004]***
Debt assets / GDP					1.623					1.641
					[0.199]					[0.313]
Debt liabilities / GDP					-2.42					-4.683
					[0.001]***					[0.000]***
Equity assets / GDP					-0.898					10.62
					[0.719]					[0.000]***
Equity liabilities / GDP					3.234					9.734
					[0.239]					[0.007]***
Observations	336	328	317	328	317	323	318	313	318	313
Pseudo R^2	0.42	0.42	0.43	0.42	0.43	0.49	0.49	0.51	0.49	0.53

Robust p values in brackets. Estimated with time and country dummies not presented

* significant at 10%; ** significant at 5%; *** significant at 1%

1/ AAA (Aaa) for Moody´s (S&P) correspond to 20. D corresponds to 0.

Source: Authors´ calculations

Table III.2 : Credit Ratings, Ordered Probit Estimation, change in stocks: 1990-2004.

	Moody´s Ratings 1/						Standard & Poors´ Ratings 1/					
Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Real GDP Growth	0.026	0.021	0.028	0.031	0.029	0.025	0.048	0.045	0.051	0.045	0.048	0.044
	[0.076]*	[0.141]	[0.065]*	[0.041]**	[0.058]*	[0.091]*	[0.001]***	[0.003]***	[0.001]***	[0.004]***	[0.001]***	[0.006]***
Per-capita Real GDP (PPP)	0.955	0.951	0.935	0.765	0.928	0.721	7.506	7.822	7.763	8.409	8.05	8.47
	[0.009]***	[0.006]***	[0.011]**	[0.048]**	[0.011]**	[0.045]**	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Inflation rate	-0.403	-0.435	-0.437	-0.388	-0.441	-0.374	-0.353	-0.337	-0.355	-0.196	-0.343	-0.2
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.002]***	[0.003]***	[0.002]***	[0.087]*	[0.002]***	[0.101]
Fiscal Deficit / GDP	-7.886	-7.428	-7.932	-8.496	-6.842	-7.696	-13.517	-12.984	-13.837	-12.502	-16.137	-15.125
	[0.002]***	[0.003]***	[0.002]***	[0.001]***	[0.018]**	[0.007]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Debt-services / Exports	1.888	0.998	1.466	2.271	1.618	2.035	2.42	2.017	2.057	4.359	2.249	3.856
	[0.055]*	[0.310]	[0.144]	[0.024]**	[0.100]*	[0.036]**	[0.039]**	[0.100]	[0.096]*	[0.000]***	[0.061]*	[0.003]***
(ΔFDI assets) / GDP		-3.597				-3.77		3.263				-3.71
		[0.490]				[0.510]		[0.663]				[0.610]
(ΔFDI liabilities) / GDP		3.472				3.634		1.767				4.037
		[0.033]**				[0.078]*		[0.256]				[0.099]*
(ΔEquity assets) / GDP				0.361		1.683				2.747		2.684
				[0.800]		[0.200]				[0.093]*		[0.101]
(ΔEquity liabilities) / GDP				-1.69		-3.284				-5.16		-5.214
				[0.057]*		[0.000]***				[0.000]***		[0.000]***
(ΔDebt assets) / GDP			4.655			2.788			12.848			9.201
			[0.344]			[0.619]			[0.028]**			[0.154]
(ΔDebt liabilities) / GDP			1.923			0.22			-1.606			0.353
			[0.376]			[0.929]			[0.619]			[0.915]
(ΔReserves) / GDP					2.51	2.053					-6.613	-7.616
					[0.273]	[0.447]					[0.001]***	[0.005]***
Observations	336	321	324	328	329	317	323	318	313	318	319	313
Pseudo R^2	0.39	0.39	0.39	0.40	0.39	0.41	0.45	0.45	0.45	0.48	0.46	0.49

Robust p values in brackets. Estimated with time and country dummies not presented
* significant at 10%; ** significant at 5%; *** significant at 1%

1/ AAA (Aaa) for Moody´s (S&P) correspond to 20. D corresponds to 0.

Source: Authors´ calculations

Table IV.1
Long-Run Real Exchange Rate Equations: Cointegration tests

[Productivity; Terms of Trade; Government Consumption / GDP], extended with:	All countries				Industrial Countries				Developing Countries			
	NFA / GDP	CCA / GDP Net Val. / GDP	Assets / GDP Liabilities /GDP	NFDI/ GDP NPort /GDP NDebt / GDP IR / GDP	NFA / GDP	CCA / GDP Net Val. / GDP	Assets / GDP Liabilities /GDP	NFDI/ GDP NPort /GDP NDebt / GDP IR / GDP	NFA / GDP	CCA / GDP Net Val. / GDP	Assets/ GDP Liabilities /GDP	NFDI/ GDP NPort /GDP NDebt / GDP IR / GDP
I. Residual-based Cointegration tests												
I.1. Homogeneous Residual-based Cointegration Tests (p-values)												
Kao (1999)												
DF(rho)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)
DF(t_rho)	(0.001)	(0.000)	(0.000)	(0.002)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ADF	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
McCoskey and Kao (1998)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)
Panel LM	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Pedroni (1995)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)
TN1(rho)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
TN2(rho)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
I.2. Heterogeneous Residual-based Cointegration Tests (p-values)												
Pedroni (1999)												
Panel-v	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Panel-rho	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Panel-t (non-parametric)	(0.002)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Panel-t (parametric)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)
Group rho	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)
Group-t (non-parametric)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Group-t (parametric)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.001)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Table IV.2

Long-Run Real Exchange Rate Equations: Panel Cointegration [1/]

	All Countries				Industrial Countries				Developing Countries			
Variable	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Productivity	**0.1595**	**0.1476**	**0.0947**	0.0861	**0.4085**	**0.4314**	**0.3927**	**0.5716**	-0.1565	**-0.1684**	**-0.2841**	-0.4924
	(0.03)	(0.02)	(0.10)	(0.18)	(0.00)	(0.00)	(0.00)	(0.00)	(0.11)	(0.08)	(0.02)	(0.31)
Terms of Trade	**0.2438**	**0.2441**	**0.2267**	**0.3800**	**0.4283**	**0.4317**	**0.4263**	**0.4307**	**-0.1091**	**-0.1110**	**-0.1392**	-0.089
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.07)	(0.06)	(0.03)	(0.24)
Government Consumption / GDP	**0.2668**	**0.267**	**0.2632**	**0.3337**	**0.4419**	**0.4345**	**0.4366**	**0.2598**	**0.1140**	**0.1092**	**0.1412**	**0.2434**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.04)	(0.00)	(0.00)
NFA / GDP	**0.0926**				**0.0876**				**0.0998**			
	(0.02)				(0.02)				(0.07)			
Assets / GDP		**0.1028**				**0.0927**				**0.1484**		
		(0.02)				(0.02)				(0.02)		
Liabilities / GDP		**-0.0864**				**-0.0888**				**-0.1029**		
		(0.01)				(0.02)				(0.06)		
Net FDI / GDP				-0.0668				**-0.1626**				-0.2123
				(0.26)				(0.02)				(0.24)
Net Portfolio / GDP				**0.2372**				**0.1936**				-0.4394
				(0.00)				(0.00)				(0.14)
Net Debt / GDP				**0.1472**				0.0063				**0.3251**
				(0.00)				(0.44)				(0.00)
Reserves / GDP				**-0.7521**				-0.7432				**-1.5731**
				(0.00)				(0.22)				(0.00)
CCA / GDP			**0.1771**				**0.1193**				**0.3325**	
			(0.00)				(0.03)				(0.02)	
Net Valuation (A-L) / GDP			**-0.0694**				**0.0650**				**-0.2199**	
			(0.07)				(0.09)				(0.01)	
Observations	1815	1815	1815	888	660	660	660	480	924	924	924	312
R^2	0.14	0.15	0.18	0.28	0.37	0.38	0.38	0.40	0.04	0.04	0.13	0.25

1/ Panel DOLS estimates for each group of countries, accounting for country and time effects. Significant variables at 10% significance level are bolded (p-values in parenthesis)
Source: Author´s calculations

Table IV.3
Descriptive Statistics period 1983.I - 2005.IV.

Stocks at the end of the period		Mean	Median	Maximum	Minimum	Std. Dev.	Average First Difference
Net Assets	NFA / GDP	-2.01	-1.50	-0.72	-4.82	1.07	0.032
	Net FDI Assets / GDP	-1.11	-1.11	-0.74	-1.53	0.20	-0.004
	Net Portfolio Assets / GDP	-0.05	-0.05	0.43	-0.32	0.18	0.005
	Net Other Investment / GDP	-1.48	-0.93	-0.35	-4.44	1.21	0.032
	Reserves / GDP	0.63	0.64	0.83	0.38	0.09	-0.001
Gross Assets	Total Assets / GDP	1.60	1.51	2.36	1.13	0.34	0.008
	FDI Assets / GDP	0.18	0.08	0.54	0.01	0.19	0.005
	Portfolio Assets / GDP	0.18	0.01	0.86	0.00	0.28	0.009
	Other Investment Assets / GDP	0.60	0.46	1.07	0.27	0.23	-0.005
Gross	Total Liabilities / GDP	3.61	3.32	6.53	2.30	1.07	-0.024
Liabilities	FDI Liabilities / GDP	1.30	1.16	2.02	0.75	0.37	0.009
	Portfolio Liabilities / GDP	0.23	0.28	0.54	0.01	0.17	0.004
	Other Investment Liabilities / GDP	2.08	1.37	5.51	0.69	1.41	-0.037

Cummulative Flows		Mean	Median	Maximum	Minimum	Std. Dev.	Average First Difference
Net Assets	CCA / GDP	-2.39	-1.84	-0.99	-5.25	1.16	0.030
	Net FDI Assets / GDP	-1.02	-0.93	-0.68	-1.70	0.28	-0.003
	Net Portfolio Assets / GDP	-0.04	-0.05	0.24	-0.22	0.10	0.003
	Net Other Investment / GDP	-1.96	-1.52	-0.46	-4.87	1.25	0.031
	Reserves / GDP	0.63	0.64	0.87	0.37	0.09	-0.001
Gross Assets	Total Assets / GDP	1.30	1.12	2.45	0.68	0.54	0.006
	FDI Assets / GDP	0.21	0.10	0.69	0.01	0.23	0.005
	Portfolio Assets / GDP	0.18	0.02	0.73	0.00	0.26	0.007
	Other Investment Assets / GDP	0.28	0.28	0.80	-0.02	0.23	-0.005
Gross	Total Liabilities / GDP	3.69	3.48	6.75	2.04	1.20	-0.024
Liabilities	FDI Liabilities / GDP	1.23	0.98	2.37	0.73	0.50	0.008
	Portfolio Liabilities / GDP	0.22	0.15	0.59	0.02	0.19	0.004
	Other Investment Liabilities / GDP	2.24	1.52	5.61	0.81	1.38	-0.036
	Cummulative valuation stock (A-L) / GDP	0.38	0.30	-0.06	1.12	0.26	0.003

Source: Authors´ calculations

Table IV.4
TCR Chile: Johansen test of Cointegration 1/

Stocks

Model in Table IV. 5	[1]	[2]	[3]	[4]
Trace test	1	3	2	4
Max-Eigenvalue test	1	2	2	4

Cummulative flows

Model in Table IV.6	[1]	[2]	[3]	[4]
Trace test	2	2	3	4
Max-Eigenvalue test	1	3	4	4

1 / Trace test indicates the number of cointegrating eqn(s) at the 0.05 level
MacKinnon-Haug-Michelis (1999) p-values

Table IV.5:
Long-Run Real Exchange Rate Equations for Chile: stocks at the end of the period 1/

	Variable	[1]	[2]	[3]	[4]
	Productivity	0.13	**0.56*** **	**1.23*** **	**0.81*** **
		(0.47)	(3.51)	(6.13)	(4.95)
	Terms of Trade	0.01	-0.02	-0.06	-0.02
		(0.07)	(0.19)	(0.52)	(0.17)
	Government Consumption / GDP	**0.51** **	**0.23** **	**0.25*** **	**0.17***
		(2.07)	(2.16)	(2.98)	(1.68)
	Tariffs	**0.03*** **	0.00	0.00	0.00
		(3.24)	(0.30)	(0.20)	(0.10)
Net Assets	NFA / GDP	**0.15*** **			
		(4.78)			
	Net Portfolio Assets / GDP		**-0.68*** **		
			(5.25)		
	Net FDI Assets / GDP		0.17		
			(1.35)		
	Net Other Investment / GDP		**0.08*** **		
			(3.17)		
	Reserves / GDP		**-0.70*** **		
			(4.78)		
Gross Assets	Total Assets / GDP			**-0.20*** **	
				(5.05)	
	Portfolio Assets / GDP				**-0.56*** **
					(4.88)
	FDI Assets / GDP				-0.05
					(0.17)
	Other Investment Assets / GDP				**-0.23*** **
					(2.99)
	Reserves / GDP				**-0.55*** **
					(4.03)
Gross Liabilities	Total Liabilities / GDP			**-0.13*** **	
				(8.19)	
	Portfolio Liabilities / GDP				0.23
					(1.08)
	FDI Liabilities / GDP				-0.11
					(0.92)
	Other Investment Liabilities / GDP				**-0.06*** **
					(2.98)
	Adj. R-squared	**0.69**	**0.86**	**0.88**	**0.89**
	Observations	**88**	**89**	**88**	**89**

1/ Estimation perfomed by DOLS for the period 1983.I - 2005.IV.

Constant included but not presented. Test t in parenthesis. *(**)[***] indicate significant at 10(5)[1]%

Source: Authors´ calculations

Table IV.6
Long-Run Real Exchange Rate Equations for Chile: Cummulative Flows 1/

	Variable 2/	[1]	[2]	[3]	[4]
	Productivity	**0.27***	**0.71*** **	**0.87*** **	0.01
		(1.85)	(7.03)	(3.66)	(0.02)
	Terms of Trade	-0.13	-0.11	**-0.22***	0.01
		(1.23)	(1.29)	(1.68)	(0.07)
	Government Consumption / GDP	0.09	0.08	0.11	0.04
		(0.60)	(0.79)	(0.81)	(0.53)
	Tariffs	**0.01** **	0.01	0.00	0.00
		(2.25)	(0.83)	(0.38)	(0.35)
Net Assets	CCA / GDP	**0.06*** **			
		(3.10)			
	Net Portfolio Assets / GDP		**-0.71*** **		
			(4.04)		
	Net FDI Assets / GDP		**0.14***		
			(1.98)		
	Net Other Investment / GDP		**0.07*** **		
			(4.08)		
	Reserves / GDP		**-0.33*** **		
			(2.67)		
	Cummulative valuation / GDP	**0.26*** **	**0.11*** **		
		(4.55)	(3.73)		
Gross Assets	Total Assets / GDP			-0.10	
				(1.48)	
	Portfolio Assets / GDP				**-0.57*** **
					(5.04)
	FDI Assets / GDP				**-0.88*** **
					(3.14)
	Other Investment Assets / GDP				**0.80*** **
					(5.01)
	Reserves / GDP				**-0.27** **
					(2.53)
Gross Liabilities	Total Liabilities / GDP			**-0.05*** **	
				(2.64)	
	Portfolio Liabilities / GDP				**1.54*** **
					(7.10)
	FDI Liabilities / GDP				-0.14
					(1.32)
	Other Investment Liabilities / GDP				**-0.13*** **
					(5.35)
	Cummulative valuation / GDP			**0.23*** **	**0.11** **
				(4.11)	(2.49)
	Adj. R-squared	**0.85**	**0.90**	**0.89**	**0.95**
	Observations	**88**	**89**	**88**	**89**

1/ Estimation perfomed by DOLS for the period 1983.I - 2005.IV.

Constant included but not presented. Test t in parenthesis. *(**)[***] indicate significant at 10(5)[1]%

2/ Net and gross variables correspond to cummulative quarterly transacciones reported in the financial account.

Source: Authors´ calculations

Table A.1

PROBIT ESTIMATION: CURRENT ACCOUNT REVERSALS - ALL COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
Sudden stop (1st lag)	0.051	0.052	0.052	0.043	0.030	0.062	0.024	0.025	0.021	0.016	0.008	0.032	0.017	0.016	0.016	0.011	0.008	0.021
	[0.017]**	[0.018]**	[0.017]**	[0.032]**	[0.034]**	[0.007]***	[0.126]	[0.126]	[0.114]	[0.279]	[0.275]	[0.068]*	[0.101]	[0.099]*	[0.092]*	[0.206]	[0.190]	[0.056]*
Openess: Imports to GDP (1st lag)	0.114	0.111	0.111	0.068	0.062	0.128	0.080	0.078	0.080	0.062	0.040	0.089	0.044	0.038	0.046	0.030	0.026	0.046
	[0.000]***	[0.000]***	[0.000]***	[0.038]**	[0.014]**	[0.000]***	[0.001]***	[0.001]***	[0.000]***	[0.015]**	[0.007]***	[0.000]***	[0.001]***	[0.002]***	[0.001]***	[0.038]**	[0.017]**	[0.000]***
Perc of sudden stops in region (1st lag)	0.152	0.154	0.152	0.130	0.077	0.167	0.103	0.100	0.076	0.099	0.043	0.110	0.050	0.044	0.045	0.046	0.029	0.050
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.002]***	[0.000]***	[0.000]***	[0.000]***	[0.001]***	[0.001]***	[0.005]***	[0.000]***	[0.002]***	[0.003]***	[0.003]***	[0.003]***	[0.007]***	[0.001]***
Terms of trade, change % (1st lag)	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.014]**	[0.020]**	[0.015]**	[0.018]**	[0.016]**	[0.014]**	[0.102]	[0.135]	[0.108]	[0.079]*	[0.084]*	[0.094]*	[0.122]	[0.177]	[0.121]	[0.092]*	[0.086]*	[0.118]
NFA to GDP	-0.022						-0.014						-0.007					
	[0.035]**						[0.044]**						[0.078]*					
Cumm. Current Account to GDP		-0.014						-0.010						-0.004				
		[0.115]						[0.035]**						[0.076]*				
Cumm. Valuation Adjust. to GDP		-0.050						-0.037						-0.020				
		[0.003]***						[0.002]***						[0.002]***				
Total Assets to GDP			-0.016						-0.030						-0.013			
			[0.116]						[0.028]**						[0.066]*			
Total Liabilities to GDP			0.021						0.006						0.004			
			[0.027]**						[0.414]						[0.364]			
Net FDI Assets to GDP				0.027						0.023						0.013		
				[0.345]						[0.318]						[0.380]		
Net Port Equity Assets to GDP				-0.136						-0.065						-0.039		
				[0.143]						[0.354]						[0.482]		
Net Port Debt Assets to GDP				-0.030						-0.025						-0.012		
				[0.011]**						[0.005]***						[0.011]**		
Int Reserves to GDP				0.094	0.065					0.061	0.037					0.042	0.031	
				[0.210]	[0.199]					[0.337]	[0.251]					[0.216]	[0.175]	
FDI Assets to GDP					-0.037						-0.027						-0.030	
					[0.585]						[0.504]						[0.324]	
Portfolio equity Assets to GDP					-0.299						-0.174						-0.013	
					[0.204]						[0.176]						[0.883]	
Port Debt Assets to GDP					-0.052						-0.030						-0.021	
					[0.062]*						[0.063]*						[0.055]*	
FDI Liabilities to GDP					-0.039						-0.018						-0.010	
					[0.149]						[0.232]						[0.356]	
Portfolio equity Liabilities to GDP					0.120						0.029						0.010	
					[0.167]						[0.604]						[0.834]	
Debt Liabilities to GDP					0.018						0.011						0.008	
					[0.051]*						[0.046]**						[0.041]**	
Δ NFA to GDP (1st lag)	-0.122	-0.123	-0.126	-0.090	-0.053	-0.149												
	[0.046]**	[0.046]**	[0.040]**	[0.117]	[0.205]	[0.014]**												
Δ Net FDI to GDP (1st lag)							0.018	0.027	0.023	0.019	0.038	0.004						
							[0.841]	[0.760]	[0.761]	[0.851]	[0.507]	[0.964]						
Δ Net Port Equity to GDP (1st lag)							0.499	0.515	0.435	0.474	0.285	0.501						
							[0.028]**	[0.027]**	[0.045]**	[0.023]**	[0.056]*	[0.029]**						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.002]***	[0.006]***	[0.005]***	[0.007]***	[0.063]*	[0.002]***						
Δ Reservas to GDP (1st lag)							-0.328	-0.310	-0.267	-0.317	-0.158	-0.310	-0.192	-0.168	-0.178	-0.174	-0.118	-0.175
							[0.036]**	[0.030]**	[0.039]**	[0.031]**	[0.026]**	[0.041]**	[0.031]**	[0.023]**	[0.035]**	[0.025]**	[0.024]**	[0.032]**
Δ FDI Assets to GDP (1st lag)													0.000	0.001	0.075	-0.058	0.160	-0.072
													[1.000]	[0.998]	[0.720]	[0.795]	[0.302]	[0.747]
Δ Port. equity Assets to GDP (1st lag)													-0.996	-0.989	-0.914	-1.027	-0.714	-1.008
													[0.007]***	[0.003]***	[0.018]**	[0.008]***	[0.056]*	[0.006]***
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.003]***	[0.002]***	[0.008]***	[0.004]***	[0.056]*	[0.001]***
Δ FDI Liabilities to GDP (1st lag)													-0.014	-0.025	-0.011	-0.021	-0.023	-0.006
													[0.805]	[0.635]	[0.836]	[0.725]	[0.590]	[0.924]
Δ Port. equity Liab. to GDP (1st lag)													-0.403	-0.361	-0.363	-0.344	-0.245	-0.396
													[0.039]**	[0.035]**	[0.048]**	[0.058]*	[0.059]*	[0.041]**
Δ Debt Liabilities to GDP (1st lag)													0.022	0.025	0.019	0.025	0.016	0.022
													[0.296]	[0.211]	[0.450]	[0.299]	[0.407]	[0.343]
Observations	1241	1232	1241	1185	1185	1241	1185	1178	1185	1185	1185	1185	1185	1178	1185	1185	1185	1185
pseudo R^2	0.17	0.18	0.17	0.18	0.21	0.16	0.21	0.22	0.22	0.22	0.24	0.20	0.23	0.25	0.23	0.24	0.25	0.22
N crisis	55	55	55	47	47	55	47	47	47	47	47	47	47	47	47	47	47	47

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.2

PROBIT ESTIMATION: CURRENT ACCOUNT REVERSALS - DEVELOPING COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
Sudden stop (1st lag)	0.090	0.094	0.089	0.082	0.080	0.096	0.061	0.067	0.060	0.044	0.043	0.065	0.069	0.075	0.068	0.052	0.053	0.073
	[0.011]**	[0.012]**	[0.014]**	[0.023]**	[0.022]**	[0.009]***	[0.078]*	[0.061]*	[0.078]*	[0.162]	[0.159]	[0.067]*	[0.055]*	[0.043]**	[0.056]*	[0.114]	[0.097]*	[0.048]**
Openess: Imports to GDP (1st lag)	0.173	0.164	0.168	0.092	0.098	0.182	0.143	0.134	0.147	0.102	0.106	0.149	0.133	0.120	0.136	0.090	0.101	0.138
	[0.000]***	[0.000]***	[0.000]***	[0.086]*	[0.074]*	[0.000]***	[0.002]***	[0.002]***	[0.002]***	[0.041]**	[0.036]**	[0.001]***	[0.004]***	[0.005]***	[0.004]***	[0.075]*	[0.052]*	[0.002]***
Perc of sudden stops in region (1st lag)	0.205	0.201	0.198	0.168	0.163	0.208	0.159	0.150	0.157	0.152	0.145	0.160	0.150	0.137	0.150	0.143	0.134	0.151
	[0.001]***	[0.001]***	[0.001]***	[0.004]***	[0.004]***	[0.001]***	[0.003]***	[0.003]***	[0.004]***	[0.005]***	[0.006]***	[0.003]***	[0.005]***	[0.006]***	[0.005]***	[0.006]***	[0.007]***	[0.005]***
Terms of trade, change % (1st lag)	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	[0.027]**	[0.038]**	[0.029]**	[0.026]**	[0.025]**	[0.025]**	[0.165]	[0.244]	[0.162]	[0.127]	[0.121]	[0.159]	[0.156]	[0.234]	[0.155]	[0.123]	[0.117]	[0.151]
NFA to GDP	-0.017						-0.010						-0.008					
	[0.384]						[0.614]						[0.656]					
Cumm. Current Account to GDP		0.000						0.011						0.014				
		[0.990]						[0.599]						[0.486]				
Cumm. Valuation Adjust. to GDP		-0.065						-0.056						-0.055				
		[0.010]**						[0.014]**						[0.013]**				
Total Assets to GDP			0.008						-0.021						-0.015			
			[0.753]						[0.485]						[0.613]			
Total Liabilities to GDP			0.008						0.010						0.009			
			[0.688]						[0.602]						[0.654]			
Net FDI Assets to GDP				0.097						0.070						0.059		
				[0.146]						[0.230]						[0.323]		
Net Port Equity Assets to GDP				-0.307						-0.121						-0.103		
				[0.127]						[0.552]						[0.660]		
Net Port Debt Assets to GDP				-0.034						-0.035						-0.032		
				[0.123]						[0.094]*						[0.121]		
Int Reserves to GDP				0.142	0.148					0.135	0.141					0.147	0.146	
				[0.216]	[0.186]					[0.229]	[0.201]					[0.184]	[0.179]	
FDI Assets to GDP					0.031						-0.031						-0.083	
					[0.856]						[0.845]						[0.617]	
Portfolio equity Assets to GDP					0.213						0.049						1.474	
					[0.824]						[0.955]						[0.244]	
Port Debt Assets to GDP					-0.072						-0.069						-0.076	
					[0.169]						[0.135]						[0.113]	
FDI Liabilities to GDP					-0.091						-0.058						-0.056	
					[0.169]						[0.316]						[0.315]	
Portfolio equity Liabilities to GDP					0.276						0.105						0.030	
					[0.178]						[0.609]						[0.900]	
Debt Liabilities to GDP					0.037						0.038						0.038	
					[0.091]*						[0.070]*						[0.062]*	
Δ NFA to GDP (1st lag)	-0.106	-0.104	-0.105	-0.066	-0.065	-0.110												
	[0.252]	[0.261]	[0.259]	[0.470]	[0.478]	[0.247]												
Δ Net FDI to GDP (1st lag)							0.076	0.127	0.076	0.104	0.125	0.079						
							[0.670]	[0.477]	[0.670]	[0.613]	[0.536]	[0.661]						
Δ Net Port Equity to GDP (1st lag)							1.125	1.028	1.131	0.990	0.991	1.109						
							[0.051]*	[0.050]*	[0.051]*	[0.065]*	[0.064]*	[0.054]*						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.947]	[0.763]	[0.889]	[0.999]	[0.967]	[0.910]						
Δ Reservas to GDP (1st lag)							-0.539	-0.487	-0.539	-0.513	-0.497	-0.529	-0.549	-0.494	-0.549	-0.519	-0.505	-0.541
							[0.059]*	[0.054]*	[0.060]*	[0.047]**	[0.047]**	[0.061]*	[0.055]*	[0.048]**	[0.056]*	[0.043]**	[0.043]**	[0.057]*
Δ FDI Assets to GDP (1st lag)													0.591	0.713	0.627	0.337	0.794	0.625
													[0.621]	[0.539]	[0.593]	[0.805]	[0.589]	[0.603]
Δ Port. equity Assets to GDP (1st lag)													-1.951	-2.687	-1.901	-2.079	-3.299	-2.101
													[0.281]	[0.243]	[0.284]	[0.348]	[0.152]	[0.264]
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.980]	[0.766]	[0.972]	[0.951]	[0.981]	[0.962]
Δ FDI Liabilities to GDP (1st lag)													-0.063	-0.120	-0.062	-0.087	-0.117	-0.065
													[0.732]	[0.521]	[0.740]	[0.679]	[0.572]	[0.731]
Δ Port. equity Liab. to GDP (1st lag)													-1.255	-1.150	-1.252	-1.130	-1.111	-1.245
													[0.058]*	[0.054]*	[0.058]*	[0.074]*	[0.077]*	[0.061]*
Δ Debt Liabilities to GDP (1st lag)													0.031	0.047	0.026	0.038	0.042	0.028
													[0.577]	[0.414]	[0.695]	[0.597]	[0.651]	[0.618]
Observations	805	801	805	759	759	805	759	757	759	759	759	759	759	757	759	759	759	759
pseudo R^2	0.14	0.16	0.15	0.16	0.16	0.14	0.19	0.21	0.19	0.20	0.20	0.19	0.19	0.22	0.19	0.21	0.21	0.19
N crisis	49	49	49	42	42	49	42	42	42	42	42	42	42	42	42	42	42	42

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.3

PROBIT ESTIMATION: CURRENT ACCOUNT REVERSALS - INDUSTRIAL COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
Sudden stop (1st lag)																		
Openess: Imports to GDP (1st lag)	0.007	0.006	0.001	0.004	0.000	0.008	0.004	0.003	0.000	0.001	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000
	[0.112]	[0.074]*	[0.042]**	[0.412]	[0.058]*	[0.142]	[0.002]***	[0.000]***	[0.000]***	[0.154]	[.]	[0.001]***	[0.447]	[0.455]	[0.000]***	[0.113]	[.]	[0.403]
Perc of sudden stops in region (1st lag)	0.015	0.010	0.000	0.003	0.000	0.018	0.004	0.002	0.000	0.001	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.000
	[0.304]	[0.378]	[0.613]	[0.631]	[0.659]	[0.347]	[0.178]	[0.286]	[0.918]	[0.231]	[.]	[0.367]	[0.596]	[0.577]	[0.022]**	[0.640]	[.]	[0.800]
Terms of trade, change % (1st lag)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.000]***	[0.000]***	[0.002]***	[0.006]***	[0.895]	[0.000]***	[0.003]***	[0.002]***	[0.001]***	[0.003]***	[.]	[0.048]**	[0.030]**	[0.035]**	[0.000]***	[0.001]***	[.]	[0.927]
NFA to GDP	-0.003						-0.002						0.000					
	[0.075]*						[0.000]***						[0.000]***					
Cumm. Current Account to GDP		-0.004						-0.001						0.000				
		[0.087]*						[0.000]***						[0.000]***				
Cumm. Valuation Adjust. to GDP		0.005						0.000						0.000				
		[0.330]						[0.712]						[0.136]				
Total Assets to GDP			-0.001						0.000						0.000			
			[0.194]						[0.001]***						[0.000]***			
Total Liabilities to GDP			0.000						0.000						0.000			
			[0.046]**						[0.758]						[0.001]***			
Net FDI Assets to GDP				0.004						0.000						0.000		
				[0.016]**						[0.620]						[0.737]		
Net Port Equity Assets to GDP				0.006						0.000						0.000		
				[0.023]**						[0.450]						[0.810]		
Net Port Debt Assets to GDP				-0.003						0.000						0.000		
				[0.091]*						[0.058]*						[0.003]***		
Int Reserves to GDP				-0.005	0.000					-0.001	0.000					0.000	0.000	
				[0.789]	[0.322]					[0.462]	[.]					[0.473]	[.]	
FDI Assets to GDP					0.000						0.000						0.000	
					[0.082]*						[.]						[.]	
Portfolio equity Assets to GDP					0.000						0.000						0.000	
					[0.835]						[.]						[.]	
Port Debt Assets to GDP					0.000						0.000						0.000	
					[0.060]*						[.]						[.]	
FDI Liabilities to GDP					0.000						0.000						0.000	
					[0.000]***						[.]						[.]	
Portfolio equity Liabilities to GDP					0.000						0.000						0.000	
					[0.031]**						[.]						[.]	
Debt Liabilities to GDP					0.000						0.000						0.000	
					[0.833]						[.]						[.]	
Δ NFA to GDP (1st lag)	-0.050	-0.038	-0.002	-0.018	0.000	-0.069												
	[0.000]***	[0.001]***	[0.002]***	[0.001]***	[0.000]***	[0.000]***												
Δ Net FDI to GDP (1st lag)							0.003	0.004	0.000	0.000	0.000	-0.017						
							[0.450]	[0.291]	[0.001]***	[0.749]	[.]	[0.630]						
Δ Net Port Equity to GDP (1st lag)							-0.010	-0.008	0.000	-0.002	0.000	-0.020						
							[0.134]	[0.105]	[0.000]***	[0.097]*	[.]	[0.586]						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.017]**	[0.009]***	[0.000]***	[0.002]***	[.]	[0.016]**						
Δ Reservas to GDP (1st lag)							-0.026	-0.018	0.000	-0.004	0.000	-0.092	0.000	0.000	0.000	0.000	0.000	-0.001
							[0.000]***	[0.000]***	[0.000]***	[0.000]***	[.]	[0.039]**	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[.]	[0.007]***
Δ FDI Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	-0.001
													[0.655]	[0.647]	[0.000]***	[0.843]	[.]	[0.430]
Δ Port. equity Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	-0.003
													[0.000]***	[0.000]***	[0.000]***	[0.000]***	[.]	[0.001]***
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.002]***	[0.001]***	[0.000]***	[0.000]***	[.]	[0.004]***
Δ FDI Liabilities to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	-0.001
													[0.006]***	[0.010]**	[0.000]***	[0.006]***	[.]	[0.031]**
Δ Port. equity Liab. to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.001
													[0.306]	[0.273]	[0.000]***	[0.054]*	[.]	[0.135]
Δ Debt Liabilities to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.001
													[0.084]*	[0.086]*	[0.059]*	[0.065]*	[.]	[0.026]**
Observations	419	414	419	409	409	419	409	404	409	409	409	409	409	404	409	409	409	409
pseudo R^2	0.35	0.36	0.48	0.40	0.59	0.34	0.32	0.33	0.58	0.37	1.00	0.18	0.49	0.49	0.70	0.51	1.00	0.39
N crisis	6	6	6	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.4

PROBIT ESTIMATION: EXCHANGE RATE PRESSURE - ALL COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
REER dev HP rolling trend (1st lag)	-0.021	-0.021	-0.017	-0.019	-0.019	-0.024	-0.018	-0.018	-0.015	-0.018	-0.018	-0.022	-0.018	-0.019	-0.015	-0.019	-0.018	-0.021
	[0.099]*	[0.136]	[0.118]	[0.136]	[0.069]*	[0.067]*	[0.149]	[0.202]	[0.159]	[0.140]	[0.082]*	[0.092]*	[0.124]	[0.164]	[0.139]	[0.111]	[0.073]*	[0.083]*
Real Bank Credit Growth (1st lag)	0.029	0.031	0.028	0.032	0.030	0.030	0.031	0.033	0.030	0.031	0.029	0.033	0.031	0.034	0.030	0.031	0.029	0.033
	[0.001]***	[0.001]***	[0.001]***	[0.000]***	[0.000]***	[0.002]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Real GDP Growth (1st lag)	-0.070	-0.076	-0.065	-0.084	-0.090	-0.085	-0.085	-0.091	-0.088	-0.086	-0.094	-0.100	-0.085	-0.095	-0.088	-0.086	-0.095	-0.102
	[0.247]	[0.240]	[0.247]	[0.172]	[0.096]*	[0.186]	[0.165]	[0.164]	[0.117]	[0.155]	[0.078]*	[0.124]	[0.151]	[0.144]	[0.097]*	[0.144]	[0.061]*	[0.106]
Real Export Growth (1st lag)	-0.082	-0.072	-0.080	-0.084	-0.077	-0.076	-0.082	-0.072	-0.078	-0.083	-0.077	-0.075	-0.079	-0.071	-0.075	-0.080	-0.072	-0.073
	[0.051]*	[0.091]*	[0.039]**	[0.050]**	[0.040]**	[0.079]*	[0.058]*	[0.100]*	[0.047]**	[0.056]*	[0.042]**	[0.094]*	[0.057]*	[0.101]	[0.049]**	[0.057]*	[0.047]**	[0.090]*
US interest rate (1st lag)	0.004	0.005	0.004	0.005	0.004	0.004	0.005	0.005	0.004	0.005	0.004	0.005	0.005	0.005	0.004	0.005	0.004	0.004
	[0.012]**	[0.006]***	[0.023]**	[0.004]***	[0.010]***	[0.023]**	[0.008]***	[0.003]***	[0.024]**	[0.006]***	[0.015]**	[0.015]**	[0.012]**	[0.006]***	[0.027]**	[0.009]***	[0.022]**	[0.028]**
NFA to GDP	-0.026						-0.029						-0.028					
	[0.010]***						[0.015]**						[0.020]**					
Cumm. Current Account to GDP		-0.024						-0.026						-0.026				
		[0.018]**						[0.030]**						[0.031]**				
Cumm. Valuation Adjust. to GDP		-0.045						-0.049						-0.049				
		[0.015]**						[0.008]***						[0.009]***				
Total Assets to GDP			-0.039						-0.041						-0.046			
			[0.024]**						[0.018]**						[0.033]**			
Total Liabilities to GDP			0.019						0.017						0.017			
			[0.097]*						[0.200]						[0.215]			
Net FDI Assets to GDP				-0.029						-0.027						-0.031		
				[0.296]						[0.347]						[0.273]		
Net Port Equity Assets to GDP				-0.096						-0.133						-0.125		
				[0.510]						[0.290]						[0.301]		
Net Port Debt Assets to GDP				-0.031						-0.028						-0.028		
				[0.018]**						[0.052]*						[0.064]*		
Int Reserves to GDP				-0.015	0.004					-0.042	-0.013					-0.036	-0.007	
				[0.847]	[0.945]					[0.547]	[0.823]					[0.589]	[0.898]	
FDI Assets to GDP					-0.077						-0.080						-0.051	
					[0.208]						[0.190]						[0.418]	
Portfolio equity Assets to GDP					0.027						0.006						-0.025	
					[0.799]						[0.957]						[0.878]	
Port Debt Assets to GDP					-0.068						-0.065						-0.065	
					[0.081]*						[0.127]						[0.129]	
FDI Liabilities to GDP					0.025						0.022						0.022	
					[0.445]						[0.511]						[0.498]	
Portfolio equity Liabilities to GDP					0.137						0.157						0.143	
					[0.217]						[0.151]						[0.175]	
Debt Liabilities to GDP					0.013						0.012						0.010	
					[0.440]						[0.517]						[0.558]	
Δ NFA to GDP (1st lag)	0.011	0.012	0.034	0.023	0.045	-0.031												
	[0.856]	[0.869]	[0.638]	[0.690]	[0.522]	[0.585]												
Δ Net FDI to GDP (1st lag)							-0.027	-0.010	-0.005	-0.046	0.006	-0.033						
							[0.689]	[0.937]	[0.966]	[0.462]	[0.951]	[0.560]						
Δ Net Port Equity to GDP (1st lag)							0.231	0.250	0.314	0.291	0.211	0.192						
							[0.499]	[0.482]	[0.441]	[0.296]	[0.337]	[0.483]						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.846]	[0.866]	[0.942]	[0.880]	[0.899]	[0.503]						
Δ Reservas to GDP (1st lag)							0.091	0.130	0.159	0.118	0.152	0.061	0.097	0.123	0.139	0.112	0.133	0.082
							[0.589]	[0.466]	[0.327]	[0.503]	[0.353]	[0.707]	[0.579]	[0.502]	[0.398]	[0.530]	[0.414]	[0.625]
Δ FDI Assets to GDP (1st lag)													-0.374	-0.361	-0.239	-0.381	-0.281	-0.405
													[0.142]	[0.254]	[0.417]	[0.105]	[0.211]	[0.096]*
Δ Port. equity Assets to GDP (1st lag)													0.380	0.409	0.588	0.443	0.366	0.229
													[0.291]	[0.280]	[0.125]	[0.204]	[0.350]	[0.529]
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.862]	[0.866]	[0.952]	[0.901]	[0.883]	[0.598]
Δ FDI Liabilities to GDP (1st lag)													-0.045	-0.055	-0.040	-0.033	-0.052	-0.012
													[0.659]	[0.679]	[0.746]	[0.753]	[0.631]	[0.913]
Δ Port. equity Liab. to GDP (1st lag)													-0.154	-0.174	-0.153	-0.192	-0.138	-0.167
													[0.612]	[0.579]	[0.632]	[0.417]	[0.486]	[0.574]
Δ Debt Liabilities to GDP (1st lag)													0.036	0.046	0.045	0.031	0.045	0.047
													[0.350]	[0.308]	[0.489]	[0.404]	[0.488]	[0.362]
Observations	1304	1261	1304	1250	1250	1304	1250	1210	1250	1250	1250	1250	1250	1210	1250	1250	1250	1250
pseudo R^2	0.06	0.06	0.07	0.07	0.08	0.05	0.07	0.07	0.08	0.07	0.09	0.06	0.07	0.08	0.08	0.08	0.09	0.06
N crisis	55	54	55	54	54	55	54	53	54	54	54	54	54	53	54	54	54	54

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.5

PROBIT ESTIMATION: EXCHANGE RATE PRESSURE - DEVELOPING COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
REER dev HP rolling trend (1st lag)	-0.020	-0.019	-0.016	-0.014	-0.018	-0.021	-0.018	-0.018	-0.016	-0.014	-0.018	-0.019	-0.018	-0.018	-0.015	-0.014	-0.017	-0.019
	[0.216]	[0.292]	[0.254]	[0.400]	[0.253]	[0.200]	[0.276]	[0.306]	[0.300]	[0.390]	[0.254]	[0.253]	[0.264]	[0.283]	[0.312]	[0.346]	[0.278]	[0.249]
Real Bank Credit Growth (1st lag)	0.039	0.041	0.039	0.043	0.043	0.039	0.045	0.047	0.046	0.044	0.043	0.046	0.043	0.045	0.044	0.040	0.041	0.044
	[0.003]***	[0.002]***	[0.002]***	[0.000]***	[0.000]***	[0.004]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.001]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.001]***
Real GDP Growth (1st lag)	-0.180	-0.188	-0.167	-0.193	-0.181	-0.196	-0.197	-0.208	-0.202	-0.186	-0.172	-0.224	-0.194	-0.205	-0.198	-0.178	-0.176	-0.221
	[0.046]**	[0.048]**	[0.049]**	[0.019]**	[0.028]**	[0.032]**	[0.029]**	[0.028]**	[0.022]**	[0.022]**	[0.032]**	[0.015]**	[0.026]**	[0.026]**	[0.019]**	[0.017]**	[0.020]**	[0.014]**
Real Export Growth (1st lag)	-0.074	-0.055	-0.077	-0.097	-0.097	-0.068	-0.082	-0.064	-0.086	-0.098	-0.099	-0.078	-0.080	-0.061	-0.082	-0.092	-0.097	-0.076
	[0.176]	[0.300]	[0.140]	[0.094]*	[0.091]*	[0.203]	[0.149]	[0.255]	[0.131]	[0.095]*	[0.088]*	[0.169]	[0.150]	[0.260]	[0.138]	[0.096]*	[0.090]*	[0.172]
US interest rate (1st lag)	0.008	0.008	0.007	0.008	0.008	0.007	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.009	0.007	0.007	0.007	0.007
	[0.007]***	[0.003]***	[0.014]**	[0.004]***	[0.003]***	[0.011]**	[0.003]***	[0.001]***	[0.008]***	[0.004]***	[0.003]***	[0.005]***	[0.005]***	[0.002]***	[0.015]**	[0.008]***	[0.008]***	[0.010]***
NFA to GDP	-0.026						-0.038						-0.036					
	[0.054]*						[0.013]**						[0.011]**					
Cumm. Current Account to GDP		-0.021						-0.033						-0.030				
		[0.187]						[0.070]*						[0.069]*				
Cumm. Valuation Adjust. to GDP		-0.060						-0.066						-0.065				
		[0.016]**						[0.005]***						[0.007]***				
Total Assets to GDP			-0.079						-0.087						-0.087			
			[0.007]***						[0.011]**						[0.016]**			
Total Liabilities to GDP			0.028						0.036						0.031			
			[0.094]*						[0.037]**						[0.059]*			
Net FDI Assets to GDP				0.036						0.027						0.023		
				[0.572]						[0.673]						[0.692]		
Net Port Equity Assets to GDP				-0.871						-0.863						-0.902		
				[0.000]***						[0.000]***						[0.000]***		
Net Port Debt Assets to GDP				-0.033						-0.037						-0.033		
				[0.097]*						[0.064]*						[0.076]*		
Int Reserves to GDP				-0.348	-0.316					-0.355	-0.331					-0.349	-0.337	
				[0.012]**	[0.018]**					[0.010]**	[0.011]**					[0.009]***	[0.010]**	
FDI Assets to GDP					0.033						0.001						0.130	
					[0.846]						[0.994]						[0.436]	
Portfolio equity Assets to GDP					-0.076						-0.028						-0.095	
					[0.870]						[0.949]						[0.821]	
Port Debt Assets to GDP					-0.073						-0.074						-0.067	
					[0.051]*						[0.034]**						[0.069]*	
FDI Liabilities to GDP					-0.027						-0.019						-0.035	
					[0.658]						[0.751]						[0.571]	
Portfolio equity Liabilities to GDP					0.813						0.817						0.863	
					[0.001]***						[0.000]***						[0.000]***	
Debt Liabilities to GDP					0.037						0.043						0.036	
					[0.081]*						[0.043]**						[0.085]*	
Δ NFA to GDP (1st lag)	-0.052	-0.063	-0.056	-0.022	-0.039	-0.063												
	[0.596]	[0.513]	[0.573]	[0.835]	[0.690]	[0.534]												
Δ Net FDI to GDP (1st lag)							0.331	0.326	0.340	0.141	0.127	0.326						
							[0.216]	[0.218]	[0.256]	[0.634]	[0.546]	[0.240]						
Δ Net Port Equity to GDP (1st lag)							-0.557	-0.539	-0.578	-0.448	-0.499	-0.536						
							[0.245]	[0.257]	[0.231]	[0.243]	[0.141]	[0.264]						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.028]**	[0.038]**	[0.040]**	[0.009]***	[0.017]**	[0.061]*						
Δ Reservas to GDP (1st lag)							-0.185	-0.152	-0.174	-0.252	-0.247	-0.102	-0.205	-0.177	-0.191	-0.268	-0.273	-0.129
							[0.449]	[0.528]	[0.490]	[0.351]	[0.350]	[0.682]	[0.400]	[0.461]	[0.450]	[0.294]	[0.296]	[0.603]
Δ FDI Assets to GDP (1st lag)													0.662	0.665	0.921	-0.423	-1.033	0.964
													[0.661]	[0.650]	[0.530]	[0.724]	[0.385]	[0.526]
Δ Port. equity Assets to GDP (1st lag)													-3.589	-3.686	-3.911	-6.258	-3.528	-3.645
													[0.209]	[0.191]	[0.179]	[0.041]**	[0.030]**	[0.186]
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.026]**	[0.036]**	[0.030]**	[0.008]***	[0.015]**	[0.054]*
Δ FDI Liabilities to GDP (1st lag)													-0.335	-0.343	-0.257	-0.109	0.045	-0.298
													[0.232]	[0.220]	[0.376]	[0.711]	[0.862]	[0.316]
Δ Port. equity Liab. to GDP (1st lag)													0.524	0.512	0.513	0.451	0.476	0.472
													[0.269]	[0.271]	[0.275]	[0.191]	[0.158]	[0.324]
Δ Debt Liabilities to GDP (1st lag)													0.074	0.088	0.071	0.056	0.078	0.086
													[0.241]	[0.205]	[0.540]	[0.415]	[0.471]	[0.306]
Observations	814	790	814	770	770	814	770	749	770	770	770	770	770	749	770	770	770	770
pseudo R^2	0.06	0.07	0.07	0.11	0.12	0.06	0.08	0.09	0.09	0.12	0.13	0.07	0.09	0.10	0.09	0.13	0.14	0.08
N crisis	50	49	50	49	49	50	49	48	49	49	49	49	49	48	49	49	49	49

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.6

PROBIT ESTIMATION: EXCHANGE RATE PRESSURE - INDUSTRIAL COUNTRIES

Coeficients are marginal effects at mean. Explanatory variables are two-year lags.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
REER dev HP rolling trend (1st lag)	0.001	-0.001	0.000	0.001	-0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	0.000
	[0.664]	[0.897]	[0.910]	[0.849]	[0.474]	[0.689]	[0.993]	[0.949]	[0.889]	[0.760]	[0.869]	[0.995]	[0.947]	[0.800]	[0.870]	[0.837]	[0.962]	[0.935]
Real Bank Credit Growth (1st lag)	0.007	0.005	0.007	0.004	0.002	0.007	0.004	0.004	0.003	0.002	0.001	0.004	0.005	0.004	0.002	0.002	0.001	0.005
	[0.035]**	[0.024]**	[0.031]**	[0.105]	[0.055]*	[0.036]**	[0.023]**	[0.031]**	[0.023]**	[0.134]	[0.015]**	[0.031]**	[0.092]*	[0.106]	[0.089]*	[0.256]	[0.192]	[0.113]
Real GDP Growth (1st lag)	0.055	0.037	0.048	0.043	0.018	0.055	0.027	0.024	0.012	0.019	0.006	0.028	0.026	0.021	0.010	0.017	0.006	0.026
	[0.004]***	[0.062]*	[0.009]***	[0.006]***	[0.029]**	[0.004]***	[0.043]**	[0.097]*	[0.079]*	[0.019]**	[0.023]**	[0.044]**	[0.043]**	[0.098]*	[0.060]*	[0.017]**	[0.037]**	[0.044]**
Real Export Growth (1st lag)	-0.057	-0.048	-0.052	-0.045	-0.023	-0.058	-0.038	-0.035	-0.018	-0.024	-0.009	-0.038	-0.034	-0.030	-0.015	-0.021	-0.009	-0.034
	[0.000]***	[0.000]***	[0.001]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.001]***	[0.005]***	[0.002]***	[0.000]***	[0.000]***	[0.001]***	[0.002]***	[0.001]***	[0.002]***	[0.000]***	[0.000]***
US interest rate (1st lag)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[0.944]	[0.875]	[0.856]	[0.802]	[0.839]	[0.951]	[0.818]	[0.850]	[0.940]	[0.619]	[0.633]	[0.821]	[0.747]	[0.604]	[0.871]	[0.494]	[0.776]	[0.747]
NFA to GDP	0.001						0.000						0.000					
	[0.658]						[0.949]						[0.942]					
Cumm. Current Account to GDP		0.000						0.000						0.000				
		[0.850]						[0.990]						[0.968]				
Cumm. Valuation Adjust. to GDP		0.012						0.005						0.006				
		[0.008]***						[0.309]						[0.248]				
Total Assets to GDP			0.000						-0.001						-0.001			
			[0.911]						[0.573]						[0.421]			
Total Liabilities to GDP			-0.002						-0.002						-0.002			
			[0.560]						[0.461]						[0.318]			
Net FDI Assets to GDP				0.014						0.008						0.008		
				[0.025]**						[0.176]						[0.081]*		
Net Port Equity Assets to GDP				0.014						0.011						0.012		
				[0.073]*						[0.002]***						[0.000]***		
Net Port Debt Assets to GDP				-0.003						-0.001						-0.001		
				[0.157]						[0.717]						[0.671]		
Int Reserves to GDP				0.015	0.011					-0.004	0.001					-0.002	0.001	
				[0.253]	[0.405]					[0.639]	[0.854]					[0.841]	[0.899]	
FDI Assets to GDP					0.011						0.004						0.004	
					[0.084]*						[0.046]**						[0.129]	
Portfolio equity Assets to GDP					0.010						0.007						0.007	
					[0.069]*						[0.035]**						[0.003]***	
Port Debt Assets to GDP					-0.003						-0.001						-0.001	
					[0.009]***						[0.164]						[0.174]	
FDI Liabilities to GDP					-0.010						-0.006						-0.005	
					[0.481]						[0.392]						[0.303]	
Portfolio equity Liabilities to GDP					-0.010						-0.005						-0.006	
					[0.191]						[0.020]**						[0.012]**	
Debt Liabilities to GDP					-0.003						-0.001						-0.001	
					[0.580]						[0.610]						[0.522]	
Δ NFA to GDP (1st lag)	0.015	0.022	0.024	0.021	0.012	0.017												
	[0.114]	[0.119]	[0.351]	[0.056]*	[0.151]	[0.154]												
Δ Net FDI to GDP (1st lag)							-0.009	0.016	0.002	-0.005	0.003	-0.009						
							[0.126]	[0.510]	[0.816]	[0.570]	[0.652]	[0.086]*						
Δ Net Port Equity to GDP (1st lag)							0.065	0.050	0.056	0.049	0.021	0.066						
							[0.017]**	[0.043]**	[0.006]***	[0.002]***	[0.001]***	[0.008]***						
Δ Net Debt Assets to GDP (1st lag)							0.000	0.000	0.000	0.000	0.000	0.000						
							[0.181]	[0.219]	[0.298]	[0.299]	[0.296]	[0.165]						
Δ Reservas to GDP (1st lag)							0.050	0.046	0.037	0.060	0.024	0.050	0.054	0.045	0.030	0.054	0.022	0.054
							[0.025]**	[0.019]**	[0.005]***	[0.007]***	[0.001]***	[0.041]**	[0.040]**	[0.022]**	[0.011]**	[0.006]***	[0.002]***	[0.080]*
Δ FDI Assets to GDP (1st lag)													-0.028	0.006	0.007	-0.005	0.002	-0.028
													[0.432]	[0.840]	[0.546]	[0.753]	[0.612]	[0.454]
Δ Port. equity Assets to GDP (1st lag)													0.072	0.057	0.053	0.044	0.018	0.072
													[0.003]***	[0.009]***	[0.009]***	[0.003]***	[0.001]***	[0.003]***
Δ Debt Assets to GDP (1st lag)													0.000	0.000	0.000	0.000	0.000	0.000
													[0.156]	[0.186]	[0.404]	[0.193]	[0.283]	[0.160]
Δ FDI Liabilities to GDP (1st lag)													0.005	-0.022	-0.006	0.003	-0.001	0.005
													[0.759]	[0.373]	[0.696]	[0.878]	[0.932]	[0.751]
Δ Port. equity Liab. to GDP (1st lag)													-0.061	-0.050	-0.032	-0.052	-0.020	-0.061
													[0.026]**	[0.042]**	[0.045]**	[0.011]**	[0.002]***	[0.029]**
Δ Debt Liabilities to GDP (1st lag)													-0.006	-0.011	0.003	-0.004	0.002	-0.006
													[0.619]	[0.546]	[0.677]	[0.627]	[0.457]	[0.630]
Observations	490	471	490	480	480	490	480	461	480	480	480	480	480	461	480	480	480	480
pseudo R^2	0.13	0.19	0.14	0.19	0.24	0.13	0.24	0.26	0.29	0.28	0.32	0.24	0.25	0.27	0.30	0.29	0.32	0.25
N crisis	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Robust p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.7: Credit Ratings, Ordered Probit Estimation, stocks: 1990-2004.
(all stocks in first lag)

	Moody´s Ratings 1/					Standard & Poors´ Ratings 1/				
Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Real GDP Growth	0.02	0.022	0.024	0.023	0.024	0.044	0.04	0.044	0.04	0.047
	[0.187]	[0.161]	[0.153]	[0.150]	[0.152]	[0.004]***	[0.008]***	[0.014]**	[0.008]***	[0.011]**
Per-capita Real GDP (PPP)	0.914	0.886	0.595	0.836	0.553	7.126	7.798	7.339	7.801	8.604
	[0.011]**	[0.015]**	[0.066]*	[0.024]**	[0.102]	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Inflation rate	-0.365	-0.381	-0.259	-0.383	-0.27	-0.343	-0.284	-0.124	-0.284	-0.122
	[0.000]***	[0.000]***	[0.007]***	[0.000]***	[0.005]***	[0.003]***	[0.009]***	[0.337]	[0.009]***	[0.346]
Fiscal Deficit / GDP	-6.384	-6.946	-6.138	-7.114	-5.655	-12.622	-12.392	-12.721	-12.42	-7.475
	[0.013]**	[0.006]***	[0.023]**	[0.005]***	[0.035]**	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.026]**
Debt-services / Exports	1.357	1.269	1.943	1.298	2.05	2.042	2.663	4.036	2.682	4.694
	[0.178]	[0.234]	[0.055]*	[0.223]	[0.045]**	[0.071]*	[0.031]**	[0.001]***	[0.031]**	[0.000]***
Indicator CAD larger than SCAD	0.625	0.567	0.54	0.575	0.489	0.464	0.422	0.398	0.421	0.126
	[0.002]***	[0.007]***	[0.017]**	[0.006]***	[0.039]**	[0.013]**	[0.027]**	[0.044]**	[0.028]**	[0.538]
NFA / GDP		0.533					2.564			
		[0.429]					[0.000]***			
Net FDI /GDP			-5.285					-5.57		
			[0.002]***					[0.000]***		
Net portfolio equity / GDP			-3.458					-0.293		
			[0.138]					[0.907]		
Net debt /GDP			3.521					5.393		
			[0.000]***					[0.000]***		
Assets / GDP				-0.135					2.45	
				[0.891]					[0.017]**	
Liabilities / GDP				-0.485					-2.561	
				[0.466]					[0.000]***	
Reserves / GDP			1.882		1.999			2.043		2.544
			[0.480]		[0.453]			[0.462]		[0.361]
FDI assets / GDP					-5.717					-6.533
					[0.208]					[0.097]*
FDI liabilities / GDP					5.075					4.832
					[0.003]***					[0.003]***
Debt assets / GDP					2.182					1.319
					[0.078]*					[0.458]
Debt liabilities / GDP					-3.309					-5.422
					[0.000]***					[0.000]***
Equity assets / GDP					-0.751					11.64
					[0.773]					[0.000]***
Equity liabilities / GDP					5.048					12.812
					[0.079]*					[0.000]***
Observations	335	327	316	327	316	322	317	312	317	312
Pseudo R^2	0.40	0.40	0.42	0.40	0.42	0.45	0.46	0.49	0.46	0.52

Robust p values in brackets. Estimated with time and country dummies not presented
* significant at 10%; ** significant at 5%; *** significant at 1%

1/ AAA (Aaa) for Moody´s (S&P) correspond to 20. D corresponds to 0.

Source: Authors´ calculations

APPENDIX I
Data sources

The data for the estimations on current account reversal corresponds to Edwards (2005b). The data set for the estimations on exchange rate market pressure corresponds to Garcia and Soto (2004). These datasets were enlarged with the foreign assets and liabilities of the main components of the international investment position prepared by Lane and Milesi-Ferretti (2006).[19] Valuation adjustments were constructed subtracting from the net foreign asset position (assets-liabilities) the cumulative current account taken from the IMF's *International Financial Statistics*. All stock and flow series are over current GDP in dollars.

For the credit ratings estimations, we take end-of-year sovereign ratings released by Standard & Poor's and Moody's agencies for the period 1990-2005. Ratings were converted into a numeric scale using the following table:

Standard & Poor's	Moody´s	Numeric Scale
AAA	Aaa	20
AA+	Aa1	19
AA	Aa2	18
AA-	Aa3	17
A+	A1	16
A	A2	15
A-	A3	14
BBB+	Baa1	13
BBB	Baa2	12
BBB-	Baa3	11
BB+	Ba1	10
BB	Ba2	9
BB-	Ba3	8
B+	B1	7
B	B2	6
B-	B3	5
CCC+	Caa1	4
CCC	Caa2	3
CCC-	Caa3	2
CC	Ca	1
D	D	0

For the panel real exchange rate, we take real exchange rate, productivity, government consumption and terms of trade from Aguirre and Calderón (2006)'s dataset. The foreign assets and liabilities are taken again for Lane and Milesi-Ferretti (2006). Country and fixed effects were removed from the series on foreign assets and liabilities before performing the long-run estimations.

For Chile's real exchange rate estimations, we use a unique dataset prepared by the Balance of Payments Department of the Central Bank, which distinguishes transactions and stocks at the end of the period for each gross component of the IIP (FDI, Portfolio, Other Investment and reserves). These series are available from 1983.I. to 2005.IV. Productivity, real exchange rate, terms of trade and government consumption was taken directly from Caputo and Dominichetti (2005).

[19] Available at: http://www.imf.org/external/pubs/ft/wp/2006/data/wp0669.zip.

APPENDIX II
List of Countries

1. Current Account Reversals and Currency Crises (136 countries)

Industrial	*Developing*			
Australia	Albania	Gabon	Nepal	Vietnam
Austria	Algeria	Georgia	Nicaragua	Yemen, Rep.
Bahrain	Angola	Ghana	Niger	Zambia
Belgium	Argentina	Guatemala	Nigeria	Zimbabwe
Canada	Armenia	Guinea	Oman	
Cyprus	Azerbaijan	Haiti	Pakistan	
Denmark	Bangladesh	Honduras	Panama	
Finland	Belarus	Hungary	Papua New Guinea	
France	Benin	India	Paraguay	
Germany	Bolivia	Indonesia	Peru	
Greece	Bosnia and Herzegovina	Iran, Islamic Rep.	Philippines	
Hong Kong, China	Brazil	Jamaica	Poland	
Iceland	Bulgaria	Jordan	Romania	
Ireland	Burkina Faso	Kazakhstan	Russian Federation	
Israel	Cambodia	Kenya	Rwanda	
Italy	Cameroon	Kyrgyz Republic	Saudi Arabia	
Japan	Chad	Lao PDR	Senegal	
Kuwait	Chile	Latvia	Slovak Republic	
Luxembourg	China	Lebanon	South Africa	
Malta	Colombia	Libya	Sri Lanka	
Netherlands	Congo, Dem. Rep.	Lithuania	Sudan	
New Zealand	Congo, Rep.	Macedonia, FYR	Swaziland	
Norway	Costa Rica	Madagascar	Tajikistan	
Portugal	Croatia	Malawi	Tanzania	
Qatar	Czech Republic	Malaysia	Thailand	
Singapore	Dominican Republic	Mali	Togo	
Slovenia	Ecuador	Mauritius	Trinidad and Tobago	
Spain	Egypt, Arab Rep.	Mexico	Tunisia	
Sweden	El Salvador	Moldova	Turkey	
Switzerland	Equatorial Guinea	Morocco	Uganda	
United Arab Emirates	Estonia	Mozambique	Ukraine	
United Kingdom	Ethiopia	Myanmar	Uruguay	
United States	Fiji	Namibia	Venezuela, RB	

2. Real Exchange Rate Panel (49 countries)

Industrial	Developing	
Australia	Argentina	Peru
Austria	Bolivia	Philippines
Belgium	Brazil	Syrian Arab Republic
Canada	Chile	Thailand
Germany	Côte d'Ivoire	Trinidad and Tobago
Denmark	Colombia	Tunisia
Spain	Costa Rica	Uruguay
Finland	Dominican Rep.	Turkey
France	Ecuador	Venezuela, Rep. Bol.
United Kingdom	Egypt	
Greece	Indonesia	
Ireland	India	
Italy	Jamaica	
Japan	Jordan	
Netherlands	Korea	
Norway	Morocco	
New Zealand	Mexico	
Portugal	Norway	
Sweden	Pakistan	
United States	Panama	

3. Sovereign Credit Ratings (52 countries)

Argentina	Indonesia	Poland
Bolivia	Israel	Romania
Brazil	Jordan	Russian Federation
Bulgaria	Kazakhstan	Slovak Republic
Chile	Korea	South Africa
China	Latvia	Thailand
Colombia	Lebanon	Trinidad and Tobago
Costa Rica	Lithuania	Turkey
Croatia	Malaysia	Ukraine
Czeck Republic	Mauritius	Uruguay
Dominican Republic	Mexico	Venezuela
Ecuador	Moldova	Vietnam
Egypt, Arab Rep.	Morocco	
El Salvador	Oman	
Estonia	Pakistan	
Fiji Islands	Panama	
Guatemala	Papua New Guinea	
Honduras	Paraguay	
Hungary	Peru	
India	Philippines	