

ANEMIA, EXUBERANCE AND VULNERABILITY: THE NEW GLOBAL ECONOMIC GEOGRAPHY

Ernesto Talvi

Ignacio Munyo

October 2011



Latin America's Macroeconomic Outlook
From a Global Perspective

CERES
Centro de Estudios de la Realidad Económica y Social

www.ceres-uy.org

ANEMIA, EXUBERANCE AND VULNERABILITY: THE NEW GLOBAL ECONOMIC GEOGRAPHY

October 2011

Ernesto Talvi
CERES, IDB Research Dept. and
Non-resident Senior Fellow, Bookings Institution
etalvi@ceres-uy.org

Ignacio Munyo
CERES
imunyo@ceres-uy.org

*LATIN AMERICA'S MACROECONOMIC OUTLOOK
FROM A GLOBAL PERSPECTIVE*



Contents

Acknowledgements	ii
Executive Summary	iii
Part I. A New Global Economic Geography: Winners and Losers	1
<i>CERES Global Index of Economic Exuberance</i>	7
<i>Will the New Global Economic Geography be a Lasting Phenomenon?</i>	12
<i>Winners and Losers: Digging Further</i>	14
Part II. A New Global Economic Geography: Latent Risks for	
Emerging Markets	18
<i>External Liquidity Risks</i>	20
<i>Macroeconomic Vulnerability to a “Lehman-type Virus”</i>	22
<i>The Exuberance-Vulnerability Paradox</i>	26
Concluding Remarks and a Policy Touch	28
References	30
Appendix 1	31
Appendix 2	32

Acknowledgements

This report was produced by a team of the Center for the Study of Economic and Social Affairs (CERES) led by Ernesto Talvi and Ignacio Munyo.¹ The authors want to thank very specially CERES's research assistants, Federico Bermudez, Santiago García Da Rosa, Joaquín Klot, Juan Martín Morelli and Verónica Olivera, for their unconditional dedication and support, and their excellent work.

The authors are also grateful to Guillermo Calvo, Sara Calvo, Alejandro Izquierdo, Roberto Rigobon, Alberto Torres-García and participants at the XXXIV Meeting of the Latin American Network of Central Banks and Finance Ministries at the Inter-American Development Bank in Washington DC, for their very useful comments.

¹ Ernesto Talvi is Chief Economist and Academic Director of CERES, Non-resident Senior Fellow at the Brookings Institution and consultant at the IDB Research Department in Washington, DC. Ignacio Munyo is a Senior Research Economist at CERES and a consultant at IDB-CID.

Executive Summary

It would not be an overstatement to assert that the global financial crisis has created a *New Global Economic Geography* (NGEG), a new reality that responds to the remarkable fact that the crisis that crippled advanced economies has nevertheless left not only losers but also winners around the globe.

This remarkable phenomenon is suggested by the sharp contrast in macroeconomic performance in the US and the EU compared to some key emerging economies such as China, India and Brazil. The aftermath of the financial crisis in the US and the EU came hand in hand with a severe credit crunch, an equally severe and persistent decline in private consumption, investment and output relative to pre-crisis trends, a significant rise in unemployment, disinflationary pressures and a depreciation of the US dollar and the Euro on a trade-weighted basis. In other corners of the world, namely in China, India and Brazil, the picture that emerges is the exact opposite: output currently stands above pre-crisis trends and unemployment rates are low and declining. Both components of domestic demand, consumption and investment, are also above pre-crisis trend levels, fueled by a very rapid acceleration in bank credit flows. As a by-product, these three countries had to face up to inflationary pressures and a significant real appreciation of their currencies against the US dollar and on a trade-weighted basis.

This sharp contrast is not a mere coincidence: it is causally connected. The genesis of the NGEG lies in the financial crisis in advanced economies: depressed consumption and investment freed up capital and financial resources that literally flooded a broad spectrum of emerging markets across every region of the world.

This new economic reality clearly suggests that the global financial crisis that erupted in early 2007 in an obscure corner of the US credit market now infamously known as sub-prime mortgages, has produced winners and losers, i.e., countries that appear to be better off and countries that are significantly worse off relative to the trends prevailing prior to the onset of the global financial crisis.

CERES Global Index of Economic Exuberance (CGIEE)

The first part of this report assesses who were winners, who were the losers and why. To this end, the report develops the *CERES Global Index of Economic Exuberance* (CGIEE) to identify whether an economy turned out to be a winner or a loser in the NGE. The CGIEE is designed to measure whether a country's macroeconomic performance is stronger or weaker relative to the prevailing performance prior to the advent of the global financial crisis in 2007.

The CGIEE gauges the behavior of six key macroeconomic variables —output, unemployment, domestic demand, bank credit, inflation and the real exchange rate— for 42 advanced and emerging economies covering every region of the world.

According to the CGIEE, the post-global financial crisis world is divided into two groups: countries with a positive CGIEE that this report defines as *Exuberant Economies*, and countries with a negative CGIEE that this report defines as *Anemic Economies*. *Anemic Economies* are dominated by advanced economies and those emerging regions that are closely connected to them: Emerging Europe and Mexico & Central America. On the other hand, *Exuberant Economies* are largely dominated by emerging economies of South America, Emerging Asia, Sub-Saharan Africa and Middle East & North Africa. Surprisingly, for *Exuberant Economies* with large positive CGIEE values the first positions are dominated by Latin American countries (Argentina, Brazil, Panama, Peru, and the Dominican Republic) and African countries such as Angola, rather than Emerging Asian countries. India and China rank high but appear in the eighth and ninth position of the CGIEE, respectively.

Exuberance and anemia are rather generalized phenomena that spread across the whole set of macro variables composing the CGIEE. The average exuberant economy not only displays a positive value of the CGIEE but also displays positive values in each and every one of the variables of the index. Something similar occurs with the average anemic economy: it displays an overall negative value of the CGIEE and negative values in every one of the components of the index.

To dig further into the causes of why some emerging countries turned out to be winners and others turned out to be losers, this report performs formal statistical cluster analysis. This analysis unveils that emerging countries that share some key structural characteristics turned out to be winners in the NGEG: (i) net commodity exporters who benefited from historically high commodity prices; (ii) countries that export a significant share of their goods and services to *Exuberant Economies*; (iii) countries with low dependence on remittances flowing from advanced *Anemic Economies*; (iv) countries with relatively ample opportunities for investment in capital-intensive and interest-rate-sensitive sectors in the economy (and a relatively favorable domestic investment climate), that benefited from cheap and abundant capital and financial resources.

There is a strong match between predicted winners and losers by the cluster analysis and exuberant and anemic economies as described by the CGIEE. In fact, all the countries predicted to be winners by the cluster analysis have a positive CGIEE and 72 percent of the countries predicted to be losers have a negative CGIEE.

To summarize, the CGIEE projects an image of a NGEG that splits the world into *Exuberant* and *Anemic Economies*. This divide escapes any easy classification, cutting across economic development categories, geographical regions or the East-West dimension. First, although *Exuberant Economies* are largely dominated by emerging markets and *Anemic Economies* by advanced countries, many emerging markets still fall into the anemic category. Second, there is diversity within geographical regions, each of them displaying their fair share of both exuberant and anemic economies. Third, although Western economic powerhouses, the US and the EU, are classified by the CGIEE as *Anemic Economies*, and China and many countries in Asia are classified as *Exuberant Economies*, it is a far cry from being an East-West phenomenon. For starters Japan is also in the anemic group, while countries in South America and Africa are of the exuberant type. This new configuration of the world economy implies a more complex redistribution of economic power and a new web of economic relations (and maybe also of geopolitical interests) than a simple minded East-West dichotomy might suggest.

External Vulnerability in Emerging Markets

Although the NGEF has been largely beneficial for emerging countries, it has come at a price. As we stated before, the genesis of the NGEF lies in the financial crisis in advanced economies that freed up capital and financial resources to be reallocated to emerging markets. However, the financial crisis and its collateral damages are far from being resolved, and subject the world capital markets to recurrent episodes of financial turmoil.

Moreover, current instability in global markets occurs in a context where huge fiscal deficits and explosive paths of public debt have weakened the advanced economies' ability to respond as effectively as they did in the initial stages of the crisis, to a new wave of severe financial turbulence. This fact makes a new crisis episode potentially more severe and prolonged than the Lehman episode.

This begs the question of how resilient or vulnerable emerging markets are to such an event. To address this question this report analyzes two sets of indicators for emerging countries: (i) external liquidity indicators and, (ii) external macroeconomic vulnerability indicators. Liquidity indicators measure the ratio of short-term external and domestic debt amortizations to international reserves, while external macroeconomic vulnerability indicators measure the required adjustment in imports necessary to close any given current account deficit in a context of a potential drought in capital flows —should the adjustment occur only through the reduction in imports—.

With the exception of Emerging Europe and a note of caution for Latin America, emerging markets appear to be strong from an international liquidity perspective to sustain a new episode of financial turmoil, even if access to credit markets is shut-off for a considerable period of time. Therefore, according to the assessment of this report, external liquidity issues are not at the current juncture the main source of concern for most emerging markets. Not a minor accomplishment, to say the least.

Although the majority of emerging countries are highly shielded regarding external liquidity risk, this is not the case when the vulnerability to macroeconomic risks is

factored into the analysis. In spite of a strong external liquidity position, an outbreak of a more resistant strain of the “Lehman-type Virus” would require many emerging countries to undergo severe macroeconomic adjustments: output contraction, rise in unemployment, deterioration in fiscal balances, potentially non-convergent debt dynamics, weakening of banks’ balance sheets, credit crunch. In other words, many emerging countries could be mired with problems associated with a deterioration of economic fundamentals.

In this respect, Latin American countries display the highest levels of macroeconomic vulnerability, with the exuberant South American region leading the pack and Mexico & Central American region a close second. Surplus regions, i.e., Emerging Asia and Middle East & North Africa, display the lowest levels of vulnerability, while Emerging Europe and Sub-Saharan Africa are located in between. These regional patterns are also displayed by the majority of the individual countries within these regions.

Moreover, exuberant regions such as South America and Sub-Saharan Africa, with positive values of the CGIEE, display the largest increases in macroeconomic vulnerability to adverse global conditions. In fact, these two regions are now much more vulnerable than they were at the beginning of the global financial crisis. In contrast, anemic regions, such as Emerging Europe and Mexico & Central America, display similar levels of macroeconomic vulnerability as they did in 2006.

The Exuberance-Vulnerability Paradox: a Policy Touch

Ironically, exuberance breeds vulnerability. Most of the emerging world turned out to be a winner in the post-financial crisis NGEF, in many cases displaying an extraordinary degree of economic exuberance. However, most of the emerging world is at the same time highly vulnerable to severe macroeconomic adjustments, should disarray in global capital markets —brought about by a NGEF in which advanced economies are plagued with financial and sovereign debt problems— hit the world economy.

In other words, the economic forces that in the post-financial crisis world created the conditions for a NGEG in which many emerging countries could flourish —severe problems in advanced economies that freed up capital and financial resources to be invested in emerging markets— are inherently the same as those capable of creating havoc in global capital markets and stripping emerging economies off their bonanza in the blink of an eye.

The reality is that exuberance and vulnerability in emerging markets are connected in a very peculiar way. Three final policy thoughts based on this peculiar connection to close this report.

First, governments running exuberant emerging economies should take due notice of this *Exuberance-Vulnerability Paradox* and act accordingly when setting their monetary, fiscal and macro-prudential policies, in such a way that mitigates the build-up of future fiscal and financial risks, rather than buying into the exuberance wave.

Second, the international community that in early 2009 acted in a very swift way to increase the firepower of the IMF and other multilateral institutions to avoid a fallout of fundamentally sound but vulnerable emerging economies, should ensure that these institutions are adequately capitalized and able to perform the same role in the event of a new episode of global financial turmoil. This is a particularly relevant consideration at a time when the resources of the IMF might be strained by the crisis in peripheral Europe.

Finally, exuberant-type-cash-rich global emerging market players who were the key beneficiaries of the NGEG, have high stakes in ensuring that the current global order is not disrupted by a new and perhaps more virulent strain of the “Lehman-type Virus”.

“Madame Arcati: ...Fire away.

Ruth: It’s most awfully difficult to explain.

Madame Arcati: Facts first, explanations afterwards.

Ruth: It’s the facts that are difficult to explain —they’re so fantastic...”

Blithe Spirit
Noel Coward (1941)

Part I. A New Global Economic Geography: Winners and Losers

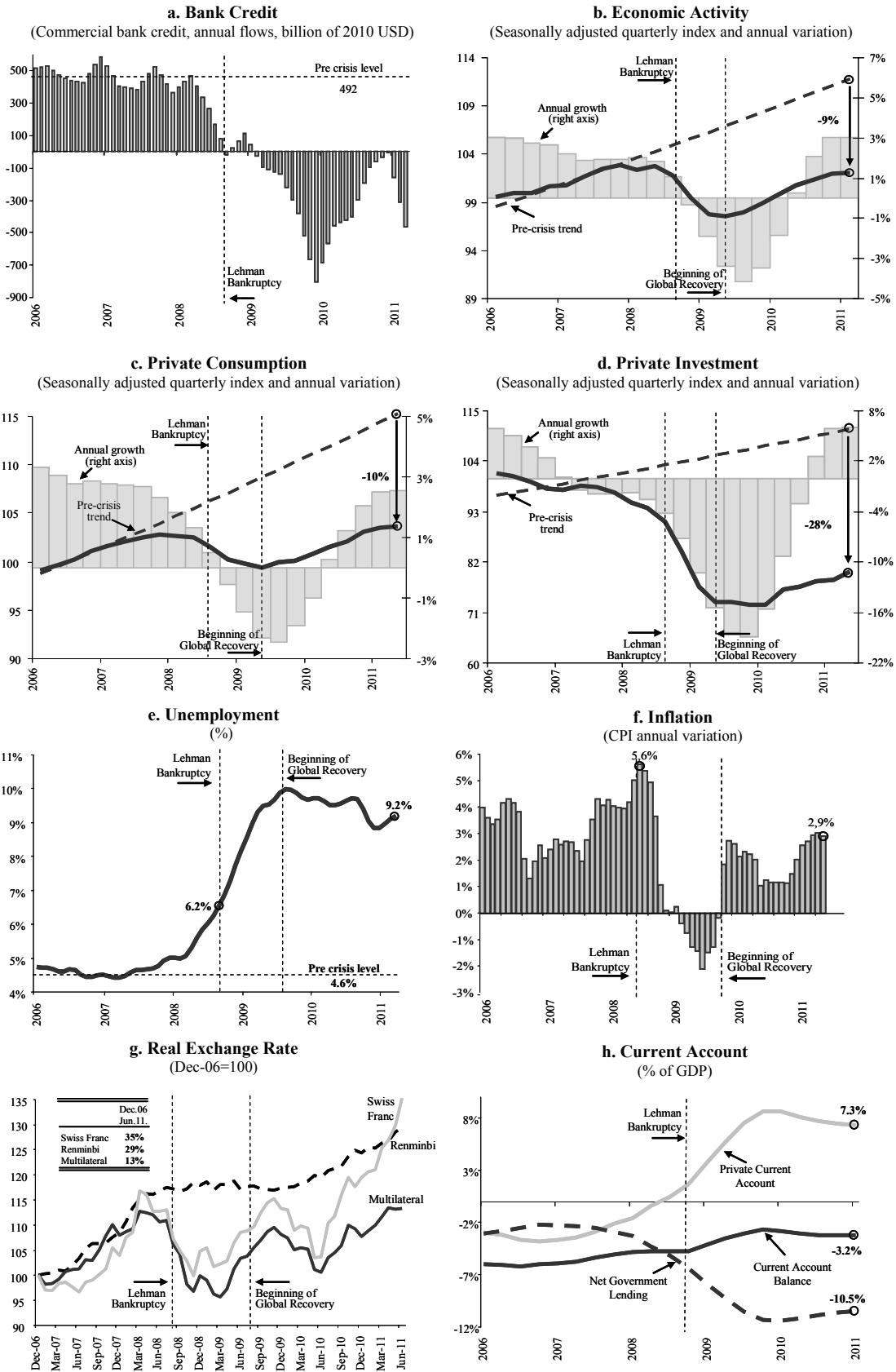
It would not be an overstatement to assert that the global financial crisis has created a *New Global Economic Geography* (NGEG), a new reality that responds to the remarkable fact that the crisis that crippled advanced economies has nevertheless left not only losers but also winners around the globe.

Let us illustrate this intriguing phenomenon of the post-financial crisis world, and start where it all began: the US economy. The picture that emerges from Figure 1 illustrates the devastating effects of the financial crisis: a severe credit crunch, an equally severe and persistent decline in private consumption, investment and output relative to pre-crisis trends, a rise in unemployment significantly above its pre-crisis levels, disinflationary pressures and a depreciation of the US dollar on a trade-weighted basis.¹

The aftermath of the financial crisis in the US also came hand in hand with a correction in the current account deficit of 3 percentage points of GDP since 2006, in spite of a dramatic fiscal deterioration of 8 percentage points of GDP. This was made possible by a huge adjustment of the private sector current account, in excess of 9 percentage points of GDP. The latter was the result of an increase in private saving rates from 15 percent of GDP in 2006 to 19 percent of GDP in 2010, and a reduction in investment of 5 percentage points of GDP. This massive adjustment of the US private sector freed up financial and capital resources to be reallocated to the rest of the world, particularly in emerging markets.

¹ Pre-crisis trends are computed for the period 2000-2006.

Figure 1. Post Global Financial Crisis Macroeconomics in the United States



Let us now turn our view to the other corner of the world and take a look at China. The picture that emerges is the exact opposite.

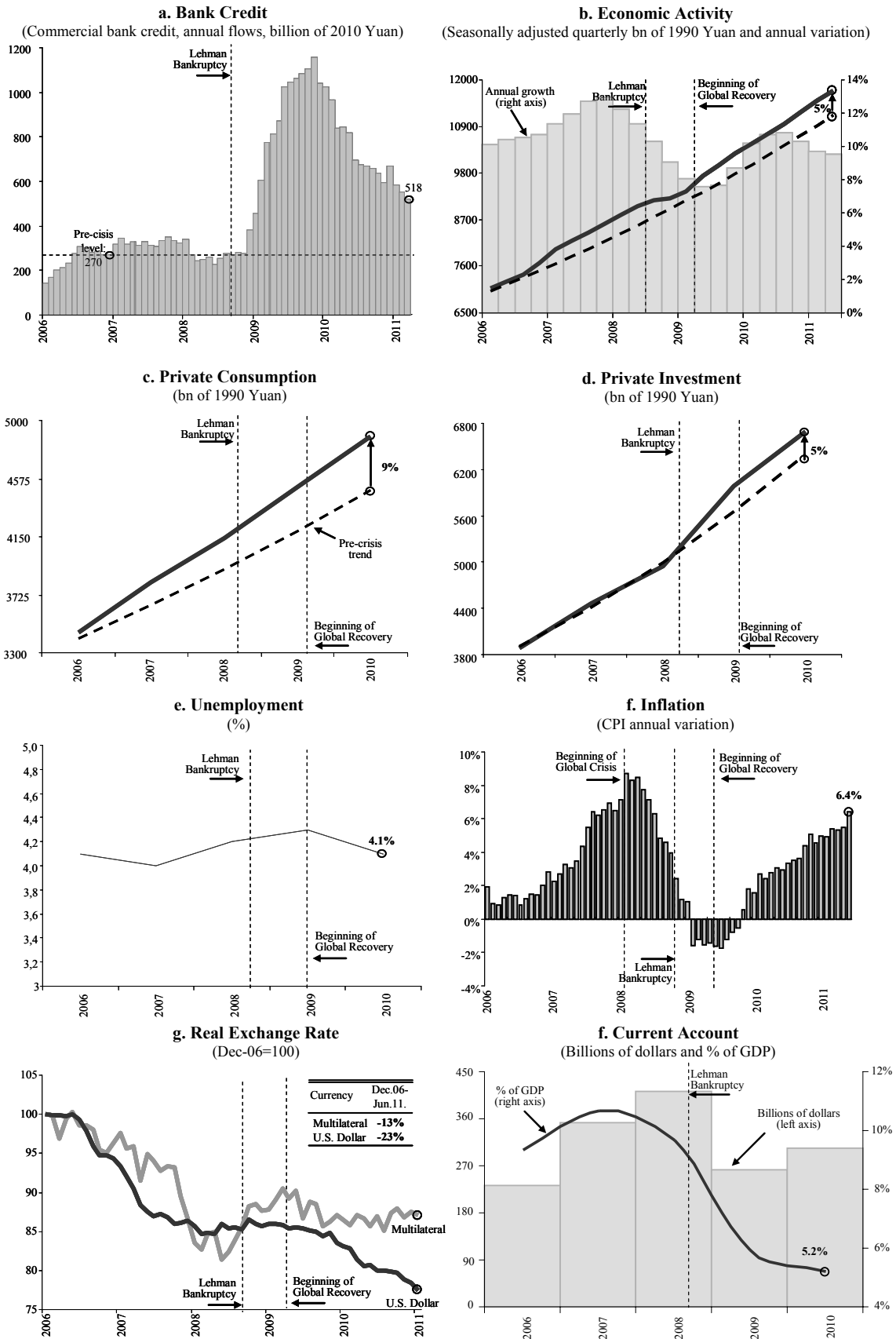
As illustrated in Figure 2, and in contrast with the US, China displays a significant deterioration of the current account balance, from a surplus of 9.3 percent of GDP in 2006 to a surplus of 5.2 percent of GDP in 2010. Output currently stands 5 percent above pre-crisis trends and unemployment rates remain low. Both components of domestic demand, consumption and investment, are above pre-crisis trend levels, fueled by a very rapid acceleration in bank credit flows. As a by-product, China had to face up to inflationary pressures and a significant real appreciation of the Renminbi against the US dollar and on a trade-weighted basis.

The sharp contrast between these two paradigmatic cases, the US and China, clearly suggests that the global financial crisis that erupted in early 2007 in an obscure corner of the US credit market now infamously known as sub-prime mortgages, has produced winners and losers, i.e., countries that appear to be better off and countries that are significantly worse off relative to the trends prevailing prior to the onset of the global financial crisis.

The question that naturally arises from this simple observation is whether this prototypical economic dynamics displayed by the US and China extends to other regions and countries around the world. Did in fact the global financial crisis divide up the world economies into two groups, losers that exhibit the same features of the US economy, and winners with Chinese-like characteristics? If so, why?

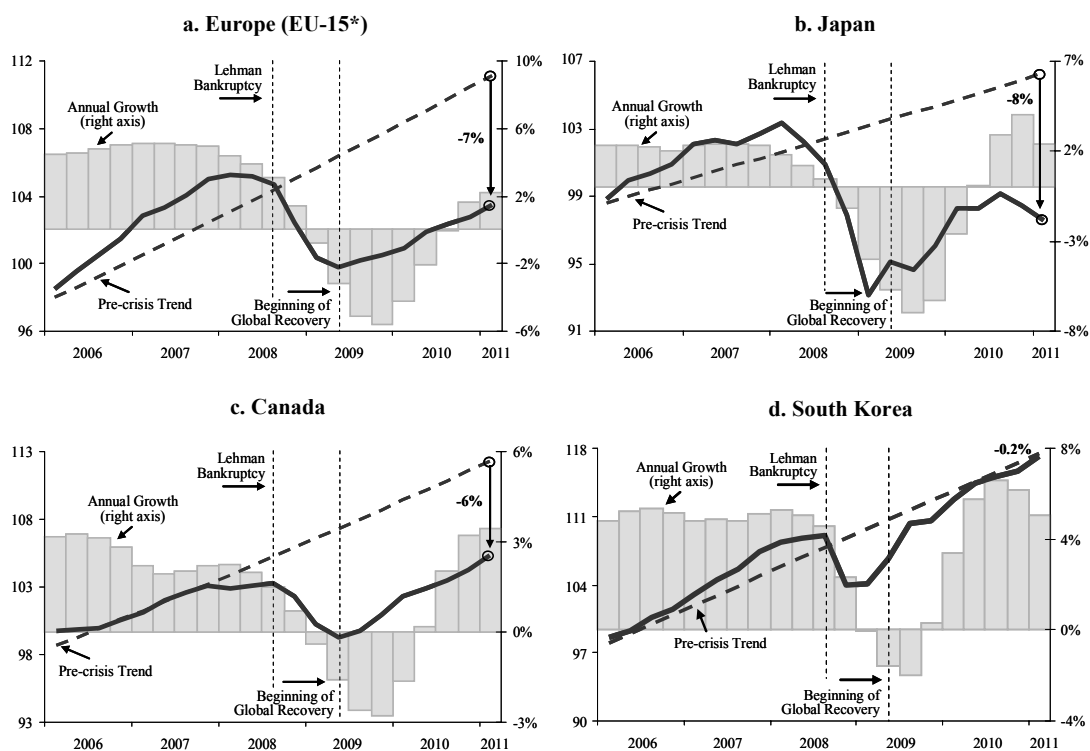
To answer these questions we first look at the *Trillion Dollar Club Economies*, i.e., economies that in 2011 will attain a GDP in excess of one trillion US dollars on a purchasing power parity adjusted basis. This very select and small group of economies represents 77 percent of world GDP and 62 percent of world population, and include both advanced economies (US, EU, Japan, Canada and South Korea) and emerging economies (China, India, Indonesia, Russia, Turkey, Brazil and Mexico). Looking closely at this exclusive club reveals that the prototypical behavior of the US and China actually constitutes a more general pattern.

Figure 2. Post Global Financial Crisis Macroeconomics in China



It should come as no surprise that the *Trillion Dollar Club* advanced economies—the EU, Japan, South Korea and Canada—display the same economic dynamics as the US economy. As illustrated in Figure 3, output stands substantially below pre-crisis trends in all these economies with the sole exception of South Korea, which is close to trend. These countries largely share with the US the rest of its key features: depressed domestic demand, high unemployment rates, disinflationary pressures, currency depreciation and shrinking current account deficits.

Figure 3. Post Global Financial Crisis Output Dynamics in *Trillion Dollar Club* Advanced Economies
(Seasonally adjusted quarterly index of real GDP and annual variation)



* EU-15 includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

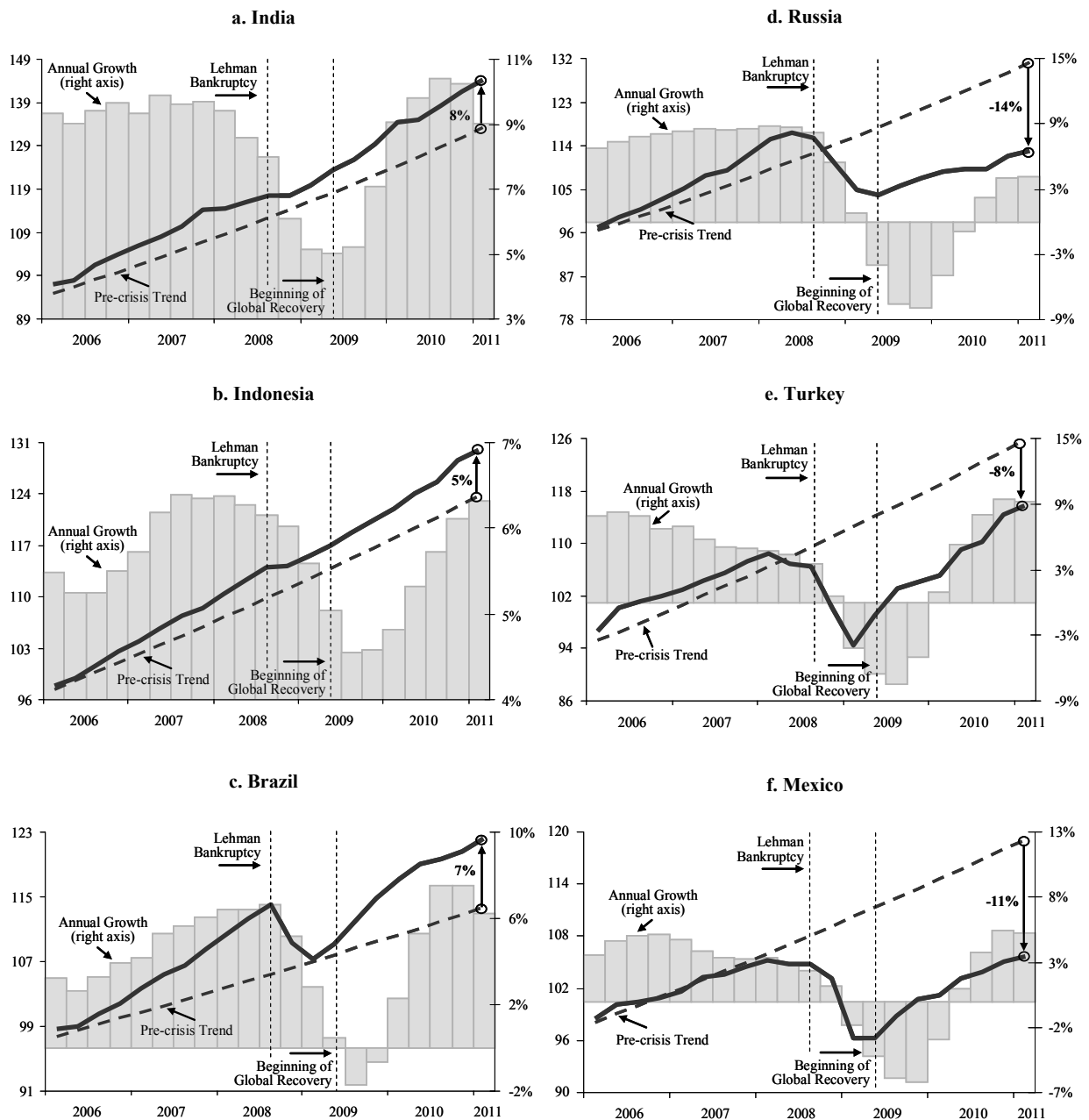
Note: Pre-crisis trends are computed for the period 2000-2006.

Data sources: National statistics and Eurostat.

On the other hand, and in sharp contrast with advanced economies, in the *Trillion Dollar Club* emerging economies in Asia, such as India and Indonesia, and in Latin America, such as Brazil, output exceeds pre-crisis trends (see Figure 4, panels a-c). These economies largely share China's post-global financial crisis macroeconomic dynamics: booming credit, strong domestic demand, low and declining unemployment, inflationary pressures, currency appreciation and current account deterioration.

Surprisingly, this pattern of behavior in China and other key emerging economies does not extend to the rest of the *Trillion Dollar Club* emerging economies, such as Russia, Turkey and Mexico. Mexico closely connected to the US and Russia and Turkey closely connected to the EU, largely share the key features of advanced economies displaying levels of output significantly below pre-crisis trends (see Figure 4, panels d-f).

Figure 4. Post Global Financial Crisis Output Dynamics in *Trillion Dollar Club* Emerging Economies
(Seasonally adjusted quarterly index of real GDP and annual variation)



Note: Pre-crisis trends are computed for the period 2000-2006.

Data sources: National statistics.

CERES Global Index of Economic Exuberance (CGIEE)

Having established that the post-global financial crisis world has produced both winners and losers among the major advanced and emerging economies, we now proceed to measure this phenomenon in a more systematic way and for a large number of countries around the globe. For this purpose, we develop the *CERES Global Index of Economic Exuberance* (CGIEE) 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.

We should stress from the outset the purpose for which the CGIEE is intended for. It is designed to measure whether a country's macroeconomic performance is stronger or weaker relative to the prevailing performance prior to the advent of the global financial crisis in 2007. It is not designed to measure absolute performance, e.g., 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 CGIEE will be higher for country B than for country A.

The CGIEE contains the following variables:

- i. Output gap, measured as the ratio of the current level of real GDP relative to its pre-crisis trend levels.²
- ii. Unemployment gap, measured as the current rate of unemployment relative to its pre-crisis average.³
- iii. Domestic demand gap, measured as the ratio of current domestic demand relative to its pre-crisis trend levels.⁴
- iv. Bank credit gap, measured as the ratio of current stock of real bank credit relative to its pre-crisis trend levels.⁵
- v. Inflation acceleration gap, measured as the percentage variation between the current rate of inflation and pre-crisis (2006) inflation rates.

² The best fit between linear and exponential trend was considered for the period 2000-2006. For Argentina, the years 2002 and 2003 (collapse and recovery) were excluded for the computation of the trend.

³ Pre-crisis averages are computed for the period 2000-2006.

⁴ Trend levels of domestic demand were computed by applying trend-GDP growth rates to pre-crisis (2006) observed levels of domestic demand.

⁵ Trend levels of real bank credit were computed by applying trend-GDP growth rates to pre-crisis (2006) observed levels of real bank credit.

- vi. Real exchange rate gap, measured as the ratio between the current levels of the bilateral real exchange rate vis-à-vis the US dollar and the pre-crisis (2006) levels of the real exchange rate.⁶

We compute the CGIEE for a broad group of countries on the basis of the following criteria. First, we include the *Trillion Dollar Club* advanced economies: US, EU, Japan, Canada and South Korea. Second, we divide Emerging Economies into the following six regions: Emerging Europe (Eastern Europe & Former Soviet Republics), Emerging Asia, South America, Mexico & Central America, Middle East & Northern Africa and Sub-Saharan 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 number of countries in every region represents at least 65 percent of regional GDP (see Table 1).⁷ The total number of economies included in the CGIEE is 42.

**Table 1. CERES Global Index of Economic Exuberance (CGIEE):
Regional Coverage**

Region	Number of countries	% of	
		Regional GDP	World GDP
Advanced Economies	4 + EU	88.2%	45.6%
Emerging Economies	37	87.3%	42.2%
— Emerging Asia	6	92.5%	22.3%
— Emerging Europe	8	83.3%	6.9%
— South America	6	94.4%	5.6%
— Middle East & North Africa	6	70.7%	3.5%
— Mexico & Central America	6	92.7%	2.5%
— Sub-Saharan Africa	5	63.1%	1.5%
CGIEE	41 + EU	--	87.8%

⁶ For the US, the real exchange rate gap is measured vis-à-vis a trade-weighted multilateral real exchange rate.

⁷ See Appendix 1 for a detailed list of countries included in the CGIEE as well as the share of each country in regional GDP.

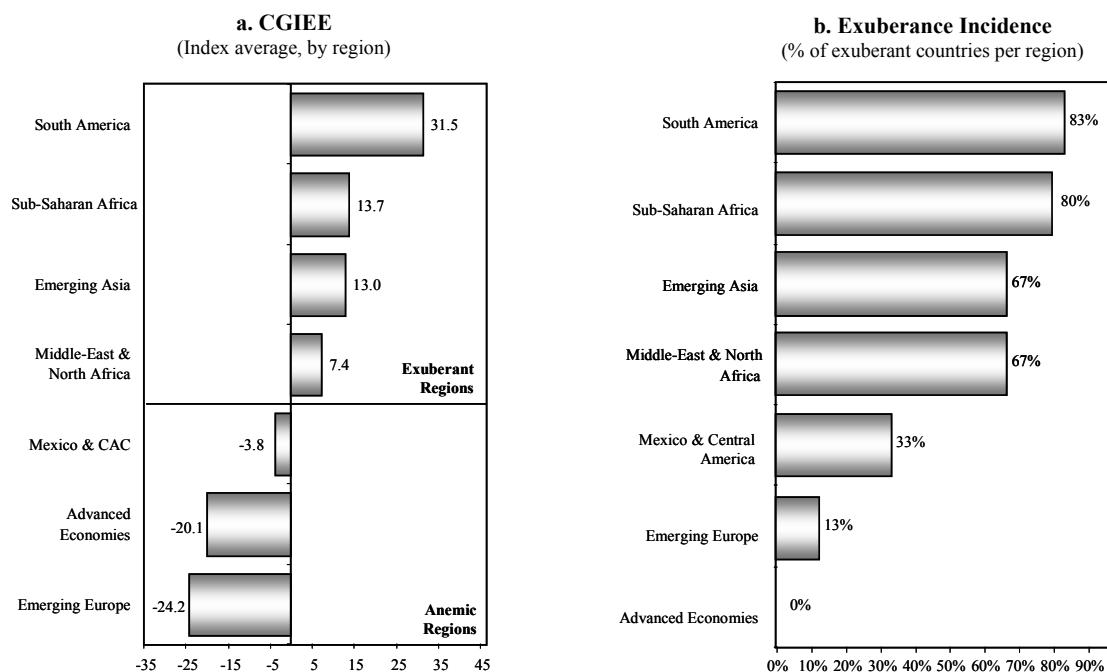
In order to compute the CGIEE, for each of the variables included in the index we assign a number between 0 and 100 to those countries with a positive gap (100 being the largest positive gap), and a number between 0 and minus 100 to those countries with a negative gap (minus 100 being the largest negative 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 CGIEE.⁸

The results are illustrated in Figure 5, panel a. As expected, the CGIEE takes on negative values for the group of Advanced Economies, with no exceptions. With respect to emerging regions the results are mixed: the CGIEE displays negative values for Emerging Europe and Mexico & Central America. In sharp contrast, South America, Sub-Saharan Africa, Emerging Asia and Middle East & Northern Africa display positive values of the CGIEE.

Thus, according to the CGIEE the world is divided into two groups: countries with a positive CGIEE that we define as *Exuberant Economies*, and countries with a negative CGIEE that we define as *Anemic Economies*. Most notably, *Exuberant Economies* are largely dominated by emerging economies of South America, Sub-Saharan Africa, Emerging Asia and Middle East & North Africa: 83 percent of the countries in South America, 80 percent of the countries in Sub-Saharan Africa and 67 percent of those in Emerging Asia and Middle East & North Africa fall into the *Exuberant Economies* category. On the other hand, *Anemic Economies* are dominated by advanced economies and those emerging economies that are closely connected to them: 87 percent of economies in Emerging Europe and 67 percent of those in Mexico & Central America fall into the *Anemic Economies* category (see Figure 5, panel b).

⁸ The Economist (2011) recently published an Overheating Index. The CGIEE has three key differences with The Economist's Overheating Index. First, the rationale. The CGIEE attempts to identify winners and losers in the aftermath of the global financial crisis and thus, to measure the current situation relative to pre-crisis trends, independently of any notion of overheating. Second, the CGIEE index includes a different set of variables (and in some cases a similar variable computed in a different way). Third, the country coverage of CGIEE is significantly larger and also includes advanced economies.

**Figure 5. CERES Global Index of Economic Exuberance (CGIEE):
Results by Region**

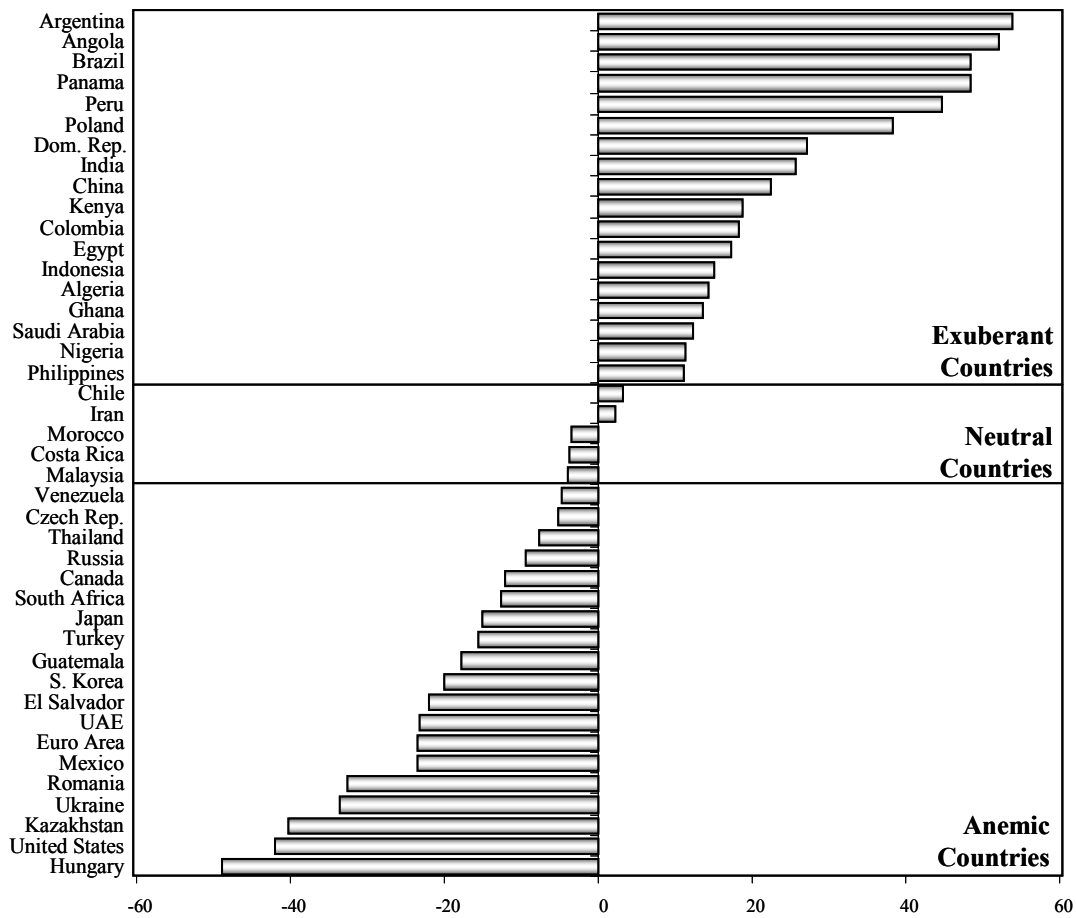


Finally, Figure 6 presents the CGIEE by country. In this case we split the sample into three groups: *Exuberant Economies*, *Anemic Economies* and *Neutral Economies* (those with CGIEE values around zero).⁹ As expected, among *Anemic Economies* with large negative CGIEE values we find the US, the EU, Japan and emerging markets that are closely connected to advanced economies, such as Russia, Ukraine, Romania, Hungary, and Mexico.

More surprisingly, among *Exuberant Economies* with large positive CGIEE values, the first positions are dominated by Latin American countries (Argentina, Brazil, Panama, Peru, and the Dominican Republic) and African countries such as Angola, rather than Emerging Asian countries. India and China appear in the eighth and ninth position of the CGIEE, respectively. Poland is the only country in Emerging Europe making it into the exuberant category.

⁹ Neutral Economies are contained in an interval of half standard deviation around zero.

**Figure 6. CERES Global Index of Economic Exuberance (CGIEE):
Results by Country**



A fair question to ask is whether *CGIEE Exuberant Economies* and *Anemic Economies* tend to be exuberant or anemic in each of the six variables that make up the CGIEE. The answer is provided in Table 2. The average exuberant economy not only displays a positive value of the overall CGIEE but also displays positive values in each and every one of the variables of the index. Something similar occurs with the average anemic economy: it displays an overall negative value of the CGIEE and negative values in every one of the components of the index.¹⁰ Thus, exuberance and anemia are not driven by a subset of variables that display an unusually positive or negative behavior, but are a rather generalized phenomenon that spreads across the whole set of macro variables composing the CGIEE.

¹⁰ For *Exuberant Economies*, t-tests indicate that the six component variables of the CGIEE are significantly different from zero at the 5 percent level. For *Anemic Economies*, t-tests indicate that four out of the six component variables of the CGIEE are significantly different from zero at the 5 percent level (the unemployment gap and the inflation gap are not significantly different from zero).

**Table 2. Ceres Global Index of Economic Exuberance (CGIEE):
Results by Component Variables**

	Exuberant	Anemic
CGIEE	25.2	-19.0
Output Gap	25.5	-38.5
Unemployment Gap	27.7	-9.1
Domestic Demand Gap	41.9	-28.6
Bank Credit Gap	19.8	-9.3
Inflation Gap	24.9	-5.1
Real Exchange Rate Gap	17.7	-22.2

Note: For Exuberant Economies, t-tests indicate that the six component variables of the CGIEE are significantly different from zero at the 5 percent level. For Anemic Economies, t-tests indicate that four out of the six component variables of the CGIEE are significantly different from zero at the 5 percent level (the unemployment gap and the inflation gap are not significantly different from zero).

Will the New Global Economic Geography be a Lasting Phenomenon?

How persistent this NGEF, that divides the world between exuberant and anemic economies, is expected to be? Is this a short-lived phenomenon or will it persist for the foreseeable future? To address this question, we further classify the economies of the CGIEE into four categories for a three year horizon: (i) *Exuberant Economies* that are expected to remain exuberant; (ii) *Exuberant Economies* that are expected to cool-off; (iii) *Anemic Economies* that are expected to recover; (iv) *Anemic Economies* expected to remain anemic.¹¹

The results are illustrated in Table 3. Under current growth forecasts, the NGEF is expected to persist for the foreseeable future. In fact, in the next three years 91 percent of the *Anemic Economies* are expected to remain anemic, and 70 percent of the *Exuberant Economies* are expected to remain exuberant.

¹¹ *Exuberant Economies* that are expected to remain exuberant are defined as those that currently display a positive CGIEE and GDP is expected to remain above pre-crisis trend levels in the next three years. *Exuberant Economies* that are expected to cool-off are defined as those that currently display a positive CGIEE but GDP is expected to fall below pre-crisis trend levels in the next three years. *Anemic Economies* that are expected to recover are defined as those that currently display a negative CGIEE and GDP is expected to be above pre-crisis trend levels in the next three years. *Anemic Economies* expected to remain anemic are defined as those that currently display a negative CGIEE and GDP is expected to remain below pre-crisis trend levels in the next three years. Growth projections are taken from WEO.

Table 3. Persistence of the New Global Economic Geography

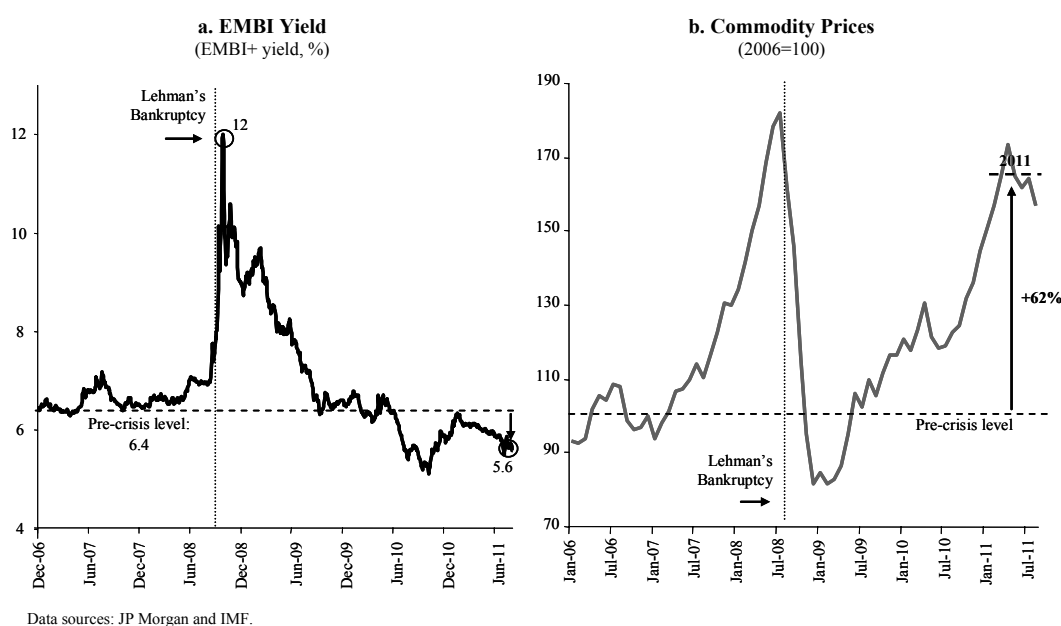
		2014 Output Gap	
		Positive	Negative
2010 CGIEE	Positive	Dynamic Expected to Remain Dynamic <u>Emerging Asia</u> China India Indonesia Philippines <u>Emerging Europe</u> Poland <u>Mexico & Central America</u> Dominican Republic Panama <u>Middle East & North Africa</u> Egypt <u>South America</u> Argentina Brazil Colombia Peru <u>Sub-Saharan Africa</u> Ghana Kenya	Dynamic in the Process of Cooling Off <u>Middle East & North Africa</u> Algeria Iran Saudi Arabia <u>South America</u> Chile <u>Sub-Saharan Africa</u> Angola Nigeria
	Negative	Anemic in the Process of Recovery <u>Mexico & Central America</u> Guatemala Mexico	Anemic Expected to Remain Anemic <u>Advanced Economies</u> United States Euro Area Japan Canada South Korea <u>Emerging Europe</u> Russian Federation Turkey Czech Republic Hungary Ukraine Romania Kazakhstan <u>South America</u> Venezuela <u>Mexico & Central America</u> Costa Rica El Salvador <u>Middle East & North Africa</u> Morocco United Arab Emirates <u>Emerging Asia</u> Malaysia Thailand <u>Sub-Saharan Africa</u> South Africa

In summary, the CGIEE projects an image of a NGEG that splits the world into *Exuberant* and *Anemic Economies*. This divide escapes any easy classification, cutting across economic development categories, geographical regions or the East-West dimension. First, although exuberant economies are largely dominated by emerging markets and anemic economies by advanced countries, many emerging markets still fall into the anemic category. Second, there is diversity within geographical regions, each of them displaying their fair share of both exuberant and anemic economies. Third, although Western economic powerhouses, the US and the EU, are classified by the CGIEE as *Anemic Economies*, and China and many countries in Asia are classified as *Exuberant Economies*, it is a far cry from being an East-West phenomenon. For starters Japan is also an anemic economy, while countries in South America and Africa are in the exuberant category. This new configuration of the world economy implies a more complex redistribution of economic power and a new web of economic relations (and maybe also of geopolitical interests) than a simple minded East-West dichotomy might suggest.

Winners and Losers: Digging Further

The NGEG witnessed a redistribution of world economic vitality from advanced economies to a sub-set of emerging markets largely located in Emerging Asia, South America and Africa, as already illustrated by the CGIEE. To uncover the fundamental reasons why some emerging countries were winners and some losers in the NGEG, we need to point out two additional elements that have been associated with the NGEG. First, an increase in saving rates and decrease in investment rates in anemic advanced economies, and a reallocation of capital and financial resources mostly towards emerging economies at historically low interest rates and cost of capital (see Figure 7, panel a). Second, a sharp rise in commodity prices, for all commodity groups: oil, metals and foods, relative to pre-global financial crisis levels (see Figure 7, panel b).

Figure 7. The New Global Economic Geography: Other Key Features



Who are the likely emerging market winners and losers in the NGEG? (i) Countries that are net commodity exporters, and benefit from historically high commodity prices; (ii) countries that export a significant share of their goods and services to dynamic economies; (iii) countries with low dependence on remittances flowing from advanced anemic economies; (iv) countries with relatively ample opportunities for investment in capital-intensive and interest-rate-sensitive sectors in the economy (and a relatively favorable domestic investment climate), ready to absorb abundant and cheap capital and

financial resources. In summary, countries that share key structural characteristics that directly connect them to the most dynamic elements of the NGEg.

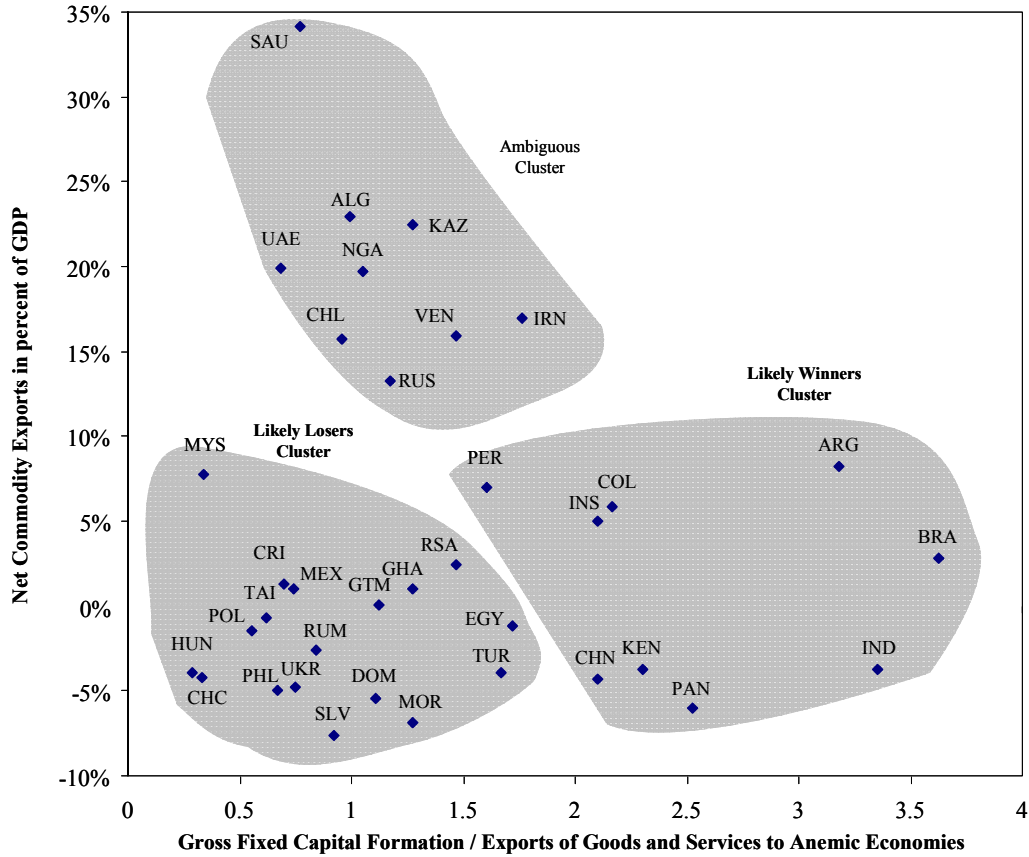
To formally assess likely winners and losers in the NGEg, we perform a cluster analysis along the lines of Izquierdo and Talvi (2011), specifically for the emerging market sample of the CGIEE. The first clustering variable is the ratio of net commodity exports relative to GDP, and the second clustering variable is a composite indicator measured by the ratio of exposure to dynamic economies (total exports of goods and services to dynamic economies relative to GDP) to the share of capital intensive and interest rate sensitive sectors in the economy (proxied by the investment to GDP ratio).¹²

The results of the cluster analysis are shown in Figure 8. For all the emerging markets in the CGIEE, the analysis delivers three clusters of economies: (i) net commodity exporters with low relative exposure to *Anemic Economies*; (ii) net commodity exporters with high relative exposure to *Anemic Economies*; and (iii) net commodity importers with high relative exposure to *Anemic Economies*. Likely winners in the NGEg belong to the first group (largely dominated by countries in South America and Emerging Asia regions), likely losers to the third group (largely dominated by countries in Emerging Europe and Mexico & Central America regions), and countries in the gray zone belong to the second group (largely dominated by countries in Middle East & North Africa region).¹³

¹² See Appendix 2 for technical details.

¹³ See Appendix 2 for a list of countries in each cluster.

Figure 8. Likely Winners and Losers in the New Global Economic Geography: A Cluster Analysis



Do the predicted winners and losers by the cluster analysis coincide with the actual winners and losers as identified by the CGIEE? The answer to this question is affirmative in at least two ways. First, the average value of the CGIEE for the cluster of countries expected to be winners in the NGEG is significantly higher than CGIEE value for the cluster of countries expected to be losers: 32.8 and -10.2, respectively.¹⁴ Second, there is a strong match between CGIEE groups and clusters. In fact, all the countries predicted to be winners by the cluster analysis have a positive CGIEE and 72 percent of the countries predicted to be losers have a negative CGIEE.

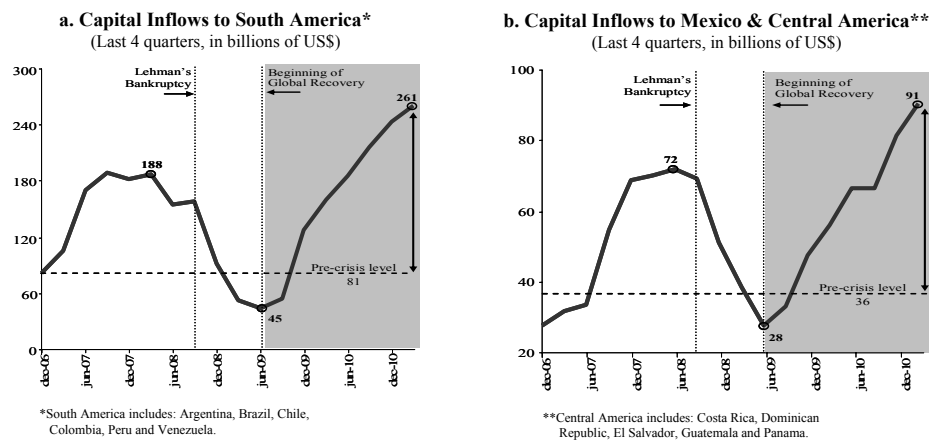
¹⁴ Differences of means tests indicate that this difference is significant at the 1 percent level.

Box 1. Contrasting Fortunes in the New Global Economic Geography (NGEG): An Application to Latin America

To deepen our intuition behind the reasons why the cluster analysis groups the Latin American countries in the way it does, this Box illustrates the contrast between South America and Mexico & Central America regions.

As illustrated in Figure 1.1, both regions have benefited from the abundance of cheap financial and capital resources for emerging markets, a key characteristic of the NGEG. Both in South America and in Mexico & Central America, capital inflows are at record heights, substantially above pre-global financial crisis levels.¹⁵

Figure 1.1 Capital Inflows to Latin America



Data sources: IMF and National Statistics.

However, there are some key differences between these two regions that cluster South American countries as likely winners and Mexico and most of Central American countries as likely losers in the NGEG. First, South America is a net commodity exporter whereas Mexico & Central America is a net commodity importer (see Figure 1.2, panel a). Second, South America exports a much larger share of its goods and services to dynamic economies than Mexico & Central America (see Figure 1.2, panel b). Third, the dependence on remittances flowing from advanced anemic economies is much larger in Mexico & Central America than in South America (see Figure 1.2, panel c).

Figure 1.2 Structural Characteristics



Data sources: WTO, WEO, DOT and World Bank.

In summary, in the NGEG the combination of a favorable capital market environment for both regions together with key differences in the structure of production and trade and the dependence on remittances, accounts for the diverse fortunes of these two sub-regions within Latin America.

¹⁵ Even excluding Mexico, capital inflows to Central American countries included in the CGIEE, are also above pre-global financial crisis levels.

Part II. A New Global Economic Geography: Latent Risks for Emerging Markets

The NGEG has been largely beneficial for emerging markets. Emerging *Exuberant Economies* represent 85 percent of the emerging market economies' GDP included in CGIEE. Yet, the NGEG has come at a price. The genesis of the NGEG lies in the financial crisis in advanced economies: depressed consumption and investment freed up capital and financial resources to be reallocated into emerging markets. However, the financial crisis is a far cry from being resolved, mutating interchangeably in a never ending loop from financial into sovereign debt and into financial crisis back again, subjecting the world capital markets to recurrent episodes of financial turmoil. The Lehman bankruptcy in September 2008, the beginnings of the debt crisis in Greece in late 2009, and the current wave of instability that started in July 2011 with the generalization and worsening of the sovereign debt crisis in peripheral Europe, sent shockwaves across financial markets around the globe. So far a major crisis has been prevented. Even the Lehman crisis, which put the world at the edge of the abyss, lasted only for six months.

Current instability in global markets occurs in a context where huge fiscal deficits and explosive paths of public debt —partly as a result of the economic contraction that followed the Lehman crisis, and partly as a result of the efforts to prevent a full blown financial and economic crisis— have weakened the advanced economies' ability to respond as effectively to a new wave of severe turbulences. This fact makes a new crisis episode potentially more severe and prolonged than the Lehman episode.

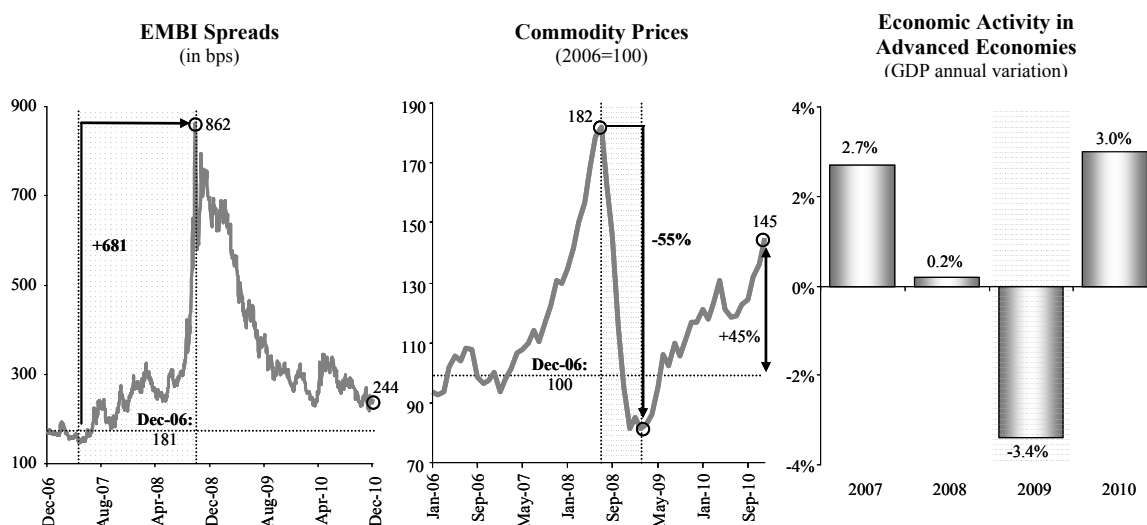
This begs the question of how resilient or vulnerable emerging markets are to a new and potentially more persistent episode of global financial turmoil. In order to identify the kind of virus we have in mind, let us briefly review the impact of the Lehman Crisis, the harshest so far on global markets and on emerging economies.

As illustrated in Figure 9, in the aftermath of the Lehman Crisis EMBI spreads skyrocketed to close to 900 basis points at the peak of the crisis (de facto shutting markets off for emerging economies), advanced countries' entered into a severe recession, and commodity prices dropped by an average of 55 percent to below pre-financial crisis levels. In turn, emerging markets suffered a strong reversal of capital

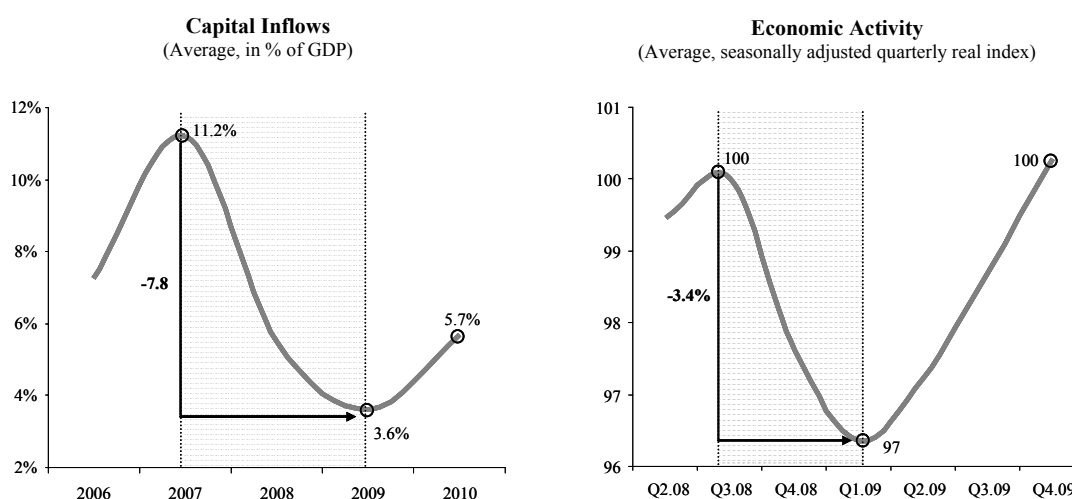
flows of 7.8 percentage points of GDP, and a significant economic contraction of 3.4 percent (6.9 percent annualized) from peak to trough, in just two quarters. To set the record straight, this was a huge impact and the key reason why emerging markets sailed through this episode largely unscathed, is that the Lehman shock dissipated very quickly.¹⁶

Figure 9. The “Lehman-type Virus”

a. External Shock to Emerging Markets*



b. Domestic Impact on Emerging Markets*



*Emerging Markets cover those included in the Ceres Global Index of Economic Exuberance. Data sources: JP Morgan, WEO and national statistics.

¹⁶ According to Izquierdo and Talvi (2010), the massive commitment of liquidity by the international community to support fundamentally sound emerging economies, also played a key role in preventing major financial disruptions.

To address the question of how resilient emerging economies are to the outbreak of a new and potentially more resistant strain of the “*Lehman-type Virus*”, we analyze two sets of indicators: external liquidity indicators and external macroeconomic vulnerability indicators for the emerging countries included in the CGIEE.

External Liquidity Risks

The well-known Guidotti-Greenspan rule suggests that countries should hold enough international reserves to cover foreign currency debt obligations coming due within one year.¹⁷ According to empirical literature, this rule is a robust predictor of financial crises.¹⁸ Specifically, Rodrik and Velasco (1999) findings suggest that greater short-term external exposure is associated with a larger probability of crisis (defined as a large reversal in capital flows) and larger contractions in output.¹⁹

Figure 10 presents the ratio of short-term external debt amortizations to international reserves, i.e., the Guidotti-Greenspan Indicator (GGI) for each of the emerging regions included in the CGIEE. With no exceptions, all emerging regions around the world hold enough international reserves to cover amortizations of external debt, both public and private, coming due within the next twelve month. Thus, according to GGI, emerging markets are in principle well armored from a liquidity perspective to face a new episode of financial panic. Even more so if we consider that many emerging markets with sound macroeconomic fundamentals and a track record of sensible policy management, will have access under current arrangements, to international liquidity lines offered by the IMF and other multilateral institutions.

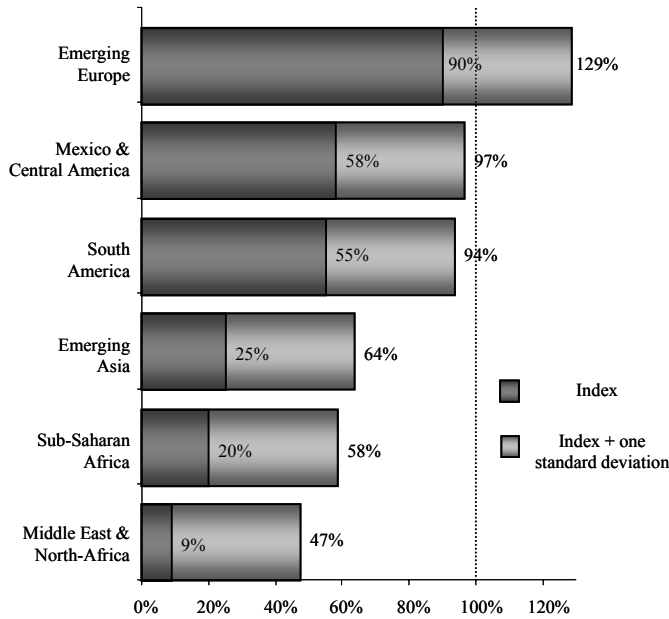
¹⁷ See Greenspan (1999) and Guidotti (2000). This measure of financial vulnerability gained acceptance among policy makers in the aftermath of East Asian-Russian crises.

¹⁸ See, for instance, Furman and Stiglitz (1998), Radelet and Sachs (1998) and Rodrik and Velasco (1999).

¹⁹ In fact, countries that experienced crisis have short-term debt to reserves ratios that are —on average— twice the levels observed in the other cases. Moreover, countries where this ratio is larger than unity triple the probability of crisis. Conditional on having experienced a crisis, the average reduction in the growth rate in the year of crisis (relative to the previous year) is 4.1 percentage points.

Figure 10. External Liquidity Risk

(Short-term external debt amortizations in % of international reserves, average)



Data source: WEO.

However there is a catch. An important limitation of the original GGI is that it does not include short-term domestic currency debt obligations—including Central Bank sterilization instruments—even though a run on such public debt should also be considered a potential claim on international liquidity.²⁰

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

²⁰ This is the case if countries are expected to keep their commitments to explicit or implicit inflation targeting policies, since financing domestic obligations through monetary expansion could quickly trigger inflationary pressures.

The results are also shown in Figure 10. Only Emerging Europe exceeds the critical threshold of 100 percent and both South America and Mexico & Central America regions come very close. In the cases of Emerging Asia, Middle East & Northern Africa and Sub-Saharan Africa, liquidity indicators lie comfortably below the critical threshold even after the modified-GGI is computed.

In summary, with the exception of Emerging Europe and a note of caution for Latin America, emerging markets appear to be strong from an international liquidity perspective 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 economies. Not a minor accomplishment, to say the least.

Macroeconomic Vulnerability to a “Lehman-type Virus”

The liquidity analysis of the previous sections deals with *stocks*, i.e., how large is the *stock of international reserves* to cover the *stocks of domestic and external debt* coming due. However, episodes of systemic financial turbulence have been associated with substantial adjustments of the current account balance in emerging economies. For example, according to Calvo, Izquierdo and Talvi (2006), who analyze thirty three 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 as a result of a severe reduction in domestic absorption.²¹

Thus, although emerging countries may be to a large extent shielded from a liquidity perspective, they may still be highly vulnerable from a macroeconomic point of view and mired with problems associated with a worsening in fundamentals: output contraction, rise in unemployment, deterioration in fiscal balances, potentially non-convergent debt dynamics, weakening of banks’ balance sheets, credit crunch.

To obtain a measure of macroeconomic vulnerability to a “Lehman-type Virus”, the first order of business is to consider the current account deficit and to assess the

²¹ For a historical and comprehensive coverage of the causes and effects of financial crises, see Reinhart and Rogoff (2009).

magnitude of the reduction in domestic absorption—in a context of a drought in capital flows—that would be needed to close the current account deficit. The raw data of the observed current account deficit measured in percent of GDP is a poor indicator of the actual reduction in domestic absorption that would be necessary to balance external accounts, and thus a poor measure of external macroeconomic vulnerability.

To obtain a more accurate measure of external macroeconomic vulnerability, the current account balance has to be adjusted in at least two ways. First, the current account deficit should be measured relative to the absorption of tradable goods rather than in percent of GDP. This ratio accurately measures the decline in domestic demand for tradable goods necessary to restore current account balance.²²

Second, the current account balance should be corrected to take into account that recent episodes of global financial turmoil came hand in hand with severe drops in commodity prices. In fact, with the deepening of the global financial crisis, commodity prices collapsed 55 percent from July 2008 to February 2009, falling 20 percent below their pre-financial crisis levels (2006).

In view of these considerations, we construct an External Macroeconomic Vulnerability Indicator (EMVI) to a “Lehman-type Virus” for every emerging country of the CGIEE. The EMVI is defined as the ratio of the commodity-price adjusted current account balance to total imports. In the numerator, the current account balance for emerging countries in our sample is computed at 2006 commodity prices to reflect for the possibility of a drop in commodity prices were a new episode of financial turmoil to materialize.²³ Naturally, for net commodity exporters, the adjusted current account balance will deteriorate compared to the observed balance. The opposite will be true for net commodity importers.

Following Calvo, Izquierdo and Talvi (2003), we use imports in the denominator as a proxy for domestic absorption of tradable goods, to facilitate cross-country comparison. The larger the size of imports, i.e., the more open the economy, the smaller the required

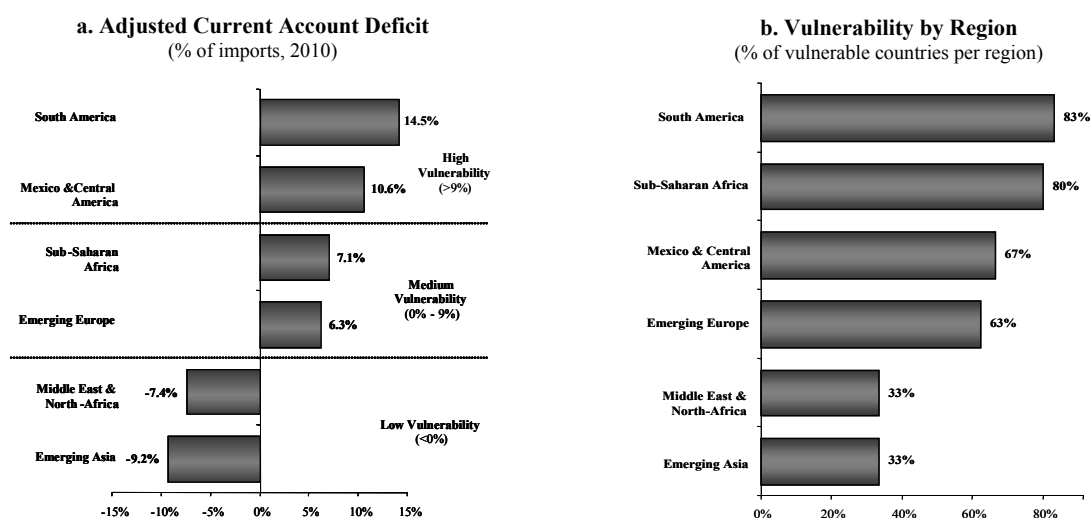
²² With homothetic preferences, demand for non-tradable goods falls in the same proportion as tradable goods. See Calvo, Izquierdo and Talvi (2003).

²³ For details on this kind of adjustment to the current account balance see Izquierdo and Talvi (2008).

adjustment in imports (and thus in domestic demand and output).²⁴ Intuitively, the EMVI measures the required adjustment in imports necessary to close any given current account deficit, should the adjustment occur only through the reduction in imports.²⁵

The results are illustrated in Figure 11. The EMVI divides the emerging world into three groups: *low vulnerability economies* (EMVI<0), *medium vulnerability economies* (0<EMVI<9%), and *high vulnerability economies* (EMVI>9%).²⁶ Latin American countries display the highest levels of macroeconomic vulnerability, lead by the more exuberant South American region and followed by the Mexico & Central American region. Surplus regions, i.e., Emerging Asia and Middle East & North Africa, display the lowest levels of vulnerability, while Emerging Europe and Sub-Saharan Africa are located in between (see Figure 11, panel a). These regional patterns are also displayed by the majority of the individual countries within these regions (see Figure 11, panel b).

Figure 11. Macroeconomic Vulnerability to a “Lehman-type Virus”



Note: The adjusted current account deficit is computed at 2006 commodity prices and in percent of imports.

Data source: WEO.

²⁴ 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 non-linear way with high current account deficits, combining into a dangerous cocktail. See Calvo, Izquierdo and Mejia (2008) and Calvo and Talvi (2005).

²⁵ 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.

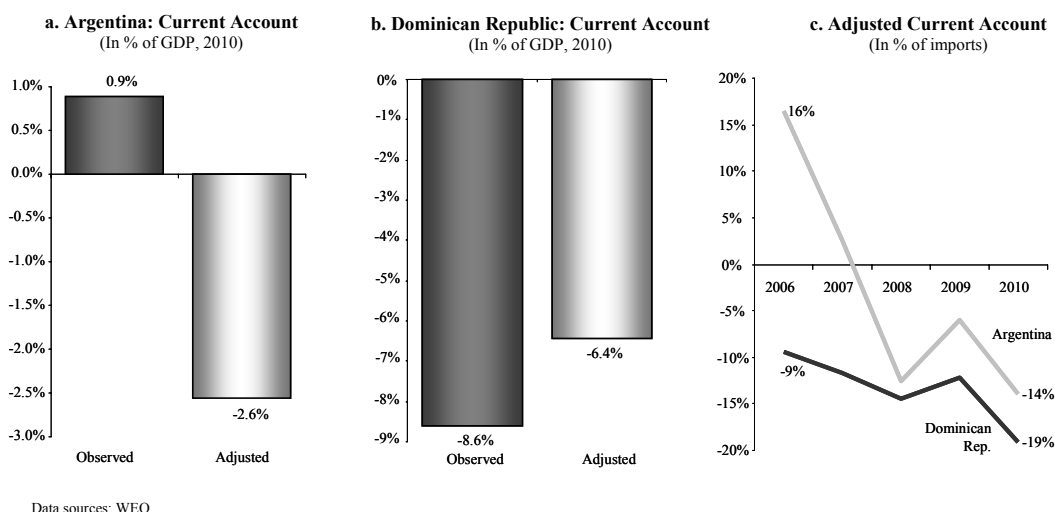
²⁶ High vulnerability economies are those with an EMVI in excess of 9 percent, i.e., one standard deviation above zero.

Box 2. Macroeconomic Vulnerability: More than Meets the Eye

Analyzing the contrasting cases of Argentina and the Dominican Republic, this Box sheds light on the relevance of the adjustment of the current account balance to obtain a more accurate indicator of external macroeconomic vulnerability.

As illustrated in Figure 2.1, in 2010 Argentina displays current account surpluses whereas the Dominican Republic displays large deficits. A face value assessment would suggest that the Dominican Republic would be significantly more vulnerable than Argentina should a deterioration in international financial conditions arise and force a large current account adjustment.

Figure 2.1 Current Account Adjustment: Two Contrasting Cases



However, the picture looks totally different after performing the two adjustments suggested in the main text.

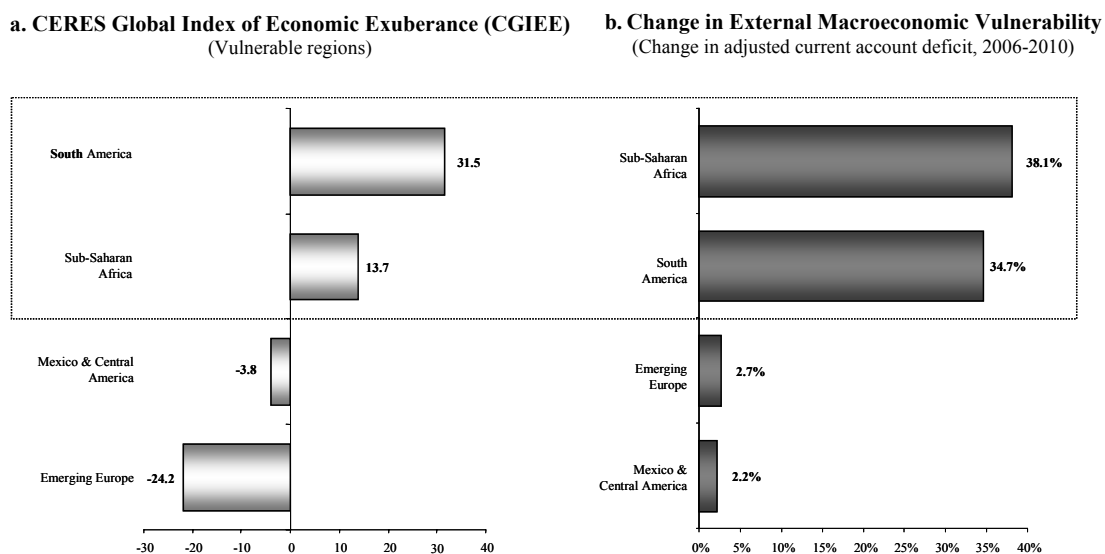
First, when computing the current account balance at 2006 commodity prices, for Argentina—a net commodity exporter—the current account surplus mutates into an adjusted current account deficit of 2.6 percent of GDP. Meanwhile, for the Dominican Republic—a net commodity importer—the current account deficit shrinks from 8.6 of GDP to an adjusted current account deficit of 6.4 percent of GDP.

Second, since Argentina is a significantly more closed economy than the Dominican Republic, once the adjusted current account is measured relative to imports (our measure of external macroeconomic vulnerability) the differences between these two apparently opposite realities virtually disappears.

The Exuberance-Vulnerability Paradox

Although there is a very low correlation between exuberance and macroeconomic vulnerability —both *Exuberant* and *Anemic Economies* may be either resilient or vulnerable—, there is a striking relationship between exuberance and *changes in macroeconomic vulnerability*. Exuberant regions such as South America and Sub-Saharan Africa, with large positive values of the CGIEE, display the largest increases in macroeconomic vulnerability to adverse global conditions. In fact, these two regions are now much more vulnerable than they were at the beginning of the global financial crisis. In contrast, anemic regions, such as Emerging Europe and Mexico & Central America, display similar levels of macroeconomic vulnerability as they did in 2006 (see Figure 12).

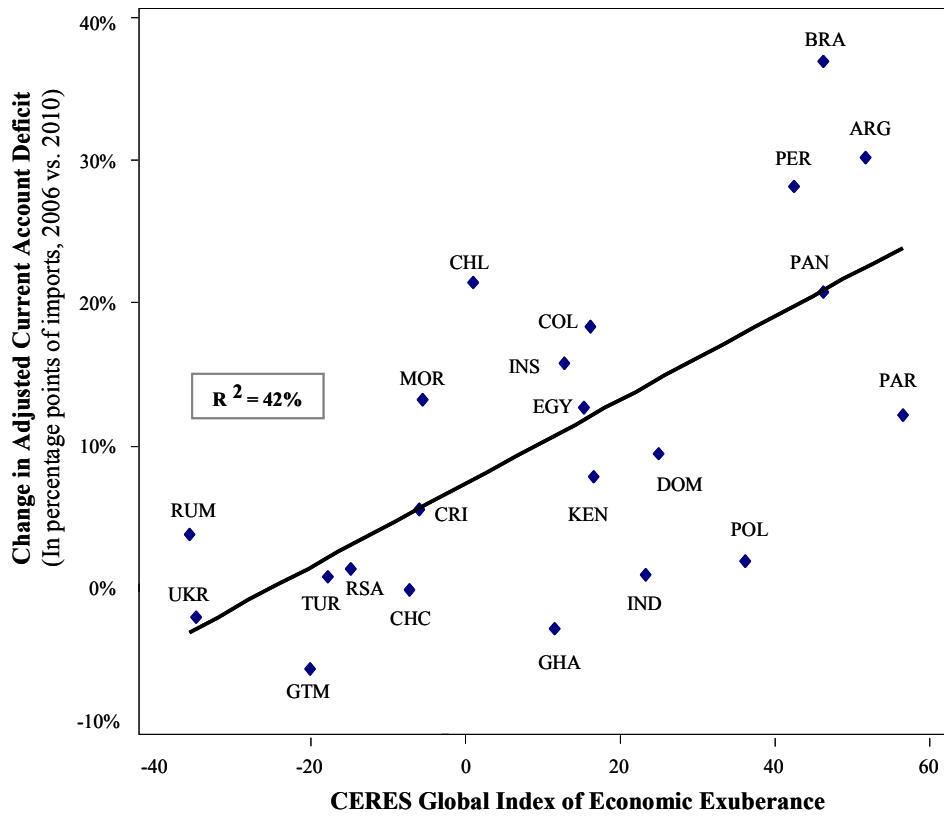
Figure 12. Exuberance and Vulnerability



Note: The change in adjusted current account deficit is computed at 2006 commodity prices and in percent of total imports.

More generally, Figure 13 illustrates the *Exuberance-Vulnerability Paradox*, i.e., the positive relationship between the degree of macroeconomic exuberance (as measured by the CGIEE), and the increase in external macroeconomic vulnerability to adverse global conditions (as measured by the change in the EMVI).

Figure 13. The Exuberance-Vulnerability Paradox



Note: The change in adjusted current account deficit is computed at 2006 commodity prices and in percent of total imports.

In summary, although the majority of emerging countries are highly shielded regarding external liquidity risk, this is not the case when the vulnerability to macroeconomic risks is factored into the analysis. In spite of a strong external liquidity position, an outbreak of a more resistant strain of the “Lehman-type Virus” would require most emerging countries to undergo severe macroeconomic adjustments. Moreover, the countries that currently display the highest degrees of exuberance are much more vulnerable to a “Lehman-type Virus” than they were prior to the onset of the global financial crisis.

Concluding Remarks and a Policy Touch

Ironically, exuberance breeds vulnerability. Most of the emerging world turned out to be a winner in the post-financial-crisis NGEF, in many cases displaying an extraordinary degree of economic exuberance. However, most of the emerging world is at the same time highly vulnerable to severe macroeconomic adjustments, should disarray in global capital markets —brought about by a NGEF in which advanced economies are plagued with financial and sovereign debt problems— hit the world economy.

In other words, the economic forces that in the post-financial crisis world created the conditions for a NGEF in which many emerging countries could flourish —severe problems in advanced economies that freed up capital and financial resources to be invested in emerging markets— are inherently the same as those capable of creating havoc in global capital markets and stripping emerging economies off their bonanza in the blink of an eye.

In this reality exuberance and vulnerability in emerging markets are connected in a very peculiar way. Three final policy thoughts based on this peculiar connection to close this report.

First, governments running exuberant emerging economies should take due notice of this *Exuberance-Vulnerability Paradox* and act accordingly when setting their monetary, fiscal and macro-prudential policies, in such a way that mitigates the build-up of future fiscal and financial risks, rather than buying into the exuberance wave.

Second, the international community that in early 2009 acted in a very swift way to increase the firepower of the IMF and other multilateral institutions to avoid a fallout of fundamentally sound but vulnerable emerging economies, should ensure that these institutions are adequately capitalized and able to perform the same role in the event of a new episode of global financial turmoil. This is a particularly relevant consideration at a time when the resources of the IMF might be strained by the crisis in peripheral Europe.

Finally, exuberant-type-cash-rich global emerging market players who were the key beneficiaries of the NGEF, have high stakes in ensuring that the current global order is not disrupted by a new and perhaps more virulent strain of the “Lehman-type Virus”.

Noel Coward was right after all: *“It’s the facts that are difficult to explain —they’re so fantastic...”*.

References

- Calvo, G., A. Izquierdo and L. Mejía (2008). “Systemic Sudden Stops: The Relevance of Balance-Sheet Effects and Financial Integration”. Research Department Working Paper 637. Inter-American Development Bank.
- Calvo, G., A. Izquierdo and E. Talvi (2003). “Sudden Stops, the Real Exchange Rate and Fiscal Sustainability: Argentina’s Lessons”. NBER Working Paper 9828.
- Calvo, G., Izquierdo, A. and E. Talvi (2006). “Phoenix Miracles in Emerging Markets: Recovering without Credit from Systemic Financial Crises”. NBER Working Paper 12101.
- Calvo G. and E. Talvi (2005). “Sudden Stop, Financial Factors and Economic Collapse in Latin America: Learning from Argentina and Chile”. NBER Working Paper 11153.
- Guidotti, P. (2000). “On Debt Management and Collective Action Clauses”. Kenen P. and A. Swoboda (editors). Reforming the International Monetary and Financial System, International Monetary Fund.
- 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 before the World Bank Conference on Recent Trends in Reserves Management, Washington DC.
- Izquierdo, A., R. Romero and E. Talvi (2008). “Boom and Busts in Latin America: The Role of External Factors”. Research Department Working Paper 631. Inter-American Development Bank.
- Izquierdo, A., and E. Talvi, coordinators (2008). “All That Glitters May Not Be Gold”. Monograph. Inter-American Development Bank.
- Izquierdo, A., and E. Talvi, coordinators (2009). “Policy Trade-offs for Unprecedented Times.” Monograph. Inter-American Development Bank.
- Izquierdo, A., and E. Talvi, coordinators (2010). “The Aftermath of the Crisis: Policy Lessons and Challenges Ahead for Latin America and the Caribbean.” Monograph. Inter-American Development Bank.
- Izquierdo, A., and E. Talvi, coordinators (2011). “One Region, Two Speeds? Challenges of the New Global Economic Order for Latin America and the Caribbean.” Monograph. Inter-American Development Bank.
- Radelet, S. and J. Sachs (1998). “The East Asian Financial Crisis: Diagnosis, Remedies, Prospects”, paper prepared for the Brookings Panel, Washington DC.
- Reinhart C. and K. Rogoff (2009). “This Time is Different: Eight Centuries of Financial Folly”, Princeton University Press.
- Rodrik, D. and A. Velasco (1999). “Short-Term Capital Flows”. NBER Working Paper 7364.
- The Economist (2011). “Temperature Gauge”.
<http://www.economist.com/blogs/dailychart/2011/06/overheating-emerging-markets-0>

**Appendix 1. CERES Global Index of Economic Exuberance (CGIEE):
Country and Regional Coverage**

Region/Country	% of Region GDP	
	Individual	Cumulative
Advanced Economies		
United States	36%	36%
European Union	30%	65%
Japan	13%	78%
Canada	4%	82%
South Korea	2%	85%
Emerging Asia		
China	62%	62%
India	16%	79%
Indonesia	7%	86%
Thailand	3%	90%
Malaysia	3%	92%
Philippines	2%	94%
Eastern Europe		
Turkey	37%	37%
Poland	23%	60%
Czech Republic	9%	69%
Romania	8%	77%
Hungary	6%	84%
Former Sov. Rep.		
Russian Federation	72%	72%
Kazakhstan	7%	79%
Ukraine	7%	86%
South America		
Brazil	59%	59%
Argentina	10%	70%
Venezuela	8%	78%
Colombia	8%	86%
Chile	6%	92%
Peru	4%	96%
Middle East		
Saudi Arabia	26%	26%
Iran	21%	48%
United Arab Emirates	18%	66%
North Africa		
Egypt	32%	32%
Algeria	24%	56%
Morocco	15%	72%
MX and Central America		
Mexico	84%	84%
Dominican Republic	4%	88%
Guatemala	3%	91%
Costa Rica	3%	94%
Panama	2%	96%
El Salvador	2%	98%
Sub-Saharan Africa		
South Africa	34%	34%
Nigeria	21%	54%
Angola	8%	62%
Kenya	3%	65%
Ghana	3%	68%

Appendix 2. Cluster Analysis

This appendix briefly introduces details of the cluster analysis carried out in Part I of this report in order to identify likely winners and losers of the New Global Economic Geography.

The cluster analysis was performed for the emerging countries with data availability included in the CERES Global Index of Economic Exuberance using two grouping variables: i) net commodity exports (in percent of GDP) and ii) the ratio of investment to exports of goods and services to anemic economies.²⁷

The agglomerative hierarchical clustering initially considers each country as a cluster and progressively merges them until the whole sample is considered a single cluster. The result is a cluster tree that shows the rescaled distances between the potential clusters. Using the Ward's method, the optimal number of clusters that emerges from this analysis is three (see Figure A2.1).

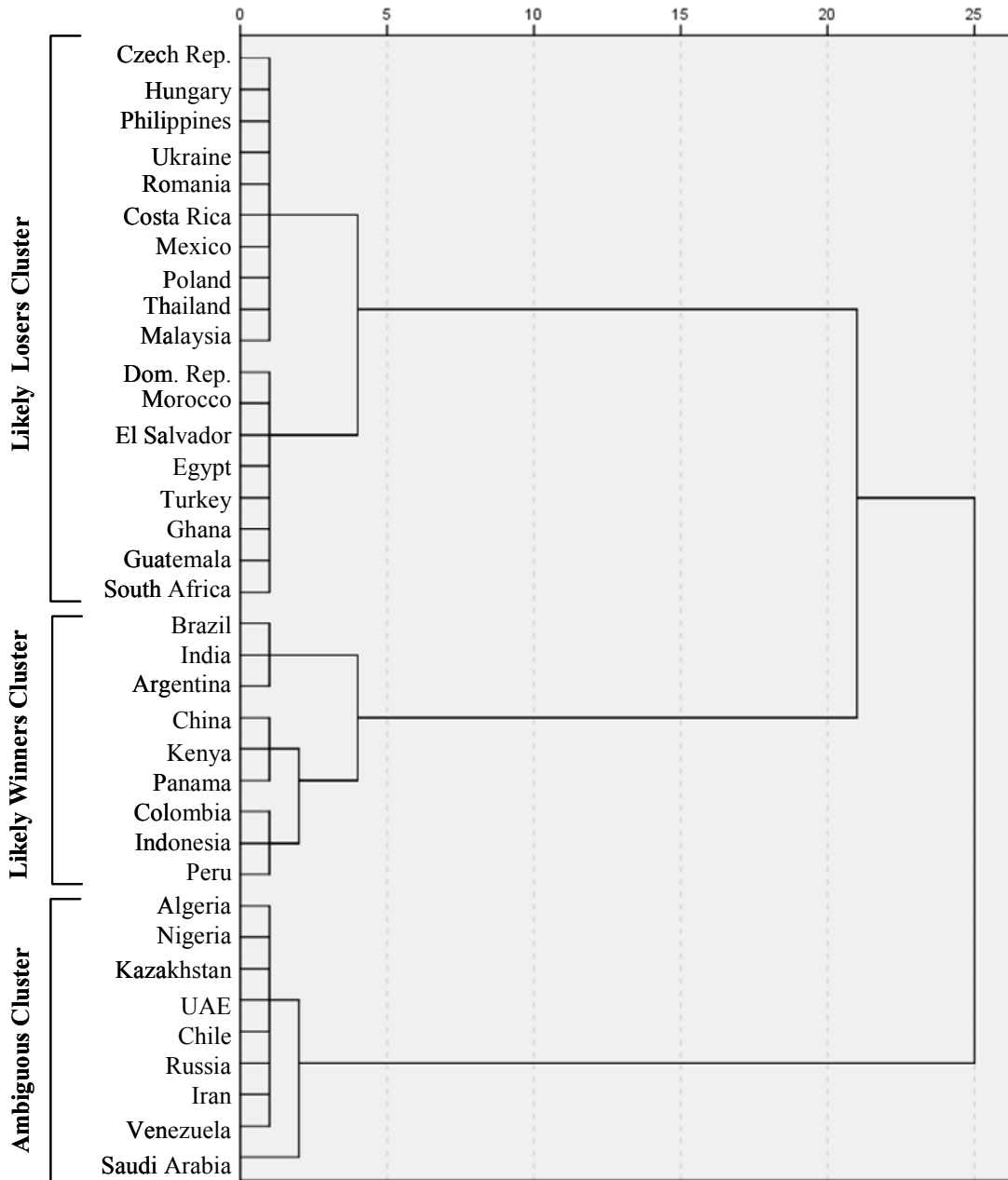
For robustness, the cluster analysis was performed adding remittances from anemic economies into the second clustering variable. The results turned out to be identical to the previous one for 88 percent of the countries.

As an additional robustness test, the cluster analysis was performed using the k-means method —with and without the introduction of remittances into the analysis— setting the number of clusters to three. In this case, the results are identical to the original analysis for 97 percent of the countries.

The robustness tests in this Appendix suggest that the cluster analysis performed in Part I, which groups countries in likely winners and likely losers in the New Global Economic Geography, is robust to changes in clustering variables as well as changes in the clustering method.

²⁷ Year-2010 data for 36 emerging economies were considered in the cluster analysis.

Figure A2. 1 Dendrogram and Clusters





www.ceres-uy.org