Latin America Macroeconomic Outlook
A Global Perspective

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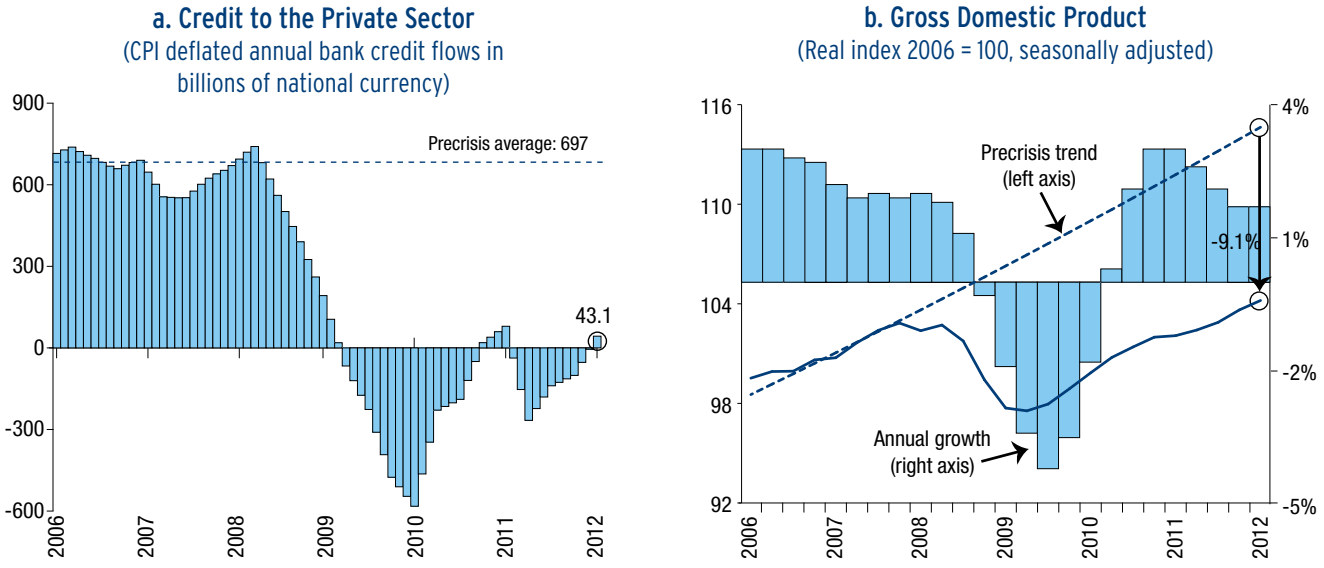
The New Global Economic Geography: The World Economy in the Aftermath of the Global Financial Crisis

Nothing could be more appropriate than the epigram by the formidable Irish playwright Oscar Wilde to describe the state of world affairs in the aftermath of the global financial crisis: "Truth is rarely pure and never simple." In fact, it is fair to assert that the global financial crisis has created a "new global economic geography," a new reality that responds to the remarkable fact that the crisis that crippled the advanced economies has nevertheless also left winners around the globe.

Let us illustrate this intriguing phenomenon of the post-financial crisis world, starting where it all began: the U.S. economy. The picture that emerges from figure 1 illustrates the devastating effects of the financial crisis: a severe credit crunch that came hand-in-hand with an equally severe contraction in output that still remains significantly below precrisis trends and persistently high levels of unemployment.[1]

The dynamics of the Great Recession differ markedly from post-World War II recessions in many dimensions. First, the Great Recession was deeper and longer than any other post-World War II recession; that is, output declined by 5 percent peak to trough for six

Figure 1. Credit Crunch and Output Contraction in the United States

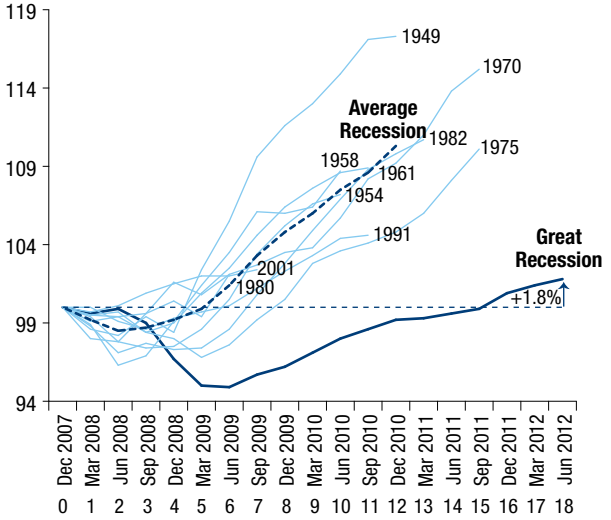


Note: Precrisis GDP trends are computed for the period 2000-2006. Precrisis average is computed for 2006.

Sources: National statistics and IMF.

[1] Precrisis trends are computed for the period 2000-2006.

Figure 2. The Great Recession and Post-World War II Recessions
(Gross domestic product real index, precrisis peak = 100, seasonally adjusted)



Sources: National statistics.

quarters compared to an average contraction of 2 percent for three quarters for the average post-World War II recession (see figure 2 and table 1).

Second, it took the economy longer to recover to precrisis levels of output relative to the duration of the contraction. Whereas for the average post-World War II recession it took 2.2 quarters for output to recover to its precrisis levels, it took nine quarters for output to recover to precrisis levels in the Great Recession. In other words, while the duration of the recovery phase was shorter than the duration of the contraction phase for the average post-World War II recession, during the Great Recession the recovery phase took significantly longer than the duration of the contraction phase (see table 1).

Table 1. Great Recession and Average Post-World War II Recession

	Average Recession	Great Recession
Total Fall	-2.0%	-5.1%
Quarters		
Fall	3.2	6
Recovery	2.2	9
Trend Recovery	5.9	-

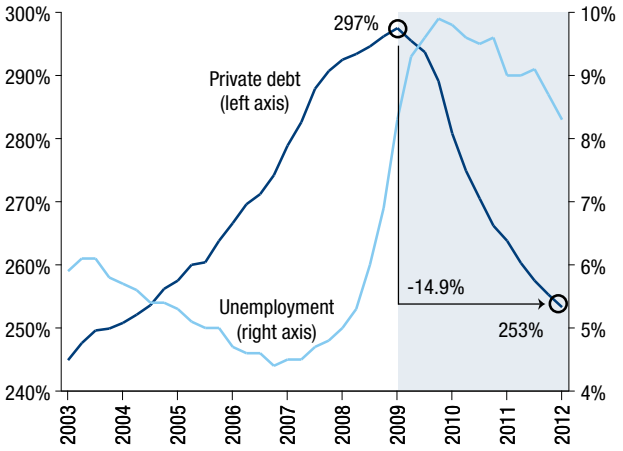
Note: The GDP fall is considered from the precrisis peak to the trough. The recovery is considered from the trough to the precrisis peak level. The trend recovery is considered from the trough to the historical trend.

Sources: National statistics.

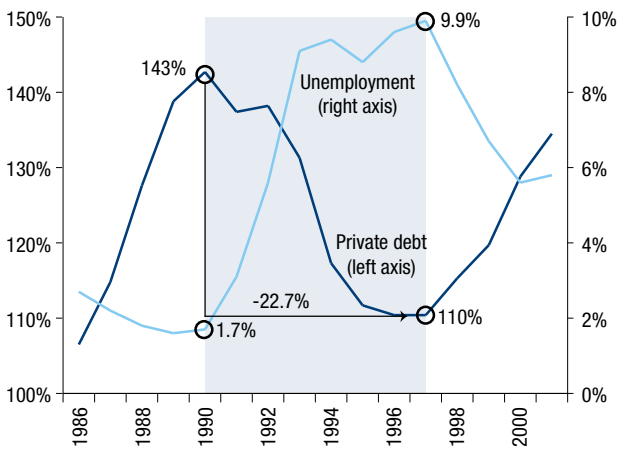
Third, since the Great Recession, output has not yet recovered to precrisis trend levels. In fact, it lies significantly below them. For the average post-World War II recession, recovery to precrisis trend levels took about twice the duration of the contraction. So, according to post-World War II historical patterns, the U.S. economy should have had already recovered to precrisis trend levels. The fact that it did not, together with persistently high levels of unemployment, is precisely what defines an anemic recovery.

Figure 3. Deleveraging and Unemployment
(Private debt as a % of gross domestic product and unemployment rate)

U.S. 2007 Financial Crisis



Sweden 1992 Financial Crisis



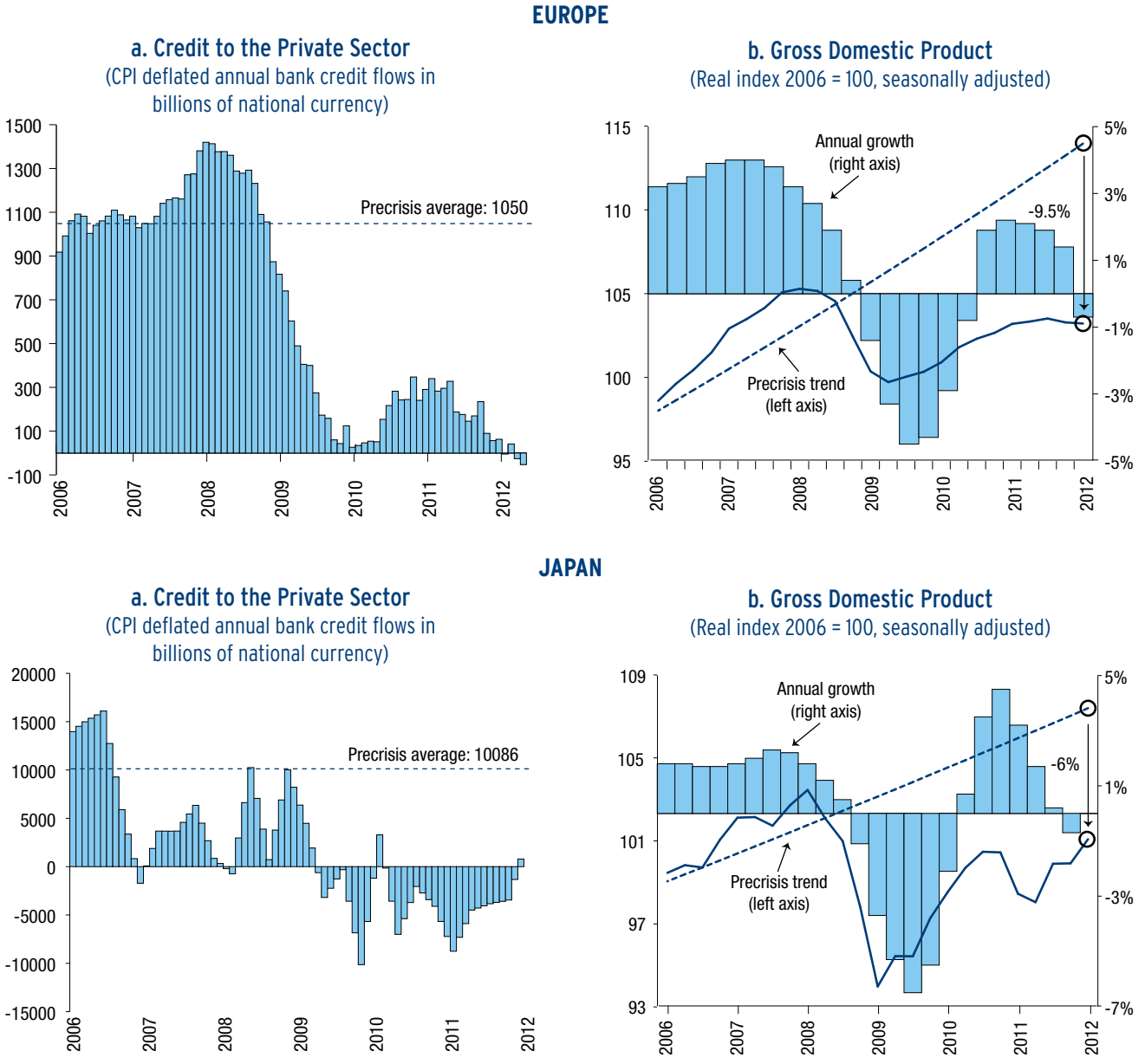
Sources: National statistics and Eurostat.

However, this should come as no surprise. The dynamics of output in the U.S. is in line with the experience of recoveries from financial crises.[2]

Why are anemic recoveries a distinctive feature of financial crises? The reason is that these crises are followed by a rather prolonged period of private sector deleveraging and therefore relatively depressed levels of private consumption and investment. In fact, the U.S. economy has entered into its fourth year of private sector deleveraging. Throughout this period, unemployment has remained persistently high in spite of the fact that output has already recovered to its precrisis levels.[3]

For the purposes of comparison, we look at the Swedish financial crisis of the early 1990s, which resulted in a

Figure 4. Credit Crunch and Output Contraction in Europe and Japan



Note: Europe refers to EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. Precrisis GDP trends are computed for the period 2000-2006. Precrisis average is computed for 2006.

Sources: National statistics, IMF and Eurostat.

[2] See, e.g., Calvo, Izquierdo and Talvi (2006) for evidence on the effects of financial crises on macroeconomic performance.
[3] See, e.g., Calvo, Coricelli and Ottonello (2012) on the jobless nature of post–financial crisis recoveries.

banking crisis, a severe credit crunch, a severe output contraction followed by sluggish economic activity and persistently high levels of unemployment.[4] This pattern is strikingly similar to the one observed in the U.S. During the Swedish crisis, private sector deleveraging lasted for about seven years and unemployment remained persistently high throughout the deleveraging process (see figure 3). It was only after the process of private sector deleveraging was over and households and firms started releveraging their balance sheets that unemployment started to decline significantly. The Swedish experience suggests that the U.S. might still have a few years to go until the deleveraging process is over and the economy starts to recover at stronger rates, and, as a result, unemployment starts to decline significantly.

The other major advanced economies—that is, the European Union and Japan—went through similar dynamics as the U.S.: a severe credit crunch that came hand-in-hand with an equally severe contraction in output that still remains significantly below precrisis trends (see figure 4).

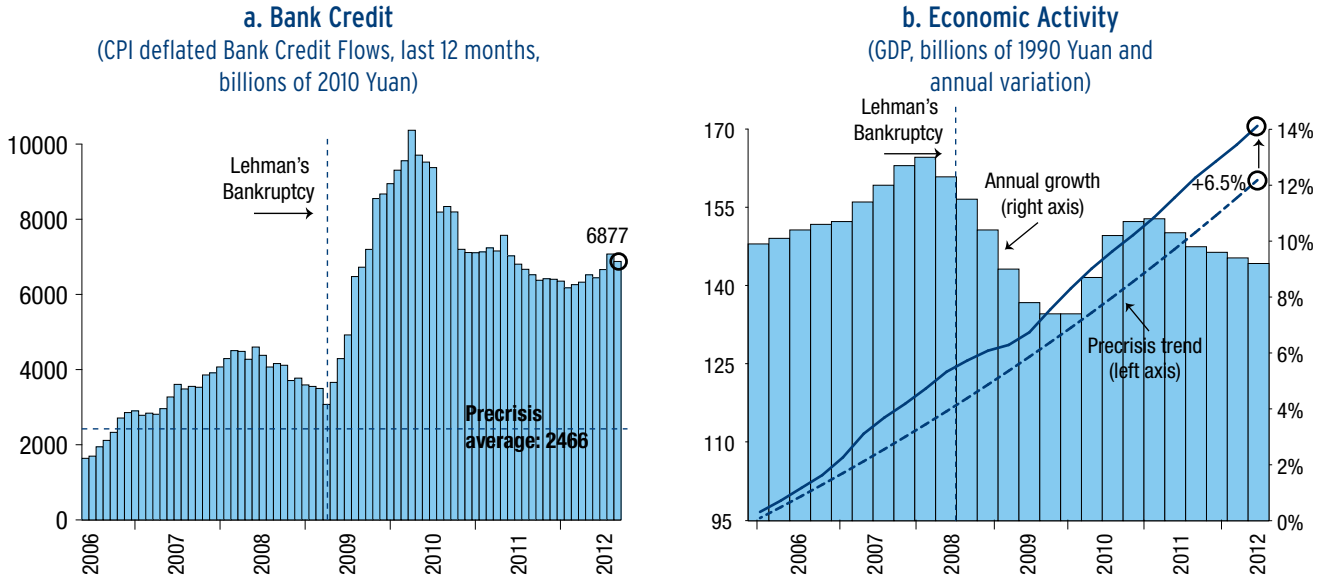
In sharp contrast, if we now turn to the emerging market economies and take a look at China, the picture that emerges is the exact opposite: a credit boom in the aftermath of the global financial crisis, booming domestic demand, output running above precrisis trends and low levels of unemployment (see figure 5).

India—the second-largest emerging market economy in Asia—shares China's post-global financial crisis macroeconomic dynamics, with output lying above precrisis trends. Conversely, Russia—the largest economy in Eastern Europe and tightly connected to the EU—displays a similar pattern to that of the advanced economies, with output levels significantly below precrisis trends (see figure 6, panels a and b).

The Latin American economies diverge in their fortunes; whereas Brazil's post-financial crisis dynamics are reminiscent of that of China, Mexico—which is tightly connected to the U.S.—shares the key features of the U.S. and other advanced economies (see figure 6, panels c and d).

This evidence suggests that the global financial crisis that erupted in early 2007 in an obscure corner of the U.S. credit market—now infamously known as the subprime mortgage market—and that crippled advanced economies, rather surprisingly left both winners and losers in the emerging market world.

Figure 5. Bank Credit and Economic Activity in China

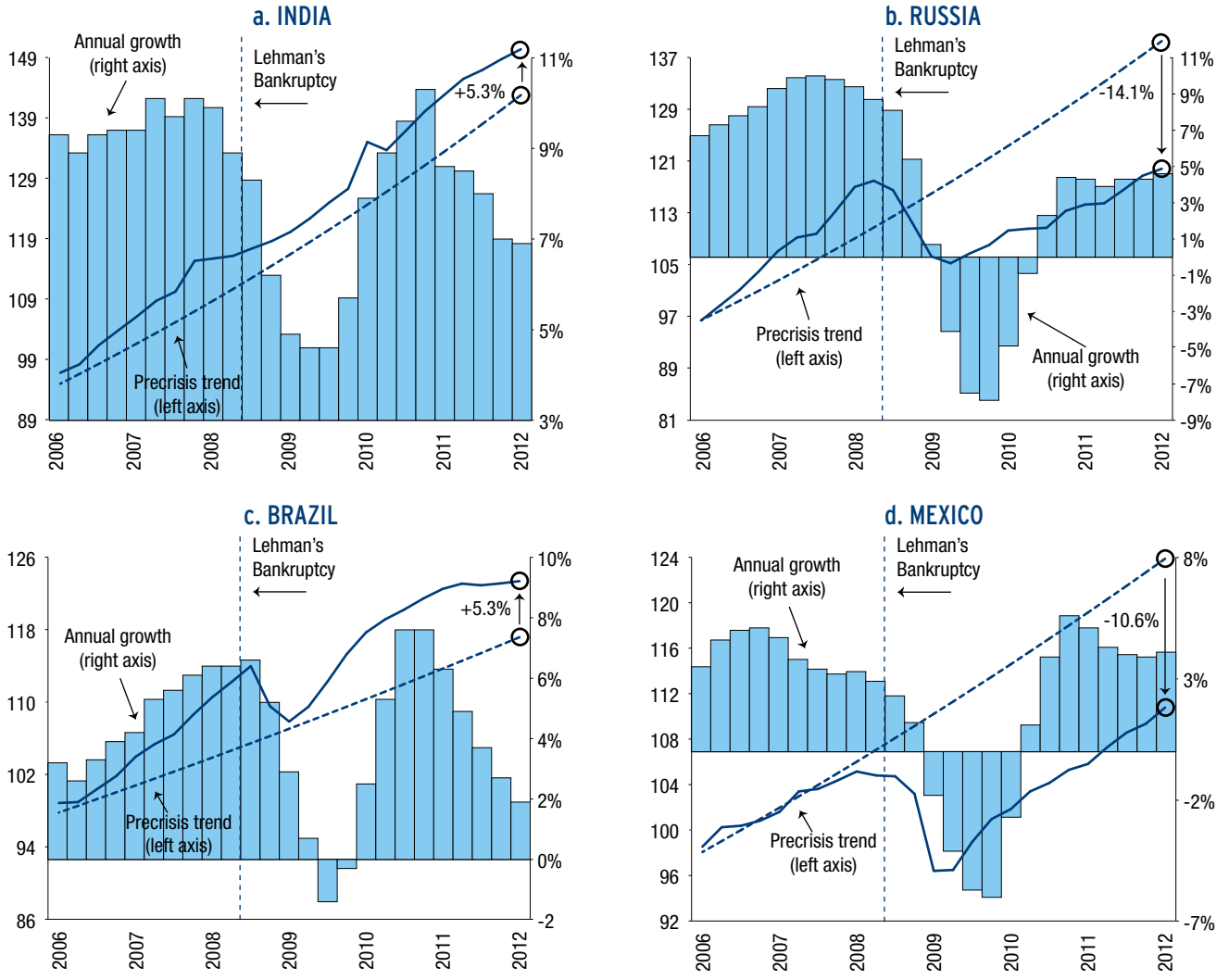


Note: Precrisis GDP trend is computed for the period 2000-2006. Precrisis average is computed for 2006.

Sources: IMF and national statistics.

[4] Financial deregulation during the 1980s and a housing boom led to a financial meltdown in Sweden in 1992. Six banks, representing 46 percent of banking system assets, underwent public sector intervention. See, e.g. Englund (1999) and Ergungor (2007) for analyses of the Swedish banking crisis.

Figure 6. Post-Global Financial Crisis Output Dynamics in Emerging Market Economies



Note: Precrisis GDP trends are computed for the period 2000-2006.

Sources: National statistics.

The Global Index of Economic Performance

To identify winners and losers in a systematic way, we have constructed a global index that measures macroeconomic performance for a large number of countries around the globe. The Post-Financial Crisis Global Index of Economic Performance (PFC-GIEP) is designed to measure whether a country's macroeconomic performance is stronger or weaker relative to the prevailing performance prior to the outbreak of the global financial crisis in 2007. The index is computed for a representative sample of 43 advanced and emerging market economies that represent 90 percent of the world's gross domestic product (GDP) and cover every region of the world (see table 2).

Table 2. PFC-GIEP: Regional Coverage

Region	Share of World GDP	Number of Countries	% of Region	% of World
Advanced Economies	50.5%	5+ EU	93.6%	47.2%
Emerging	49.4%	37	88.2%	43.6%
Emerging Asia	25.1%	6	92.2%	23.3%
Emerging Europe	8.4%	8	82.9%	7.0%
South America	6.0%	6	94.4%	5.7%
Middle East & North Africa	4.9%	6	74.8%	3.6%
Mexico & Central America	2.6%	6	97.2%	2.5%
Sub-Saharan Africa	2.5%	5	63.1%	1.6%
World	**-**	**43**	**-**	**90.8%**

Note: PPP-adjusted GDP.

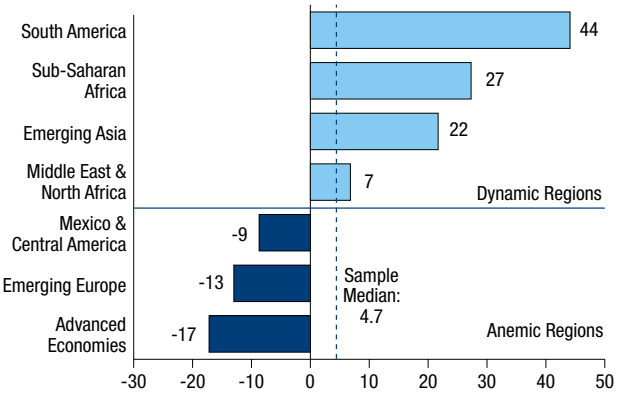
Source: WEO.

The PFC-GIEP gauges the behavior of six key macroeconomic variables—output, unemployment, domestic demand, bank credit, inflation and the real exchange rate—by comparing its current values with those that would have been expected to prevail by extrapolating pre–global financial crisis trends. For each of the variables included in the index, we assign a number between 0 and 100 to those countries with a positive gap (100 being the largest positive gap) and a number between 0 and minus 100 to those countries with a negative gap (minus 100 being the largest negative gap). We then compute for each country the simple average of all the variables included in the index—previously normalized to range from minus 100 to 100—to obtain the final value of the PFC-GIEP. A more detailed description of the PFC-GIEP can be found in appendix 1.

According to the PFC-GIEP, the post-global financial crisis world is divided into two groups: countries with a positive PFC-GIEP, which we define as "dynamic economies," and countries with a negative PFC-GIEP, which we define as "anemic economies." Anemic economies are dominated by the advanced economies and those emerging market regions that are closely connected to them; 75 percent of economies in emerging Europe and 67 percent of those in Mexico and Central America fall into the anemic economies category. Conversely, dynamic economies are largely dominated by the economies of emerging Asia, South America, sub-Saharan Africa, and the Middle East and North Africa; 100 percent of the countries in emerging Asia, 90 percent of the countries in South America, 80 percent of the countries in sub-Saharan Africa, and 67 percent of those in the Middle East and North Africa fall into the dynamic economies category (see figure 7).

This new economic reality clearly suggests that the global financial crisis that erupted in early 2007 in the U.S. has produced a new global economic geography where economic vitality migrated from advanced economies to a subset of emerging market economies mostly located in South America, Asia and sub-Saharan Africa. Notably, nine out of the first 15 most dynamic economies are in Latin America.

Figure 7. Global Index of Economic Performance by Region



Note: Median Post-Financial Crisis Global Index of Economic Performance by region.

Sources: WEO and national statistics.

The new global economic geography splits the world into dynamic and anemic economies. However, this division escapes any easy classification—cutting across economic development categories, geographical regions and the East/West dimension—for three main reasons. First, although the dynamic economies are largely dominated by the emerging market countries, and the anemic economies are largely dominated by the advanced countries, many emerging market countries still fall into the anemic category. Second, there is diversity within geographical regions, each of which displays its fair share of both dynamic and anemic economies. And third, although the Western economic powerhouses, the U.S. and the EU, are classified by the PFC-GIEP as anemic economies, and China and the other Asian countries are classified as dynamic economies, this is a far cry from being an East/West phenomenon. For starters, Japan is also an anemic economy, whereas the countries of South America and sub-Saharan Africa are in the dynamic category. This new configuration of the world economy implies a more complex reallocation of economic power and a new web of economic relations than a simple-minded East/West dichotomy might suggest.

The New Global Economic Geography: Who Wins, Who Loses and Why

To uncover the fundamental reasons why some emerging market countries have turned out to be winners, and others have turned out to be losers, we must further explore the four key features of the post-global financial crisis new global economic geography.

First, this was the beginning of a new period of very low yields and risk premiums, and massive capital inflows to emerging market countries (see figure 8, panel a). This phenomenon is not a mere coincidence but is causally connected to the contraction in private consumption and investment—and the corresponding rise in household and corporate saving—in advanced economies. Private sector deleveraging in advanced economies freed up capital and financial resources at very cheap rates that flooded a subset of emerging market economies, enabling them to buy land, property, corporations, stocks and bonds, and thus triggering an asset and credit boom, a boom in domestic demand and an acceleration in output growth in many emerging market countries. In particular, capital inflows to Latin America multiplied by three in the aftermath of the global financial crisis. However, the reallocation of financial and capital resources from the advanced economies to the emerging market economies was not indiscriminate. As we show below, the surge in inflows only occurred in a very specific subset of emerging market countries.

Second, there was a significant change in the composition of world demand due to the migration of economic vitality from advanced economies to emerging market countries with a higher propensity to consume primary commodities. Although raw materials represent only 15 percent of advanced economies' imports, they represent 28 percent of the major dynamic emerging market countries' imports (see figure 8, panel b).

Third, commodity prices have reached record highs as a result of higher demand for raw materials and low world interest rates. Oil, food and metals prices are all well above their pre-global financial crisis levels (see figure 8, panel c).

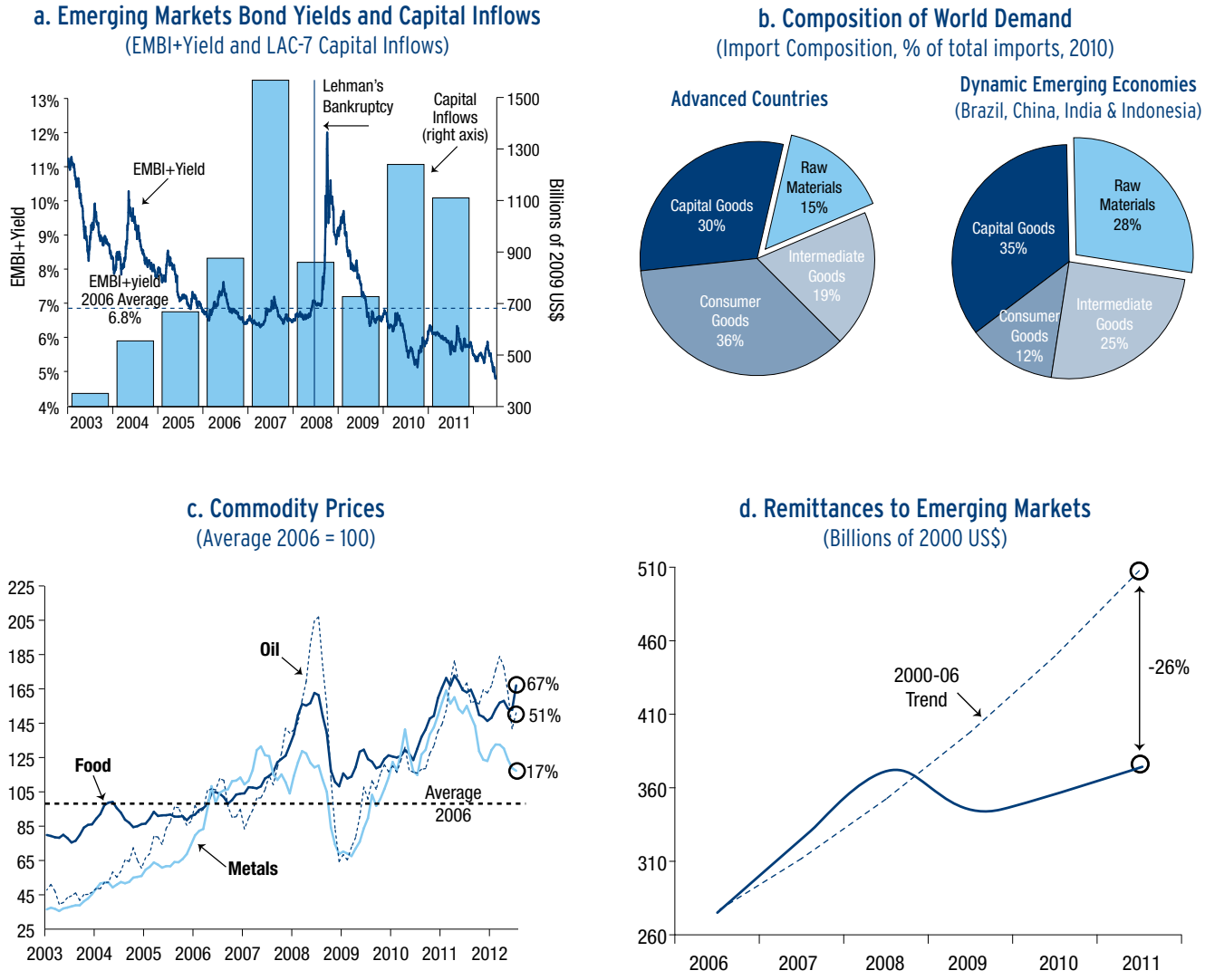
And fourth, there was a significant stagnation in the flow of remittances from advanced economies to emerging market economies (figure 8, panel d).

Given these pivotal features of the new global economic geography, who are the likely winners?

First, net commodity exporters that benefit from historically high commodity prices. In Latin America, there is a sharp contrast between the commodity-exporting South American region and the mostly commodity-importing Mexico and Central American region (see figure 9, panel a).

Second, countries with a large share of exports of goods and services to dynamic economies that stand to benefit from the migration of economic vitality from advanced economies to emerging market economies. On this dimension in Latin America, there is also a striking contrast between the South American region and the Mexico and Central American region. The Mexico and Central American region is tightly connected to anemic advanced economies, whereas the South American region is more connected to dynamic economies (see figure 9, panel b).

Figure 8. Key Characteristics of the New Global Economic Geography



Note: LAC-7 includes Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

Sources: Bloomberg, WEO, WITS, World Bank and IMF.

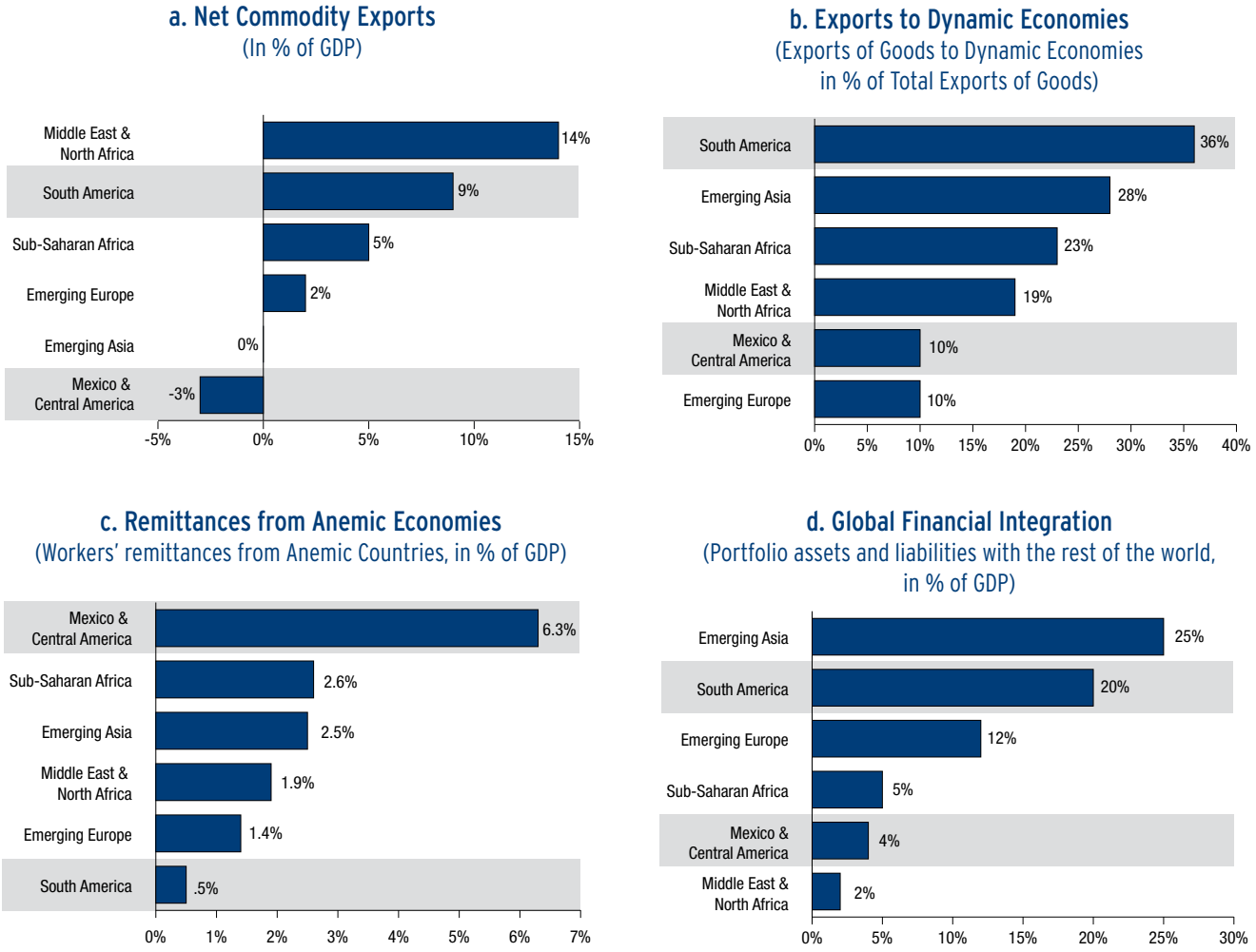
Third, countries with a low dependence on remittances flowing from anemic advanced economies. Again, there is a sharp contrast between the largely dependent Mexico and Central American region and the South American region, which has a low dependence on remittances (see figure 9, panel c).

Fourth and finally, countries with high levels of integration to global capital markets that stand to benefit from a low-interest-rate, low-risk-premium environment. With the exception of Mexico—which shares the financial integration levels of South America—the South American region has a much larger degree of integration to global capital markets than does the Mexico and Central American region (see figure 9, panel d).

To formally assess the *likely* winners and losers in the new global economic geography according to their structural characteristics, we perform a cluster analysis for the sample of emerging market countries included in the PFC-GIEP.[5] The first clustering variable is the ratio of net commodity exports to GDP. The second clustering variable is a composite indicator of exposure to advanced economies (measured by the sum of total exports of goods and services to advanced economies and remittances, both relative to GDP). The

[5] An agglomerative hierarchical clustering was performed using the Ward's method (see Ward 1963). See Talvi and Munyo (2011) and Izquierdo and Talvi (2011) for a similar analysis and a detailed description of the methodology.

Figure 9. Potential Winners and Losers of the New Global Economic Geography: Structural Characteristics



Note: In Remittances Inflows, Middle East & North Africa excludes United Arab Emirates due to lack of data. In Global Financial Integration, Emerging Asia excludes Pakistan and Middle East & North Africa excludes United Arab Emirates and Iran due to lack of data. In Mexico, Global Financial Integration level stands at 17 percent of GDP, similar to those of South America.

Sources: Lane and Milesi Ferretti (2007) and World Bank.

third and last clustering variable is global financial integration (as measured by the ratio of portfolio assets and liabilities with the rest of the world relative to GDP).

Do the predicted winners and losers uncovered by the cluster analysis, which focuses on the structural characteristics of countries, coincide with the actual winners and losers as identified by the PFC-GIEP, which focuses on actual macroeconomic outcomes? The answer is yes. There is a strong match between macroeconomic outcomes and the structural characteristics of individual countries. A total of 75 percent of the countries predicted to be winners by the cluster analysis have a positive PFC-GIEP, and 69 percent of the countries predicted to be losers have a negative PFC-GIEP. Moreover, the average value of the PFC-GIEP for the cluster of countries expected to be winners in the new global economic geography is significantly higher than the PFC-GIEP for the cluster of countries expected to be losers; 14.8 and -6.0, respectively.[6]

In summary, the cluster analysis reveals that the *predicted* winners and losers in the new global economic geography according to their structural characteristics are strongly correlated with the *actual* winners and losers, as measured by macroeconomic outcomes using the PFC-GIEP. So it is the interaction between a country's structural characteristics with the key

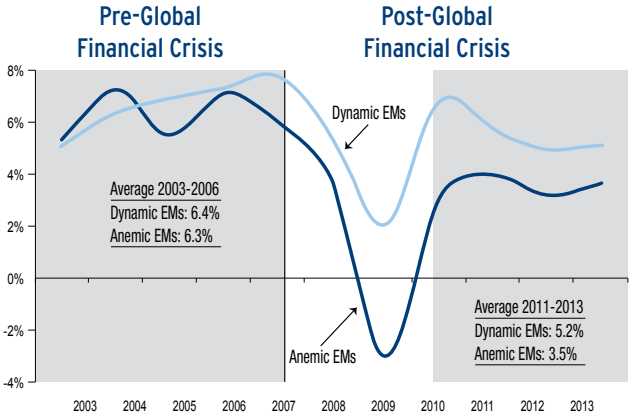
[6] Difference of means test indicate that this difference is significant at the 5 percent level.

features of the new global economic geography that explains why a subset of emerging market countries were winners but another subset were losers. More specifically for Latin America, this explains why the commodity-exporting, financially integrated South American region, which is more connected to dynamic emerging market countries, has turned out to be a winner in new global economic geography.

Thus it should come as no surprise that, when grouped together, the dynamic emerging market economies fared much better in the aftermath of the global financial crisis than the anemic emerging market economies (see figure 10). Moreover, the dynamic emerging market economies are expected to grow at substantially higher rates than the anemic emerging market economies in the foreseeable future (5.2 percent compared with 3.5 percent, respectively), according to consensus forecasts, even though the two groups had very similar rates of growth before the onset of the global financial crisis (6.4 and 6.3 percent for dynamic and anemic economies, respectively).

International capital markets have taken notice of this phenomenon, as illustrated in figure 11. Capital inflows to dynamic emerging market economies are currently much higher than pre–global financial crisis levels (5.7 vs. 4.5 percent of GDP), while capital inflows

Figure 10. Dynamic and Anemic Emerging Market Economies: Output Dynamics
(GDP annual growth, %)

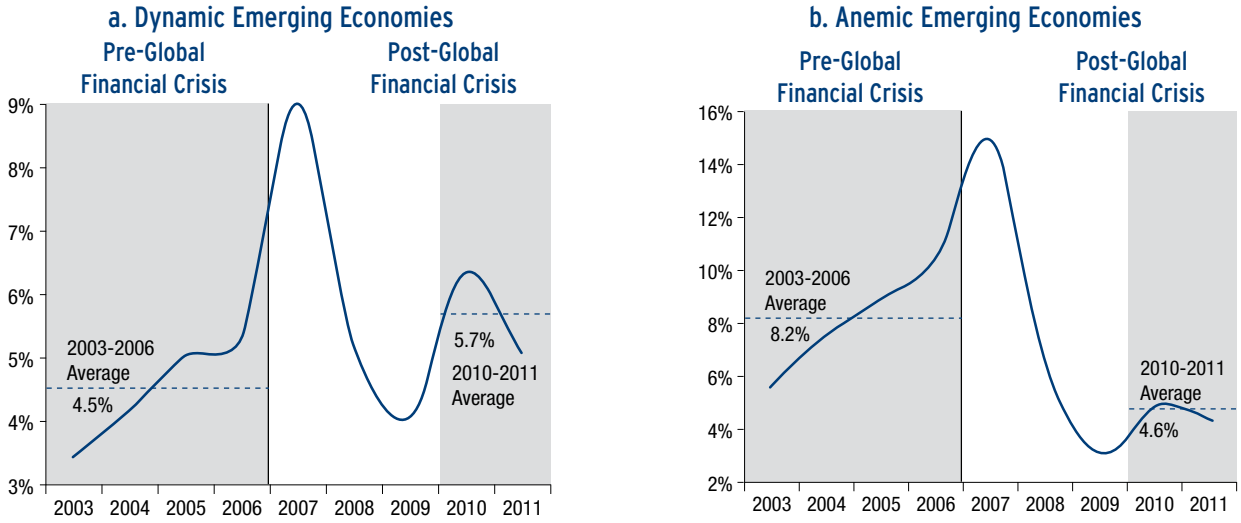


Note: Dynamic EMs include Argentina, Algeria, Angola, Brazil, Chile, China, Colombia, Dominican Republic, Egypt, Ghana, India, Indonesia, Iran, Kenya, Malaysia, Panama, Peru, Philippines, Poland, Saudi Arabia, Thailand and Turkey. Anemic EMs include Costa Rica, El Salvador, Guatemala, Hungary, Kazakhstan, Mexico, Morocco, Nigeria, Czech Republic, Romania, Russia, South Africa, Ukraine, United Arab Emirates and Venezuela.

Source: WEO.

to anemic emerging market economies are much lower (8.2 vs. 4.6 percent of GDP). This phenomenon clearly suggests that the financial and capital resources that were freed up due to the financial crisis that crippled advanced economies have selectively flown to those emerging market economies that, according to their structural characteristics, were expected to be dynamic performers in the new global economic geography.

Figure 11. Capital Inflows to Dynamic and Anemic Emerging Market Economies
(% of GDP)



Note: Dynamic EMs include Argentina, Algeria, Angola, Brazil, Chile, China, Colombia, Dominican Republic, Egypt, Ghana, India, Indonesia, Iran, Kenya, Malaysia, Panama, Peru, Philippines, Poland, Saudi Arabia, Thailand and Turkey. Anemic EMs include Costa Rica, El Salvador, Guatemala, Hungary, Kazakhstan, Mexico, Morocco, Nigeria, Czech Republic, Romania, Russia, South Africa, Ukraine, United Arab Emirates and Venezuela.

Source: WEO.

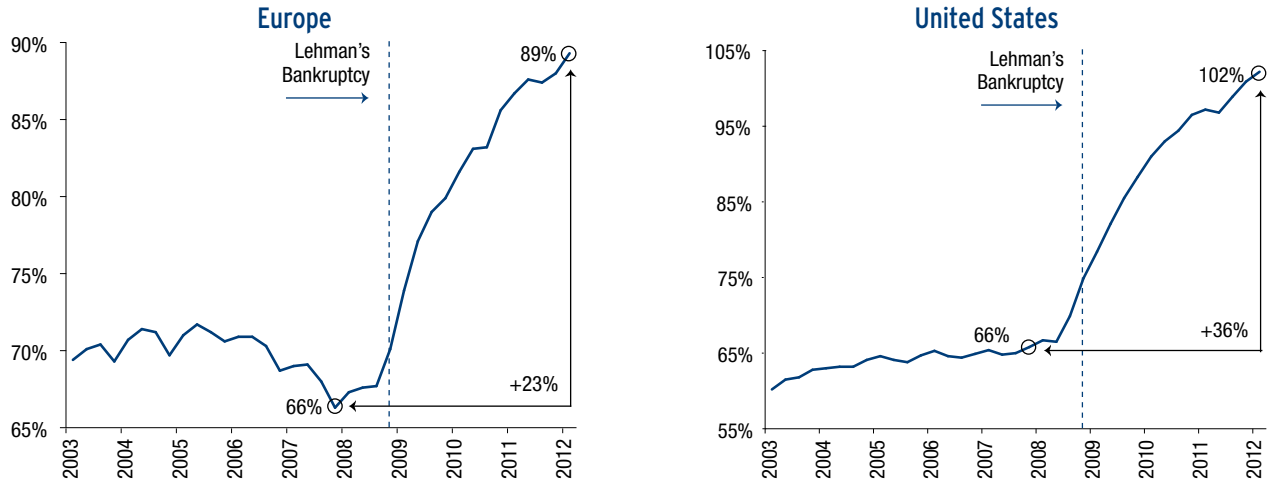
The Gordian Knot of the Eurozone Crisis: Overvaluation cum Debt Overhang

The eurozone crisis poses the most serious threat to global financial stability.[7] A new episode of global financial turmoil could disrupt the flow of capital and financial resources from advanced economies to emerging market countries and bring to a halt the engines of world growth. This latent risk notwithstanding, the Gordian knot of the eurozone crisis—that is, currency overvaluation cum debt overhang in peripheral Europe—is far from being resolved.[8]

If we consider the eurozone as a single political entity, public debt levels do not differ significantly from those of the U.S., whether we look at current levels or the levels prevailing before the global financial crisis (see figure 12).

Although sovereign risk is relatively low in the U.S., the same is not true for all eurozone countries. In the aftermath of the global financial crisis, risk perceptions across members of the eurozone diverged widely. Sovereign risk spreads—over the German Bunds—are significantly higher for countries in peripheral eurozone countries (see figure 13).

Figure 12. Public Debt
(in % of GDP)



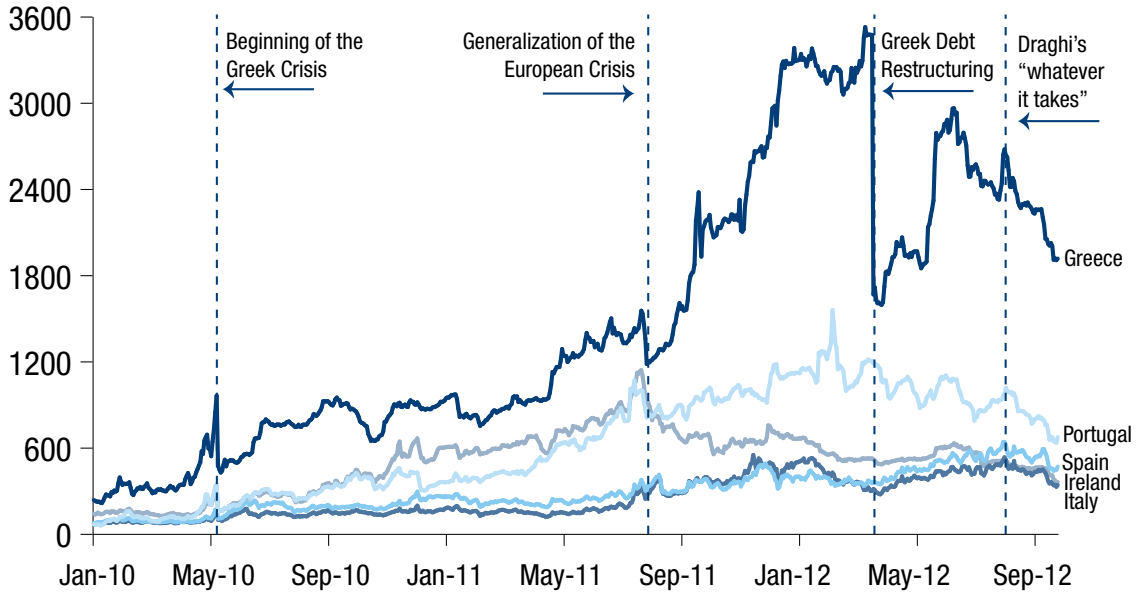
Note: Europe refers to EA-17: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia and Spain.

Sources: National statistics and Eurostat.

[7] There has been a vast amount of literature written on the eurozone crisis. For related analyses to the one presented in this section, see Krugman (2012), Soros (2012) and Wolf (2012).

[8] "Peripheral Europe" includes Greece, Ireland, Italy, Portugal and Spain.

Figure 13. Sovereign Risk in the Eurozone
(10-year sovereign yield spreads over German Bund, in bps)



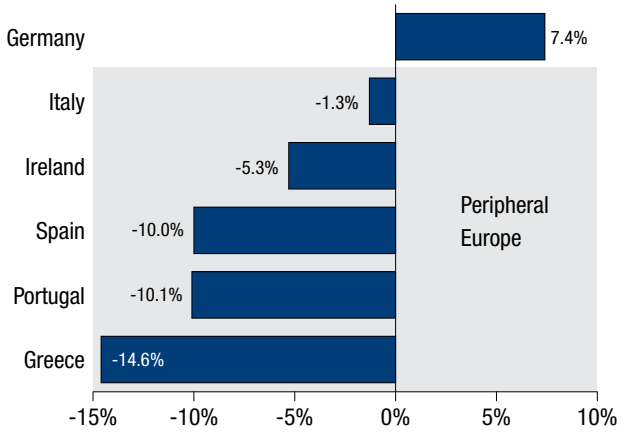
Source: Bloomberg.

What explains this divergent path across national countries in the eurozone when aggregate public debt does not differ substantially from that of the U.S.? The key difference lies in the fact that, unlike the U.S., the eurozone is an economic union—free movement of goods, people and capital—and a monetary union but not a political union. In particular, it is neither a fiscal union—in principle, every eurozone member country is responsible for the repayment of its public debt with its own fiscal resources—and it is not a banking union—in principle every eurozone member country is responsible for the health of its own banking system.

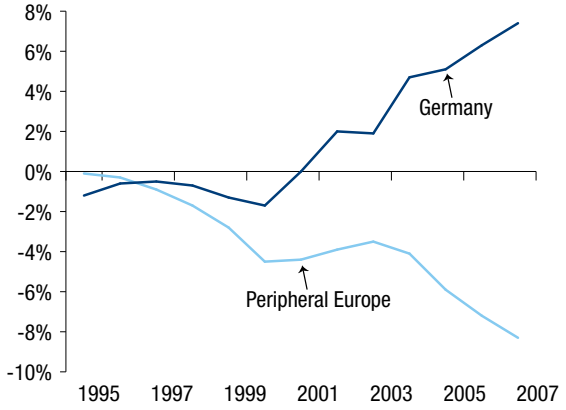
What happened after the outbreak of the global financial crisis? Foreign financing for peripheral eurozone countries—first for the private sector, and then also for the public sector—came to a sudden stop. Because it was precisely countries in peripheral Europe that exhibited large current account deficits before the onset of the global financial crisis—that is, a significant

Figure 14. Pre-Financial Crisis Eurozone Current Account

a. Precrisis Current Account Balance
(2007, % GDP)



b. Precrisis Current Account Dynamics
(% GDP)



Note: Peripheral Europe refers to Greece, Ireland, Italy, Portugal and Spain.

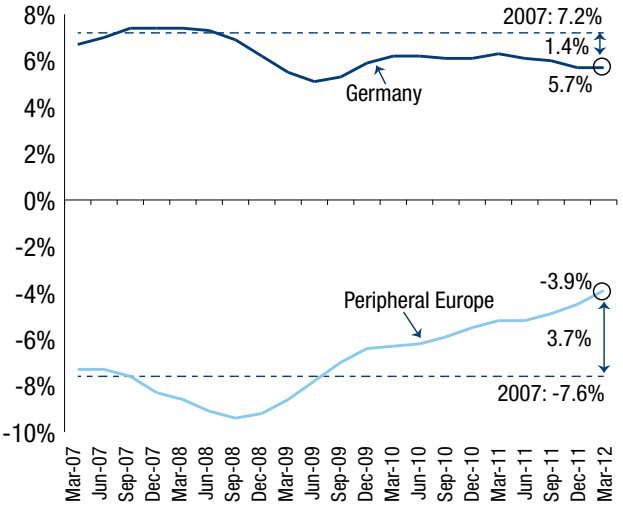
Source: Eurostat.

excess of spending over income—they were forced into major adjustments—initially private, then also public—in domestic spending. In contrast, other key eurozone countries such as Germany exhibited large current account surpluses. Moreover, this pattern of current account imbalances within the eurozone is a relatively new phenomenon. As early as the mid-1990s, both Germany and the average peripheral European economy were close to current account balance (see figure 14, panels a and b).

The abrupt interruption in foreign financing triggered large current account adjustments in peripheral Europe: The current account deficit for the average peripheral European economy declined by approximately 4 percentage points of GDP between 2007 and 2011 (see figure 15). This large adjustment occurred in spite of a deterioration of the public sector current account balance by 6 percentage points of GDP due to a pronounced adjustment in the private sector current account balance of roughly 10 percentage points. The opposite pattern was observed in Germany, where the current account surplus shrank by 2 percentage points of GDP in the same period.

Figure 15. Post-Financial Crisis Current Account Dynamics

(Current account in % GDP, last four quarters)



Note: Peripheral Europe refers to Greece, Ireland, Italy, Portugal and Spain.

Source: Eurostat.

The evidence from the literature on "Sudden Stops" (in capital inflows) suggests that interruptions in foreign financing and large adjustments in current account deficits are always associated with significant depreciations of the nominal and real exchange rate.[9] Although, on impact, Sudden Stops in capital inflows have contractionary effects on output, the depreciation of the real exchange rate, in the context of a reduction of domestic spending, is a key element in helping a country export its way back to recovery and growth.

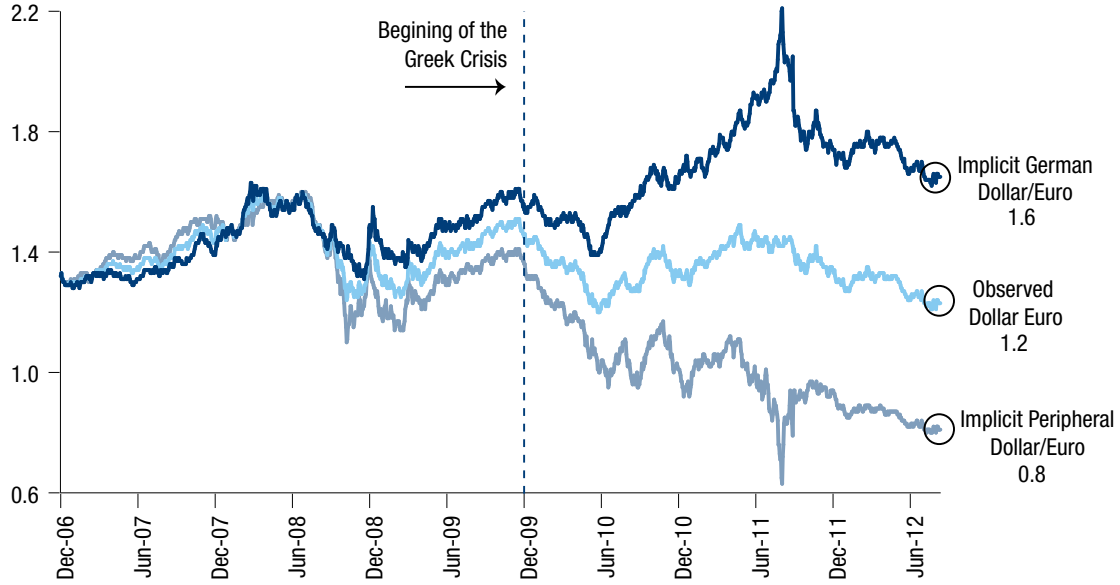
Given their large current account deficits prior to the advent of the global financial crisis, countries in peripheral Europe would have required significant real exchange rate depreciations to avoid a persistent economic contraction. In fact, following Calvo, Izquierdo and Talvi (2003), we estimate that the depreciation that would have been required by the average peripheral European country to bring the current account balance back to equilibrium while maintaining full employment levels of output would have been approximately 40 percent. This would imply a value of the euro of 0.72 vis-à-vis the U.S. dollar, which is much lower than current levels.

To check for consistency, we use the dynamics of the Swiss franc as a proxy for the dynamics of the "German euro" and calculate the implicit value of the "peripheral euro."[10] This alternative methodology implies a value of the euro of 0.8 vis-à-vis the U.S. dollar, which is consistent with the previous estimates and again much lower than current levels (see figure 16).

As a result of peripheral eurozone countries' currency overvaluation and their inability to depreciate their currency, these countries are trapped in a depressed-output, high-unemployment, deflationary equilibrium. As illustrated in figure 17, output in peripheral eurozone countries has contracted by an average of 8 percent since the Lehman Brothers crisis (ranging from a maximum of 15 percent in Greece to a minimum of 4 percent in Spain) and is still contracting. The same occurred in peripheral eurozone labor markets, where average unemployment increased to 17 percent

[9] See, e.g., Calvo, Izquierdo and Talvi (2006); Calvo and Talvi (2005).
[10] The implicit value of the "peripheral euro" is calculated such that the GDP-weighted euro is consistent with the observed value of the euro.

Figure 16. Exchange Rate Asymmetries in the Eurozone



Note: Periphery refers to Greece, Ireland, Italy, Portugal and Spain. The Implicit German Dollar/Euro is computed by applying the Swiss Franc dynamics to the Observed Euro. The Implicit Peripheral Dollar/Euro is computed as the weighted average between the Observed Euro and the Implicit German Euro.

Sources: National statistics.

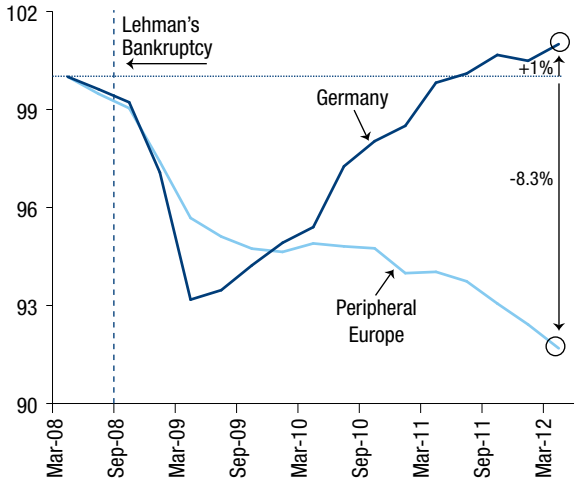
(ranging from a maximum of 25 percent in Spain to a minimum of 11 percent in Italy). In contrast, in undervalued Germany, output swiftly recovered to pre–Lehman Brothers crisis levels and unemployment is currently substantially below pre–Lehman Brothers crisis levels.

With a depressed economy due to severe overvaluation, large fiscal deficits and unsustainable debt levels are the inevitable outcome, not the root cause of the problem. Moreover, with a depressed economy, the private sector is bound to suffer the same debt sustainability problems as the public sector. In other words, whatever the split between public and private sector debt (e.g., Spain and Greece have similar levels of total debt; however, though a large fraction of Greek debt is public, the bulk of Spanish total debt is private), with an overvalued exchange rate and depressed levels of

Figure 17. Depressed-Economy—High-Unemployment Deflationary Trap

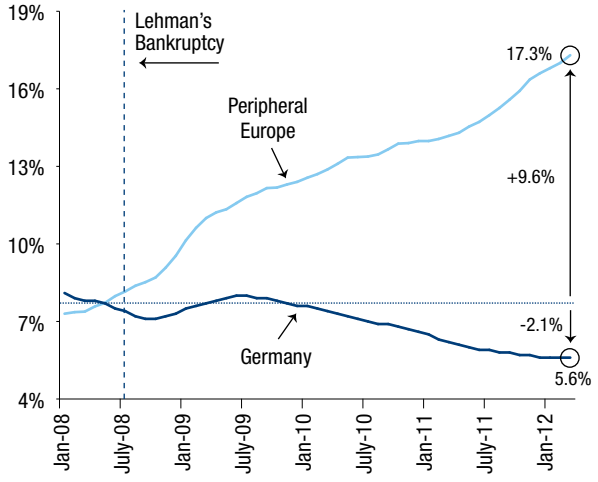
a. Gross Domestic Product

(Real index s.a., Mar-08=100)



b. Unemployment

(Unemployment Rate s.a.)



Note: Peripheral Europe refers to Greece, Ireland, Italy, Portugal and Spain.

Source: Eurostat.

Table 3. Debt in Peripheral Europe
(in % GDP, Mar-12)

	Public	Private	Total
Spain	72%	201%	273%
Ireland	109%	200%	309%
Portugal	112%	188%	300%
Italy	123%	122%	245%
Greece	132%	118%	250%
Peripheral Europe	110%	166%	275%

Note: Private debt is measured as total bank credit to the private sector.

Sources: Eurostat and IMF.

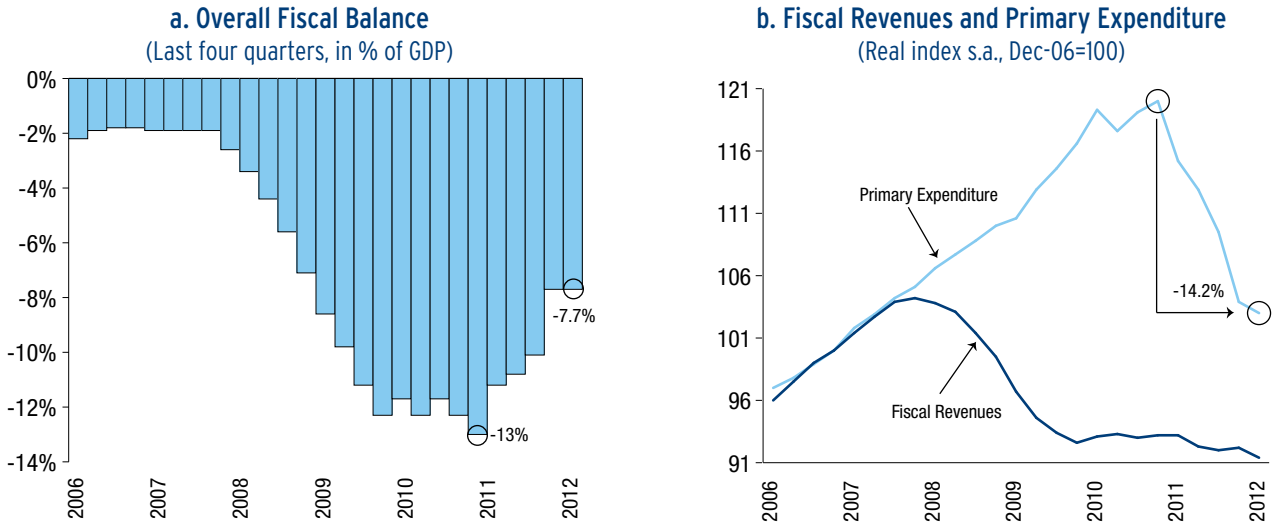
output, the economy is very likely to have a debt overhang problem (i.e., excessive levels of debt at current levels of the real exchange rate; see table 3). So untying the Gordian knot of the eurozone crisis requires either solving the overvaluation problem or the debt overhang problem. Most probably, both.

Great effort has been made in peripheral Europe to improve public sector finances. The average fiscal deficit was reduced from 13 percent of GDP in December 2010 to 7.7 percent of GDP in March 2012, mostly due to an average 14 percent cut in real public expenditures (see figure 18). However, fiscal austerity measures do not go to heart of the problem: If currency overvaluation cannot be addressed, dealing with the debt overhang problem through fiscal adjustments that push an already-imploding economy further down to the abyss is, in our view, a recipe doomed to failure.

Going down the route of trying to solve the overvaluation problem with a "euro exit" or "euro holiday" for peripheral countries would be playing with fire. The reintroduction of a domestic currency that would allow for large nominal and real devaluations would most likely force the country to redenominate its assets and liabilities in domestic currency to avoid a large revaluation of public and private debts.[11] And solely the anticipation that this might happen could immediately precipitate a run against banks and a whole range of domestic assets. We know how these runs can get started, but they are very difficult to stop once they do.[12]

Alternatively, a second route to solve the overvaluation of peripheral Europe would be for the European Central Bank to pursue a much more expansionary monetary policy and allow for a substantial depreciation of the euro—that is, a depreciation large enough

Figure 18. Fiscal Accounts in Peripheral Europe



Note: Peripheral Europe refers to Greece, Ireland, Italy, Portugal and Spain.

Source: Eurostat.

[11] According to our estimates, if peripheral European countries were to depreciate their currencies to balance the current account at full employment levels of output, average public debt would increase by at least 30 percentage points of GDP and average private debt by 45 percentage points of GDP.
[12] Something similar would happen if investors anticipate Germany were to leave the euro, as some analysts have suggested. See, e.g., Soros (2012).

to eliminate deflationary pressures in peripheral Europe. This route would imply that Germany and other eurozone countries with a current account surplus might have to accept substantially higher levels of inflation for a considerable period of time.[13] And this route may be politically unacceptable for Germany and other nonperipheral eurozone countries.

If solving the overvaluation problem is unfeasible, then it is the debt overhang problem that must be addressed to facilitate economic recovery in peripheral eurozone countries. There could be a wide variety of ways to engineer a resolution of the debt overhang problem—partial debt redemption of peripheral eurozone countries' debt with Eurobonds; direct recapitalization of peripheral eurozone banks by the European Stability Mechanism; sterilized European Central Bank purchases of peripheral eurozone countries' debt—which are beyond the scope of this report to discuss. A back-of-the-envelope calculation would suggest that eliminating the debt overhang problem in peripheral Europe could have a cost between 40 and 50 percent of German GDP.[14] The sheer magnitude of this problem suggests that it is probably both politically and economically unfeasible for Germany—and for that matter the eurozone—to deal with it by itself.

The natural consequence of this analysis is that a resolution of the debt overhang problem on peripheral Europe is most likely to be achieved through a concerted effort of the international community. In fact, eliminating the debt overhang problem in Europe would amount to between 4 and 5.5 percent of the combined GDP of the U.S., Germany, Japan and China.[15]

Because the lack of a resolution to the eurozone crisis can put global financial stability at risk, it is the responsibility of the global financial community to forcefully, efficiently and rapidly address it. Dealing with the moral hazard dimensions of the debt overhang problem will require institutional arrangements to attenuate perverse incentives and ensure that markets are able to adequately price risk depending on individual countries' policies and performance. We acknowledge this is a difficult balancing act. However, the fact that it is cannot and should not paralyze the eurozone and the international community and thus keep them from dealing with the problem before it explodes in our faces.

[13] Our calculations suggest inflation in the nonperipheral eurozone should increase by at least 3 percentage points per year during five years for peripheral eurozone countries to attain the required equilibrium real exchange rate.

[14] The calculation assumes a public debt haircut for each country in peripheral Europe consistent with the implied probability of default in secondary market prices of public debt, and a bank recapitalization equivalent to 10 percent of total credit to the private sector.

[15] Alternatively, the international community could monetize part of peripheral Europe's debt and levy an inflationary tax on global holders of monetary and financial liabilities.

Emerging Market Economies' Resilience to Global Financial Turmoil

If not adequately addressed, the eurozone crisis could result in a new episode of global financial turmoil that could shut down the emerging market economies' access to international capital markets for a protracted period of time. Ironically, the economic forces that in the post–financial crisis world created the conditions for a new global economic geography in which many emerging market countries could flourish—severe problems in advanced economies that freed up capital and financial resources to be invested in a subset of emerging market economies—are inherently the same as those forces that are capable of wreaking havoc in global capital markets and stripping the emerging market economies of their bonanza in the blink of an eye.

This begs the question of how resilient or vulnerable the emerging market economies are to a new episode of global financial turmoil. To address this question, we analyze two sets of indicators: the external liquidity indicators and the external macroeconomic vulnerability indicators for the emerging market countries included in the PFC-GIEP. A detailed description of both indices can be found in appendix 2.

The External Liquidity Indicator

The external liquidity indicator measures the amount of international reserves that a country has available to serve its external public and private debt obligations and its domestic public debt obligations coming due in the next 12 months.[16] According to the empirical literature, this indicator is a robust predictor of financial crises in that greater short-term exposure is associated with a larger probability of crisis (i.e., a large reversal in capital flows) and larger output contractions.[17] Moreover, the probability of a crisis increases exponentially when the level of this indicator exceeds the threshold level of 100 percent.

The majority of emerging market economies (72 percent) display high levels of international liquidity. In fact, the average emerging market economy exhibits an international liquidity indicator that is below 100 percent. Thus, from an international liquidity perspective, emerging market countries appear to be strong enough to sustain a new episode of financial turmoil, even if access to credit markets is shut off for a considerable period of time. Therefore, external liquidity issues are not, at the current juncture, the main source of concern for most emerging market economies. This is not a minor accomplishment, to say the least.

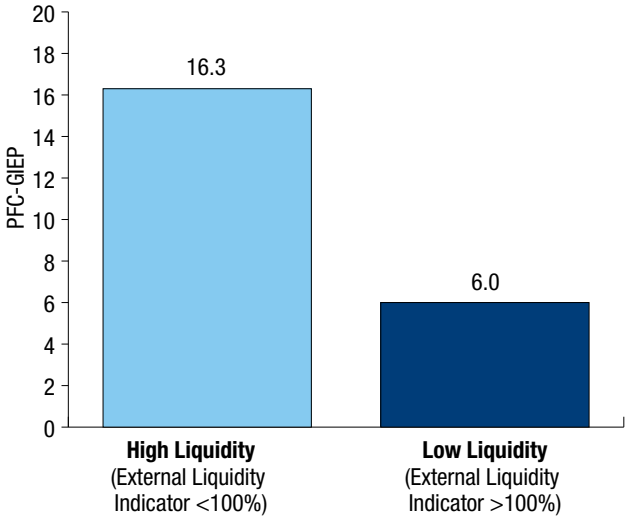
When we split the sample of countries into those with high levels of liquidity (i.e., countries with an international liquidity indicator below 100 percent) and low levels of liquidity (i.e., countries with an international

[16] This is a variant of the well-known Guidotti-Greenspan rule. See appendix 2 for further details.

[17] Rodrik and Velasco (1999) present evidence that countries that experienced crises have short-term debt to reserves ratios that are—on average—twice the levels observed in other cases. Moreover, in countries where this ratio is larger than unity, the probability of crisis triples. Conditional on having experienced a crisis, the average growth rate reduction in the year of crisis (relative to the previous year) is 4.1 percentage points. For further references, see, e.g., Furman and Stiglitz (1998), Radelet and Sachs (1998).

liquidity indicator above 100 percent), we find that the average country with high levels of liquidity tends to be more dynamic (as measured by the PFC-GIEP) than the average country with low levels of liquidity (see figure 19).[18] This is due to the fact that dynamic emerging market economies were the recipients of large capital inflows and were able to accumulate a larger stock of international reserves.

Figure 19. Average PFC-GIEP and External Liquidity



Source: WEO.

Macroeconomic Vulnerability

The external liquidity analysis deals with *stocks*, that is, how large is the stock of international reserves to cover the stocks of external public and private debt and public domestic debt coming due. However, episodes of systemic financial turbulence have been associated in emerging market economies with substantial adjustments to the current account balance, that is, excess spending over income. According to Calvo, Izquierdo and Talvi (2006), who analyze 33 cases of emerging market crises in the context of global capital market turmoil, the current account deficit shrinks on average by 6 percent of GDP.[19]

Thus, in the hypothesis of a sudden stop in external capital inflows, although emerging market countries appear largely shielded from a liquidity perspective, they may still be highly vulnerable from a macroeconomic point of view and be subject to large adjustments in the current account and a significant contraction in aggregate demand and output.

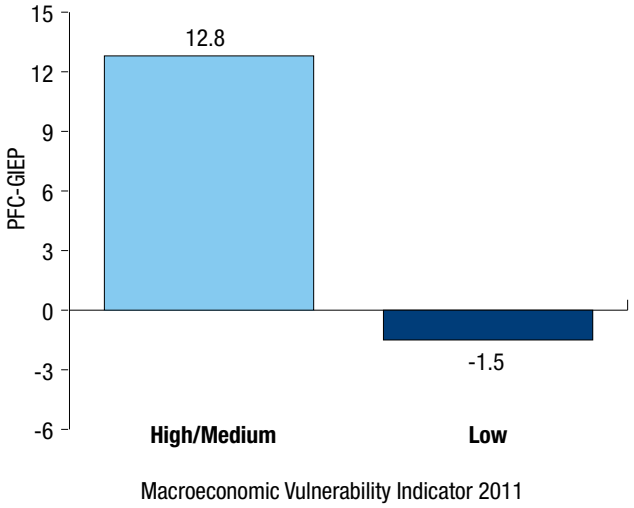
To obtain a measure of macroeconomic vulnerability to a sudden interruption in capital flows, we compute the External Macroeconomic Vulnerability Indicator (EMVI) as the ratio of the commodity-price adjusted current account balance to total imports (see appendix 2 for details on the computation of this indicator). Intuitively, the EMVI measures the required adjustment in imports necessary to close any given current account deficit, should the adjustment occur only through a reduction in imports. The EMVI divides the emerging market countries into three groups: low-vulnerability economies (EMVI < 0), medium-vulnerability economies (0 < EMVI < 11 percent) and high-vulnerability economies (EMVI > 11 percent).[20]

The majority of emerging market economies (66 percent) display high to medium levels of external macroeconomic vulnerability. However, if we split the sample into those countries with high to medium vulnerability and those with low vulnerability, we find that the average country with high to medium vulnerability is dynamic whereas the average country with low vulnerability is anemic, as measured by the PFC-GIEP (see figure 20).[21] We call this phenomenon "the exuberance/vulnerability paradox."

This paradox is, however, only apparent. In fact, it is precisely the most dynamic emerging market economies that were the recipients of large capital inflows, where asset price and credit booms, booms in domestic demand and excess spending over income are likely to occur. Therefore, in an episode of global financial turmoil in which flows of capital are abruptly interrupted, it is these countries that are bound to suffer the most.

[18] The difference in average PFC-GIEP for countries with high and low external liquidity indicators is not statistically significant at the 10 percent level.
[19] For a historical and comprehensive coverage of the causes and effects of financial crises, see Reinhart and Rogoff (2009).
[20] High-vulnerability economies are those with an EMVI in excess of 11 percent, i.e., a fall in imports consistent with a 4.4 percent decline of GDP (see Calvo, Izquierdo and Talvi 2006), given an estimated income elasticity of imports of 2.5 for emerging countries—in line with Pacheco-López and Thirlwall (2006) and Escaith, Lindenberg and Miroudot (2010).
[21] The difference of mean tests indicates that the difference between the average PFC-GIEP values for low- and high-to-medium-vulnerability countries is significant at the 10 percent level.

Figure 20. Average PFC-GIEP and Macroeconomic Vulnerability



Source: WEO.

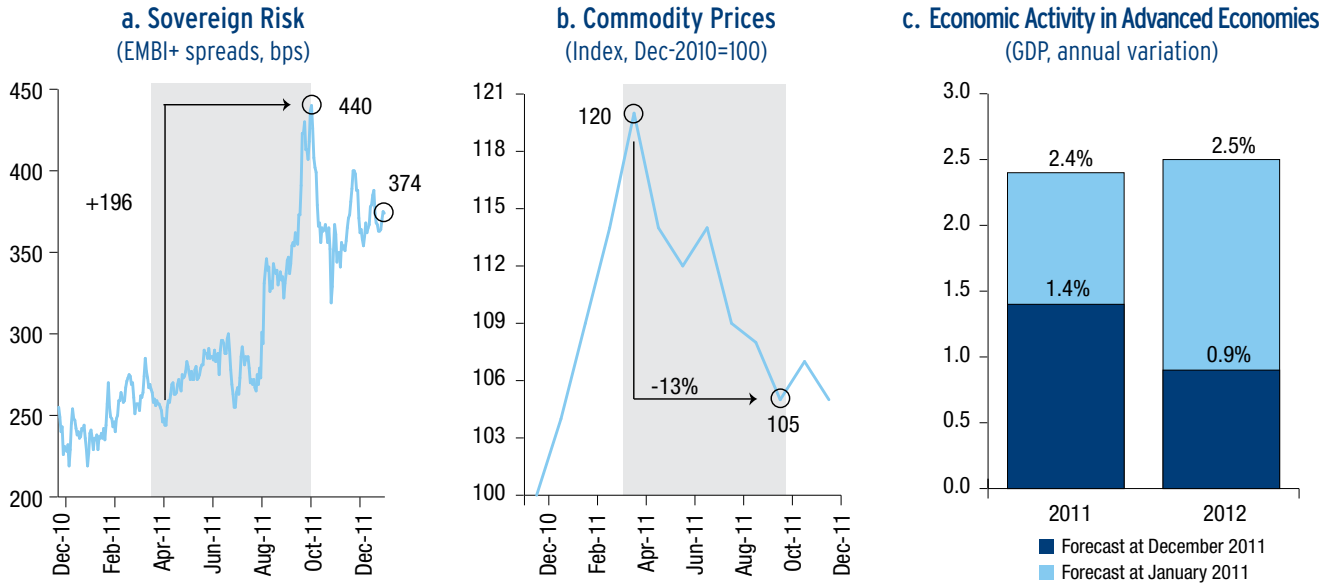
The Recent Episode of Global Financial Tensions

The macroeconomic vulnerability of emerging market economies was tested after the deterioration in global financial conditions that began in 2011, following the fears of a generalization of the eurozone crisis from small countries like Greece to larger economies such as Spain and Italy.

Indeed, as can been seen in figure 21, during the short time span between April and October 2011, sovereign risk spreads for emerging market countries increased by 200 basis points, commodity prices dropped by 13 percent and growth projections for advanced economies were reduced by more than 1 percentage point. It is precisely since mid-2011 that the growth rate of Chinese economic activity indicators—for example, industrial production, investment and imports—started to cool off. For example, industrial production in China decelerated from an annual growth rate of 15 percent in June 2011 to 9 percent in early 2012.

To assess the impact of heightened global financial tensions on emerging market economies, we compute the annualized differential growth rates between the first and second semesters of 2011. As expected, dynamic economies were the hardest hit. Countries with a high to medium EMVI experienced a significant growth deceleration of 0.9 percentage points, whereas countries with a low EMVI did not experience a growth deceleration but rather a growth acceleration of 0.5 percentage point (see figure 22).

Figure 21. The Deepening of the European Crisis in the Second Semester of 2011

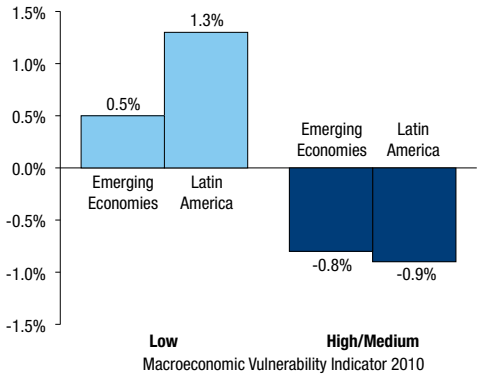


Note: Forecasts based on market estimates.

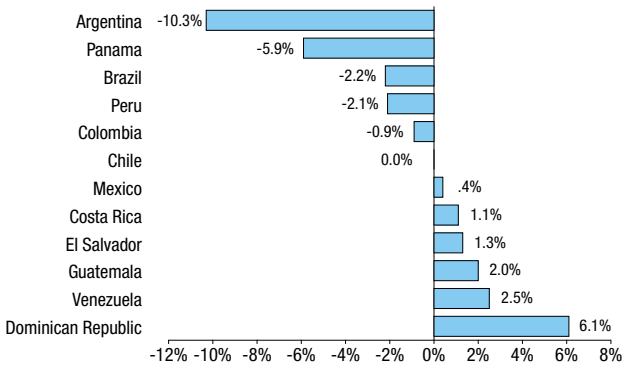
Sources: Bloomberg and IMF.

Figure 22. Growth Reversals and Macroeconomic Vulnerability in the Second Semester of 2011
(Annualized growth differences, first semester vs. second semester of 2011)

a. Growth Reversals and Macroeconomic Vulnerability
(Annualized growth differences, first semester vs. second semester 2011)



b. Growth Reversals in Latin America
(Annualized growth differences, first semester vs. second semester 2011)



Note: Emerging Economies include median annualized growth difference of Argentina, Brazil, Chile, China, Colombia, Costa Rica, Czech Republic, Dominican Republic, Egypt, El Salvador, Ghana, Guatemala, Hungary, India, Indonesia, Mexico, Malaysia, Morocco, Nigeria, Panama, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand and Turkey, Ukraine and Venezuela. Latin America includes median annualized growth difference of Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Mexico, Panama, Peru and Venezuela.

Sources: WEO and national statistics.

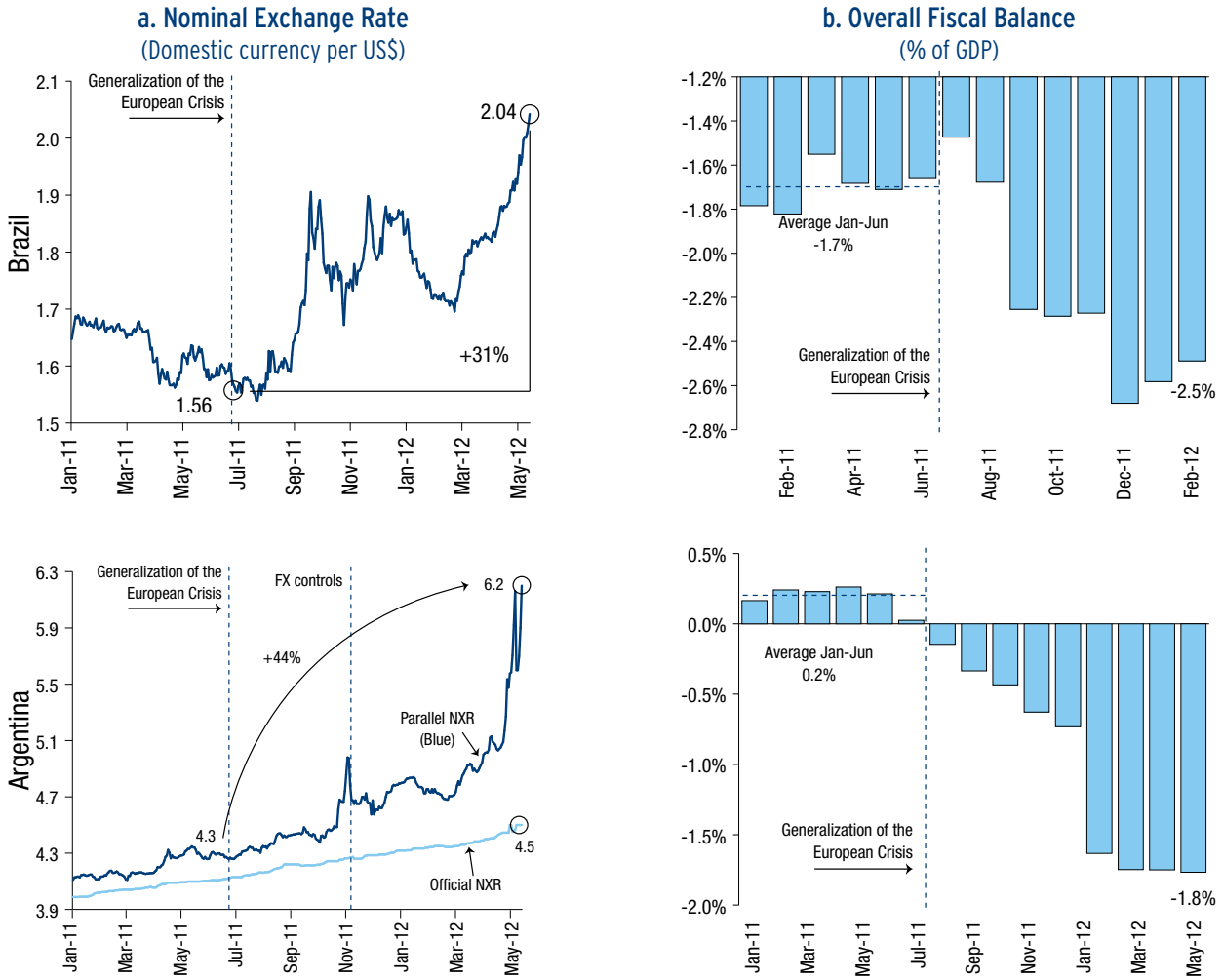
The picture is very similar if we consider the sample of Latin American countries. Countries with a high to medium EMVI experienced a large deceleration of 0.9 percentage points, whereas countries with a low EMVI experienced a growth acceleration of 1.3 percentage points.[22] In fact, Argentina and Brazil, which rank very high on the PFC-GIEP, suffered strong reversals in GDP growth in the second semester of 2011, while Mexico, which ranks very low, displayed a small acceleration in GDP growth.

In addition to the economic slowdown, Argentina and Brazil also suffered significant currency depreciation and fiscal deterioration (see figure 23).[23] However, Argentina experienced a much larger growth reversal, currency depreciation and fiscal deterioration than Brazil. In our view, this owes to the fact that Argentina's authorities reacted to the adverse impact of global financial tensions with a host of heterodox measures that added a domestic crisis of confidence to the turbulence emanating from Europe.[24]

As a result, Argentina experienced a sharp rise in sovereign risk spreads, which skyrocketed to more than 1,000 points, massive capital flights and a severe loss of international reserves (see figure 24). The Argentinean experience clearly illustrates the relevance of domestic policies in enhancing credibility, especially in circumstances where countries are confronting very adverse external conditions.

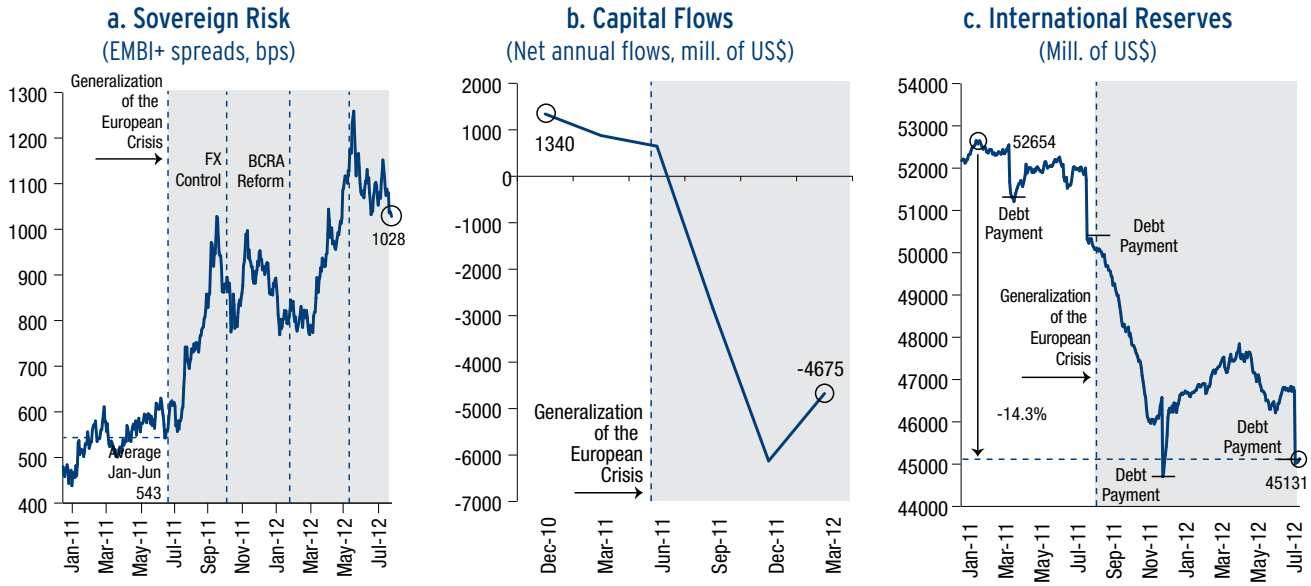
[22] In both cases, for emerging economies and Latin America, the difference of mean tests indicates that these differences are significant at the 10 percent level.
[23] In Argentina, the pressure over the exchange rate was observed on the informal foreign exchange market due to strict controls on the legal market.
[24] These measures include foreign exchange market controls, through an official approval necessary to buy dollars on the local market; capital outflow constraints, restricting transfers of corporate profits abroad; import restrictions, by slowing the process of freeing nonautomatic import licenses allowing authorities to reject import orders arbitrarily; and novel attempts to force saving pesification, by explicitly prohibiting buying U.S. dollars for saving purposes. Additionally, the government reformed the Central Bank charter, giving the Treasury access to the international reserves to pay sovereign debt obligations, and nationalized the oil company Repsol-YPF.

Figure 23. Exchange Rates and Fiscal Accounts in Argentina and Brazil



Sources: National statistics and market estimates.

Figure 24. Sovereign Risk, Capital Outflows and International Reserves in Argentina



Sources: Bloomberg and national statistics.

Conclusion

We live in a complex world. A new global economic geography has emerged in the aftermath of the global financial crisis in which economic vitality migrated from the advanced economies to a subset of the emerging market economies largely located in emerging Asia, South America and sub-Saharan Africa. In other words, most of the emerging world turned out to benefit from the crisis in the advanced economies, in many cases displaying an extraordinary degree of economic exuberance.

Under normal circumstances—that is, occasional episodes of financial turbulence that fall short of widespread panic—the dynamic emerging market economies, which have been key beneficiaries of the new global economic geography, are expected to perform better than the anemic economies. Indeed, they could continue to experience high growth rates until the deleveraging process is completed in the advanced economies, world interest rates start to rise, and capital and financial resources start heading back north. This process could still take many years.

However, the more dynamic economies at the same time are highly vulnerable to severe macroeconomic adjustments, should disarray in global capital markets—brought about by a new global economic geography in which the advanced economies, especially in the eurozone's periphery, are plagued with financial and sovereign debt problems—hit the world economy. The current period of massive capital inflows for emerging market economies could thus very well vanish in the blink of an eye. Under this scenario, the most dynamic economies are the most vulnerable and are bound to experience more severe difficulties, as evidenced in the second semester of 2011.

This is the key trade-off—the exuberance/vulnerability paradox—that the international community and policymakers need to internalize. The international community should ensure that multilateral institutions are adequately capitalized and able to perform the same role of international lender of last resort that they performed for emerging markets at the height of the global financial crisis in late 2008 and early 2009, in case a new episode of global financial turmoil materializes. This is a particularly relevant consideration at a time when the resources of the International Monetary Fund might be strained by the crisis in peripheral Europe. And policymakers need to take due notice of this exuberance/vulnerability paradox and act accordingly when setting their monetary, fiscal and macroprudential policies, in such a way that mitigates the building up of future fiscal and financial risks, rather than buying into the exuberance wave.

Appendix 1: The Post-Financial Crisis Global Index of Economic Performance (PFC-GIEP)

This appendix presents the details of the Post-Financial Crisis Global Index of Economic Performance (PFC-GIEP), which allows us to identify whether an economy turned out to be a winner or a loser in the aftermath of the global financial crisis. It needs to be stressed at the outset that the PFC-GIEP is intended to measure whether a country's macroeconomic performance is stronger or weaker relative to the prevailing performance before the advent of the global financial crisis in 2007. It is not designed to measure absolute performance; for example, country A's growth rate could be higher than country B's, but if country B's growth performance is strong relative to pre–financial crisis standards while country A's is not, the PFC-GIEP will be higher for country B than for country A.

The PFC-GIEP contains the following variables:

1. *Output gap*, measured as the ratio of the current level of real GDP relative to its precrisis trend levels. Precrisis trend levels were calculated for the period 2000–2006. Both linear and exponential trends were considered, and the one that yielded the best fit was chosen.[25]

2. *Unemployment gap*, measured as the current rate of unemployment relative to its precrisis average. Precrisis averages are computed for the period 2000–2006.

3. *Domestic demand gap*, measured as the ratio of current domestic demand relative to its precrisis trend levels. Trend levels of domestic demand were computed by applying trend-GDP growth rates to precrisis (2006) levels of domestic demand.

4. *Bank credit gap*, measured as the ratio of current stock of real bank credit relative to its precrisis trend levels. Trend levels of real bank credit were computed by applying trend-GDP growth rates to precrisis (2006) levels of real bank credit.

5. *Inflation acceleration gap*, measured as the percentage variation between the current rate of inflation and precrisis (2006) inflation rates.

6. *Real exchange rate gap*, measured as the ratio between the current levels of the bilateral real exchange rate vis-à-vis the U.S. dollar and the precrisis (2006) levels of the real exchange rate. For the U.S., the real exchange rate gap is measured vis-à-vis a trade-weighted multilateral real exchange rate.

For each of the variables included in the index, we assign a number between 0 and 100 to those countries with a positive gap (100 being the largest positive gap), and a number between 0 and minus 100 to those countries with a negative gap (minus 100 being the largest

[25] For Argentina, the years 2002 and 2003 (collapse and recovery) were excluded for the computation of the trend.

negative gap). We then compute for each country the simple average of all the variables included in the index—previously normalized to range from minus 100 to 100—to obtain the final value of the PFC-GIEP. It then follows that the number of countries with positive or negative values of the PFC-GIEP is not arbitrarily predetermined but depends on the observed economic conditions in each country.

We computed the PFC-GIEP for a broad group of countries on the basis of the following criteria. First, we included the key advanced economies: the U.S., the EU, Japan, Canada, Australia and South Korea. Second, we divided the emerging market economies into the following six regions: emerging Europe (Eastern Europe and the former Soviet republics), emerging Asia, South America, Mexico and Central America, sub-Saharan Africa, and the Middle East and North Africa. The coverage criterion for each region was defined to ensure a representative and balanced sample. Thus, each region is represented by a similar number of countries, subject to the constraint that the countries in each region represent at least 60 percent of regional GDP.

Appendix 2: The External Liquidity and Macroeconomic Vulnerability Indicators

This appendix describes in detail the methodology used to develop the external liquidity indicator and the macroeconomic vulnerability indicator.

The External Liquidity Indicator

The external liquidity indicator is computed as the ratio of external public and private debt obligations and domestic public debt obligations coming due in the next 12 months to the stock of international reserves. It is a variant of the well-known Guidotti-Greenspan Rule (GGR), which states that countries should hold sufficient international reserves to cover foreign currency debt obligations due within one year.[26]

However, this indicator has some drawbacks. The GGR omits short-term domestic currency debt obligations—including central bank's sterilization instruments—even though a run on such public debt should also be considered a potential claim on international liquidity.[27]

Because data on the time profile of domestic currency debt amortizations are only available for a relatively small subset of the emerging market economies included in the PFC-GIEP, we proceeded as follows. First, we constructed a modified GGR by adding short-term domestic currency debt obligations to the numerator of the GGR for the subsample of countries where the information was available. Second, once the modified GGR was computed, we measured the difference between the modified GGR and original GGR in standard deviation units. This difference turned out to be approximately equal to half a standard deviation of the original GGR. Third, in the absence of complete information and to account for short-term domestic currency debt, we computed the modified GGR by adding half a standard deviation to the original GGR for every country.

The Macroeconomic Vulnerability Indicator

The External Macroeconomic Vulnerability Indicator (EMVI) measures the decline in domestic demand for tradable goods necessary to restore current account balance. To obtain a measure of macroeconomic vulnerability to a sudden interruption in capital flows, the first order of business is to consider the current account deficit and to assess the magnitude of the reduction in domestic absorption—in the context of a drought in capital flows—necessary to close the current account deficit gap. Raw data for the observed current account deficit, measured as a percentage of GDP, are a poor indicator of the actual reduction in domestic absorption necessary to balance external accounts, and thus a poor measure of external macroeconomic vulnerability.

[26] See Greenspan (1999) and Guidotti (2000). This measure of financial vulnerability gained acceptance among policy makers in the aftermath of East Asian-Russian crises.

[27] This is the case if countries are expected to keep their commitments to explicit or implicit inflation targeting policies because financing domestic obligations through monetary expansion could quickly trigger inflationary pressures.

Therefore, the current account balance needs to be adjusted. First, the current account deficit should be measured relative to the absorption of tradable goods rather than as a percentage of GDP. This ratio accurately measures the decline in domestic demand for tradable goods necessary to restore current account balance. With homothetic preferences, demand for nontradable goods falls in the same proportion as tradable goods.[28] Second, the current account balance should be corrected to incorporate the fact that the global financial turmoil came hand in hand with severe drops in commodity prices. In fact, during the Lehman crisis, commodity prices collapsed 55 percent from July 2008 to February 2009, falling 20 percent below their pre-financial crisis levels (2006).

The commodity-price adjusted current account balance for emerging market countries is computed at 2006 commodity prices to reflect the possibility of a drop in commodity prices if a new episode of financial turmoil were to occur.[29] Naturally, for net commodity exporters, the adjusted current account balance will deteriorate compared with the observed balance. The opposite will be true for net commodity importers.[30]

Following Calvo, Izquierdo and Talvi (2003), we use imports in the denominator as a proxy for domestic absorption of tradable goods in order to facilitate cross-country comparisons. The greater the size of imports—that is, the more open the economy—the smaller the required adjustment in imports, and thus in domestic demand and output.[31] The EMVI is computed as the ratio of the commodity-price adjusted current account balance to total imports.

[28] See Calvo, Izquierdo and Talvi (2003).

[29] For the details on this kind of adjustment to the current account balance, see Izquierdo and Talvi (2008).

[30] For specific cases of net commodity exporters with foreign ownership of commodity exporting firms, this correction may overestimate the required adjustment in domestic demand. This would be the case if the reduction in commodity prices is partially compensated by a smaller repatriation of profits.

[31] The external macroeconomic vulnerability analysis could be complemented with an indicator of liability dollarization, which, in a context of large currency depreciation, produces adverse and potentially severe balance sheet effects. High current account deficits and high liability dollarization have proven to be good predictors of the probability of a Sudden Stop. Moreover, the balance sheet effects interact in a nonlinear way with high current account deficits, combining into a dangerous cocktail. See Calvo, Izquierdo and Mejía (2008) and Calvo and Talvi (2005).

References

Calvo, G., F. Coricelli and P. Ottonello. 2012. "The Labor Market Consequences of Financial Crises with or without Inflation: Jobless and Wageless Recoveries." Manuscript, Columbia University.

Calvo, G., A. Izquierdo and L. Mejía. 2008. *Systemic Sudden Stops: The Relevance of Balance Sheet Effects and Financial Integration*. NBER Working Paper. Cambridge, Mass.: National Bureau of Economic Research.

Calvo, G., A. Izquierdo and E. Talvi. 2003. *Sudden Stops, the Real Exchange Rate and Fiscal Sustainability: Argentina's Lessons*. NBER Working Paper. Cambridge, Mass.: National Bureau of Economic Research.

———. 2006. *Phoenix Miracles in Emerging Markets: Recovering without Credit from Systemic Financial Crises*. NBER Working Paper. Cambridge, Mass.: National Bureau of Economic Research.

Calvo, G., and E. Talvi. 2005. *Sudden Stop, Financial Factors and Economic Collapse in Latin America: Learning from Argentina and Chile*. NBER Working Paper. Cambridge, Mass.: National Bureau of Economic Research.

Englund, P. 1999. "The Swedish Banking Crisis: Roots and Consequences." *Oxford Review of Economic Policy*.

Ergungor, E. 2007. *On the Resolution of Financial Crises: The Swedish Experience*. Federal Reserve Bank of Cleveland Policy Discussion Paper 21. Cleveland: Federal Reserve Bank.

Escaith, H., N. Lindenberg, and S. Miroudot. 2010. "International Supply Chains and Trade Elasticity in Times of Global Crisis." Manuscript, World Trade Organization.

Furman, J., and J. Stiglitz. 1998. "Economic Crisis: Evidence and Insights from East Asia." Brookings Papers on Economic Activity.

Greenspan, A. 1999. "Currency Reserves and Debt." Speech at World Bank Conference on Recent Trends in Reserves Management, Washington.

Guidotti, P. 2000. "On Debt Management and Collective Action Clauses." In Reforming the International Monetary and Financial System, edited by Kenen P. and A. Swoboda. Washington: International Monetary Fund.

Izquierdo, A, and E. Talvi, eds. 2011. *One Region, Two Speeds? Challenges of the New Global Economic Order for Latin America and the Caribbean*. Washington: Inter-American Development Bank.

Krugman, P. 2012. "Crash of the Bumblebee." *New York Times*, July 29.

Pacheco-López, P., and A. P. Thirlwall. 2006. "Trade Liberalisation, the Income Elasticity of Demand for Imports and Growth in Latin America." *Journal of Post Keynesian Economics*.

Radelet, S., and J. Sachs. 1998. "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects." Paper prepared for Brookings Panel, Washington.

Reinhart, C., and K. Rogoff. 2009. *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, N.J.: Princeton University Press.

Rodrik, D., and A. Velasco. 1999. *Short-Term Capital Flows*. NBER Working Paper. Cambridge, Mass.: National Bureau of Economic Research.

Soros, G. 2012. "Why Germany Should Lead or Leave." Project Syndicate.

Talvi, E., and I. Munyo. 2011. "Anemia, Exuberance and Vulnerability: The New Global Economic Geography." Manuscript, CERES.

Ward, J. 1963. "Hierarchical Grouping to Optimize an Objective Function." *Journal of the American Statistical Association*.

Wolf, M. 2012. "Why Is the Eurozone Different?" *Financial Times*.

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