

## The Long-Term Outlook for the BRICs and N-11 Post Crisis

- The BRIC and N-11 countries are emerging from the crisis better than the developed world.
- As a result, our long-term projections for the BRICs look more, rather than less, likely to be realised.
- It is now possible that China will become as big as the US by 2027, and the BRICs as big as the G7 by 2032.
- Within the BRICs and N-11, China, Brazil, India, Indonesia and the Philippines appear to be performing best.
- Bangladesh, Egypt, Korea, Nigeria, Turkey and Vietnam form a second group of countries that have performed broadly in line with expectations.
- Iran, Mexico, Pakistan and Russia have need for improvement.
- We show the ongoing dramatic BRIC influence in key product markets, with autos and crude oil as examples.

Important disclosures appear at the back of this document

Thanks to Dominic Wilson, Michael Buchanan, Paulo Leme and Swarnali Ahmed for their valuable comments, and to Alex Kelston for the Growth Environment Scores

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**December 4, 2009**

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## Summary

- The BRIC and N-11 economies, collectively, appear to be emerging from the global credit crisis better than the major economies.
- In fact, in some ways the crisis has been helpful in encouraging many of these countries to focus on domestic demand—especially China.
- As a result, we think our long-term 2050 BRIC ‘dream’ projections are more, rather than less, likely to materialise.
- It is now possible that China could become as big as the US by 2027—in less than 18 years.
- In turn, the BRICs could become as big as the G7 by 2032, about seven years earlier than we originally believed possible.
- There has been quite a differential performance both within the BRIC economies and the N-11 compared with our expectations.
- Within the BRICs, in addition to China, Brazil and India have also performed better than we expected.
- Within the N-11, Indonesia and the Philippines have positively surprised.
- Bangladesh, Egypt, Korea, Nigeria, Turkey and Vietnam all performed broadly in line with expectations.
- Russia has experienced a very difficult crisis, which raises concerns about its long-term growth trend.
- Russia had performed better than our expectations until the crisis and, if it recovers strongly and quickly in 2010 and 2011, as we expect, we believe it will deserve its BRIC status.
- Iran, Mexico and Pakistan have—so far—all disappointed earlier expectations.
- As an example of the considerable impact of the BRIC countries on many markets, we show their importance for the auto and energy markets.
- We present our new projections for BRIC auto demand up to 2050.
- We discuss recent Chinese policy proposals to improve energy efficiency, and show that, if implemented, they could potentially have a large impact on crude oil demand.

# The Long-Term Outlook for the BRICs and N-11 Post Crisis

## Section 1. Where We Stand on the BRICs and N-11

It is now around eight years since we first introduced the BRIC acronym, and six years since we first estimated how the world might look in 2050. Of course, like the rest of the world, the BRICs have faced a severe crisis in the past two years. This paper assesses where we now see the BRIC economies post crisis, and shows that, if anything, their current health suggests that our long-term projections are more, rather than less, likely to be realised. Although Russia has struggled through the crisis, we see little reason why it should not still be regarded as a BRIC, and we still believe that Russia could become bigger than Japan. The other three—Brazil, China and India—have each handled the crisis well.

We also discuss the so-called N-11 (the next 11 emerging economies) in detail, a group we first wrote about in 2005. It has frequently been suggested to us that some of the countries in this group are worthy of being considered as strong as the BRIC countries. Indonesia, Korea, Mexico and Turkey are usually the four that are mentioned in this regard. We do not see any of them becoming as large as the BRIC economies, although some of them are showing evidence of sustainable improvement.

We do not present new 2050 economic projections, not least as we updated them in 2008. Our latest 2009 Growth Environment Scores (GES), which we update annually, do show some interesting changes, but we don't think they justify revising our long-term BRIC and N-11 assumptions.

What does seem clear is that the global credit crisis and its aftermath have caused more damage to the major developed economies than to the BRICs and N-11 countries. Consequently, our projection from 2008 that China could become as big as the US by 2027—and therefore the BRICs collectively as large as the G7 by 2032—now looks more, rather than less, likely as a result of the crisis.

Within the BRIC and N-11 countries, we can currently identify three groups:

- A first group includes economies that have surpassed our expectations. China is, of course, at the top of this list that, within the BRICs, would also include Brazil and India. Of the N-11, we would include Indonesia and the Philippines in this group.
- A second group contains countries that have largely performed in line with early projections, namely, Bangladesh, Egypt, Korea, Turkey, Nigeria and Vietnam.
- Because of its poor performance since the crisis, Russia has now 'disappointed' us. However, it has performed better than many realise, despite having had a very poor crisis. Even including 2009, its average growth performance has been only slightly below the 5% we assumed in 2003.
- The third group includes countries that have largely disappointed: Iran, Pakistan and Mexico.

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*Our long-term BRICs projections are now more likely to be realised*

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*The global credit crisis caused more damage in the major developed economies*

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*China tops the list of countries whose growth performance has surpassed our expectations*

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The paper is set out as follows: Section 2 shows specifically how the BRIC and N-11 economies have behaved through the crisis, looking at their overall growth, domestic demand and trade performances. We also show the performance of their financial markets in the context of the crisis compared with earlier in the decade. Lower interest rates are a particularly eye-catching development that, for many of these countries, would probably not have occurred in the past.

Section 3 presents our latest GES for the BRIC and N-11 countries. On average, they are higher, albeit with some variation. Within the BRICs, Brazil's score is now the highest. India continues to score the lowest—indeed, its GES has dipped further. Within the N-11, Korea's score is easily the highest, and its score rose even further in 2009. Seven of the other 10 saw their GES increase. In this section, we show the critical importance of the GES for long-term growth, and study the correlation between 2008-2009 changes and their economic performance through the crisis. As the recoveries of BRIC and N-11 economies gather pace, the divergence appears consistent with their GES.

Section 4 discusses how the BRIC economies stand today compared with how we projected them to be back in 2003, as well as showing the contrast between our 2050 projections today and in 2003. All four economies have attained levels of USD GDP that we had not originally expected until later—with China, of course, the main standout. We now assume a much stronger GDP performance for China by 2050 than we originally estimated. We also show that, in terms of relative emergence, we expect all four BRICs, including Russia, to outpace the G7 countries earlier than we had originally thought.

Section 5 presents updated discussions of our previous long-term outlook for the auto and energy markets in the BRIC countries. We present new projections for autos, which show China reaching spectacular levels earlier than before, and more optimistic projections for Brazil and India. Our projections for Russia are slightly lower.

As for energy markets, we discuss the recent policy announcements from China with respect to energy efficiency gains, although these policy steps are not really 'news' to us as such. However, we also show that if they succeed in their announced plans for 50% of additional energy consumption to be in renewables by 2030, and all additional consumption in renewables by 2050, China will consume 15mbpd less oil than we originally estimated. This would reduce global oil demand by 20% compared with what we had assumed before.

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*Brazil's GES is now the highest among the BRICs; India's is still the lowest*

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*We expect all four BRICs to outpace the G7 countries earlier than we had originally thought*

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## Section 2. The BRICs and N-11 in the Aftermath of the Crisis

We start by taking a look at what actually happened to the BRICs and the N-11 during the global financial crisis—and where they stand now relative to the pre-crisis period and relative to the advanced economies.

While overall the BRICs and N-11 saw much sharper contractions than the developed countries, they also saw much stronger rebounds. Within the two groups, this picture is not uniform, and the extent of differentiation in the magnitude and speed of rises and falls is extraordinary. A number of countries are already back at their pre-2007 levels on a number of metrics, while others are recovering more slowly.

In terms of the differentiation, we can identify three broad groups. One group comprises those that have displayed remarkable resilience during the global financial crisis. This group of ‘winners’ includes Brazil, China, India, Egypt, Indonesia and the Philippines: they have experienced a relatively mild slowdown, and have shown an impressive rebound in growth and activity this year.

At the other end of the spectrum, Iran, Mexico, Pakistan and Russia have suffered more from the crisis. They stand out given the depth of their recessions and sluggishness of recoveries.

In between lies another group that includes Korea, Nigeria, Turkey and Vietnam, which have also seen impressive rebounds despite relatively sharp contractions.

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*Some BRICs and N-11 have experienced sharper contractions than the advanced economies—but also stronger rebounds*

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### 2.1 BRICs and N-11 Global Importance Continues to Rise

#### Higher growth contribution

The relative importance of the BRICs and G7 for the global economic landscape has changed at a rapid and dramatic pace, particularly in terms of growth. Between 2000 and 2008, the BRICs contributed almost 30% to global growth in US Dollar terms, compared with around 16% in the previous decade. At the same time, the G7’s contribution has fallen from over 70% in the 1990s to just 40% on average during the current decade. And although the advanced economies together still contribute more than the BRICs on this 2000-2008 average measure, since 2007 alone China has contributed more than any of them, including Euroland.

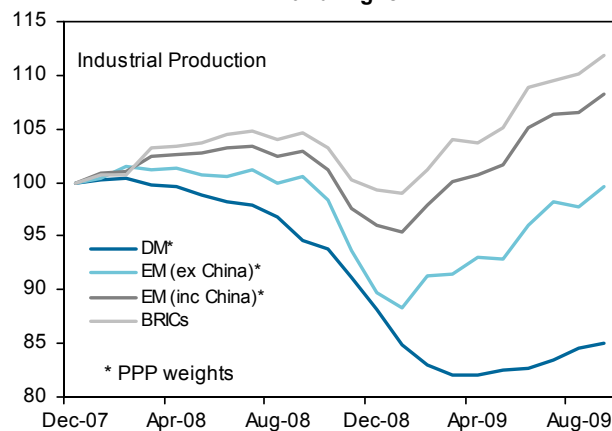
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*BRICs contribution to global growth rose to almost 30% in USD in 2000-2008 vs 16% in the previous decade, whereas the G7’s fell from over 70% to just 40%*

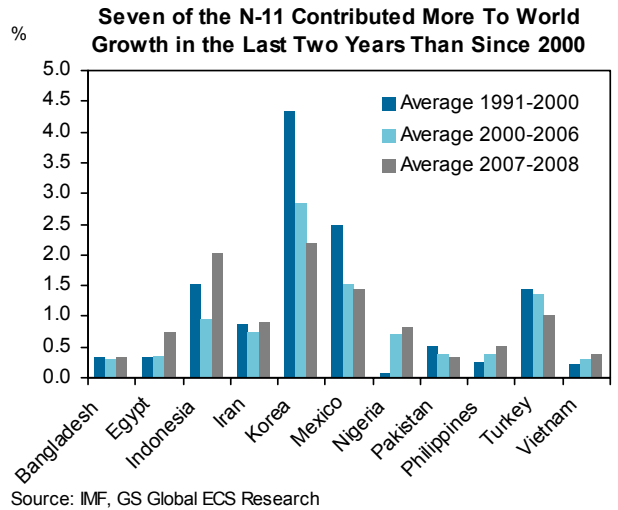
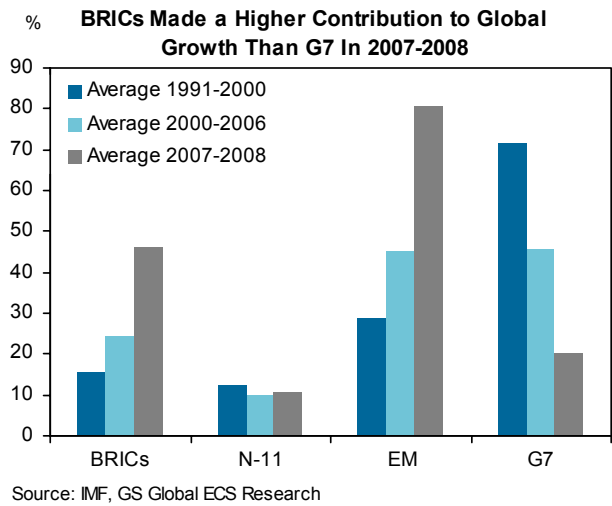
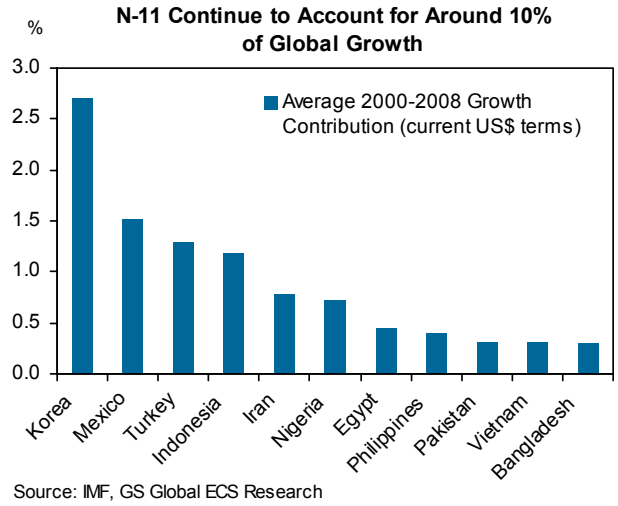
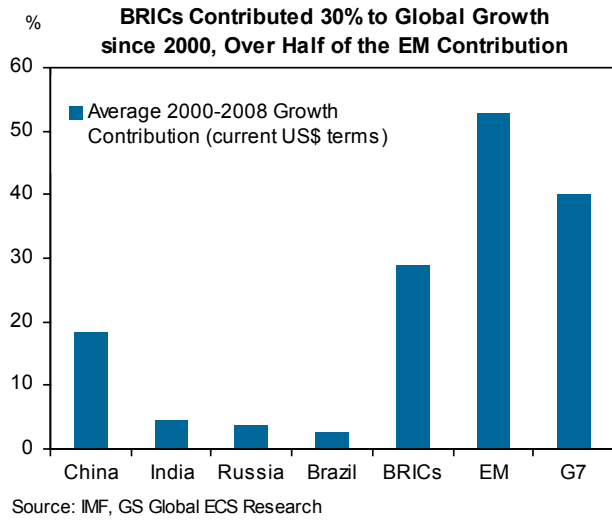
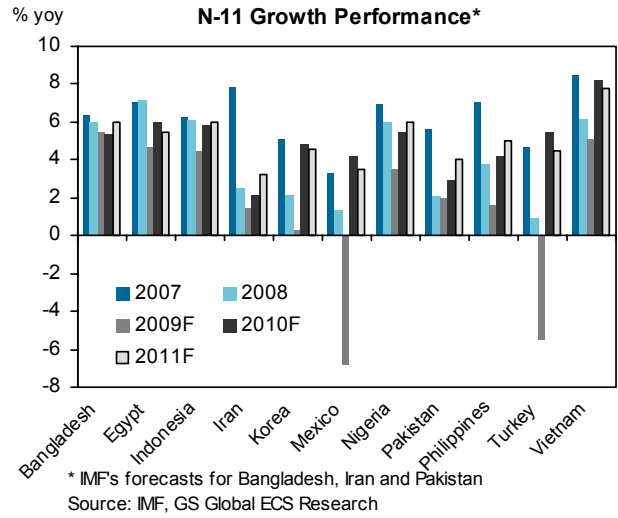
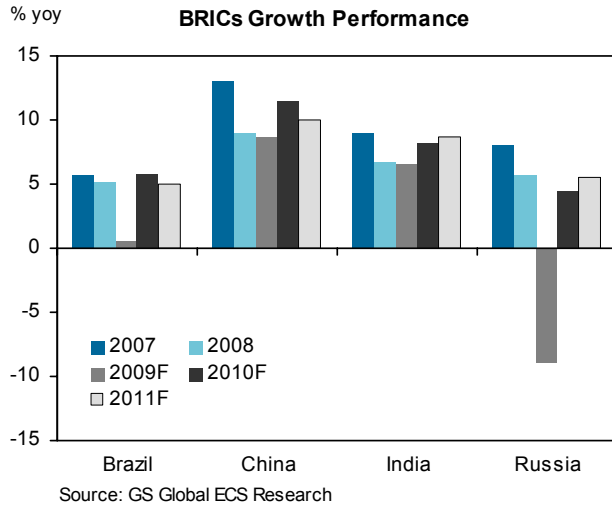
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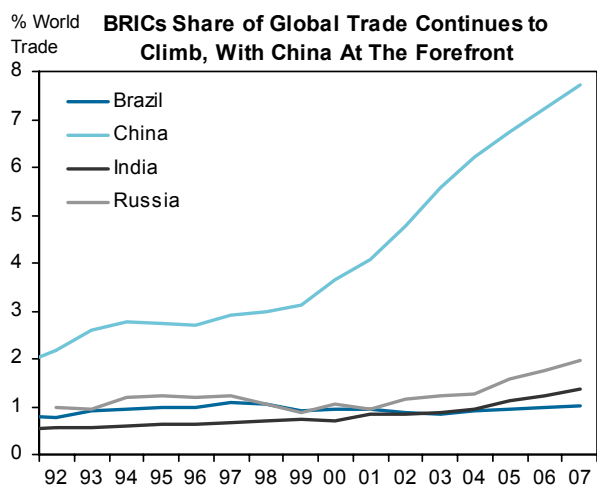
Since the start of the crisis in 2007, the BRICs’ contribution has risen even more: some 45% of global growth has come from the BRICs, up from 24% in the first six years of the decade. The N-11 contribution has risen by a modest

Index, Dec-07=100 **EM Industrial Production Rebounded Faster and Higher**

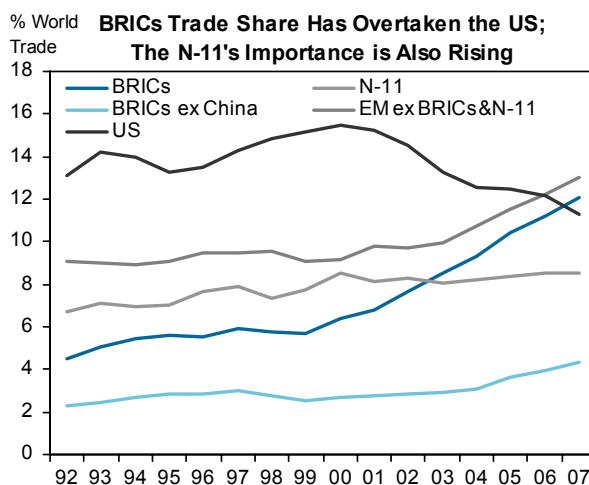


Source: GS Global ECS Research





Source: IMF's Direction of Trade Database, GS Global ECS Research



Source: IMF's Direction of Trade Database, GS Global ECS Research

1% in the last two years, to 11%. The contribution from all emerging markets as a whole was over 80% (vs. the 2000-2006 average of 45%). The G7 has only contributed 20% in the past two years. While the 2000-2006 contribution to global growth was almost equally split between the developing and developed world, the last two years saw the trend change sharply, with the divergence mainly driven by the BRICs.

On an individual country basis, all of the BRICs and seven of the N-11 (Bangladesh, Egypt, Indonesia, Iran, Nigeria, Philippines and Vietnam) contributed more to world growth in 2007-2008 than from 2000 to 2006.

Between 2007 and 2009 Mexico, Russia and Turkey saw the deepest downturns in the two groups. These three countries saw their economies shrink in 2009. China, India, Indonesia and Bangladesh experienced only relatively mild slowdowns.

**Increasing trade shares**

The BRICs' share of global trade has continued to rise sharply and now stands at 13%, almost 2ppt higher than two years ago. China accounts for almost two-thirds of the BRICs' share. While the share of the N-11 countries is not rising as fast, these countries are still more important for global trade than the BRICs excluding China. Korea and Mexico together account for more than half of the N-11 trade, while other countries (such as Turkey, Indonesia and Vietnam) are becoming increasingly important too.

Interestingly, non-BRICs and non-N-11 developing and emerging markets (which include other countries in Africa, Developing Asia, CEE, CIS, Mongolia, the Middle East and Western Hemisphere) still account for a larger share of global trade than either the BRICs or the N-11. The importance of this group in 2008 has increased even more, highlighting the resilience of the developing world to the crisis in general.

**Rebalancing current accounts**

Although the BRICs' aggregate current account remains in surplus, having peaked at over 6% of GDP, it has been on a declining trend since 2006 and is expected to fall further, to 2.7%, in 2011. The N-11 aggregate current account swung into deficit in 2008 for the first time since the mid-1990s, but is expected to return to positive territory in 2009 and hover around zero in 2010-2011.

Beyond the aggregates, the decline in the BRICs' current account surplus has mainly been driven by China and Russia. Both Brazil and India already had moderate deficits. Within the N-11, commodity producers Iran and Nigeria stand

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*Divergence between DM and EM contributions to global growth over the past two years mainly driven by the BRICs*

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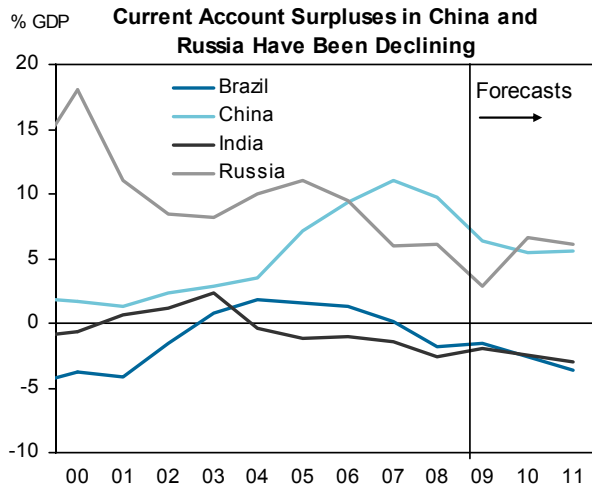


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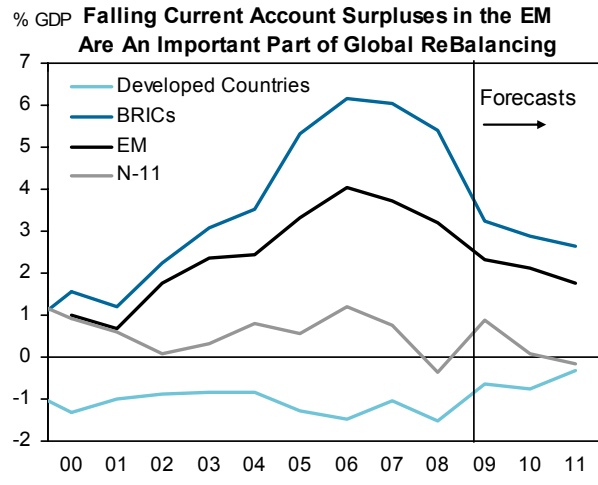
*China accounts for almost two-thirds of BRICs' share of global trade*

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Source: IMF, GS Global ECS Research



Source: IMF, GS Global ECS Research

out in terms of their persistent and relatively large current account surpluses. Other surplus countries include Bangladesh, Indonesia and the Philippines. Korea, Turkey and Vietnam are likely to see some improvements in their current account deficits this and/or next year.

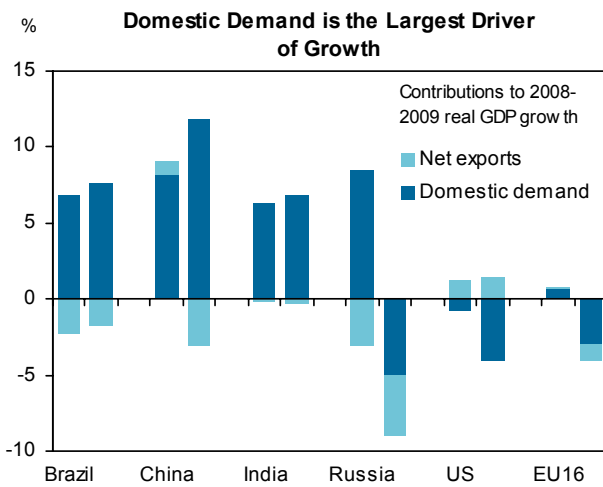
**Domestic demand and economic resilience**

Domestic demand is still the largest contributor to real GDP growth in most of the BRIC and N-11 countries. In China both domestic demand and net exports have made positive contributions to growth this decade. In the other three BRICs, net exports have detracted from growth, particularly in Russia and Brazil. The contribution from domestic demand slowed in 2008 from the 2007 highs, but was still the main driver in all countries.

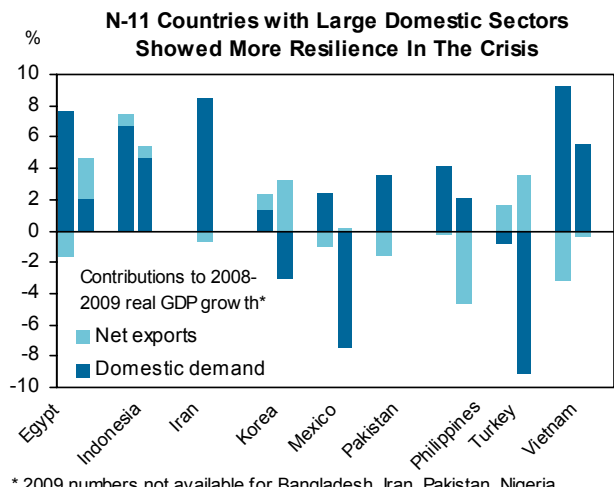
Across the N-11, domestic demand has also consistently driven growth in many economies—Indonesia, Iran, Mexico, the Philippines and Vietnam stand out in particular. At the other end of the spectrum, Korea and Turkey have grown largely on the back of net exports, particularly in 2008.

*Domestic demand still the main driver of real GDP growth in most of the BRICs and N-11*

Comparison with the developed world illustrates the striking difference, particularly versus the BRICs. The contribution of domestic demand to growth in the US had slowed since 2004 and turned negative in 2008. Domestic demand in Euroland also fell significantly as growth slowed, with the contribution from positive net exports having virtually disappeared by 2008.



Source: National Sources, GS Global ECS Research



\* 2009 numbers not available for Bangladesh, Iran, Pakistan, Nigeria  
Source: National Sources, GS Global ECS Research

## 2.2 BRICs Market Performance in Context

### Deeper falls and sharper bounces in equities

Taking a longer-term perspective over the past few years, the BRIC and N-11 stock market performance still looks impressive, despite the sell-off during the credit crisis. BRICs equity indices are still much higher than in 2003, and have increased by around 6 times in Brazil, 5 times in India, almost 4 times in Russia and twice in China. Among the N-11 countries, the best-performing markets to date have been Egypt (9x) and Indonesia (6x), whereas Korea and the Philippines have lagged on a relative basis (2.6x and 2.9x, respectively). To put this into a global context, the S&P 500 Index and DJ Euro Stoxx are only 20% higher than in 2003.

BRIC and N-11 equity markets sold off substantially during the crisis, with particularly sharp falls throughout 2008. BRICs markets on average saw deeper falls than the N-11 markets. Among the BRICs, Russia's decline was the most dramatic—its equity index lost over three-quarters of its value. China's index fell by almost two-thirds and India's Sensex more than halved. Brazil's Bovespa lost around a third of its value.

Within the N-11 (nine of which have functioning equity markets), stock performance was very dispersed. Vietnam, Pakistan and Egypt underperformed significantly, with around two-thirds of their equity index values erased over the course of 2008. Stock markets in Mexico, Korea and Bangladesh declined notably less.

Since the rebound in equity markets, some markets have recovered substantially. Brazil and Mexico are almost back to their previous peaks. Bangladesh has recovered all its losses. China and Russia have only regained around half of their respective all-time highs.

The N-11 markets that fell furthest during the sell-off still seem to be struggling on a relative basis, having recovered to around two-thirds their previous peaks.

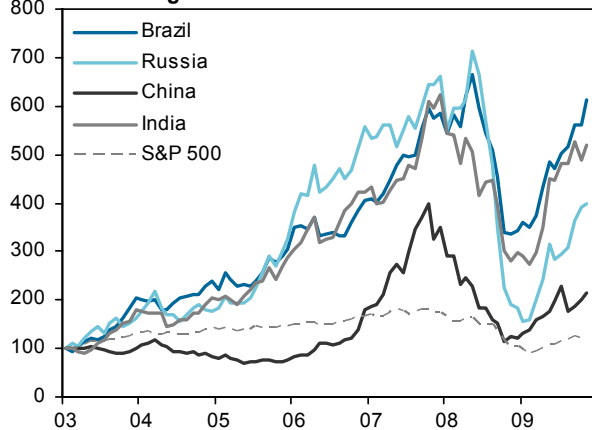
Since 2003 the BRIC markets have risen from around 2% of global market capitalisation to 9% currently, completely recovering their pre-crisis levels. Our long-term projections suggest that the BRICs could account for almost 50% of global equity markets by 2050. In this context, this would suggest the rally in 2009 is nowhere near being a bubble.

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*Our long-term projections suggest the BRICs could account for almost half of global equity market cap by 2050*

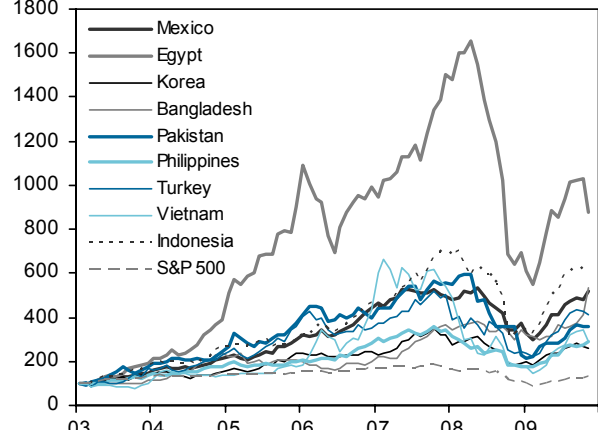
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Index, Jan 03=100  
**BRICs Equity Markets Remain Substantially Higher than in 2003—Unlike the S&P...**

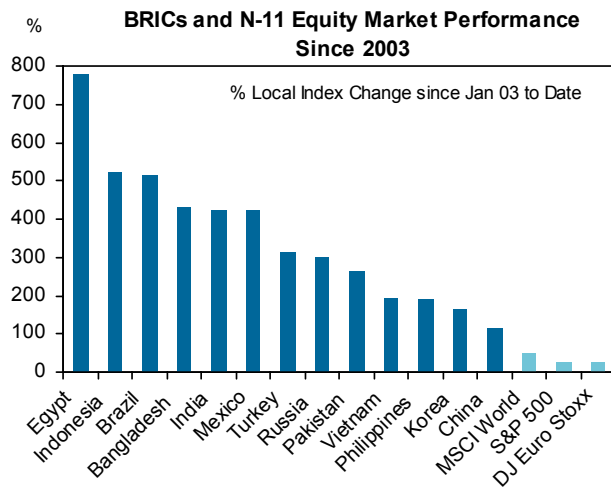


Source: Bloomberg, GS Global ECS Research

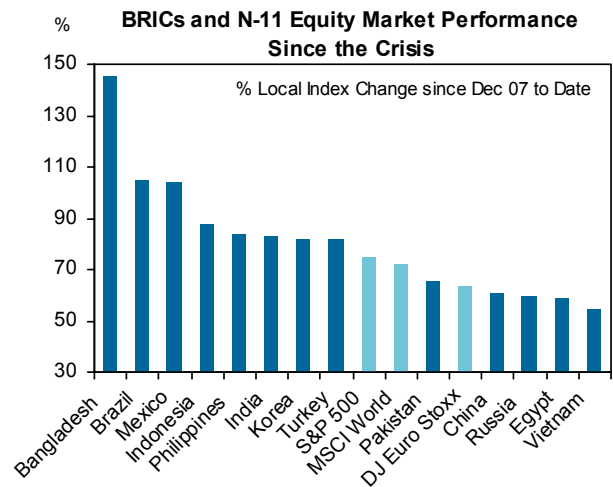
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**...As Do Many of the N-11**



Source: Bloomberg, GS Global ECS Research



Source: Bloomberg, GS Global ECS Research



Source: Bloomberg, GS Global ECS Research

### Currency performance

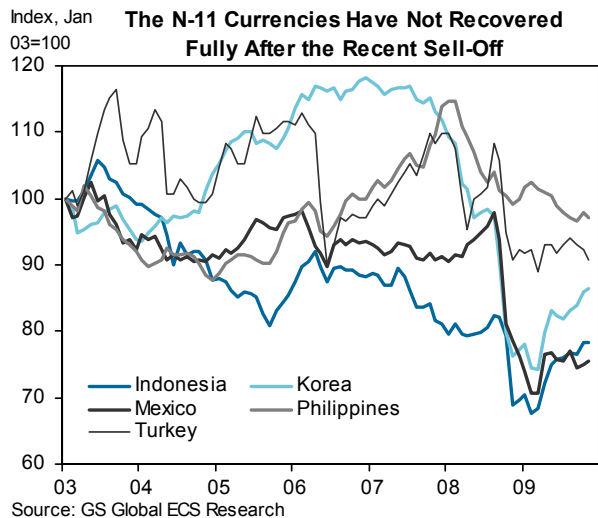
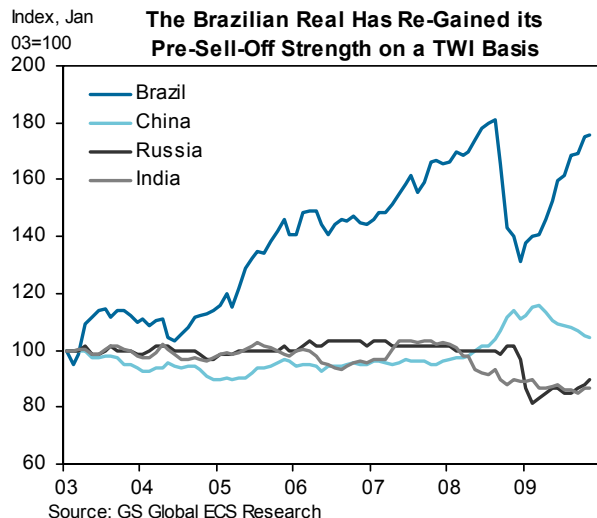
The Brazilian Real stands out in terms of its persistent strength on a TWI basis—since 2003 it has appreciated by almost 80%. The Chinese Renminbi has also strengthened over the same period, while Russia and India have seen their currencies depreciate on a TWI basis. All N-11 currencies are weaker than in 2003, with some having lost significant ground during the crisis.

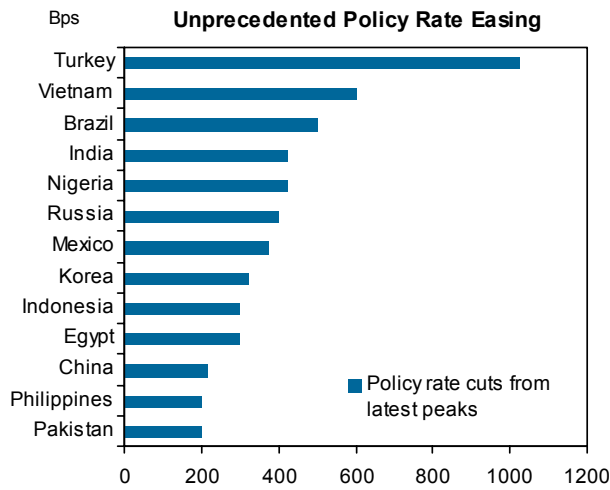
### Powerful new signs in terms of monetary policy

Interest rates in the BRICs and N-11 have declined dramatically over the past year, in line with other developing and advanced economies. In many places, they stand at all-time lows. Brazil has cut its policy rate by 500bp over the past year, while Russia saw 400bp of cuts and India 425bp. Policy rate reductions in China were less aggressive, but currency and other unconventional measures played a bigger role in the easing of financial conditions here, as it did in many parts of Asia.

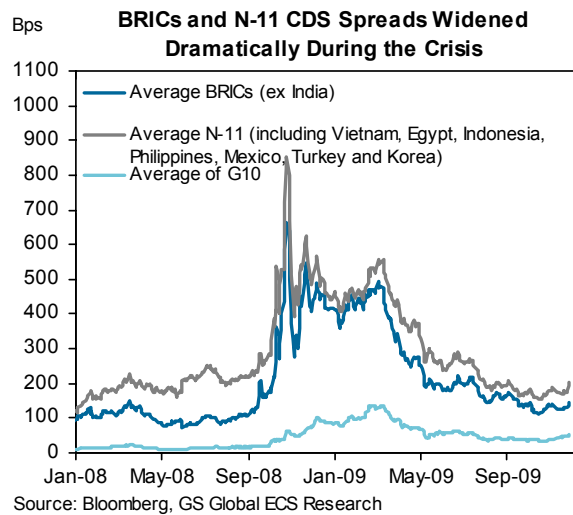
*Past year has seen a dramatic decline in BRIC and N-11 interest rates*

Within the N-11, Turkey has undertaken the most aggressive easing, cutting its policy rate by 1,025bp since 2008Q4—the steepest absolute decline globally. Vietnam and Nigeria also saw significant moves, cutting their rates by 600bp and 425bp, respectively. Compared with past crises, Korea and Mexico also stand out. They have eased by 375bp and 325bp, respectively, bringing policy rates to their lowest levels historically.





Source: Haver Analytics, GS Global ECS Research



Source: Bloomberg, GS Global ECS Research

This general easing episode marks the first time in history that many of the developing economies have been able to cut their policy rates in response to adverse external shocks. Previously, during such crises capital outflows from emerging markets generally meant that local central banks had to hike rates to maintain financial stability. Such countercyclical monetary policy often put even more pressure on local economies, thus aggravating the original crisis.

Since the crises in the 1990s, a number of BRIC and N-11 economies, as well as some other countries in the developing universe, have managed to strengthen their external balances and put in place healthy policy frameworks that have ensured more credible conditions. This healthy structural backdrop has allowed these countries—in particular Brazil and Turkey—to ease financial conditions aggressively, without the risk of capital flight. Combined with the lack of major banking crises in most of the BRICs and N-11 (with the notable exception of Russia), this has assisted the recovery process.

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*Healthy structural backdrop made way for aggressive easing of financial conditions in much of the emerging world*

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Despite much criticism, strong reserve accumulation appears to have been beneficial. The crisis reinforced the notion that reserves are a ‘good thing’ for these countries. While Russia and Korea saw big drawdowns, their large ‘war chests’ allowed them to maintain policy independence. Brazil did better than Mexico, partly due to the better perceived reserve cover.

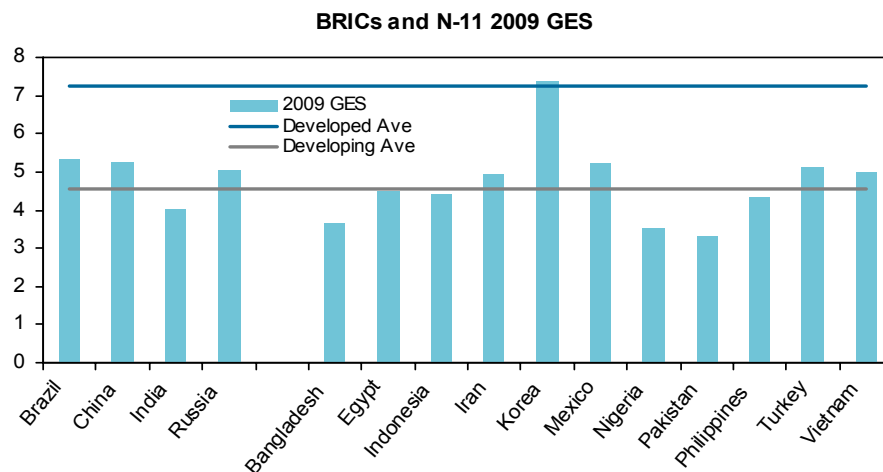
### Section 3. Our 2009 GES for the BRICs and N-11

Given the challenges that the BRICs and N-11 economies and markets have faced over the past two years, has their potential to grow further and spread their dominance in a number of areas—including global demand for resources and spending patterns—changed? Has our original 2050 ‘dream’ passed the test provided by this difficult environment? In this (and the next) section, we look at the main tools we have developed over the years to monitor a country’s potential in the years to come. Our assessment is that not only is our story still intact—if anything, it has become even stronger.

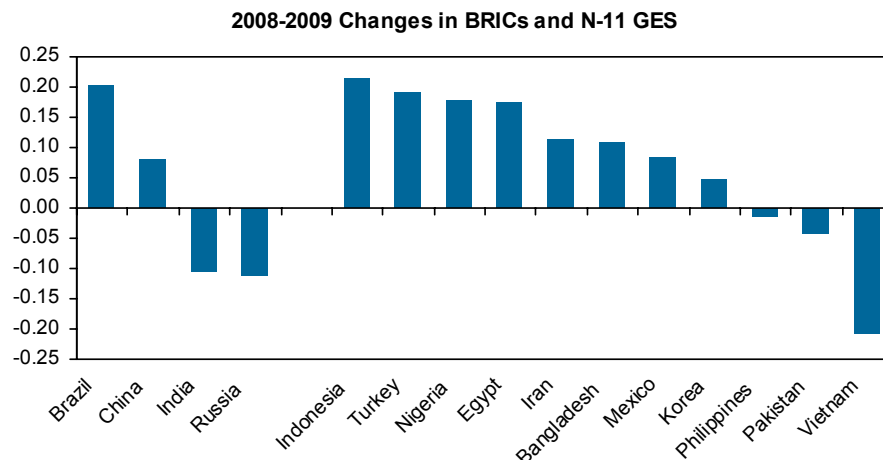
Our Growth Environment Score (GES) is designed to measure the strength of a country’s sustainable growth. It is an index that can vary from 1 to 10, with the highest score of 10 reflecting the best conditions for growth. It includes 13 different variables—the main components of the institutional and policy framework that contribute to growth performance. It is an important driver of our assumptions for long-term productivity trends, including the pace of convergence for our 2050 projections.<sup>1</sup> Since its introduction in 2005, we have used the GES regularly to track growth conditions in a total of 180 countries, with a particular focus on key developing economies.

*Improvement in developing world GES offset deterioration in the advanced economies...*

Overall, our 2009 global GES has increased slightly.<sup>2</sup> The improvement in the developing world has offset deterioration in the advanced economies. Among the BRICs and N-11, Brazil’s score rose the most, along with Indonesia and Turkey. India, Russia, the Philippines, Pakistan and Vietnam have experienced small declines.



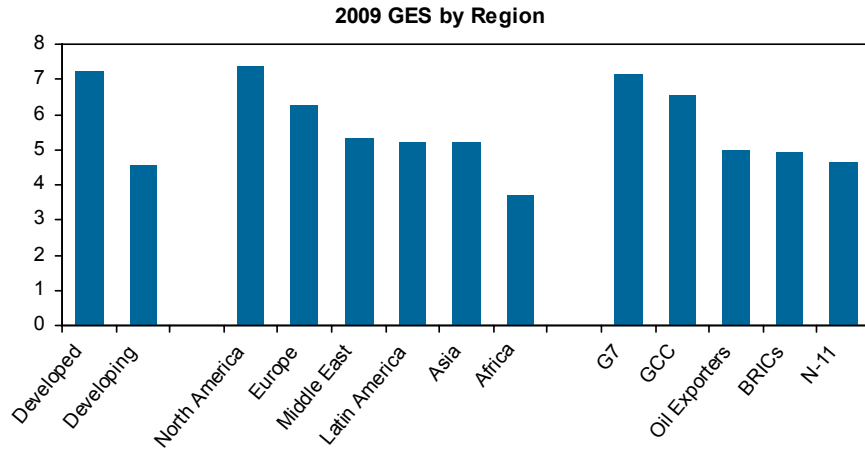
Source: GS Global ECS Research



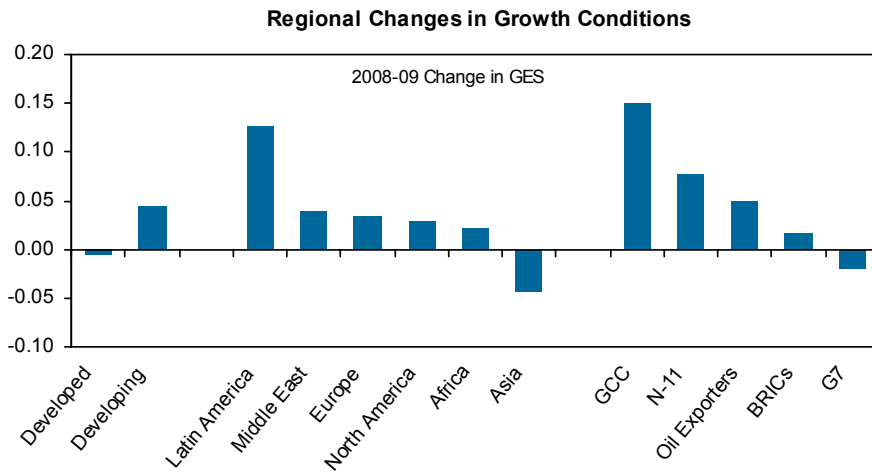
Source: GS Global ECS Research

1. For more detail on the construction and application of the GES, see “Building on a Decade of Progress”, *Global Economics Paper 163*.

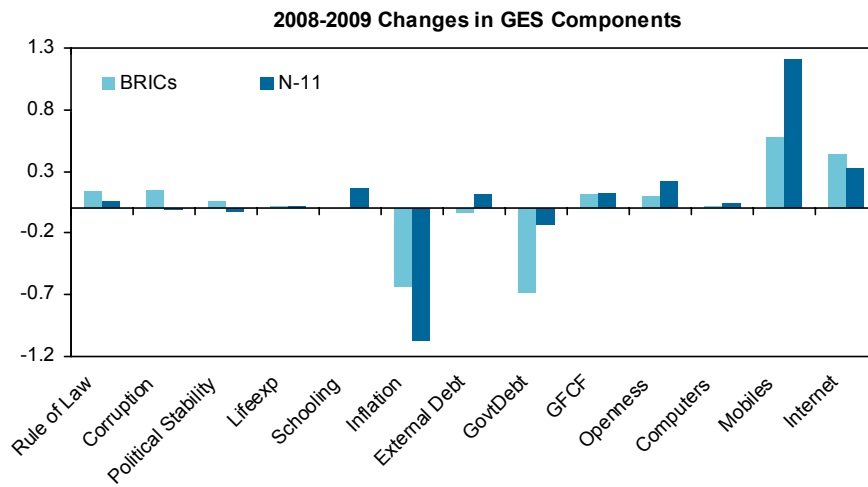
2. We will be publishing our 2009 GES for the full set of 180 countries in the near future.



Source: GS Global ECS Research



Source: GS Global ECS Research



Source: GS Global ECS Research

**Technology posts significant improvement; macro stability deteriorates**

- Technology, particularly the use of mobiles and internet, has seen the largest gains across the BRICs and N-11, and was the main category that consistently offset the deterioration in other components. N-11 countries actually benefited more than the BRICs, posting the highest improvement among the major groupings, and well above the developing-country average.
- Macroeconomic conditions, which include gross fixed capital formation and openness, have also improved in the BRICs and N-11. They have significantly exceeded the developed- and developing-country average in this category.
- The BRICs have made notable progress in the area of political conditions, and especially with respect to corruption and the rule of law. The N-11 improved slightly in this category, in line with the developing world, while the advanced economies saw a small deterioration.
- Human capital (comprising life expectancy and schooling) posted modest gains in the N-11. The BRICs have made little progress in this category.
- The main setback occurred in the macroeconomic stability category, which includes inflation, external debt and government deficit. Both the BRICs and N-11 lost out by the same magnitude, far below the declines in developed and developing countries on average.

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*...largely thanks to gains in the technology components*

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**Differential BRIC performance on GES**

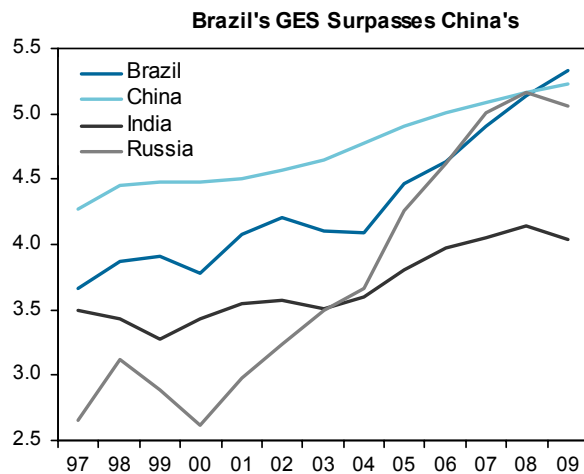
Within the BRICs, Brazil's and China's scores rose, while Russia's and India's declined.

- The major mover in the BRICs this year was Brazil. Not only was it one of the 35 best performers globally, but it is now the highest-placed BRIC in the GES ranking. This gain was broad-based across components, with particularly strong advances in technology (mainly mobiles), as well as macro and political conditions. This improved GES for Brazil is reflected in the broader acceptance that Brazil is worthy of its BRIC status.
- China's GES improved further, albeit mildly. It has gained mainly on the technology and political conditions fronts, but made no progress on human capital. A higher government deficit, higher inflation and a lower degree of openness partially offset the improvement.

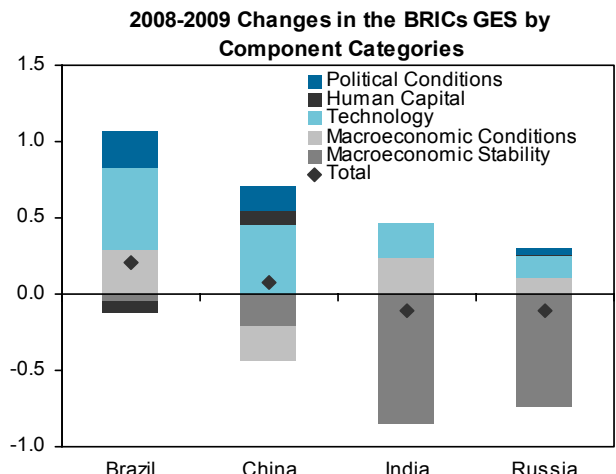
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*Brazil is the major mover among the BRICs this year—it is now one of the 35 best performers globally*

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Source: GS Global ECS Research



Source: GS Global ECS Research

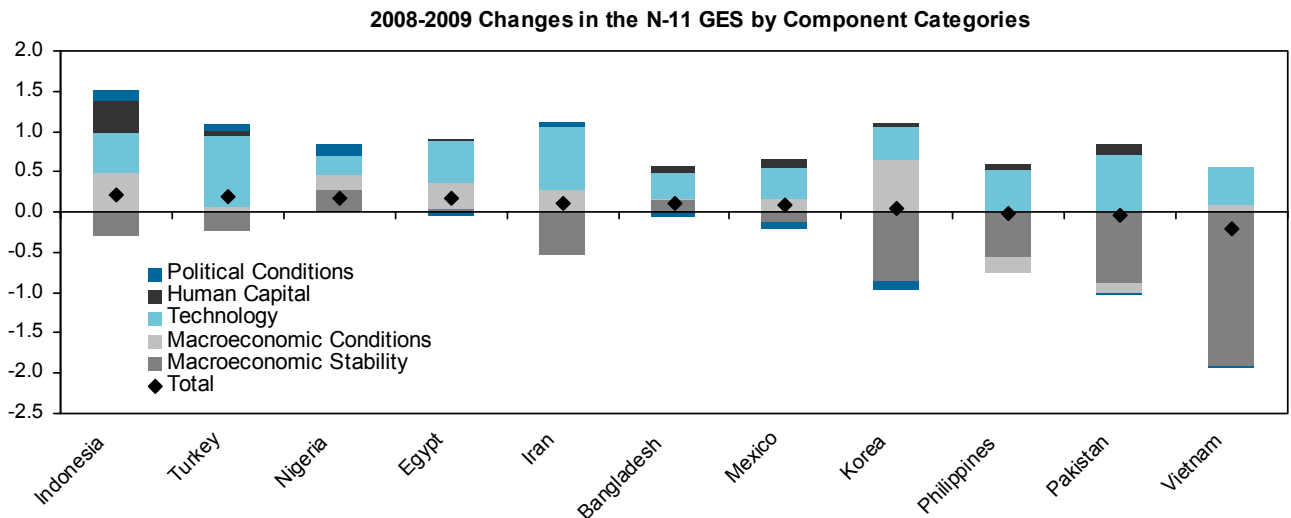
- India’s GES declined modestly. Given that it started as the weakest of the BRICs, the decline is more striking on a relative basis. Much of this has been due to the higher government deficit and higher inflation. A number of political components have also made a negative contribution. Technology and macroeconomic conditions improved. India is the only BRIC country whose GES remains below the developing-country average. Our Indian economists do believe that India’s trend growth is in the process of rising, to 8.5%. This should be reflected in a higher GES in the future.
- Russia’s GES has also fallen by the same amount as India’s although the components were different. Most of the deterioration came from the macroeconomic stability category where all three components deteriorated. Corruption was another component to see setbacks. Other components advanced further—especially internet usage, investment and political stability.

**Higher GES for Eight of the N-11 countries**

The overall GES improvement in the N-11 was actually higher than in the BRICs. Eight countries posted gains, with Indonesia and Turkey advancing most.

- Indonesia and Turkey made the largest gains this year, on the back of a broad-based improvement across a number of components. Only inflation and government debt showed deterioration in both countries. All other components moved up, suggesting relatively uniform progress in growth conditions. Those who believe we should consider both as being worthy of inclusion among the BRICs will take encouragement from this. We are not convinced—but if their scores were to continue to rise, perhaps in the future we might have to reconsider.
- Nigeria’s GES also rose, mainly on the back of a substantial improvement in the government balance and higher technology.
- Egypt and Iran continue to have a high GES. This year, the improvement was mostly driven by mobiles, external debt and macro conditions. Corruption and inflation deteriorated in both countries.
- Korea and Mexico still have the highest GES, although this year they saw the smallest increases in their scores. The areas of particular weakness in both were political conditions and macroeconomic stability, while other categories posted modest gains.

*Indonesia and Turkey made the biggest gains among the N-11*



Source: GS Global ECS Research



- Bangladesh was the only country in the BRICs and N-11 where macro stability components improved. Like others, it also benefited from higher mobile penetration, while political conditions took a step back.

Our GES for three of the N-11 countries contracted. Vietnam saw the biggest losses.

- The Philippines saw a minor deterioration in its GES as inflation, government deficit, openness and political stability worsened, offsetting improvements in other components.
- In Pakistan, macro components together with political stability posted the biggest deterioration. Some progress was made on technology, corruption and schooling. Pakistan's GES remains significantly below the developing-country average.
- Vietnam saw the largest decline in its score. The deterioration in macroeconomic stability pulled down its GES this year, mainly as a result of much higher inflation.

### **GES and crisis performance**

As discussed earlier, a country must maintain and improve growth conditions in order to achieve its potential. In the years preceding the crisis, we witnessed a substantial improvement in growth conditions in many places, which appeared to raise growth prospects.

What we never knew was how many of the components were persistent. In particular, two sources of improvement might have been temporary. First, some of the benign macro performance could have been due to global forces, and not local ones. Second, and related to this, only a big crisis would test how strong many improvements really were.

The global credit crisis, and subsequent global recession, have provided ample scope to test these issues. Of course, how the BRIC and N-11 countries perform in 2010 will give us more lasting evidence, but it is interesting to see how the change in GES correlated with growth performance.

All the BRIC and N-11 countries, with the exception of Bangladesh, have given back a large share of the gains made in the macro stability category, as a result of higher inflation, rising external debt and deteriorating government deficits. Political conditions have also suffered in some places.

Losses from higher inflation are likely to be reversed in 2010, as the period of global disinflation will be incorporated into the scores. But this could be offset by further worsening in the fiscal situation.

Although the correlation between 'changes in growth' versus 'changes in the GES' from 2008 to 2009 is very low, you can observe some association. In fact, three broad groups can be broadly identified.

Some of those that experienced the sharpest recessions happened to be countries that experienced declines in their GES. Russia is the most high profile example and reflects many of the populist doubts about whether it should be a BRIC. Economic recovery and policies to improve growth sustainability will be extremely important in 2010.

Pakistan and Vietnam all belong in a similar category.

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*Global credit crisis and recession have tested the resilience of our GES...*

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At the other extreme, Brazil, China, Indonesia and even Bangladesh have shown less vulnerability to the crisis. Their GES improvement would easily explain this impressive resilience.

For the others, the correlation is less clear. India has proved resilient despite its low GES relative to the other BRICs. For the other N-11 countries, some might have fared worse than the GES implied, while some better. Korea suffered more than its high GES might have suggested, although this could explain its apparent strong rebound.

Looking at our growth forecasts for 2010 and 2011, we can also see whether growth conditions are likely to play a role in the recovery. Presumably, better growth conditions (relative to others in the group, and over time) are likely to ensure a faster rebound.

All countries that rank relatively highly in terms of their GES are expected to recover faster. These include Brazil, Korea, Mexico, Russia, Turkey and Vietnam. On the other hand, those places where our GES remain significantly below the developing-country average are likely to see a very modest acceleration. Bangladesh, Nigeria and Pakistan reflect this.

India appears to be a special case, where our 2010 and 2011 forecasts suggest greater sustainability. If this is not reflected in a higher GES next year, then it could raise some questions about sustainability. It is worth emphasising that some components of our GES may not be the most timely, as we discuss in Box 1.

Overall, this analysis confirms the theme we have highlighted consistently over the past year: there seemed to be very little true differentiation in the response to the global shock as the countries slid into recession. The majority of countries in our two groups contracted independently of the progress in growth conditions at the time. However, during the recovery stage the differences in underlying resilience and policy already appear to be emerging, and these should persist. Those experiencing more significant structural problems and worse growth conditions have underperformed so far. Those with good growth conditions in place have managed to rebound more quickly.

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*...with the recovery stage  
highlighting the greatest  
country differentiation*

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*Countries with good growth  
conditions have rebounded  
more quickly*

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### Box 1. Where is the GES Heading?

It is important to note that our GES in a particular year uses *hard data available at the time of construction*. All of the components entering the 2009 calculation are lagged by one or two years. As a result, our 2009 scores do not capture many of the dynamics related to the crisis in its latest stages, which would mostly affect the macro components. Another area where the current GES is almost definitely underestimated is technology—one of the fastest-moving categories in which one year can make a real difference.

With this caveat, what is relevant in our context is how the countries were positioned in the run-up to the crisis and its initial stages—which countries were registering a consistent improvement and which were falling behind. The importance of this exercise lies in identifying the link between the countries’ pre-crisis growth environment and their performance during the crisis and the recovery.

Our 2009 GES suggests that progress has not been uniform in the past year. The two main themes of this year’s scores are the impressive improvement in technology and a significant deterioration in macroeconomic stability across the world.

As 2008 was a year of universally higher inflation (this is what is factored into the 2009 GES) and deteriorating fiscal positions, the future direction of the macro component of the GES remains unclear. Lower inflation (or in some cases deflation) this—and possibly next—year is likely to have a positive effect on the score, while further widening of government deficits may work in the opposite direction.

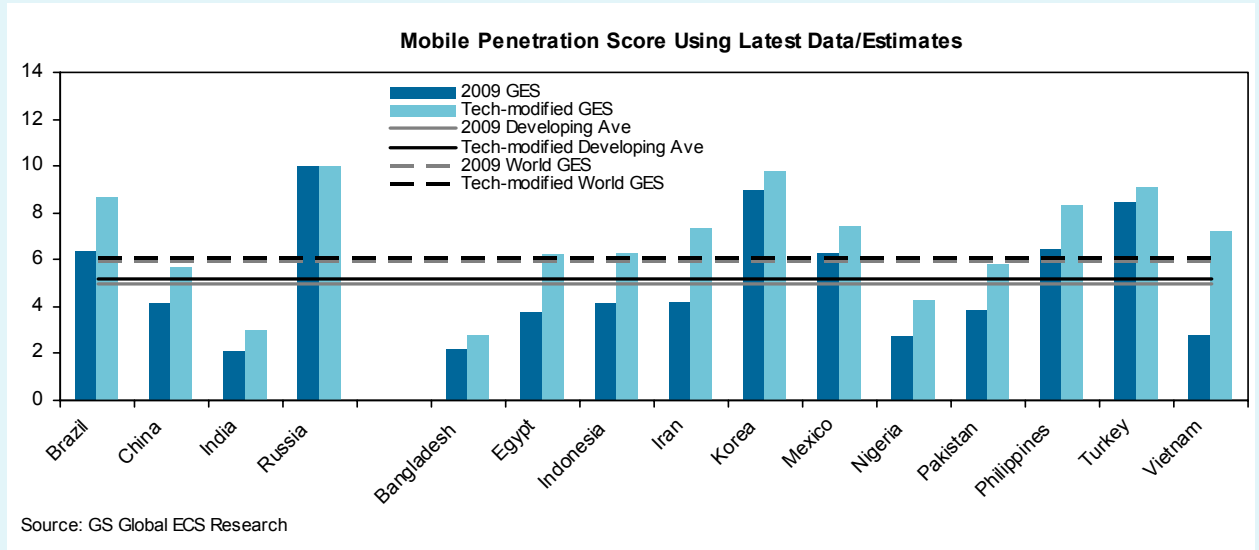
On the technology front, the direction is more apparent. We strongly expect this category to continue to register

systematic improvements. To assess the magnitude of potential changes and implications for the overall score, we ran a simple exercise. Using the latest available *mobile penetration* data for 2009 in the BRICs and N-11 (or in most cases, the latest estimates from our equity research analysts), we can see already that the forthcoming moves could be fairly dramatic, albeit not uniform.<sup>3</sup> Those countries where the level of technology remains relatively low are set for high growth in this area. On the other hand, in places where mobile penetration is close to its saturation level, there is not much scope for further improvement.

By far the biggest change could take place in Vietnam, bringing its mobile penetration score from one of the lowest in the BRICs and N-11 to one of the highest—well above the developing-country average and the world total. This would make its overall GES the third-highest in the two groups, after Korea and Brazil, and possibly China and Mexico.

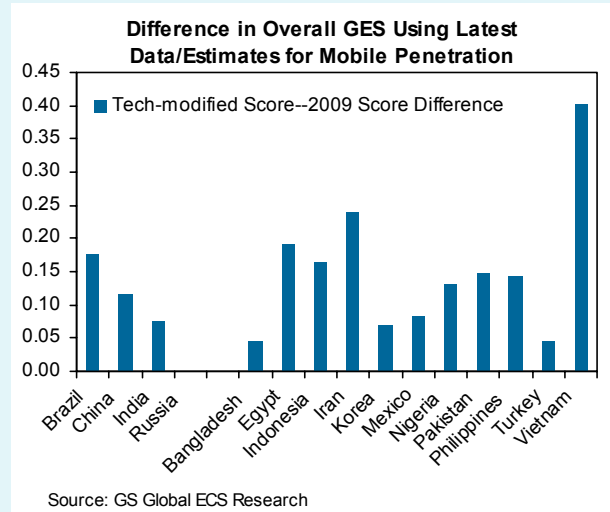
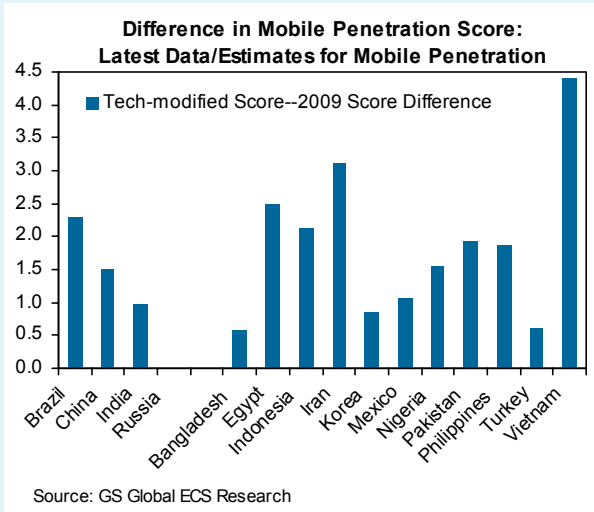
The second group of potential significant movers includes Iran, Egypt and Indonesia in the N-11, and Brazil in the BRICs. The three N-11 countries would see their mobile penetration score jump from below the developing-country average to above the world total. This would move Iran up in the BRICs/N-11 ranking by a couple of places, while others would remain in the same spot. Brazil would also maintain its second place.

Pakistan and Nigeria could also benefit meaningfully. These countries rank consistently low in most categories. For them, technology is the main area that, coming from very low levels, could deliver significant progress relatively fast.



3. One caveat is that we do this only for the countries of interest, so the change in the averages (developed, developing, total) does not fully reflect the potential move.

### cont' Box 1. Where is the GES Heading?

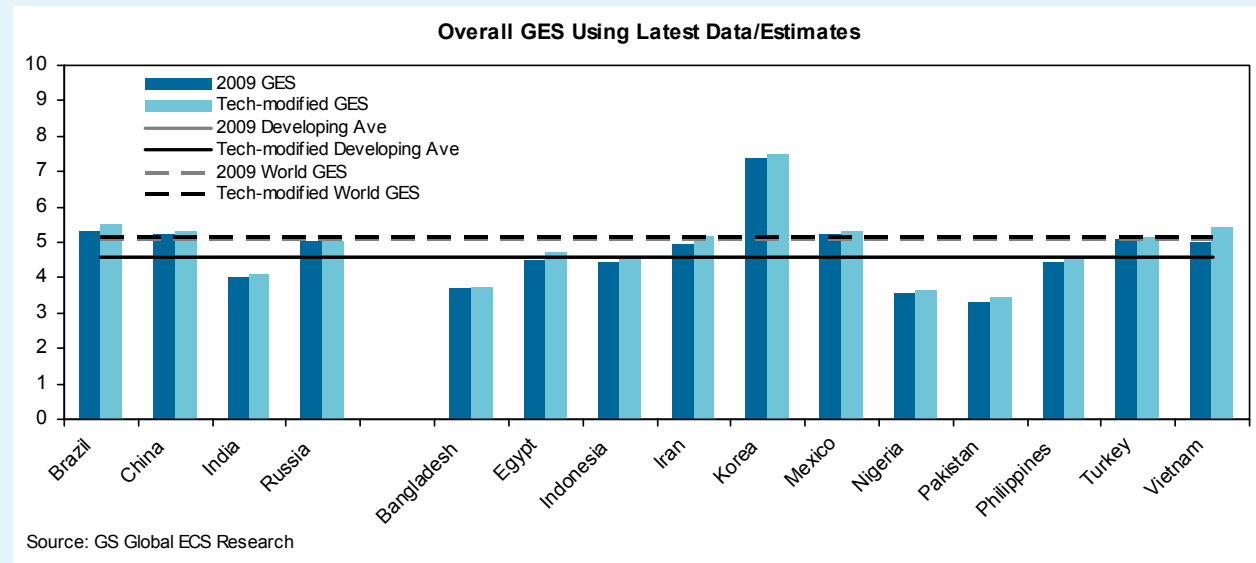


Within the other BRICs, China could also see a large shift, with its mobile penetration score jumping to above the developing-country average and its overall GES above the world total. It would keep its current fourth place in the BRICs/N-11 ranking.

India's scores—mobile penetration and total—could also show a small rise, but both would remain relatively low. Given the country's solid growth prospects in the near

term (as suggested by our regional economists) and in the long term (as emphasised in our BRICs research), the opportunities for progress in technology are enormous.

Russia is the only country that doesn't appear to benefit from any upside: its level of mobile penetration is already above 100, placing its score at the maximum bound.



## Section 4. How the BRICs Stand Compared with What We Predicted

Since we first published our BRICs growth and income projections in 2003, we have updated them four times. Originally this was done to incorporate the formal link between growth and changing growth conditions via our Growth Environment Scores (GES).

It is interesting to assess how our projections have fared versus actual outcomes over time, which also helps to identify important shifts that have occurred since. To achieve this, we ran two comparative exercises. First, we assessed our model’s performance by comparing our 2003 projections with the actual outcome over 2004-2009. Second, we show our latest projections alongside our estimates back in 2003.

*Average growth has surprised in all four BRICs over the 2003-2008 period*

Over the 2003-2008 horizon, average growth in all four countries has surprised on the upside. When 2009 and 2010 are included, Russia’s average growth is slightly weaker. Although Russia’s growth may be lower than predicted previously, it could still grow enough to overtake Japan—a move we did not foresee in 2003. Brazil and India have, especially in USD terms, surprised on the upside, as of course has China.

### Box 2. Some Key Things about Our 2050 Projections

Since we first estimated the long-term growth potential of the BRIC (and global) economies up to 2050, we have updated the original estimates four times. As discussed in Section 4, the size of all of the BRIC economies at the end of 2008 in current USD is much bigger than we originally estimated in 2003. In fact, each of them has grown to a size we didn’t expect to see until much later.

- We have never said that our 2050 projections would definitely materialise—merely that they might. We think they are the best guide to what the world could look like, but we are sufficiently humble to realise that this scenario may not play out.
- As these economies grow larger and more developed, they are less likely to record the astronomical growth rates of this decade, as productivity increasingly

catches up with levels in the advanced economies (see our latest updated estimates from 2008 for our assumptions per decade).

- In terms of some of the most dramatic changes that we originally predicted, we, and investors, can now see some of them on the horizon. China, which is about to overtake Japan (about six years earlier than we first thought), may become as big as the US within 20 years; Brazil is poised to overtake Italy in the next year; and India and Russia are not far behind.
- As the experience of the Russian crises demonstrates to all, any one of those countries is likely to experience a period of turmoil. Before 2008, many believed we were too pessimistic about Russia. Today, many think we should remove the ‘R’ from BRIC! Russia has now grown on average by just under 5% since 2003 (including our 2009-2010 forecasts), virtually the same rate we assumed for this decade in 2003.

#### 2003 USD GDP Projections vs Actual

	Original 2003 estimates		Actual size
	end 2008*	end 2015**	end 2008
<b>Brazil</b>	667	1,097	1,571
<b>Russia</b>	825	1,421	1,680
<b>India</b>	902	1,626	1,146
<b>China</b>	2,792	5,481	4,338

\* Re-scaled using US implicit GDP deflator

\*\* Calculated by applying USD GDP growth rates from 2003 projections to re-scaled 2008 numbers

Source: GS Global ECS Research

#### Average Growth Projections

	2011-20	2021-30	2031-40	2041-50
<b>Brazil</b>	4.6	4.4	4.4	3.9
<b>Russia</b>	4.4	3.1	2.4	1.5
<b>India</b>	6.5	6.4	6.6	5.8
<b>China</b>	7.9	5.7	4.4	3.6

Source: GS Global ECS Research

### 4.1 Upside Surprises to Our Growth Projections

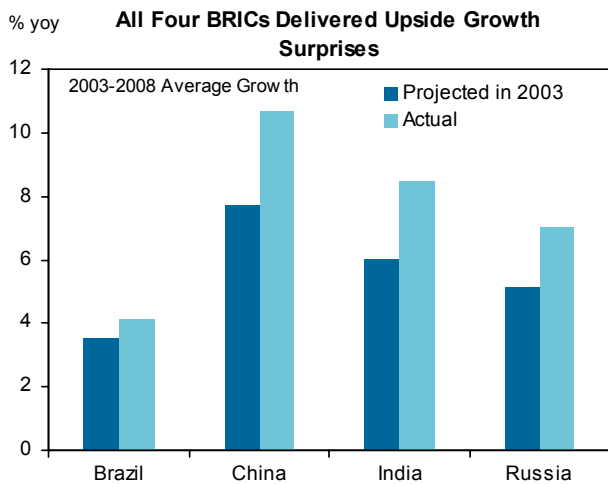
Six years after we first mapped out the BRICs’ growth paths, all four countries have delivered upside surprises. In 2003-2008 actual growth turned out to be higher on average than we had predicted, particularly in China and India. In 2008, GDP levels were also higher across all four countries.

Taking into account the crisis, actual growth is still significantly higher in China and India, and slightly higher in Brazil.

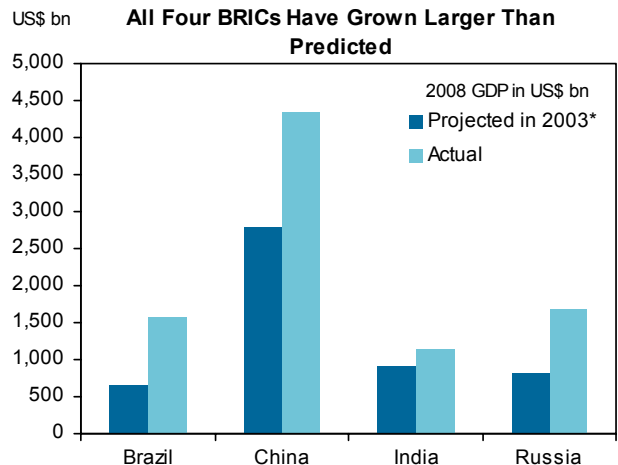
Since mid-2008, we have believed that China could deliver a much higher average growth rate than we previously thought. Over the 2010-2050 horizon, it could grow 1.3% faster. We also revised higher growth assumptions for Brazil and India. Russia’s growth path has changed little, although we now assume that it will be higher in the next decade, followed by a sharper slowdown from mid-2020s onwards.

*After the crisis, actual growth still higher in China, India and Brazil*

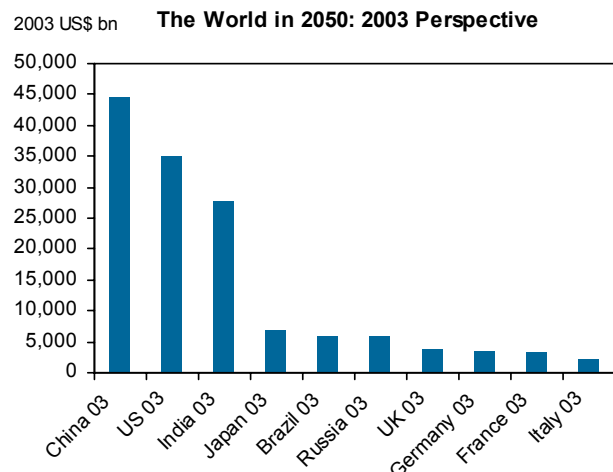
It is important to remember that our GDP projections in USD terms are driven by real growth projections and currency appreciation against the US Dollar. It is important to separate the two effects when comparing the evolution of USD GDP projections over time. While our real growth projections have on average been revised upwards, our current currency appreciation assumptions have been tempered.



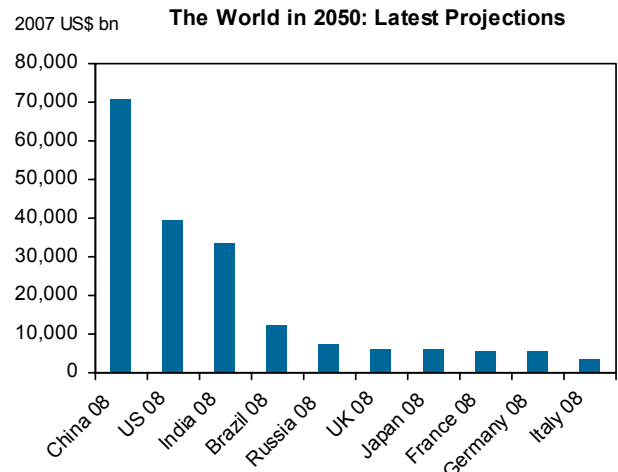
Source: GS Global ECS Research



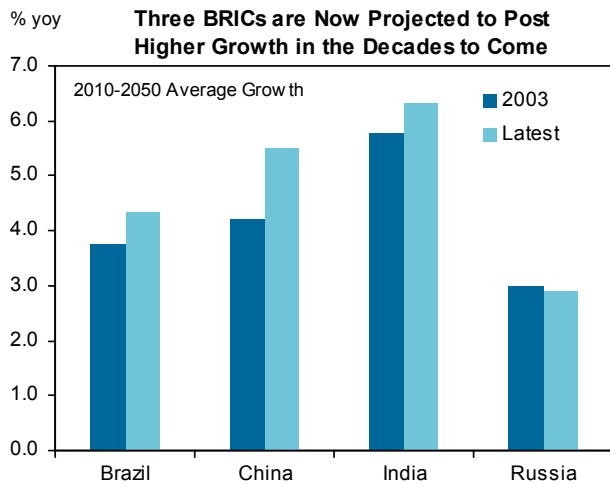
\* Re-scaled using US implicit GDP deflator  
Source: GS Global ECS Research



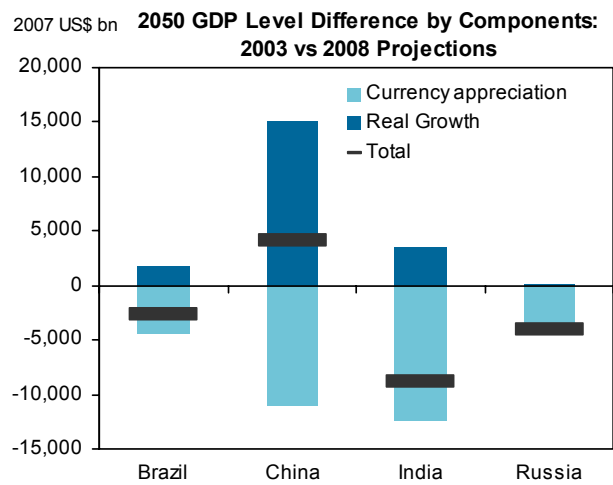
Source: GS Global ECS Research



Source: GS Global ECS Research



Source: GS Global ECS Research



Source: GS Global ECS Research

As a result, converting the GDP series to 2007 USD shows that, by 2050, only China could now be bigger than predicted previously, as higher real growth offsets less currency appreciation. The chart above shows the absolute GDP differences by component.

Our ‘dream’ for 2050 does, of course, look different today from in 2003. China, the US and India could still be the three largest economies. Brazil and Russia could now overtake Japan to become the fourth- and fifth-largest economies by 2050.

In terms of income per capita, the 2050 picture has not changed, and Russia is still probably the richest economy out of the BRICs, with China, Brazil and India well behind it and the G6.

The timeline for countries to overtake one another has seen some interesting changes. Our current projections show that China may now overtake the US 14 years earlier than we thought originally—we now expect it to become the largest economy in the world by 2027, vs. 2041 previously. And while this is still relatively far in the future, another development appears to be a foregone conclusion: China should overtake Japan as soon as next year. Our 2003 projections underestimated this move by six years.

Other countries are also moving forward more quickly than we thought. Brazil will probably overtake Italy by the end of 2010, 15 years earlier than we thought in 2003. Brazil may now overtake Germany by 2029, seven years ahead of our previous expectations and, most strikingly, is now forecast to overtake Japan by 2034. Previously, we had not thought this at all likely. The same applies to Russia and India: they may both become bigger than Japan as soon as 2037 (vs. no overtake) and 2027 (vs. 2032), respectively. Overall, the BRICs economies taken together could now be larger than the G6 by 2031, vs. our previous projection of 2039.

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*Our ‘dream’ for 2050 looks different...*

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*...but China, the US and India could still be the three largest economies*

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Timeline for BRICs to Overtake G6: 2003 vs 2008 Projections

	France	Germany	Italy	Japan	UK	US
<b>Brazil 03</b>	2031	2036	2025	--	2036	--
<b>Brazil 08</b>	2027	2029	2020	2034	2038	--
<b>China 03</b>	2004	2007	2000	2016	2005	2041
<b>China 08</b>	2006	2008	2004	2010	2006	2027
<b>India 03</b>	2019	2023	2016	2032	2022	--
<b>India 08</b>	2021	2024	2017	2027	2023	--
<b>Russia 03</b>	2024	2028	2018	--	2027	--
<b>Russia 08</b>	2024	2029	2017	2037	2027	--

Source: GS Global ECS Research

## Section 5. An Update on Crude and Cars

Since we first identified the BRIC theme, we have focused on a number of fundamental shifts that the rise of these countries could bring about in the global landscape. In 2004 we looked at the implications for the energy, capital and auto markets. We showed that the changes in consumption and production patterns stemming from the rise of the BRICs could be dramatic.

The remarkable growth in demand for consumer durables in China, as exhibited in the demand for cars and mobile phones, is a perfect example.

### 5.1 Higher Auto Market Potential in Brazil and India

Recently, our global autos analysts published a report on the auto market. After a modest recovery in 2010, they estimate that the global car market will grow at around 5.7% annually, or 73% in total, over the next decade. China will be the main force driving the global car market, when it is likely to account for almost 42% of global car sales growth, with the BRICs together accounting for 70% (see “*Identifying global long-term winners*”, GS Global Automotive Research Team report, November 27, 2009).

Our updated projections suggest that India and Brazil could deliver even higher car penetration by 2050 than we thought could be the case in 2004. India has seen the biggest upward revision in the path, particularly in the last two decades of the horizon. According to our updated projections, by 2050 India’s car penetration could leap to around 490 cars per 1,000 people. This is over 100 cars per 1,000 people higher than we estimated before, and 30 times its current penetration level! India could become the biggest auto market of the four by 2050.

Updated projections for Brazil also show higher car penetration, but this shift happens much earlier along the path, i.e., in the next couple of decades. This is projected to be the highest in the BRICs, around four times the current number.

China’s projections by 2050 have changed little, but the path, as in the case of Brazil, has also become slightly more frontloaded. We now think that China’s car penetration could increase much faster than projected previously, particularly in the 2020s. By the end of the horizon it could be 10 times its current level.

Projections for Russia’s auto sales have also been revised down slightly. Nonetheless, its current car penetration level is still forecast to be slightly more than double by 2050.

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*China has already become the main force driving the global car market*

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#### Car penetration projections - 2004 vs latest

Cars per 1,000	Global Paper 118				Latest			
	Brazil	China	India	Russia	Brazil	China	India	Russia
2010	182	32	12	261	166	41	17	263
2020	284	92	30	414	273	158	45	454
2030	429	188	81	558	437	269	136	565
2040	573	292	213	620	594	327	337	605
2050	645	363	382	638	668	358	489	614

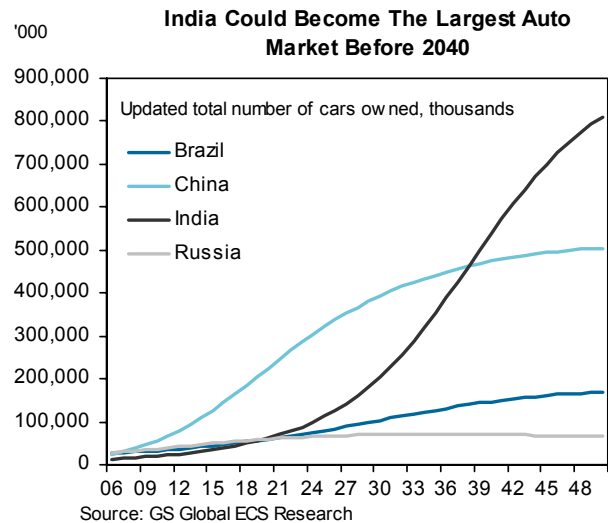
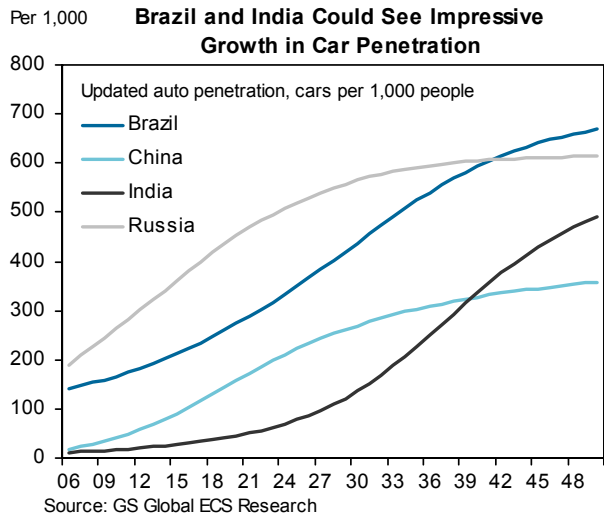
Source: World Bank, GS Global ECS Research

#### Total car ownership projections - 2004 vs latest

Cars ('000)	Global Paper 118				Latest			
	Brazil	China	India	Russia	Brazil	China	India	Russia
2010	35,568	42,538	14,359	37,115	33,075	55,798	20,382	36,947
2020	60,026	131,632	38,644	57,517	60,105	224,857	62,187	60,080
2030	95,545	273,760	114,812	74,086	103,367	393,029	204,366	70,025
2040	130,973	423,491	324,209	78,480	147,164	474,244	537,411	70,019
2050	147,343	514,041	610,902	75,441	169,681	504,823	811,374	66,217

Source: World Bank, GS Global ECS Research





### 5.2 China and Global Energy Demand

In addition to global auto demand, we also applied our BRICs research to the energy markets back in 2004 (see *Global Economics Paper No 118*, “Crude, Cars and Capital”). Just as with autos, the energy market (and crude oil in particular) looked likely to be influenced greatly by Chinese and Indian demand within the overall picture—especially in the next 20 years. The chart shows our long-term BRICs-related global energy demand picture, along with the contribution from China and India.

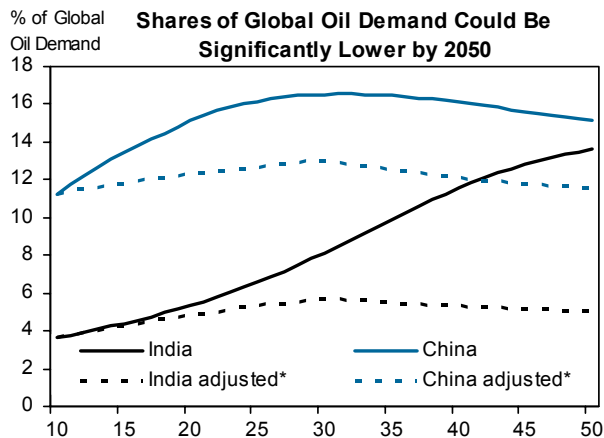
These days, energy markets are often dominated by the importance of China. At the time of writing—partly because of the forthcoming Copenhagen summit on climate change, but increasingly for domestic goals—Chinese policymakers had announced a major new framework to improve energy efficiency and reduce energy consumption. On November 26, 2009, Reuters cited a Xinhua report (quoting the State Council) that by 2020 China plans to have reduced its carbon intensity by between 40% and 45% compared with 2005 levels.

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*Chinese and Indian demand likely to have the greatest influence on the energy market*

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This story follows soon after an interesting *Financial Times* op-ed piece written by Gerald Conway, co-chair of the China Council for International Cooperation on Environment and Development (CCICED) taskforce. According to Conway, the Chinese leadership has been presented with a plan that would reduce energy consumption per unit of GDP by 75%-80% by 2050. To achieve this, the plan envisages 50% of new energy usage from now until 2030 coming from nuclear



\* Adjusted for potential improvement in energy efficiency, assuming additional oil demand is halved by 2030 and stays flat at zero from then onwards. Source: Global Paper 118, GS Global ECS Research

**China and World Energy Consumption**

	Projected GDP (\$bn) (1)	Energy consumption (quadrillions of BTUs) (2)	% of World energy	Energy efficiency (2)/(1)
<b>2005</b>	1,753	56	12.3	3.19
<b>2010</b>	3,109	83	15.9	2.67
<b>2020</b>	7,357	137	20.3	1.8
<b>2030</b>	14,704	179	21.8	1.2
<b>2050</b>	44,074	200	19.7	0.05

Source: GS Global ECS Research

**Projected Oil Consumption (mbpd)**

	China	% of World	India	US	World total
<b>2005</b>	7.2	8.5	2.6	20.9	84.1
<b>2010</b>	10.6	11.3	3.4	21.9	94.4
<b>2020</b>	17.6	15.5	6.2	23.9	116.5
<b>2030</b>	22.9	16.6	11.3	25.9	138.8
<b>2050</b>	25.6	15.1	23.1	29.9	169.6

Source: GS Global ECS Research

and renewable sources, and that all new power sources will be in these forms by 2050. Conway presented three different scenarios for CO<sub>2</sub> emissions: the least changed would result in emissions of 13bn tonnes, while the most radically changed would lead to just 5bn tonnes. According to this article, these recommendations could be approved and included in the 12th Five-Year Plan (2011-2015).

The best way for us to show the impact of these potential measures is to make some simple adjustments to our long-term assumptions applied in the BRICs 2050 (i.e., 2003) projections for China GDP, energy and crude oil consumption.

As can be seen, we had assumed that China's energy efficiency would dramatically improve, and, in that sense, the Chinese proposals are not that interesting.

Where the Chinese plans become more interesting is when you apply them to the use of non-renewable energies. Let's take crude oil as an example. The tables above show our energy consumption projections and the implied crude oil usage (as well as those for India and the US, as they are the other biggest consumers).

As discussed earlier, the CCICED report claims that 50% of new energy needs will be met by renewable resources by 2030, and that all of them will be by 2050. If this is true, then up to 15mbpd of the possible 75.2mbpd we projected globally might not occur, i.e., 20% of our previous projected global oil demand would not occur.

If India were to commit to something similar, then 35mbpd, some 46% of the additional energy demand we projected for 2050 back in 2004, would not happen.

This could obviously be a very exciting initiative and stimulus for alternative energies.

It is worth noting that the current energy and oil usage in China is slightly above our projected assumptions back in 2004—but not extraordinarily so. China's estimated share of global energy consumption in 2008 was around 15.8%, according to the *BP Statistical Review*, and its oil consumption was 7.7mbpd.

According to Jeff Currie and our commodities research team, while the Chinese policy indications appear to be good news, unless they can be implemented quickly and without something dramatic involving the US, the near-term lack of energy supply suggests significant upside price risks remain, which could lead to weaker demand (through weaker growth).

## Conclusion

The 2007-2009 financial crisis has been a major challenge for all of the world economy. As we have shown in this paper, the BRIC and N-11 economies collectively appear to have withstood the crisis better than many of their developed-country counterparts. Indeed, their contribution to world economic activity has increased even more through the crisis, and since. This is likely to continue in the near, medium and long term. We now think it is more likely, rather than less, that China will become as big as the US by 2027 and the BRICs will become as big as the G7 by 2032. China, Brazil and India have all performed particularly well, and although Russia has not done so recently, as long as it recovers quickly, it deserves its position as a BRIC. The N-11 countries are a very diverse group, as we have always emphasised, at many different stages of development. We don't think any of them currently has enough justification to be considered as big as a BRIC, but some are showing encouraging signs, including Indonesia.

Among many aspects of the world economic scene, the BRIC—and N-11—countries will become increasingly important, as we showed simply by using the autos and crude oil markets as examples. While this will undoubtedly lead to many complexities and issues in the future, it remains very exciting and offers considerable opportunities for us all.

**Jim O'Neill and Anna Stupnytska**

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*BRICs and N-11 contribution to world economic activity has increased through the crisis, and is likely to continue to do so in the future*

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