



14TH JACQUES POLAK ANNUAL RESEARCH CONFERENCE

NOVEMBER 7-8, 2013

Why did Latin America and Developing Countries Perform Better in the Global Financial Crisis than in the Asian Crisis?

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Paper presented at the 14th Jacques Polak Annual Research Conference
Hosted by the International Monetary Fund
Washington, DC—November 7–8, 2013

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October 2013

Abstract

The response of Latin American economies to the Global Financial Crisis was unprecedented. In the past, when the world got the flu, Latin America got pneumonia. Such was the case with the East Asian financial crisis, but this time was different. Emerging market economies were able to successfully weather the worst financial crisis since the Great Depression. This paper looks at which factors explain better performance. Was it good luck? Was it good policies? In this article, economic growth during the global financial crisis is compared with growth during the Asian crisis. We look at the experience of Latin America and present econometric evidence for a large sample of countries, with special focus on emerging and developing economies. We find that exchange rate flexibility and a looser monetary policy played an important role in mitigating the crisis. We also find that higher private credit growth and more financial openness reduced growth. There is some evidence of good luck, but only within the sample of thirty-one emerging markets. Better macroeconomic management during the recent crisis was key to the unprecedented economic performance.

* Prepared for the *Fourteenth Jacques Polak Annual Research Conference* of the International Monetary Fund, honoring Stanley Fischer, November 7-8, 2013, Washington D.C. We are grateful for excellent research assistance from Pablo Gutierrez, Andrés Leslie and Damian Vergara.

1. Introduction

This time was different, very different. Latin America's response to the global financial crisis was quite impressive, compared to previous experiences. In figure 1 we show the evolution of output in three crises: the debt crisis, the Asian crisis and the global financial crisis. We compare the evolution of GDP per-capita for the next five years after the crisis for a group of Latin American countries, Asian countries, and the G7.¹ For Latin America we use the seven largest countries of the region that account for more than 90 percent of the total output of Latin America and the Caribbean: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. For Asia we take a representative sample of seven countries: China, India, Indonesia, Korea, Malaysia, the Philippines and Thailand. The G7 are Canada, France, Germany, Italy, Japan, U.K. and U.S. For these three groups of countries we construct aggregate output as the simple average of GDP.²

Figure 1 clearly shows the different economic performance of Latin America during the latest crisis. Five years after the debt crisis output per-capita, after having declined sharply in the years of the crisis, was the same as two years before the debt crisis. The G7 economies had a moderate recession stemming from the US monetary policy adjustment of the early eighties. Asian countries grew quickly throughout the period; this was the so-called loss decade in Latin America.

What is interesting, and less discussed in the literature, is the poor performance of Latin America during the Asian crisis. In the years of the crisis, the decline in output was sharper in Asia than in Latin America. But Asian economies recovered quickly, while Latin America stagnated. Despite the fact that the output loss of Latin America during the Asian crisis was less than that of the debt crisis, the final level of output per capita for Latin America during this time was similar to that of the debt crisis, which is certainly astonishing, especially considering that Asia was the epicenter of the crisis.³

During the global financial crisis, Latin America had a recession, but it was mild and the recovery was fast. Moreover, excluding China and India from the latest crisis, output per-capita in Asia and that of Latin America had very similar patterns of recovery. Per-capita GDP of G7 economies during the recent crisis appears more similar to the past experiences of Latin America, basically at the same level as that of two years before the crisis.

¹ GDP is indexed to 100 at two-year before each crisis.

² We do not weight by size to give an aggregate view that does not give an excessive influence to the larger countries in the region. For example, in the case of Latin America, Brazil and Mexico represent about two thirds of output of the seven countries, and hence the evolution of the weighted, by size, average would be basically the evolution of these two countries. The same would happen for Emerging Asia. In addition, by limiting the number of countries we also avoid giving excessive weight to small countries.

³ This evidence shows that despite the policies used during the crisis and their effectiveness in containing the crisis and the ensuing recession, the adjustment was successful in generating a fast recovery. For further discussions on the Asian crisis from the trenches see Fischer (2001).

This is what this article strives to explain. What were the factors that explain the good performance of Latin America, and the developing countries in general, during the global financial crisis? Was it just the result of good luck, given the high commodity prices, or did policy responses matter? What explains the region's resilience?

The role of policies in increasing the resilience of an economy has been discussed by Kose and Prasad (2010) for emerging markets, and by De Gregorio (2013, 2014), for Latin America. In this article we attempt to go further, by providing econometric evidence and comparing the policy responses during the Asian and global financial crises.

Five years have passed since the crisis started, and we have enough data until 2012 to conduct an empirical investigation covering not just the fall, but also the recovery. Initial research on the causes of the crisis looked at the determinants of the decline in output during 2009-2010. This was useful to analyze whether there were warning indicators of the crisis.

An examination of the economic fall is initially done, and updated, by Rose and Spiegel (2011). They find no robust indicator that could serve as a warning for the crisis. In contrast, Frankel and Saravelos (2010) find that the level of international reserves and real exchange rate overvaluation as a good leading indicator of the severity of the crisis. In their research, they find that overvaluation of exchange is an early warning indicator for a currency crisis, not the decline in output. Interestingly enough, they argue that their results are somewhat more promising since they include data for the first quarter of 2009. They recognize the importance of having more information, as time goes on, to conduct empirical analysis of the crisis. Rather than investigating crisis warning indicators, since the crisis started in the US, Rose and Spiegel (2011) and Frankel and Saravelos (2010) analyze the causes of the size of the fall, provided they faced a large external shock. In a similar spirit, Feldkircher (2012) examines 90 potential explanatory variables to indicate the severity of the crisis in 2008-09, and finds credit growth as a key determinant of vulnerability. A one percent increase in pre-crisis lending translates to a 0.2 percent increase in cumulative output losses. In addition, he finds that economies that were growing faster before the crisis were less resilient during the crisis. Instead of focusing on a short period of time, in this paper we look at output growth during a five-year window.

Taking a different approach in their research, Gourinchas and Obstfeld (2012) estimate the evolution of relevant variables around different types of crises, and then analyze amplifications stemming from a combination of different types of crises. They use a discrete choice model, and conclude, for the period 1973-2010, that the expansion of credit and the real appreciation of the exchange rate are the most robust predictors of financial crisis, regardless of whether the country is an emerging or advanced economy. For emerging economies, the level of reserves reduces the probability of crisis.

Another early cross-section study of the crisis was done by Blanchard et al. (2010). In their study, they look at the relevance of the trade and financial channels on unexpected growth. They use the forecast error of output growth as the dependent variable during the semester covering 2008.Q4 and 2009.Q1, which were the worst months in terms of global output during the crisis. However, their sample only covers 29 countries. Their conclusions show that both channels were at work, but that the financial channel was more relevant and the estimations more robust, in particular when measured by short-term debt. They also discuss the role of the exchange rate regime in limiting the effects of the crisis, and find that it did not make a difference whether countries had a fixed exchange rate or a more flexible one during 2008. This result is confirmed by Tsangarides (2012) during the crisis, i.e. that there was no significant difference in the severity of the crisis for countries with fixed or flexible exchange rate regimes. The only difference is that Tsangarides (2012) found that floating regimes did better during the recovery than fixed ones.

It is possible to investigate the economic decline separately from the recovery; however, it is difficult to argue that they are separate events. In addition, the crisis was so sudden and sharp after the Lehman collapse, and fear spread so quickly and sharply all around the global economy, that we think it is very difficult to determine specific variables that explain the fall. Some other work has tried to look at the fall and recovery from the crisis, but a lack of data has led to the use of forecasted growth for 2010 (e.g., Berkmen et al., 2009, and Didier et al., 2012), which of course is a partial measure, especially given the significant changes in output forecast in recent years. Additionally, 2010 was just the beginning of the recovery.

Another central factor in the global economy, before and after the crisis, was the commodity price boom. This resulted in a positive, and significant change, in terms of trade shock to commodity exporters. Most developing countries are commodity exporters, and therefore, the global economy provided a boost to economic activity and helped in the recovery. It allowed countries to improve the balance within their current accounts and gave a boost to government revenues. This contrasts with the Asian crisis, where commodity prices plunged. It would be possible to argue, informally, that what made the difference was the sanguine external environment faced by developing countries during the global financial crisis.

Some efforts have been made to study the role of terms of trade in the increased resilience of emerging market economies. Abiad et al. (2012) take a longer-term view and estimate the increased resilience of 100 countries in the last 60 years. They find that developing countries spend more time in periods of expansion while downturns and recoveries are shallower and shorter. Abiad et al. (2012) conclude that about three-fifths of the increased resilience of an economy is due to the improved policymaking of the country, while the rest is due to a better external environment.

Another piece of indirect evidence regarding the role of external factors, is to look at the sensitivity of economic performance to world trade and global economic growth. Blanchard et al. (2010) show that the elasticity of world growth on world trade has

increased, which would suggest increased vulnerability for small open economies. And yet, when looking at the response of Latin American economies to world growth, Resende and Goldfajn (2013) show that the response of output to world growth has declined, which is consistent with the evidence of Abiad et al. (2012) on increased resilience. In our empirical work we look at the role of terms of trade as well as financial and trade openness.

De Gregorio and Lee (2004) look at the output cost of crisis in a sample of eighty-one episodes. They find that a good international environment, a sound banking system and a high level of reserves are critical to mitigate the cost of crisis. In terms of policies, they find that real exchange rate depreciation and monetary policy help in the recovery process, while fiscal policy has a muted result. These were important factors to explain the difference in economic performance between Asia and Latin America during the Asian crisis.

In this paper we look comparatively at economic performance during the Asian crisis and the global financial crisis in order to assess some common factors across countries. We would have liked to extend this analysis to the debt crisis, however, data availability limits this task. In addition, macroeconomic frameworks during the debt crisis were radically different from those of the 1990s and 2000s, so many other considerations would have to be made in order to conduct an in-depth comparison. In contrast, macroeconomic conditions were not as different during the Asian and the global financial crisis, although the policy responses were quite different.

There are not enough observations to make an econometric evaluation of the Latin American experiences. For this reason, in section 2 we perform an informal look at the evidence from Latin America during both crises. The econometric evaluation is done in section 3, looking first at the whole world, then at all emerging and developing economies, and finally at only emerging markets. The problem is that as we narrow the sample, the sample size declines. However, having a look from a larger to a smaller sample, helps to analyze the robustness of our results. In section 4 we present the main conclusions of the paper.

2. Latin America Now and Then

In this section we look at economic performance, policy responses and the external environment of five Latin American countries during the two latest international crisis: the Asian crisis of the late 1990s and the global financial crisis of the late 2000s.⁴ We compare some key macroeconomic variables in order to highlight the main differences in economic responses and performances during these two crises. The countries examined are Brazil, Chile, Colombia, Mexico and Peru. They represent about 78 percent of the total output of Latin American and the Caribbean. These five

⁴ For further discussions of policies in Latin America during the global financial crisis see De Gregorio (2014).

countries share some common features in terms of macroeconomic policies. After the Asian crisis, they have implemented flexible inflation target regimes and flexible exchange rates. Peru is a country with more limited flexibility, as authorities attempted to provide greater short-term stability given the high degree of financial dollarization. However, they have allowed their currency to adjust to international conditions.

We exclude Argentina and Venezuela, the other two countries in the group of the largest seven economies of the region. They are different in that they have followed policies with much greater exchange rate rigidities and lack of inflation control. In addition, their fiscal policies are much more dependent on high commodity prices (Adler and Sosa, 2013). In recent months they have been subject to exchange rate tensions and have subsequently implemented controls that have segmented the foreign exchange market, while inflation is running at two digits.

2.1 Preliminaries

At the core of Latin America's poor performance in the past have been the rigidities of the exchange rate regime. Figure 2 illustrates the behavior of exchange rates during the global financial crisis (now, panel a) and the Asian crisis (then, panel b) for Brazil, Chile, Colombia and Mexico, four countries that float their currencies more freely.

During the Asian financial crisis, currencies were not allowed to float. As we report below there was significant foreign exchange intervention and monetary policy tightening in order to avoid the depreciation of their currencies. In contrast, during the global financial crisis, currencies depreciated sharply and movements were very synchronized. From peak to bottom, currencies weakened about 60 percent. In the Asian crisis, only Brazil experienced a larger depreciation, but it was the result of a currency crisis that happened after the country fiercely attempted to avoid an exchange rate adjustment. Indeed, comparing both panels, two observations are relevant. First of all, during the global financial crisis, currency fluctuations were highly synchronized, which reveals a common source of currency weakening and a common response, which was to allow currencies to adjust without major fear of floating. The second observation is that during the Asian crisis, the weakening of the currencies was gradual, which indicates that authorities avoided sharp fluctuations and strongly fought depreciations.

During the Asian crisis, there was significant fear of floating (Calvo and Reinhart, 2002). The causes for this fear were twofold. First, there was a serious concern about the impact of a weakening of the currency on inflation. It was thought that allowing the exchange rate to depreciate would lead to high inflation, in a period in which the conquest of inflation was still too recent and thought to be fragile. Secondly, there was the fear that severe currency mismatches in the banking and corporate sectors could lead to severe financial distress.

The recent experience with the global financial crisis shows that the two reasons for a fear of floating were overcome, most likely in the nineties.⁵ Financial systems were resilient to large currency fluctuations. Despite some problems with a few large corporations in Brazil and Mexico that were engaged in exchange rate speculation through the use of complex derivatives, the overall financial system worked appropriately during the most intense months of the global financial crisis. The magnitude of the fluctuations of the exchange rate during the global financial crisis were unthinkable during the 1990s, as it would have been argued that the financial system could not have survived such serious turmoil.

In addition, during the Asian financial crisis the impact of currency depreciation on inflation was muted. Floating exchange rate regimes lead to lower pass-through from exchange rate to inflation (De Gregorio, 2014). However, depreciations during the global financial crisis turned out to be short-lived, which also limited the pass-through. Monetary policy would have been under much more stress should the depreciations have persisted for a longer period.

The behavior of eight key variables for the five countries is presented in figures 3 to 7. For each country we examine: (1) the annual GDP growth rate, (2) the current account balance as a share of GDP, (2) the change of government expenditure (as a share of the GDP), and (4) the yearly inflation rates. These four variables are presented in the first four panels and are expressed on an annual basis. We look at windows of 7 years, centered in 2009 for “now” and 1999 for “then.” GDP growth is the variable used to summarize economic performance. The current account provides an indication of vulnerability to external shocks. A large current account deficit would signal that the economy might need to make a stronger adjustment if the international financial conditions deteriorate. The change in government expenditure is a proxy for the behavior of fiscal policy.⁶ Inflation is both a measure of performance and the space authorities had to loosen monetary policy. However, in the context of an inflation target regime, a better indicator would be inflation expectations.

We also add monthly data for three other variables: (5) the nominal exchange rate, (6) money markets or discount interest rates, and (7) international reserves. Month “0” is when exchange rate pressures started with intensity, in July 1997 for the Asian crisis, and in October 2008 for the global financial crisis. These dates coincide with what has been considered to be the beginning of the crisis, at least from an emerging markets point of view. The exchange rate is normalized to 100 for the average of each period, and the reserves are normalized to 100 at month “0.” Money market and discount rates are expressed as percentage points.

⁵ In the case of Chile, post-Asian crisis evidence shows that already in the late 1990s Chilean corporations, and of course banks, had very limited exchange rate exposure, and hence, a sharp depreciation would not entail financial problems (Herrera and Valdes, 2005).

⁶ We would have preferred a measure of cyclically adjusted budget deficit as an indicator of the policy expansions. However, the lack of data for the Asian crisis lead us to focus on government expenditure.

Money markets and discount rates are the monetary policy interest rates, which only in the last decade have been more formally set during regular monetary policy meetings in the context of the inflation target regimes. The evolution of international reserves shows the use of foreign exchange to provide liquidity in dollars and to manage the exchange rate, as an attempt to avoid depreciations.

The last panel in each figure corresponds to our eighth variable: (8) the terms of trade. They are indices normalized to 100 for the average of 1989-2011, thus we not only can examine the evolution now and then, but also the differences in levels across both periods. The indices are based on the WEO database for the rate of change in terms of trade. They are the change in price of exports (measured by the implicit price deflator in national accounts) weighted by the share of exports on GDP, minus the change in the price of imports weighted by the share of imports. Therefore, they control the degree of openness of the different economies.

2.2 Evidence: Now and Then

During the recent crisis, the recessions in all of the countries studied were milder than their previous recessions, except for the case of Mexico, which had a larger fall of output during the recent crisis. It is not surprising that Mexico's GDP declined by 6 percent during 2009, as its economy is highly integrated with the US, the country that was at the center of the global financial crisis. However, despite the sharp contraction of Mexican output, four years after both crises, output is expected to be 10 percent above the level of the year previous to the crisis.

In 2012, output in Brazil, Chile, Colombia and Peru were 11, 17, 17 and 25 percent, respectively, above the level of the GDP of 2008. In contrast, these figures are significantly lower for the Asian crisis. In 2002, GDP in Brazil, Chile, Colombia and Peru, were only 9, 10, 3 and 9 percent above the level of 1998, respectively. By all accounts, economic performance was much worse during the Asian crisis than the global financial crisis. Only for Mexico, which was under very different external conditions, was performance similar to that of the Asian crisis. Even, as we document below, Mexico did not enjoy a surge in terms of trade.

Previous to the global financial crisis, all countries started with smaller current account deficits than previous to the Asian crisis. On average, the current account deficit in 1998 was 4.5 percent of GDP, compared with 2.7 percent of GDP in 2008. Overall, Latin American economies were in a less vulnerable position in the external front on the eve of the global financial crisis. This owes much to the high terms of trade Latin America enjoyed in the second half of the 2000s that we review below.

On the inflation front, countries such as Colombia and Mexico had inflation rates above 15 percent a year before the Asian crisis, while all of the countries had one-digit inflation the whole three years before the global financial crisis. It is important to remember that commodity prices experienced a significant boom starting in the mid 2000s. In particular, the increase in food prices created serious challenges to inflation

in most emerging markets, as the economies were growing strong and yet simultaneously faced an inflationary shock.

Chile was the country that entered with significantly higher inflation during the global financial crisis than the Asian crisis. Indeed, yearly inflation was about 9 percent, 6 percentage points above the target. Chile is a very open economy with very low distortions in the price setting mechanism, and therefore was one of the countries where the inflationary shock stemming from food and oil were the largest in the world. But this flexibility also contributed to a sharp decline in inflation during the global financial crisis, which allowed significant monetary loosening.

As already discussed, in all countries during the global financial crisis, exchange rates were allowed to float freely since time "0". At the end of the periods considered in the figures, exchange rates were more depreciated in the Asian countries than in the global financial crisis, with the exception of Mexico where it was fairly the same. This is the consequence of the fact that after the Asian crisis the external conditions for emerging markets were weak, reflected mostly in low terms of trade. The patterns of reserves for Brazil, Chile, Colombia and Peru reveal that during the Asian crisis, currencies were not allowed to float due to the reported foreign exchange intervention, which was much more intense than now. Only Mexico, which was recovering from the Mexican financial crisis of 1994, did not intervene as heavily as the rest of the countries during the Asian financial crisis. Indeed, Mexico was the only country that was massively building its reserves in the late 1990s.

In contrast, Brazil, Chile, Colombia and Peru were steadily accumulating reserves previous to the global financial crisis. As currency tensions intensified, at $t=0$, this process was interrupted, to resume again after a couple of quarters. Brazil and Mexico intervened during short periods of time to stabilize their currencies, after certain corporations had serious financial problems due to their excessive exposure to currency risk. Some corporations had entered into currency speculation using exotic exchange rate derivatives. However, as shown before, the behavior of the Brazilian Real and the Mexican Peso were not very different to the behavior of the Chilean and Colombian pesos. Thus, foreign exchange intervention was mostly effective in providing international liquidity, but it did not fundamentally change exchange rate trends.

One important issue is the role of reserve accumulation. Despite high levels of reserves in Latin American countries at the beginning of the global financial crisis, these reserves were not massively used, as it was the case during the Asian crisis. It is interesting to note, that during the worst financial crisis since the Great Depression, reserves were not used intensely. Moreover, reserve accumulation resumed after the intensity of the crisis declined.

International reserves are accumulated for insurance and mercantilist reasons (Aizenman and Lee, 2007). The insurance motive refers to building a buffer of foreign exchange liquidity in order to face sharp falls in capital inflows. In turn, the

mercantilist motive refers to foreign exchange intervention which is used to contain appreciation and promote exports.

The evidence before and during the global financial crisis indicates that credit constraint was not that severe for this group of Latin American countries. The evidence also lends support to the mercantilist motive in the years previous to the crisis. The rise in terms of trade strengthened currencies all over emerging market economies. The most common policy response among commodity exporters was to intervene in the foreign exchange market, by accumulating international reserves. This process was quite intense until the eve of the crisis.

When the crisis intensified, exchange rates were allowed to depreciate without massive intervention, as was the case in the Asian crisis. Currencies were allowed to float despite the availability of massive amounts of reserves. This is another indication that the mercantilist motive was a key driver of reserves accumulation previous to the crisis.

However, one cannot discard so simply the insurance motive. Insurance could have worked despite reserves not being used. Having a high level of reserves may bring benefits by reducing the probability of sudden stop. When foreign creditors see a large level of foreign exchange to provide liquidity in case this is scarce, they will be more reluctant to withdraw international financing. Having high levels of reserves may limit speculation against domestic currency as the war chest of the central bank becomes quite large. Thus, though equilibrium reserves may not be used, they still are an effective self-insurance mechanism.

On the fiscal front, all countries expanded government expenditure during the crisis, and this expansion was much more significant during the most recent crisis than during the previous one.⁷ Moreover, Brazil, Colombia and Mexico, ran neutral or contractionary policies during the Asian financial crisis. The contrast with fiscal policies during the global crisis is remarkable.

Expansions, at different degrees, were applied during the global financial crisis. Indeed, Frankel et al. (2013), looking at the cyclicity of fiscal policies, show that Brazil, Chile and Mexico changed their fiscal policies from procyclical during the 1990s to countercyclical in the 2000s. Similarly, Céspedes and Velasco (2011) show that the elasticity of the fiscal balance to commodity prices has increased over time for Brazil, Chile, Colombia and Mexico, which is also an indication that fiscal policy has become less expansionary with the rising of commodity prices.

The figures show these expansions by indicating the increase in government expenditure. A better assessment can be done looking at the cyclically adjusted fiscal balance, which is only available for the recent crisis. Figure 8 shows the cyclically adjusted primary balance for the group of Latin American countries and the

⁷ Peru is the only country for which we do not have complete data for government expenditure.

aggregation for emerging market economies. The figure compares the three years before the crisis, the year of the recession, 2009, and the three years after the crisis.

All countries reduced the cyclically adjusted primary balance, which is the right thing to do when facing an external recession. However, the withdrawal of the fiscal stimulus since then, has been rather incomplete. Brazil has kept the same fiscal stance, while Colombia has further increased the primary deficit. Chile, Mexico and Peru have only partially withdrawn their fiscal stimulus. Indeed, before the crisis, public finances were in a stronger position than after the crisis. The patterns for emerging market economies have been similar: a strong fiscal expansion in 2009, but only a partial withdrawal after the crisis. The figures reveal there is *fiscal stickiness*.

If one looks at expenditure vis-à-vis revenues to examine the sources of fiscal stickiness, it is possible to conclude that it comes mostly from expenditure-stickiness. This can be gauged from figures 3 to 7 since the expansion of expenditure was not reversed with similar behavior, but opposite sign.⁸

Fiscal-stickiness may be due to a number of reasons. The first one is that around the time of the crisis, countries were implementing permanent fiscal expansions by, for example, increasing social expenditure. Also, stickiness may be the result of constraints to reduce expenditures which were supposed to be transitory, as fiscal policy could be captured by the beneficiaries of those expenditures.⁹ Regardless of the country-by-country explanation, fiscal stickiness seems to be quite general among emerging markets. The policy lesson is that the active use of fiscal policy as a countercyclical tool has some limits, and over time the policy space could fall if it is used recurrently.

The differences in monetary policy behavior between crises are much more remarkable. Interest rates were not only higher, but they were also raised during the Asian crisis. At that time, most countries went through some short-term episodes of severe tightening, as an attempt to prevent the currency from depreciating. Monetary policy was subordinated to an exchange rate objective. In contrast, monetary loosening was the rule during the global financial crisis. This difference in the levels and behavior of monetary policy rates now and then is quite significant to understand the differences in economic performance between crises.

In order to have a better look at monetary policy during the global financial crisis, figure 9 shows the evolution of monetary policy interest rates in the five economies. For purposes of comparison, the US is also included. Most of the loosening started in early 2009, somewhat later than the loosening trend seen in advanced economies, since Latin American economies were still struggling with the sharp inflationary shocks stemming from the commodity price boom. In most countries, monetary policy

⁸ No fiscal stickiness would be a retrenchment symmetric around the zero axis.

⁹ One could make 2008 the “crisis year” and move the pre-crisis year one year back. That change would strengthen the issues discussed in the text.

was being tightened until late 2008. Then, as the world deteriorated, monetary loosening emerged as the popular trend, which was unprecedented.

Colombia started this trend with a 50bp rate cut in December 2008, followed by Brazil, Chile and Mexico in January 2009, and Peru in February. The cuts were rapid and intense. In particular, in Chile, the rate reached a minimum of 0.5 percent in July 2009. Moreover, once the minimum was reached, it was complemented with six-months of liquidity facilities at the fixed low monetary policy rate, and forward guidance, indicating that rates were expected to remain low for a long period of time. The lowest rate remained for twelve months and the longer-term liquidity facility was phased out consistent with the withdrawal of the maximum monetary policy stimulus.

While the US and all advanced economies have not come out of the recession, and interest rates are still close to their zero lower bound, the stimulus in Latin America began to be withdrawn in early 2010. This withdrawal has been heterogeneous, as some countries in the region have recently started loosening, with the exception of Brazil, which is trying to contain an inflationary surge and the inflationary impact of the depreciation of the real.

The policy responses of these Latin American countries to the global financial crisis were very different to those applied during the Asian crisis, which explains why the region's economic performance was worse in the 1990s. This observation also helps to explain the difference in economic performance in the late 1990s between Asian and Latin American countries (De Gregorio and Lee, 2004). For this reason, Corbo and Schmidt-Hebbel (2013, pp. 46) claim that "the 1998-1999 recession was largely homemade, while the 2008-2009 recession was significantly caused by the global financial crisis and the world recession." Even though both crises have an external cause, the policy responses during the Asian crisis aggravated the domestic consequences.

The good international environment Latin America has enjoyed in recent years is more clearly revealed in the high terms of trade. As most countries are commodity producers, the commodity boom represented a significant income windfall. The only exception is the case of Mexico, where terms of trade are much higher now than then. In most Latin American countries, terms of trade declined in 2009, but then recovered and kept growing. This was a very positive development, as it indicates that despite the serious economic crisis in the advanced world, international conditions faced by Latin American economies were very sanguine.

Good terms of trade were central to the resilience of Latin American economies. As seen in figures 3 to 7, the only exception was Mexico, a country that not only did not have a terms of trade boom, but during the 2000s was negatively affected by the incorporation of China to the WTO. Mexican exports were severely affected by China's increase in trade with the US, but Mexico was also able to run expansionary macroeconomic policies during the crisis.

In addition, low international interest rates added to the good international environment for Latin American, as most advanced economies pursued aggressively expansionary monetary policies, not only reaching zero lower bound, but also implementing non-conventional monetary expansions.

To summarize, this general view of this group of Latin American economies leads to the following conclusions which explain their resilience during the global financial crisis:

- Flexible exchange rates played an important role as shock absorbers. Exchange rates adjusted consistently with the evolution of the external environment, but also prevented speculation against the local currencies.
- Financial systems were able to accommodate sharp fluctuations in the exchange rates without major dislocations.
- Significant fiscal, and mainly, monetary expansions were important not only to avoid the recessions, but also to set the stage for a rapid recovery. There is evidence of fiscal stickiness, of which the fiscal impulse implemented during the crisis has not been fully withdrawn.
- Positive international conditions, reflected mostly in high terms of trade facilitated the recovery and limited the damage of the global recession. Despite the decline during 2009, the recovery of commodity prices provided a positive income effect. In contrast, international conditions were negative during the Asian financial crisis.

2.3 Lack of Domestic Demand and Slow Recoveries: Chile and the US

As it is clear from the previous discussion, the recovery from the Asian crisis in Latin America was slow. In addition, employment also lagged behind. The slow recovery could be the result of very weak demand-pull factors. If the private and public sector are highly leveraged, they may be constrained to expand demand. This has been the classical case in Latin America. In addition, if macroeconomic policies are constrained due to lack of activism or for having reached their limits, like zero lower bound, these policies will not be helping to stimulate aggregate demand. In this section we look at demand decomposition of recoveries in Chile and the US.

Indeed, one special feature of the current US recovery is that it has been slow and that employment has lagged behind, in comparison to what has happened in previous recessions. From the point of view of emerging markets, this is not a surprise. Two factors explain this phenomenon.

First, and as we mentioned earlier in this section, Latin American economies did not have appropriate macroeconomic policy frameworks to conduct expansionary policies during previous recessions, in particular during the Asian crisis. Fiscal imbalances

induced procyclical fiscal policies. Exchange rate rigidities and lack of inflation credibility prevented the use of expansionary monetary policies during the recessions. Today, advanced economies, for different reasons, also have constraints on their ability to conduct expansionary macroeconomic policies. Monetary policy rates are at their minimum and fiscal policy has very limited space due to the high levels of debt. These problems are aggravated in crisis-countries in Europe as they do not have exchange rate flexibility. The lack of stimulus to domestic demand slows the recovery and external demand becomes a key source of output expansion.

The second factor is leverage. The high levels of debt, which are private in some countries but public in others, are an additional limitation to domestic demand expansion. Even if there is policy space, the response of domestic demand becomes milder in the presence of high indebtedness. This has been a classical problem in emerging markets, but was not an issue during the global financial crisis. Perhaps, the experiences since the debt crisis, followed by the Tequila crisis in Mexico in late 1994, and the Asian crisis, induced enough prudence to avoid entering a credit boom cycle. Also, the high terms of trade for many emerging markets may have provided the funding for domestic demand expansion, reducing the need for credit.

In figures 10 and 11, we show the demand-decomposition of output growth for the recoveries in Chile and the US during the global financial crisis, and the previous crises. We look at annual average growth three years after the start of the recovery.¹⁰ For the case of Chile, we only have data for the Asian crisis, and due to the lack of formal definition of recessions, we have decided to use the data from the first quarter, in which accumulated yearly output growth is positive with respect to the previous year.¹¹ For the case of the US, we have considered the average of the three previous recessions according to the NBER dating, and decompose growth starting from the first quarter after the end of the recession.

The similarities between the two countries are very interesting. As we showed before, Chile did not apply strong expansionary policies during the Asian crisis. Output and employment grew slowly, and exports were the main component that led the demand recovery. This is quite similar to the recovery of the US from the global financial crisis. It has been slow, due mostly to high leverage and limits on expansionary policy, and exports have been an important source of recovery. Investment, mostly from the residential component, has had a negative contribution to demand growth. In previous episodes in the US, consumption, investment and fiscal policy played an important role in the growth of demand. Very strong consumption and investment played a key role in Chile's recent recovery. As we document econometrically later, expansionary monetary policy has been central to explaining why emerging markets performed better during the global financial crisis, than during the Asian one.

¹⁰ Results are the same when two years, instead of three, of recovery are used in the decomposition.

¹¹ This condition is stronger than that used in the NBER business cycle dating. Already, in the second quarter of 2009 quarterly output was growing positively. The dating does not change the main features of the decomposition.

Based on these facts it is possible to understand the dynamic of employment. In Chile, after the Asian crisis, recovery was not only slow but also jobless. Now Chile's recovery has been quite different, as employment has recovered rapidly. This is linked to the sharp upturn of construction (residential investment) and service sectors. During the Asian crisis the recovery of employment took longer. The slow recovery of the US today is not unusual when examined through the lense of the past experiences of emerging market economies.¹²

3. Determinants of Differences in Economic Growth during Recent Crises

In this section, we aim to determine how differences in economic fundamentals and policy-related variables could explain differences in economic performance during the two recent crises. There are several studies examining the role of different factors which could explain the response of activity during the financial crisis across countries, and which were reviewed in the introduction. Most of them, however, have focused only on the latest global economic crisis. As we explain below, our main interest is in the differences in GDP growth between the recent financial crisis and the Asian crisis at the end of the 1990's.

3.1 Methodology and Data

We use a first-difference approach to investigate the factors that can explain how GDP growth performed in the two recent crises. Most previous studies focus on a particular crisis or did panel regressions. We look at the Asian crisis and global financial crisis by estimating the determinants of differences in economic growth across countries in a five-year window for both crises.

This approach contributes to the literature in two main dimensions. First, given that more time has passed since the global financial crisis took place, the time span is longer compared to previous studies, and allows for a better assessment of performance. What happened a couple of years may be contaminated by many idiosyncratic factors, so it is useful to look at a longer period. This is not a trivial point, since statistical analysis based on a short period of time may be incomplete. Just take the cases of Brazil and Chile, in Latin America. During the years 2009-2010, Brazil performed much better in terms of growth. In 2009 output declined by only 0.3 percent, while Chile's output fall was 0.9 percent. In 2010, the Chilean economy grew at 5.8 percent, while Brazil did it at 7.5 percent. In contrast, during 2011 and 2012, Chile grew at 5.7 percent and Brazil did it at an annual average of 1.8 percent. This of course makes a difference when comparing events, and a better picture can be

¹² Lazear and Spletzer (2013) argue that this is mostly a cyclical factor. They show that there has been a large industry mismatch. Government, education, health services, and construction explain two-thirds of it (pp. 428).

obtained by looking at a longer period, taking into account the long lags of policies and the persistent effects of external shocks.

The second advantage of using this first-difference estimation is that it provides controls for country-specific factors that may be affecting growth rates, without making specific assumptions about them, as long as we assume that they are constant for each country over time. For example, there is no need to make assumptions regarding the level of long-term GDP growth, the appropriate level of reserves, or different equilibrium inflation rates across countries, etc. The only assumption that is made is that those variables are constant across crises. The advantage of not looking too far back is that this assumption may not be plausible, as is the case for the debt crisis, but is more justifiable in a ten-year period.

Our approach does, however, have a disadvantage compared to other investigations, since we treat both episodes as being of a similar nature across countries. This could be the case for emerging markets and developing economies, which is our focus, but may not be the case for a broader sample of countries. Alternatively, some research has tried to identify the characteristic of different crises, and then run some form of panel regressions (e.g., Gourinchas and Obstfeld, 2012). However, this type of approach does not directly address which variables can explain differences in economic performance between crises.

In our empirical approach, the dependent variable is the difference in the economic growth rate between the recent global financial crisis and the Asian crisis. Our explanatory variables are economic fundamentals that previous literature suggests as important determinants of differences in economic performance, and that we have also emphasized in the previous section. We estimate the following model:

$$\bar{g}_{i,fc} - \bar{g}_{i,ac} = \alpha + \beta(X_{i,bfc} - X_{i,bac}) + e_i$$

Where $\bar{g}_{i,fc}$ is the average rate of growth of GDP during the financial crisis (2008-2012) and $\bar{g}_{i,ac}$ is the average rate of growth of GDP during the Asian crisis (1998-2002). The variable $X_{i,bfc}$ is a vector of economic fundamentals before the financial crisis (in this case measured at year 2007) and $X_{i,bac}$ before the Asian crisis (1997). This set of variables also includes some contemporaneous policy responses such as government expenditure, monetary policy and international reserves.

The variables used in the estimation are *international reserves over GDP*, the *inflation rate*, the *exchange rate regime*, the *stock of public debt over GDP*, *private credit over GDP*, *trade openness* (imports plus exports over GDP) and *financial openness* (external assets plus external liabilities over GDP). We also include three contemporaneous variables in order to evaluate how “good luck” and policy responses help to explain economic performance during these two episodes. To this end we use– also in both crises– the log of *terms of trade*, *government expenditure over GDP*, and the *monetary*

policy interest rate.¹³ In contrast to previous variables that are measured before each crisis, these three variables are averaged during the crises. In all of our regressions, we include regional dummy variables using the World Bank's classification of controlling for potential common shocks that drive differences in economic growth to countries in the same region.¹⁴

We estimate this equation for three different samples. First, we use *all countries* in the sample. Secondly, we exclude advanced economies; this sample consists of *emerging and developing countries* (EDCs) according to the IMF convention. Thirdly, we only consider *emerging market economies* (EMEs). It is important to note that our main focus is on emerging markets.¹⁵ The empirical framework is more appropriate for emerging markets, since the Asian crisis and the global financial crises both affected these economies, despite the fact that the former was not a global crisis. However, the sample of emerging markets is relatively small, and for this reason we also explore broader samples to examine empirical regularities. Using developing and emerging markets may be a reasonable intermediate sample, since most countries were affected by the Asian shock of the late nineties. There is no reason to think, however, that the importance of fundamentals and policies depends on the level of development.

In Figure 12 we show cross-country information on economic performance during both crises across countries. As we discussed above, this comparison considers a five-year window for both crises. We find that there are relevant differences across countries in economic growth rates during the financial and Asian crises. The correlation coefficient for all countries (168) is positive, but it is not significant. Excluding advanced economies, the correlation on economic growth between crises remains positive and not significant (Figure 13). For the sample of emerging economies (34), the positive correlation is lower but also not significant (Figure 14). This shows weak evidence that poor performers during the Asian crisis were also countries that experienced lower economic growth during the recent financial crisis, and justifies our strategy of looking at within-country changes in economic performance during both crises. Indeed, if the correlation across crises were high, little could be obtained trying to explain changes across countries due to change fundamentals.

3.2 Main Results

In Table 1, we show the results of our estimation for all countries in the sample. First, and as we do in all of our basic regressions, we present univariate relationships between each variable (in differences) and differences in economic performance

¹³ The definition of the variable, the source, and descriptive statistics are shown in the appendix.

¹⁴ All countries are included in a region with the exception of East Asia and the Pacific. Therefore, all dummies are measured with respect to East Asia and the Pacific. The classification of countries is in <http://econ.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>.

¹⁵ The list of countries used in the estimation is shown in the appendix.

(column 1)¹⁶. Then, we include all covariates jointly (column 2). And finally, using a stepwise general-to-specific specification, we search for covariates that are statistically significant at 10 percent (column 3). We can thus check which variables are more robustly associated with differences in economic performance during both crises. Columns 4 and 5 are discussed later as part of the extensions.

The univariate regressions show that for the whole sample of countries, more international reserves are associated with better performance during the recent crisis. In turn, an increase in private credit and more financial openness are correlated with lower economic growth during the financial crisis. We also find that more favorable terms of trade during the crises and larger reductions in the interest rate are positively correlated with better economic performance during the recent crisis, in comparison to the previous one. However, these results are only for univariate regressions.

When we include all variables in the regression, our results show that three variables remain statistically significant. Higher private credit and capital account openness result in lower growth during the recent crisis, while more expansionary monetary policy increases growth. In contrast, the level of reserves and the terms of trade are not robust to the inclusion of other covariates. There are two variables, trade openness and exchange rate regime, which turn out to be significant in the multivariate regression but that are not in the simple correlation. This suggests that an increase in trade openness and exchange rate flexibility favored economic performance during the recent crisis. These results are confirmed in column (3), where we show only variables that are identified as significantly correlated at 10 percent with differences in economic growth. We have included dummy variables for all regions, but East Asia and the Pacific region, which is why the dummies must be interpreted as having a lower growth differential with respect to East Asia and the Pacific region. As column (3) shows, European and North American countries experienced a larger decline in output, while Latin America does not appear different to East Asian and the Pacific countries.

In Table 2, we show the results for samples of developing and emerging economies, all countries excluding advanced economies. In the univariate regressions, we find that lower private credit growth, reductions in interest rates and more favorable terms of trade are associated with higher economic growth during the global financial crisis. Compared to the results for the whole sample of countries, international reserves and capital account openness do not appear to be significant in single correlations. This case of international reserves is interesting, since reserves should be more important in developing countries. We return to this issue below.

¹⁶ For univariate regressions we also include dummy variables by region, but given that we show the parameter for each covariate in a single column, they are not reported. The same applies for the R-squared and number of observations.

In the multivariate regressions, similar to previous results, we find that more flexible exchange rates, lower private credit, more trade openness and lower interest rates are positively associated with economic performance in the sample of developing countries. The only difference from our previous estimations is that financial openness is no longer statistically associated with differences in economic performance across crises. Again, the exchange rate regime and the response of monetary policy appear to have played a positive role in containing the effects of the global crisis.

We show the results for the sample of emerging economies in Table 3. The sample size declines to 31 countries, but we obtain the largest R-squared, about 0.8. Similar to previous estimations, we find that changes in private credit, capital account openness and interest rates show a significant and expected association with differences in economic growth. There are, however, some differences with previous estimations. In the sample of emerging markets, we find that three new variables appear as significant for explaining differences in economic growth. Our results suggest, as expected, that higher economic growth in the recent crisis is positively associated with a lower inflation before the crisis and improvements in terms of trade relative to the previous crisis. The conquest of inflation and good luck due to the rise of commodity prices were important in the successful performance of each economy during the later crisis. An unexpected result, but not robust, as we will show below, is that higher public debt is weakly associated with better relative economic performance during the financial crisis.

In sum, these regressions show that differences in economic performance are associated with some economic fundamentals. Also, and consistent with previous findings by Rose and Spiegel (2011), results tend to differ depending on the sample used. However, there are some interesting and robust findings that we can highlight. First, in most of our regressions, the evidence suggests that *better performance would be positively associated with more exchange rate flexibility, lower private credit growth, and monetary policy loosening, and negatively associated with more financial openness.* Second, *there is some evidence for "good luck" as an explanation of good performance but only for emerging markets. There is also some evidence that increased trade openness helped to mitigate the effects of the crisis.* This result is interesting, since as discussed before, the trade channel was an important factor in spreading the crisis around the world, but when looking at a five-year period, economies that become more integrated with the world fared better during the recent crisis.

Only in the sample of emerging market economies do we find that improvements in terms of trade are positively correlated with economic growth. This is in some way consistent with a cursory look at the performance of Latin America, as discussed in the previous section. In the extension, we use a dummy variable for commodity exporters in order to capture differences in economic growth and to check the robustness of this result across samples of countries.

Regarding the role of reserves, our regressions show that the change between crises does not play a role in explaining cross-country differences in resilience. However, following our discussion in the previous section, it should not be surprising that countries “over-accumulate” reserves in periods of strong exchange rate pressures. Countries could have “excessive” amounts of reserves, which are used as insurance against sudden stops in foreign credit and as deterrents of currency speculation. This shows that the lack of significance of reserves cannot be used as evidence that they play no role on resilience, but does indicate that they may be higher than necessary to serve as protection against international financial turbulences. This “excessiveness” is the result of over-accumulation due to mercantilist reasoning. Because of this, we further examine whether the extent of international reserves utilization mitigates the cost of crisis in the following extensions.

Finally, and conscious that we cannot make causal implications, we find a positive correlation between expansionary monetary policies during the crisis and economic performance, but no correlation with fiscal policy. This said, if there were a bias due to the endogeneity of monetary policy, it should tend to reduce the estimate of the parameter in absolute value. If countries that grew less have more expansionary monetary policies, the parameter on the interest rate would be, in absolute terms, biased downward. This result then highlights the role of monetary policy in reducing the negative impact of the external crisis on output.

The results of fiscal policy are somewhat more difficult to interpret. We do not find evidence that the initial level of public debt, with the caveat in table 4, and increased government expenditure during the crisis resulted in higher economic growth in the global financial crisis. Here, the problem of endogeneity could be more serious, since countries with lower growth could have a more expansionary fiscal policy, biasing the result towards zero.¹⁷

3.3 Extensions

In this section we perform some extensions, with particular interest in the analysis of the performance of commodity exporters, to further explore the impact of external conditions on crisis resilience. We also look at disaggregated components of the capital account and finally at the role of reserve deaccumulation and foreign exchange intervention on economic performance.

¹⁷ To deal with endogeneity, we could follow Corsetti, Meir and Muller (2012) using deviations from policy rules for looking at the impact of discretionary changes in fiscal and monetary policy, but data is not available for the large sample of developing and emerging countries in our analysis. This procedure is also debatable.

Commodity Exporters

To explore whether commodity exporters were less affected during the recent crisis than they were in the previous one, we replace the variable of terms of trade shocks with a dummy for countries classified as commodity exporters. The results are shown in columns 4 and 5 of the previous tables for the three samples of countries. Column 4 shows all regressors and column 5 indicates the covariates that are significant at 10 percent. For the two largest samples, this dummy, although positive, is not statistically significant. Furthermore, its inclusion does not change the main results reported in previous estimations.

It is only in the sample of emerging economies that the dummy is positive and statistically significant, suggesting that during the recent crisis, and within emerging markets, commodity exporters had a better performance. If we include changes in terms of trade, or a dummy for commodity exporters, we see that emerging countries exporting commodities were less affected during the financial crisis than during the Asian crisis. This result indicates that *within* emerging markets, those that experienced greater terms of trade gains did better during the global financial crisis.

As can be seen in Table 3, the inclusion of this variable does not affect our previous findings of a positive association of economic growth with higher trade openness, lower financial openness and a reduced interest rate. In contrast, the inclusion of this dummy variable indicates that changes in inflation rates, private credit and public debt are insignificant.

Components of Capital Account Openness

For most estimations, regardless of the sample, we find that more financially open economies grew less during the global financial crisis compared to the Asian crisis. Consistent with our specification, this result suggests that countries that increased financial openness between these two periods performed worse during the financial crisis, since they would have been more exposed to financial turmoil. This should not be a surprise since the global financial crisis, in contrast with the Asian crisis, caused a large decline in asset prices around the world, and hence, more-exposed countries suffered a greater negative wealth shock.

It is important to remember that financial openness includes many different components, including reserves, which potentially reduce the chance of identifying the effect of reserves and net foreign assets. Moreover, it can be argued that assets and liabilities can have differential effects on economic growth. For this reason, we decided to look at the effects of the components of external assets and liabilities separately.

In Table 4, we show the results of multivariate regressions for the three samples of countries. We divide assets between reserves, and other assets. In turn, we separate liabilities in their three main components: portfolio and equity, FDI, and banking. As in

previous estimations, higher international reserves are not related with differences in economic performance for any of the samples analyzed. In all cases, it seems that higher levels of other external assets are responsible for the negative relationship between financial openness and economic growth. As argued above, this is because a large stock of international assets resulted in a larger negative wealth shock as asset prices significantly declined all around the world. As can be observed in Table 4, our previous results for exchange rate regime, private credit, trade openness and interest rate are robust to the inclusion of external assets and liabilities components.

International Reserves and the Extent of Intervention

In previous estimations, the results suggest that international reserves have not played a significant role in explaining differences in economic growth, when comparing both crises. To analyze how the extent of international reserve utilization could have reduced the cost of the crisis, we replace the change in reserve ratios with the change in the extent of intervention during both crises. For both crises, we use the level of reserves at the beginning of the crisis and the minimum during the crisis to calculate the difference of both events.

The results for the three samples of countries are presented in Table 5. Countries may have intervened to compensate a sudden stop of foreign capital, therefore mitigating the financial effects of a reduction in foreign financing, or to avoid a depreciation of their currency due to the fear of floating. We are aware of potential endogeneity problems. However, this could be more relevant if our dependent variable were, for example, currency tensions. But, since we look at growth in a five-year period we think this problem is not too serious.

In contrast with what could have been expected if reserves were used as insurance for a cut in foreign inflows, our finding for the samples of all countries, and developing and emerging markets, indicate that the extent of intervention is negative and significantly related with differences in economic performance in both crises. This evidence suggests that reserve intervention was contractionary due to the attempt to avoid a weakening of the currency. Within the sample of emerging markets, there is not a significant relationship between economic growth and intervention; however, most of them have become floaters over time.

It should be also noted that exchange rate flexibility turns out to not be significant for all the samples of countries. This indicates that reserve intervention would be a proxy for the *de facto* exchange rate regime, causing the exchange rate flexibility index to lose significance. Reserve intervention moves economies away from flexibility and does not help resilience. Reserve utilization that limits the adjustment in exchange rates would not be an appropriate method to reduce the negative impact of the financial crisis. We already saw this in the previous section when comparing Latin American performance to the Asian and global financial crises. In contrast, other variables such as trade openness, financial openness and the extent of interest rate cuts remain significant and have the expected signs.

Additional Robustness Checks

There are two main concerns regarding our previous results that need to be addressed. First, differences in economic performance between the global financial crisis and the Asian financial crisis can be partly due to the improved banking regulation and supervision system, better legal systems, and more transparency that are present in certain countries that were analyzed in our study. In such cases, institutional factors can be used to explain the differences among countries, and their effects would be potentially captured by other variables, for example, limited leverage in emerging markets, when compared to the previous crisis.

Second, it can be argued that differences in economic growth during both crises could be simply driven by difference in growth rates before the crisis. Indeed, as we show in the previous sections for five Latin American countries, it seems that these economies entered the global financial crisis with more robust growth. Therefore, the better performance of these countries during the recent crisis could simply reflect a bounce back to pre-crisis growth trends.

To deal with both concerns, we have included in our regressions two additional variables. In the first case, we control for institutional changes by considering an available and well known indicator of institutional quality provided by the International Country Risk Guide.¹⁸ Following Chong and Gradstein (2007), we take the average of the most commonly used institutional dimensions; (i) government stability, (ii) law and order, (iii) corruption, (iv) democratic accountability, and (v) bureaucracy quality. As we do with the other variables, we introduce this variable as the difference before both crises. Similarly, to address the second concern, we introduce pre-crisis growth as the GDP growth average in the three-year period before each crisis and we include the difference of this variable in our regressions.

We show the results of the estimation for the sample of developing and emerging markets in Tables 6 and 7¹⁹. As it can be observed, both variables are not statically significant and their inclusion does not change the main results that we discussed before. There are some differences when we include institutional change in terms of the significance of ER regime and private credit, but trade openness and interest rate cuts are still robustly associated with differences in economic performance. This allows us to conclude that our results are not driven by institutional improvements after the first crisis or by previous differences in economic growth.

¹⁸ Unfortunately, direct measures of banking regulation and supervision as reported by Barth, Caprio and Levine (2004), are not available for the period before the Asian crisis.

¹⁹ We estimate the same regressions for the other two samples, and the results are similar.

4. Conclusions

Five years after the worst global crisis since the Great Depression, most emerging and developing countries have fully recovered, perhaps with the exception of some countries in emerging Europe, which are still suffering from weakness in the Euro area. Today their policy concern is how to manage a slowdown and foster long-term growth, but their resilience during the crisis has been unprecedented.

This has been particularly the case of Latin America where past international crises were often magnified by policy mismanagement. Indeed, this was the case of the Asian crisis, where the shock stemming from Asia and Russia, was fought with macroeconomic policy tightening and unrealistic exchange rate policies. This led to a currency crisis and financial vulnerabilities that caused, for example, the first financial crisis in Colombia. The recovery afterwards was very slow. Actually, the performance of Latin America during the Asian crisis was much worse than the performance of the Asian countries themselves, and five years after the crisis the Latin American per capita GDP was just the same as that of two years before the Asian crisis. Notably, this was similar in the debt crisis, although in this case the output loss was higher because of the initial sharp contraction in the early eighties.

As we discuss in this paper the policy responses during the global financial crisis were quite different. There were significant monetary and fiscal expansions. Exchange rates were allowed to float, and financial systems were resilient. But also, the international environment was sanguine, and facilitated the recovery. High terms of trade, due to the commodity price boom, and low foreign interest rates provided further impulse to economic activity.

We econometrically analyzed the factors underlying the good economic performance in the global financial crisis compared to the Asian crisis. We conducted first-difference estimation for a cross section of countries. We examined a broad sample for the world economy, then narrowed the sample to emerging and developing countries and finally looked at only emerging market economies.

We examined a large number of variables, and found that the most robust results, across samples and specifications, are that better performance is positively associated with more exchange rate flexibility, lower private credit growth, and monetary policy loosening, and negatively associated with more financial openness. The effect of the exchange rate regime is significant for the broader samples, but not in the small sample of emerging markets. Secondly, there is some evidence for “good luck” as an explanation of good performance but only for emerging markets, in particular when countries are separated according to whether they are commodity exporters. There is also some evidence that increased trade openness helped to mitigate the effects of the crisis.

We think that looking at a five-year sample provides more information than just looking at the fall of output during the global financial crisis, as most existing

empirical research has done. Cross-country regressions do not provide the final answer, but our results reinforce the idea that good macroeconomic policies are key to mitigating the effects of sharp negative global shocks. These policies are not enough to spur long-term growth, but at least provide resilience to avoid excessive dependence on the external environment.

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Table 1
ALL COUNTRIES

VARIABLES	(1)	(2)	(3)	(4)	(5)
Reserves	0.0557** (0.0264)	0.0189 (0.0319)		0.0186 (0.0295)	
Inflation	-0.000415 (0.00166)	-6.18e-05 (0.00113)		-1.14e-05 (0.00108)	
ER Regime	0.0486 (0.104)	0.204*** (0.114)	0.241** (0.116)	0.180 (0.121)	0.241** (0.116)
Public Debt	-0.00841 (0.00540)	0.00785 (0.0102)		0.00418 (0.00951)	
Private Credit	-0.0319* (0.00856)	-0.0153*** (0.00914)	-0.0191*** (0.00964)	-0.0157*** (0.00861)	-0.0191*** (0.00964)
Trade Openness	0.0150 (0.0105)	0.0295** (0.0134)	0.0302** (0.0131)	0.0284** (0.0128)	0.0302** (0.0131)
Cap. Account Openness	-0.262* (0.0908)	-0.205** (0.0872)	-0.214** (0.0876)	-0.207** (0.0863)	-0.214** (0.0876)
Public Expenditure	0.0247 (0.0495)	-0.0593 (0.0506)		-0.0547 (0.0486)	
Interest Rate	-0.0778** (0.0374)	-0.155* (0.0225)	-0.149* (0.0174)	-0.145* (0.0253)	-0.149* (0.0174)
Terms of Trade	1.603** (0.758)	1.123 (0.998)			
Commodity Exporter				0.713 (0.601)	
ECA		-4.459* (1.216)	-3.513* (0.679)	-4.187* (1.346)	-3.513* (0.679)
LAC		-1.033 (1.211)		-0.915 (1.251)	
MENA		-2.224*** (1.238)		-2.022 (1.300)	
NA		-2.602** (1.155)	-2.023* (0.533)	-2.625** (1.303)	-2.023* (0.533)
SA		0.422 (1.101)		-0.192 (1.157)	
SSA		-0.314 (1.275)		-0.492 (1.300)	
WE		-2.215*** (1.180)	-1.666** (0.683)	-2.095 (1.356)	-1.666** (0.683)
Constant		0.473 (0.972)	-0.208 (0.424)	0.192 (1.134)	-0.208 (0.424)
Observations		109	109	109	109
R-squared		0.556	0.516	0.554	0.516

Robust standard errors in parentheses. * p<0.01, ** p<0.05, *** p<0.1.

ECA=Developing Europe and Central Asia, LAC=Latina America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 2
DEVELOPING AND EMERGING ECONOMIES

VARIABLES	(1)	(2)	(3)	(4)	(5)
Reserves	0.0394 (0.0279)	-0.00410 (0.0347)		-0.00560 (0.0318)	
Inflation	-0.000417 (0.00166)	-0.000236 (0.00115)		-0.000211 (0.00113)	
ER Regime	0.0167 (0.104)	0.172 (0.113)	0.198*** (0.115)	0.146 (0.122)	0.198*** (0.115)
Public Debt	-0.00798 (0.00537)	0.00583 (0.0114)		0.00205 (0.0108)	
Private Credit	-0.0316* (0.00913)	-0.0123 (0.0120)	-0.0197** (0.00938)	-0.0128 (0.0115)	-0.0197** (0.00938)
Trade Openness	0.0123 (0.0104)	0.0272*** (0.0152)	0.0254*** (0.0141)	0.0256*** (0.0147)	0.0254*** (0.0141)
Cap. Account Openness	-0.173 (0.126)	-0.246 (0.248)		-0.238 (0.234)	
Public Expenditure	0.0473 (0.0476)	-0.0389 (0.0542)		-0.0343 (0.0522)	
Interest Rate	-0.0767** (0.0371)	-0.153* (0.0214)	-0.150* (0.0185)	-0.141* (0.0240)	-0.150* (0.0185)
Terms of Trade	1.377*** (0.754)	1.092 (1.038)			
Commodity Exporter				0.798 (0.625)	
ECA		-5.372* (1.424)	-3.820* (0.684)	-5.079* (1.559)	-3.820* (0.684)
LAC		-1.933 (1.415)		-1.830 (1.462)	
MENA		-2.216*** (1.316)		-2.022 (1.390)	
SA		-0.554 (1.344)		-1.193 (1.427)	
SSA		-1.382 (1.520)		-1.592 (1.549)	
WE		-3.152 (1.938)	-2.823** (1.214)	-3.083 (1.886)	-2.823** (1.214)
Constant		1.479 (1.253)	-0.0657 (0.447)	1.175 (1.417)	-0.0657 (0.447)
Observations		93	93	93	93
R-squared		0.501	0.462	0.501	0.462

Robust standard errors in parentheses. * $p < 0.01$, ** $p < 0.05$, *** $p < 0.1$.

ECA=Developing Europe and Central Asia, LAC=Latina America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 3
EMERGING ECONOMIES

VARIABLES	(1)	(2)	(3)	(4)	(5)
Reserves	-0.0248 (0.0423)	-0.0207 (0.0463)		-0.0183 (0.0419)	
Inflation	-0.000466 (0.00131)	-0.00324 (0.00215)	-0.00518* (0.00128)	-0.00231 (0.00198)	
ER Regime	0.0881 (0.109)	0.0944 (0.143)		0.0855 (0.105)	
Public Debt	0.0131 (0.0195)	0.0417 (0.0302)	0.0688* (0.0213)	0.0292 (0.0240)	
Private Credit	-0.0454* (0.0146)	-0.0347*** (0.0196)	-0.0333** (0.0126)	-0.0221 (0.0186)	
Trade Openness	0.0128 (0.0299)	0.0348 (0.0274)		0.0450 (0.0302)	0.0656** (0.0241)
Cap. Account Openness	-1.834* (0.575)	-1.626** (0.736)	-1.457*** (0.707)	-1.697** (0.749)	-1.831* (0.562)
Public Expenditure	-0.0816 (0.109)	0.0563 (0.0932)		0.0618 (0.0666)	
Interest Rate	-0.152* (0.0389)	-0.125** (0.0455)	-0.104** (0.0465)	-0.0934*** (0.0501)	-0.0872** (0.0383)
Terms of Trade	0.943 (1.242)	1.441 (1.389)	1.574*** (0.852)		
Commodity Exporter				2.383*** (1.218)	2.764* (0.943)
ECA		-3.323 (2.452)	-3.493*** (1.733)	-2.337 (2.465)	-3.788* (1.108)
LAC		0.134 (2.548)		0.338 (2.108)	
MENA		-1.098 (2.106)		-1.151 (1.835)	-2.655* (0.919)
SA		0.857 (1.459)		-0.882 (1.669)	-2.135** (0.837)
SSA		0.337 (2.456)		-0.619 (2.224)	-2.874* (0.833)
Constant		0.752 (1.530)	1.357** (0.602)	-0.734 (1.468)	-0.472 (0.747)
Observations		31	31	31	31
R-squared		0.841	0.794	0.873	0.828

Robust standard errors in parentheses. * p<0.01, ** p<0.05, *** p<0.1.

EAC=Developing Europe and Central Asia, LAC=Latina America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 4
ALL SAMPLES, COMPONENTS OF CAPITAL ACCOUNT OPENNESS

	All Countries		Developing and Emerging		Emerging	
	Multivariate	Only Signif.	Multivariate	Only Signif.	Multivariate	Only Signif.
Reserves	0.0124 (0.0322)		-0.0240 (0.0343)		-0.0174 (0.0650)	
Other assets	-0.00948 (0.00968)	-0.000669* (0.000235)	-0.0210*** (0.0116)	-0.00105* (0.000228)	-0.0665*** (0.0341)	-0.0160*** (0.00923)
Port. Equity Liab.	0.00521 (0.0136)		0.0278 (0.0179)		-0.0990 (0.0625)	
FDI Liab.	0.0142 (0.0102)		0.0123 (0.0169)		0.0336 (0.0387)	
Banking Liab.	0.00587 (0.00937)		0.0198*** (0.0118)		0.0640 (0.0402)	
Inflation	0.000677 (0.00118)		0.000404 (0.00129)		-0.00277 (0.00329)	
ER Regime	0.214*** (0.109)	0.241** (0.115)	0.171 (0.110)		0.150 (0.193)	0.240** (0.101)
Public Debt	0.00431 (0.0102)		-0.00715 (0.0125)		0.0260 (0.0362)	
Private Credit	-0.0188** (0.00880)	-0.0235* (0.00852)	-0.0255** (0.0123)	-0.0220* (0.00745)	-0.0422*** (0.0227)	-0.0251** (0.0117)
Trade Openness	0.0363** (0.0164)	0.0342** (0.0148)	0.0345** (0.0170)	0.0325** (0.0148)	0.0703*** (0.0376)	0.0447** (0.0191)
Public Expenditure	-0.0572 (0.0504)		-0.0396 (0.0479)		-0.0157 (0.119)	
Interest Rate	-0.163* (0.0247)	-0.152* (0.0180)	-0.161* (0.0237)	-0.141* (0.0193)	-0.221* (0.0598)	-0.180* (0.0261)
Terms of Trade	1.502 (1.052)		1.511 (1.178)		2.739 (1.922)	
ECA	-4.994* (1.309)	-3.616* (0.695)	-5.894* (1.464)	-4.360* (0.605)	-9.438** (3.661)	-5.131* (0.837)
LAC	-1.183 (1.266)		-1.740 (1.476)		-1.557 (2.808)	
MENA	-2.576** (1.215)		-2.378*** (1.216)		-2.992 (2.287)	-1.045*** (0.556)
NA	-2.296** (1.100)	-1.898* (0.488)				
SA	0.570 (1.160)		-0.310 (1.315)		-0.0629 (1.512)	
SSA	-0.222 (1.250)		-0.996 (1.439)		1.366 (2.964)	
WE	-2.067*** (1.124)	-2.078* (0.588)	-1.491 (1.442)			
Constant	0.288 (0.923)	-0.307 (0.436)	1.369 (1.081)	-0.0149 (0.434)	2.620 (2.071)	0.103 (0.444)
Observations	109	109	93	93	31	31
R-squared	0.571	0.514	0.533	0.453	0.851	0.773

Robust standard errors in parentheses. * p<0.01, ** p<0.05, *** p<0.1.

ECA=Europe and Central Asia, LAC=Latina America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 5
ALL SAMPLES, INTERNATIONAL RESERVES INTERVENTION

	All Countries		Developing and Emerging		Emerging	
	Multivariate	Only Signif.	Multivariate	Only Signif.	Multivariate	Only Signif.
Res. Intervention	-0.0953** (0.0451)	-0.0979** (0.0425)	-0.135* (0.0498)	-0.133* (0.0378)	-0.0325 (0.0903)	
Inflation	-0.000878 (0.00101)		-0.00129 (0.000987)		-0.00338 (0.00212)	-0.00518* (0.00128)
ER Regime	0.190 (0.116)		0.121 (0.119)		0.117 (0.143)	
Public Debt	0.0109 (0.00898)		0.0142 (0.00993)		0.0447 (0.0276)	0.0688* (0.0213)
Private Credit	-0.0133 (0.00982)		-0.00688 (0.0122)		-0.0353*** (0.0193)	-0.0333** (0.0126)
Trade Openness	0.0286** (0.0126)	0.0352* (0.0125)	0.0265*** (0.0149)	0.0288** (0.0132)	0.0281 (0.0255)	
Cap. Account Openness	-0.274* (0.0909)	-0.369* (0.0746)	-0.525** (0.255)	-0.532* (0.121)	-1.594** (0.736)	-1.457*** (0.707)
Public Expenditure	-0.0751 (0.0477)	-0.0954** (0.0442)	-0.0688 (0.0551)		0.0493 (0.0958)	
Interest Rate	-0.149* (0.0215)	-0.136* (0.0186)	-0.141* (0.0222)	-0.127* (0.0191)	-0.117** (0.0432)	-0.104** (0.0465)
Terms of Trade	1.470 (0.958)		1.354 (0.962)		1.583 (1.644)	1.574*** (0.852)
ECA	-3.993* (1.267)	-4.052* (0.736)	-4.719* (1.400)	-3.612* (0.654)	-2.761 (1.857)	-3.493*** (1.733)
LAC	-1.219 (1.142)		-2.055 (1.332)		0.450 (2.143)	
MENA	-2.354*** (1.285)	-2.056** (0.898)	-2.347*** (1.334)		-0.641 (1.480)	
NA	-2.765** (1.066)	-2.648* (0.438)				
SA	0.564 (1.017)		-0.419 (1.224)		1.255 (1.190)	
SSA	-0.453 (1.200)		-1.314 (1.386)		0.790 (1.732)	
WE	-2.075*** (1.092)	-2.504* (0.692)	-0.893 (1.750)			
Constant	0.753 (0.883)	0.336 (0.409)	1.748 (1.126)	0.151 (0.389)	0.429 (1.069)	1.357** (0.602)
Observations	108	108	92	92	31	31
R-squared	0.579	0.524	0.554	0.473	0.841	0.794

Robust standard errors in parentheses. * p<0.01, ** p<0.05, *** p<0.1.

ECA=Developing Europe and Central Asia, LAC=Latina America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 6
DEVELOPING AND EMERGING ECONOMIES, Institutional Change

VARIABLES	(1)	(2)	(3)	(4)
Institutions	-0.00126 (0.0131)		-0.00384 (0.0129)	
Reserves	-0.00172 (0.0401)		0.000694 (0.0365)	
Inflation	-0.00170 (0.00149)		-0.00144 (0.00155)	
ErzR Regime	0.102 (0.120)		0.0741 (0.138)	
Public Debt	0.0198 (0.0160)		0.0133 (0.0145)	
Private Credit	-0.00436 (0.0189)		-0.00253 (0.0187)	
Trade Openness	0.0374 (0.0246)	0.0397*** (0.0203)	0.0361 (0.0251)	0.0397*** (0.0203)
Cap. Account Openness	-0.382 (0.324)	-0.542* (0.144)	-0.403 (0.307)	-0.542* (0.144)
Public Expenditure	-0.0729 (0.0725)		-0.0903 (0.0714)	
Interest Rate	-0.147* (0.0328)	-0.144* (0.0215)	-0.137* (0.0343)	-0.144* (0.0215)
Terms of Trade	1.738 (1.154)			
Commodity Exporters			1.013 (0.903)	
ECA	-6.408* (1.590)	-5.001* (0.782)	-6.201* (1.801)	-5.001* (0.782)
LAC	-1.658 (1.631)		-1.604 (1.712)	
MENA	-2.367*** (1.288)		-2.141 (1.381)	
SA	-0.0422 (1.469)		-1.302 (1.505)	
SSA	-0.722 (1.714)		-1.244 (1.719)	
WE	-2.833 (2.557)		-2.437 (2.394)	
Constant	1.565 (1.684)	0.0756 (0.562)	1.337 (1.939)	0.0756 (0.562)
Observations	68	68	68	68
R-squared	0.485	0.364	0.471	0.364

Robust standard errors in parentheses * p<0.01, ** p<0.05, *** p<0.1

ECA=Developing Europe and Central Asia, LAC=Latin America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Table 7
DEVELOPING AND EMERGING ECONOMIES, Pre-Crisis Growth

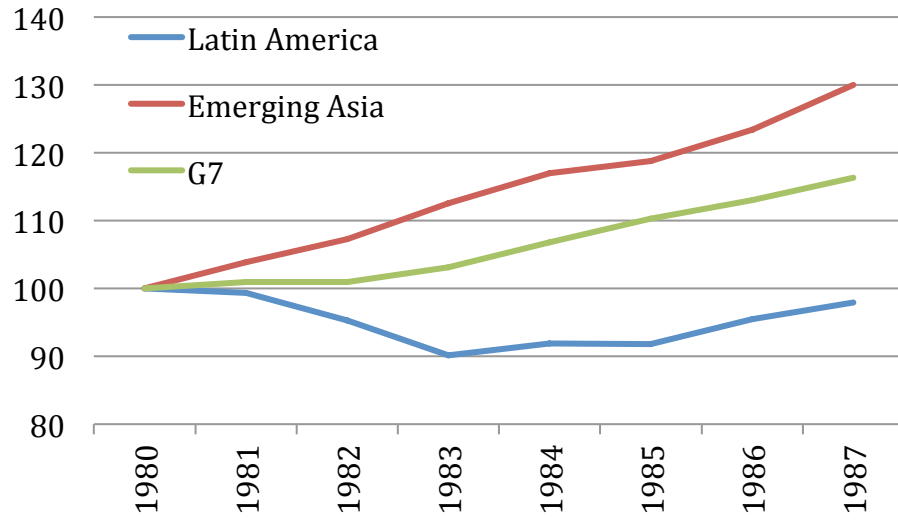
VARIABLES	(1)	(2)	(3)	(4)
Pre-Crisis Growth	0.0681 (0.0571)		0.0699 (0.0595)	
Reserves	-0.00266 (0.0343)		-0.00390 (0.0315)	
Inflation	0.000159 (0.00122)		0.000182 (0.00120)	
ER Regime	0.178 (0.114)	0.198*** (0.115)	0.158 (0.121)	0.198*** (0.115)
Public Debt	0.00643 (0.0114)		0.00356 (0.0108)	
Private Credit	-0.0126 (0.0119)	-0.0197** (0.00938)	-0.0130 (0.0115)	-0.0197** (0.00938)
Trade Openness	0.0279*** (0.0153)	0.0254*** (0.0141)	0.0267*** (0.0150)	0.0254*** (0.0141)
Cap. Account Openness	-0.248 (0.242)		-0.242 (0.232)	
Public Expenditure	-0.0500 (0.0564)		-0.0468 (0.0550)	
Interest Rate	-0.155* (0.0230)	-0.150* (0.0185)	-0.146* (0.0261)	-0.150* (0.0185)
Terms of Trade	0.849 (1.086)			
Commodity Exporters			0.631 (0.663)	
ECA	-5.598* (1.435)	-3.820* (0.684)	-5.373* (1.595)	-3.820* (0.684)
LAC	-1.914 (1.420)		-1.835 (1.443)	
MENA	-2.214*** (1.310)		-2.065 (1.363)	
SA	-0.560 (1.325)		-1.059 (1.378)	
SSA	-1.236 (1.518)		-1.397 (1.514)	
WE	-3.153*** (1.848)	-2.823** (1.214)	-3.098*** (1.813)	-2.823** (1.214)
Constant	1.383 (1.250)	-0.0657 (0.447)	1.141 (1.380)	-0.0657 (0.447)
Observations	93	93	93	93
R-squared	0.507	0.462	0.507	0.462

Robust standard errors in parentheses * $p < 0.01$, ** $p < 0.05$, *** $p < 0.1$

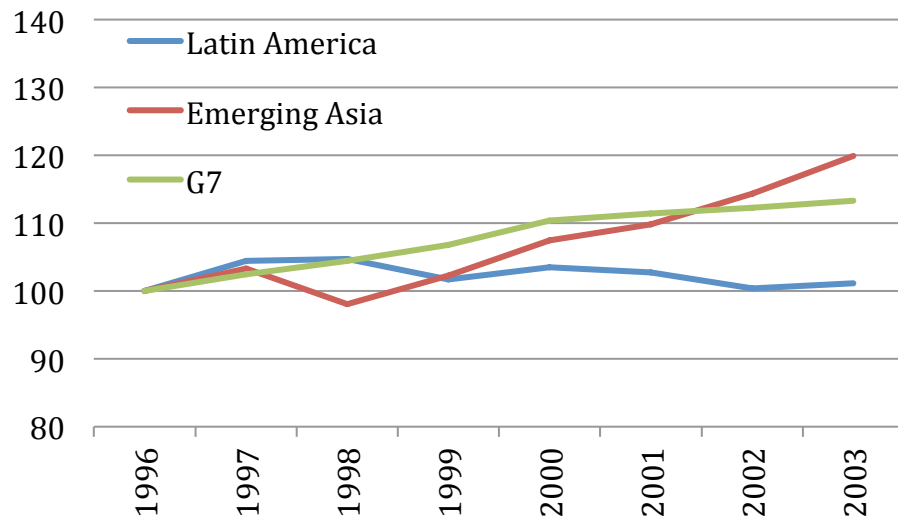
ECA=Developing Europe and Central Asia, LAC=Latin America and the Caribbean, MENA=Middle East and Northern Africa, NA=North America, SA=Southern Asia, SSA=Sub-Saharan Africa, and WE=Western Europe

Figure 1. Per-capita GDP During Three Crises
(index=100 two years before the crisis)

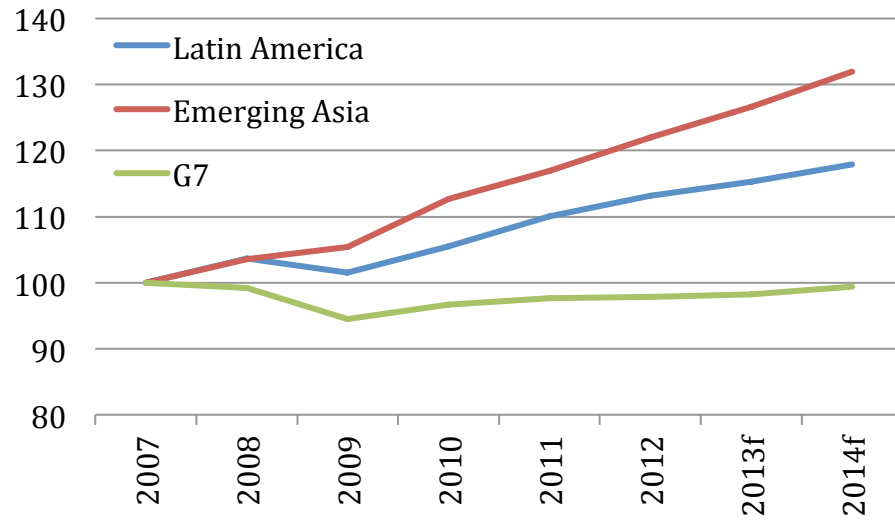
(a) The Debt Crisis



(b) The Asian Crisis



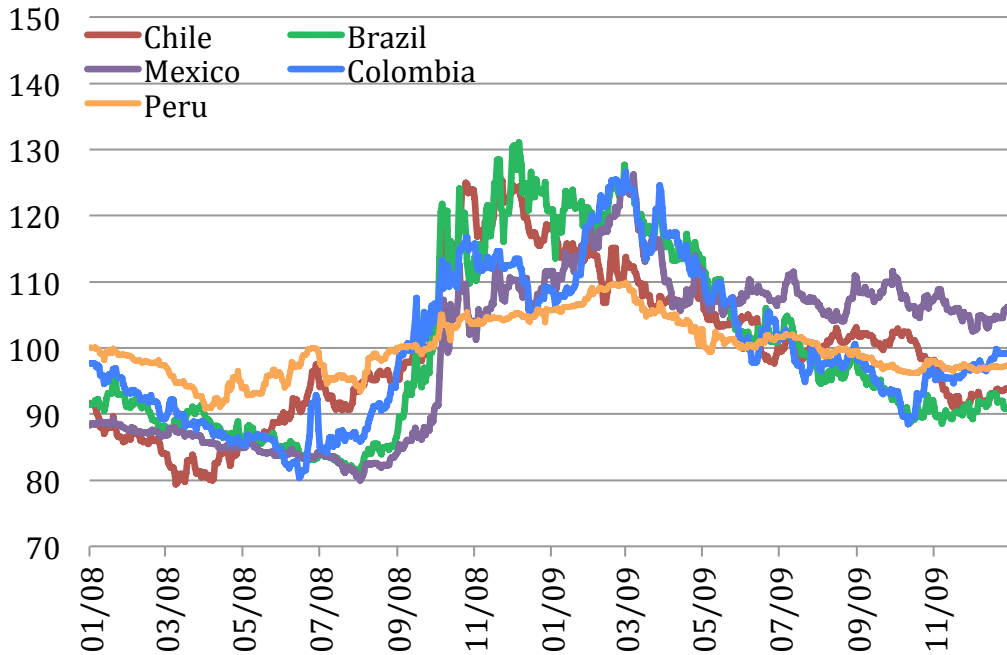
(c) The Global Financial Crisis



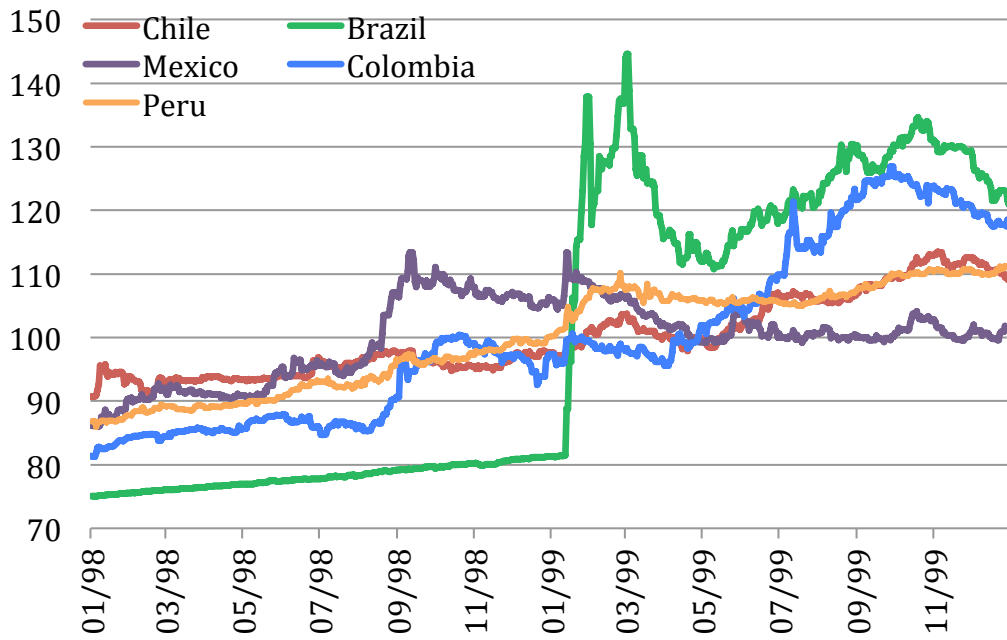
Source: IMF-WEO October 2013. (f): forecast.

Figure 2. Exchange Rates
(period average=100)

(a) Global Financial Crisis

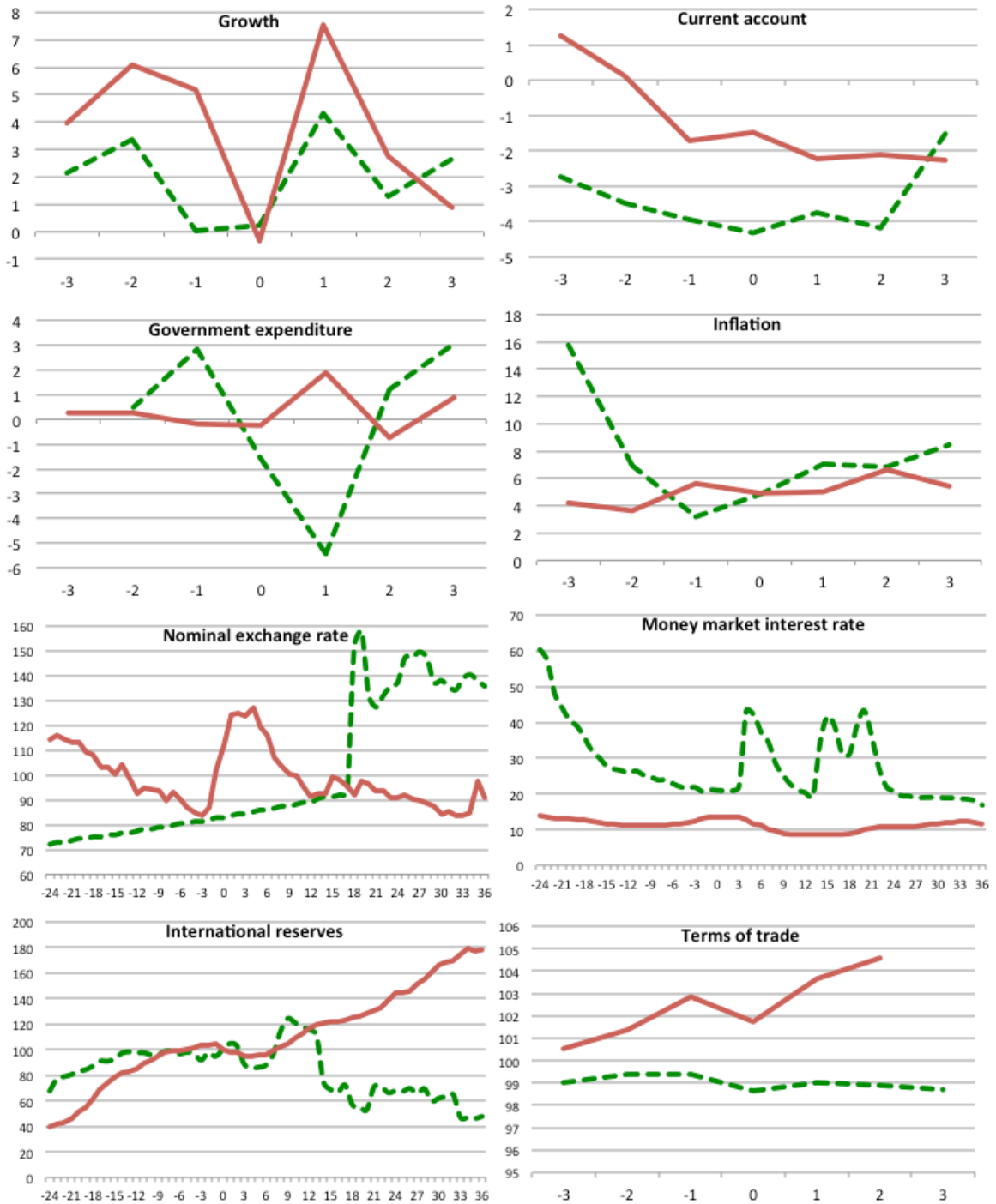


(b) Asian Crisis



Source: Bloomberg.

Figure 3: Brazil



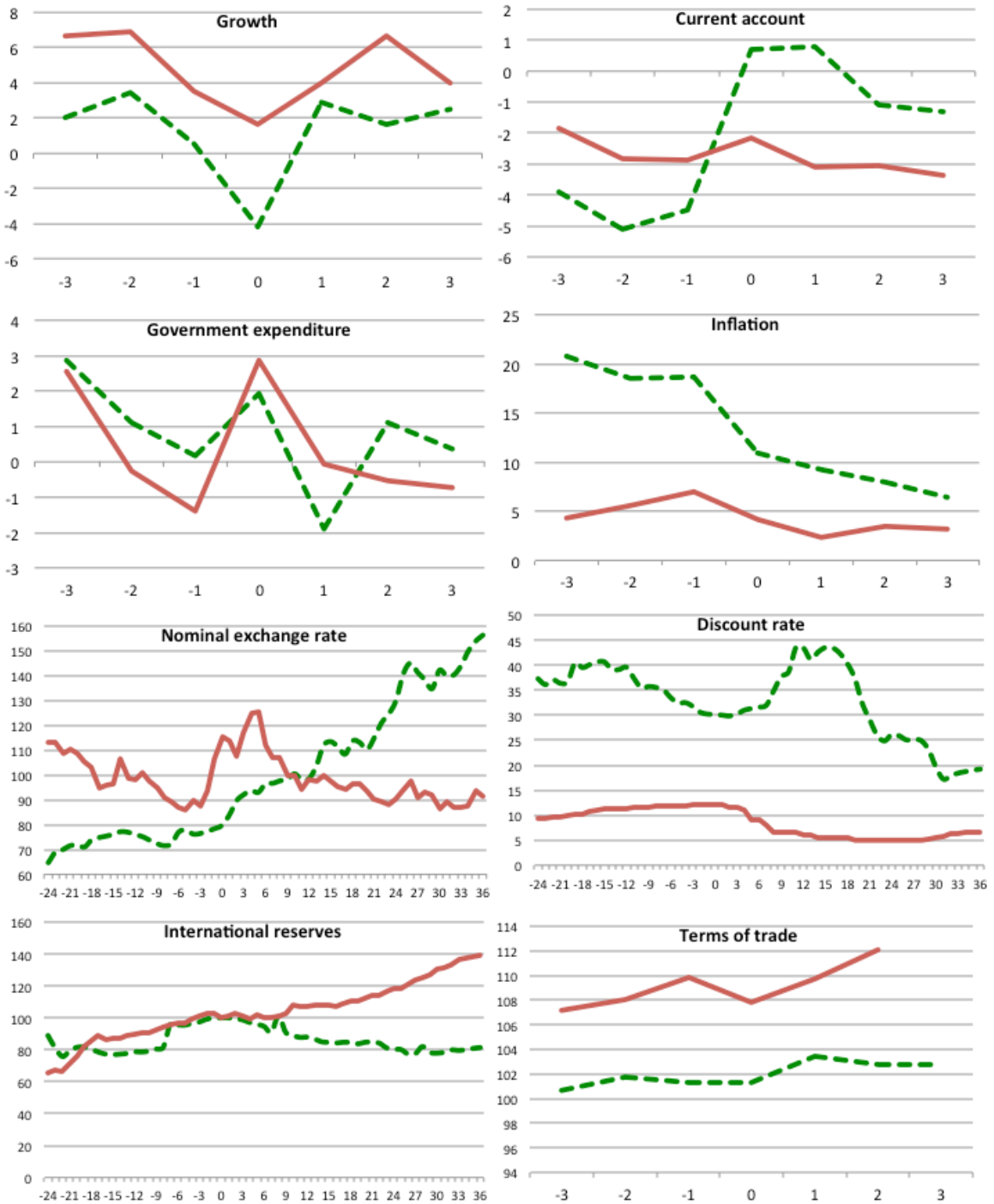
Sources: IMF-WEO and IFS. Notes: Dotted line: Asian crisis, continuous line: Global financial crisis.

Figure 4: Chile



Sources: IMF-WEO and IFS. Notes: Dotted line: Asian crisis, continuous line: Global financial crisis.

Figure 5: Colombia



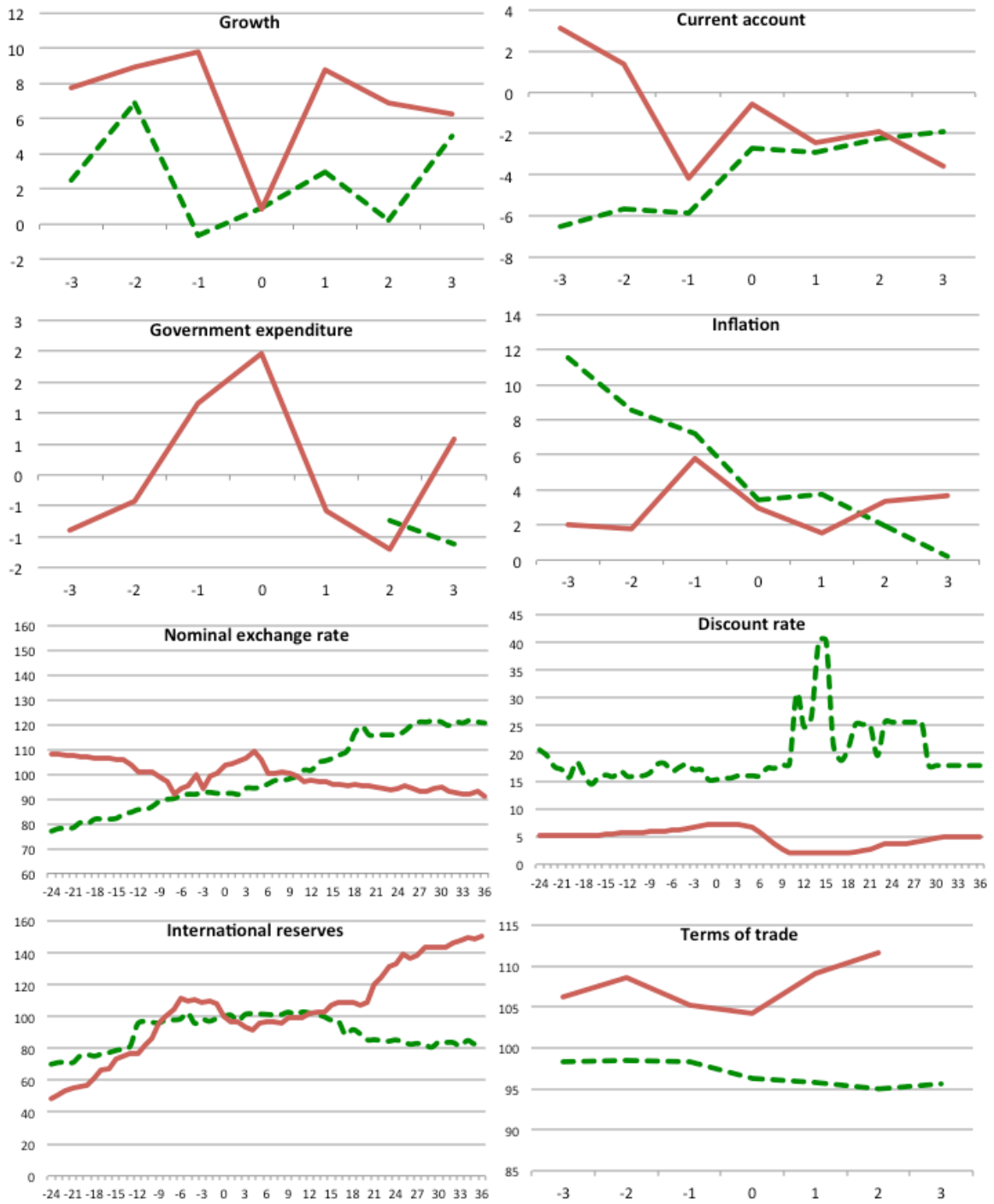
Sources: IMF-WEO and IFS. Notes: Dotted line: Asian crisis, continuous line: Global financial crisis.

Figure 6: Mexico



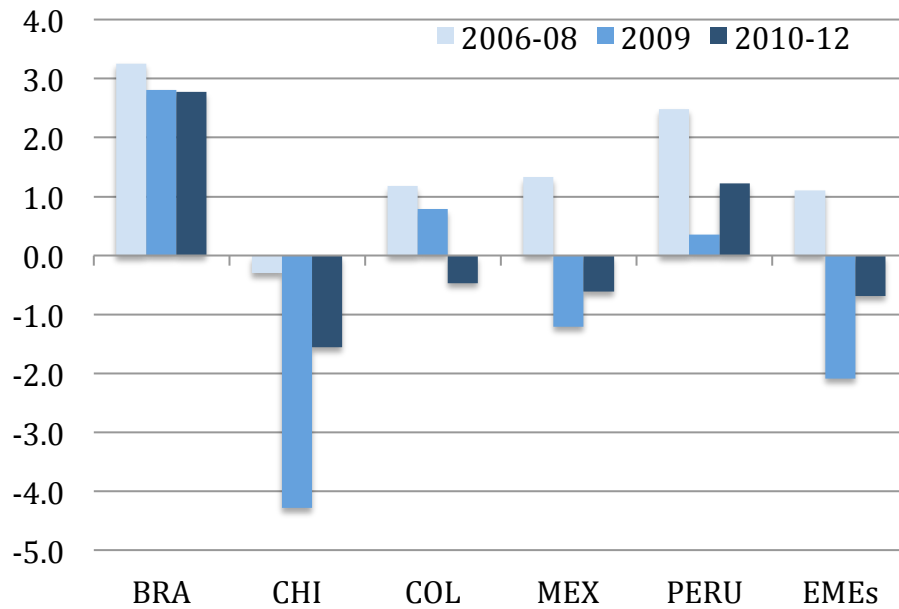
Sources: IMF-WEO and IFS. Notes: Dotted line: Asian crisis, continuous line: Global financial crisis.

Figure 7: Peru



Sources: IMF-WEO and IFS. Notes: Dotted line: Asian crisis, continuous line: Global financial crisis.

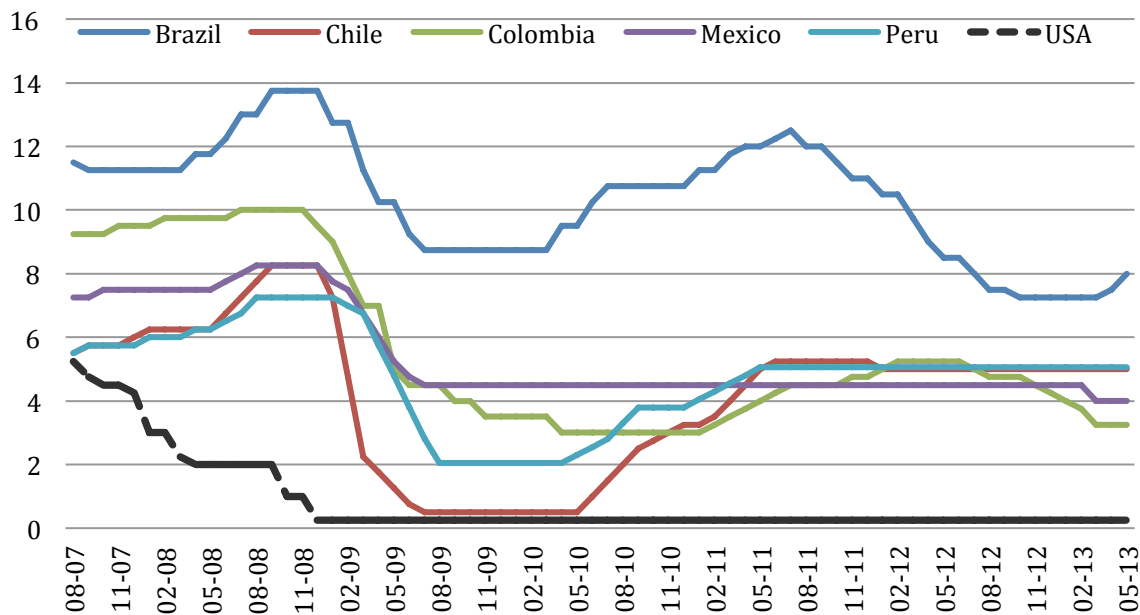
Figure 8. General Government Cyclically Adjusted Primary Balance (Percent of Potential GDP)



BRA = Brazil, CHI = Chile, COL = Colombia, MEX = Mexico, PERU = Peru, EMEs = Emerging Market Economies

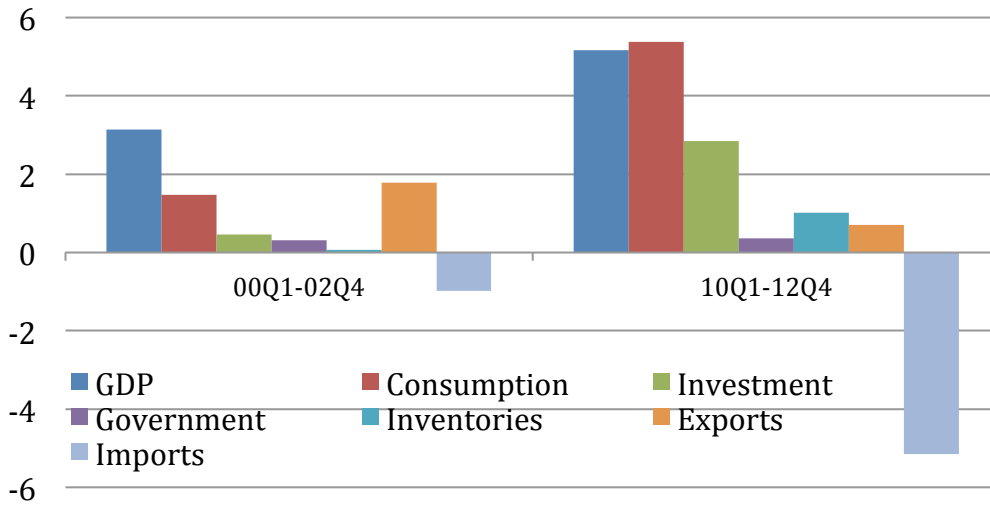
Source: IMF, Fiscal Monitor.

Figure 9. Monetary Policy Interest Rates (percentage)



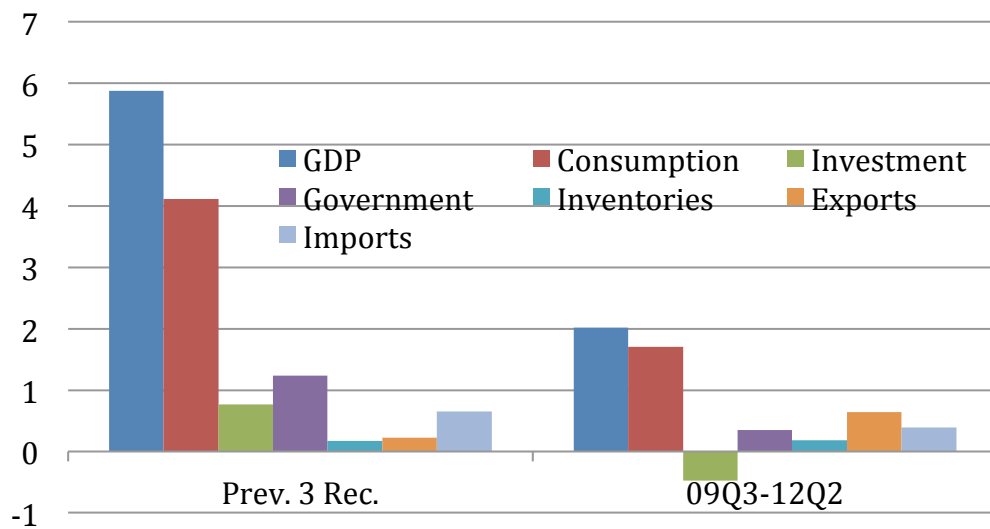
Source: Bloomberg.

Figure 10
Recovery after Recessions, Chile



Source: Author's calculations based on data from Banco Central de Chile.

Figure 11
Recovery after Recessions, USA



Source: Author's calculations based on data from BEA.

Figure 12
Economic Growth Rate during the Financial and Asian Crises

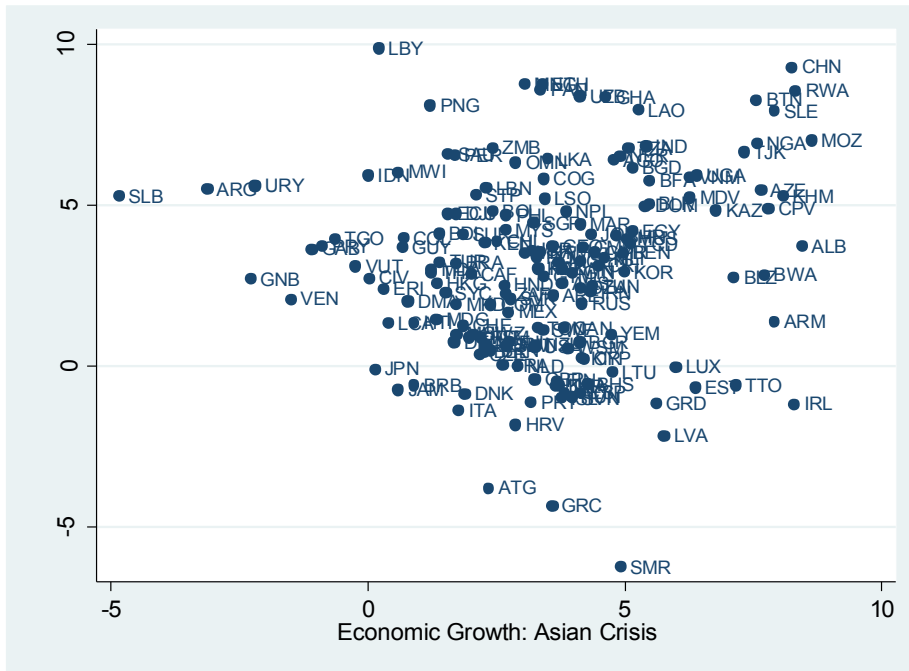


Figure 13
Economic Growth Rate during the Financial and Asian Crises, Excluding Advanced Economies

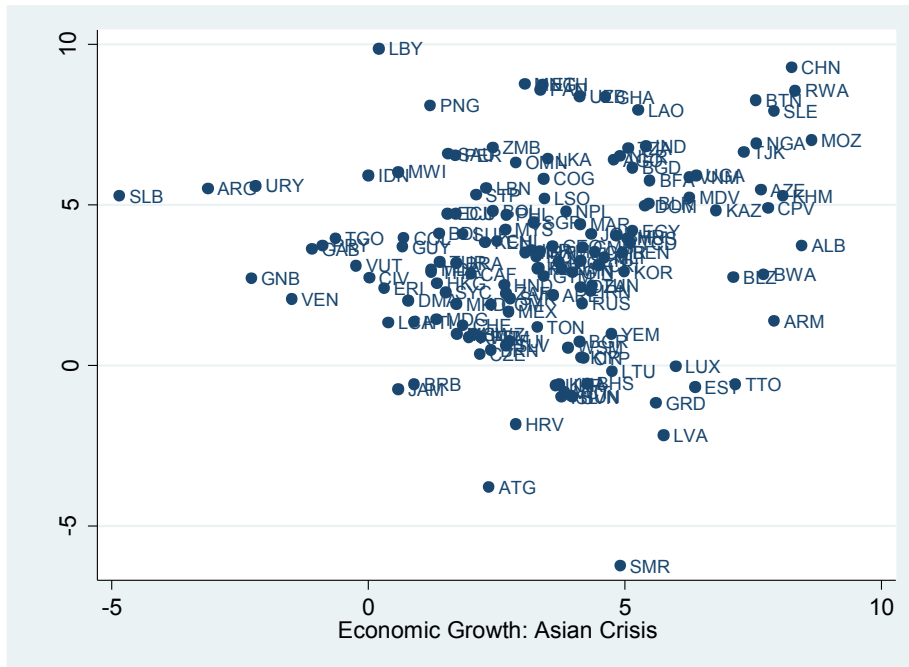
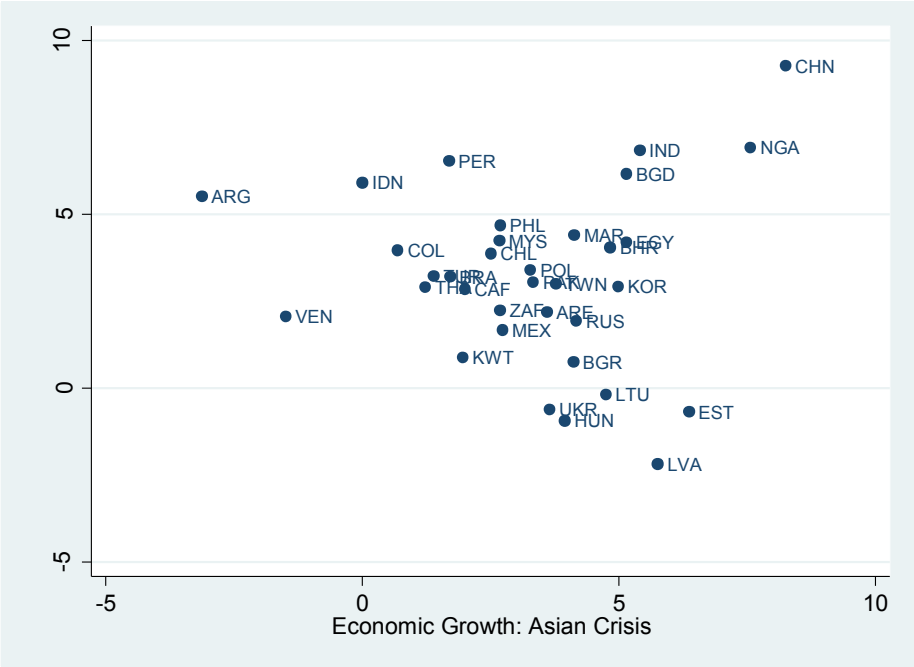


Figure 14
Economic Growth Rate during the Financial and Asian Crises, Emerging Economies



APPENDICES

Data source and Descriptive Statistics

Variable	Source	Obs	Mean	Std. Dev.	Min	Max
GDP Growth	WEO	168	-0.4	3.5	-11.2	10.1
International reserves/GDP	WEO	156	6.5	13.6	-30.7	90.9
Inflation rate	WEO	164	-11.5	84.5	-1053.6	23.7
Exchange rate regime	Reinhart & Rogoff*	140	-0.5	3.1	-12.0	9.0
Public debt / GDP	IMF **	152	-17.5	42.9	-211.3	103.7
Private credit /GDP	WDI	157	13.5	38.0	-121.1	243.4
Trade openness: (exports+imports)/GDP	WDI	157	12.4	26.2	-91.8	134.8
Financial openness: (ext. assets+ext. liabilities)/GDP	Lane and Milesi Ferreti***	161	1.0	2.5	-3.2	19.7
Government expenditure/GDP	WEO	165	2.5	7.1	-36.8	34.5
Interest rate: discount or money market rate	IFS/IMF	141	-6.5	12.1	-102.0	4.4
Terms of trade: change in logs	WDI	166	0.1	0.3	-1.1	1.1

All variables are expressed in differences between the average of both crisis

WEO: Data from World Economic Outlook, IMF: International Monetary Fund, WDI: World Development Indicators, IFS/IMF: International Financial Statistics, International Monetary Fund.

* http://www.carmenreinhardt.com/user_uploads/ERA-Monthly%20fine%20class.xls

** <http://www.imf.org/external/pubs/ft/wp/2010/wp10245.pdf>

*** <http://www.philiplane.org/EWN.html>

Country List

All countries

Albania	Czech Republic	Kenya	Peru	United States
Algeria	Denmark	Kiribati	Philippines	Uruguay
Angola	Djibouti	Korea, Rep.	Poland	Uzbekistan
Antigua and Barbuda	Dominica	Kuwait	Portugal	Vanuatu
Argentina	Dominican Republic	Kyrgyz Republic	Russian Federation	Venezuela
Armenia	Ecuador	Lao PDR	Rwanda	Vietnam
Australia	Egypt, Arab Rep.	Latvia	Samoa	Yemen, Rep.
Austria	El Salvador	Lebanon	San Marino	Zambia
Azerbaijan	Eritrea	Lesotho	Sao Tome and Principe	
Bahamas, The	Estonia	Libya	Saudi Arabia	
Bahrain	Ethiopia (excludes Eritrea)	Lithuania	Senegal	
Bangladesh	Fiji	Luxembourg	Seychelles	
Barbados	Finland	Macedonia, FYR	Sierra Leone	
Belarus	France	Madagascar	Singapore	
Belgium	Gabon	Malawi	Slovak Republic	
Belize	Gambia, The	Malaysia	Slovenia	
Benin	Georgia	Maldives	Solomon Islands	
Bhutan	Germany	Mali	South Africa	
Bolivia	Ghana	Marshall Islands	Spain	
Botswana	Greece	Mauritania	Sri Lanka	
Brazil	Grenada	Mauritius	St. Kitts and Nevis	
Brunei	Guatemala	Mexico	St. Lucia	
Bulgaria	Guinea	Micronesia, Fed. Sts.	St. Vincent and the Grenadines	
Burkina Faso	Guinea-Bissau	Moldova	Suriname	
Burundi	Guyana	Mongolia	Swaziland	
Cambodia	Haiti	Morocco	Sweden	
Cameroon	Honduras	Mozambique	Switzerland	
Canada	Hong Kong, China	Namibia	Taiwan	
Cape Verde	Hungary	Nepal	Tajikistan	
Central African Republic	Iceland	Netherlands	Tanzania	
Chad	India	New Zealand	Thailand	
Chile	Indonesia	Nicaragua	Togo	
China	Iran, Islamic Rep.	Niger	Tonga	
Colombia	Ireland	Nigeria	Trinidad and Tobago	
Comoros	Israel	Norway	Tunisia	
Congo, Rep.	Italy	Oman	Turkey	
Costa Rica	Jamaica	Pakistan	Uganda	
Cote d'Ivoire	Japan	Panama	Ukraine	
Croatia	Jordan	Papua New Guinea	United Arab Emirates	
Cyprus	Kazakhstan	Paraguay	United Kingdom	

Advanced Economies

Australia	Italy
Austria	Japan
Belgium	Netherlands
Canada	New Zealand
Denmark	Norway
Finland	Portugal
France	Spain
Germany	Sweden
Greece	United Kingdom
Ireland	United States

Emerging Economies

Argentina	Lithuania
Bahrain	Malaysia
Bangladesh	Mexico
Brazil	Morocco
Bulgaria	Nigeria
Central African Republic	Pakistan
Chile	Peru
China	Philippines
Colombia	Poland
Egypt, Arab Rep.	Russian Federation
Estonia	South Africa
Hungary	Taiwan
India	Thailand
Indonesia	Turkey
Korea, Rep.	Ukraine
Kuwait	United Arab Emirates
Latvia	Venezuela