

# CHANGING TRADE PATTERNS, UNCHANGING EUROPEAN AND GLOBAL GOVERNANCE

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## Highlights

- The world economy is going through its biggest transformation in a relatively short space time. There have been many explanations for this phenomenon but the unprecedented scale and pace of this change and, most crucially, its implications, still seems little understood. In turn, there has been little preparation for, or adjustment to, this changing world, though if the change continues at this pace, the effectiveness of many global institutions in their current form will be threatened.
- We highlight the dramatic degree of the shifts taking place in world GDP and trade and include fresh projections of what world trade patterns might look like in 2020, should the trends observed over the past decade continue. We also show the resulting shift in trade relationships for many key countries. European member states tend to have quite different trading partners' profiles, and this heterogeneity is quite likely to become more pronounced with time. This, in turn, suggests a significant challenge for the effective functioning of the euro area and weakens the original rationale of its creation.
- If our projections to 2020 are broadly right, then many established frameworks for the running of the world economy and its governance are not going to be fit for purpose, and will need to change. The global monetary system itself, and global organisations such as the IMF, G7 and G20 will have to adapt considerably if they want to remain legitimate representatives of the world order. The alternative is their relegation to irrelevance.

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## 1. Introduction

There has been an eastwards shift in global economic power, but it was only at the start of the last decade that its scale and unprecedented nature began to be grasped in Europe and the United States. The term 'BRIC' to refer to the emerging economic powers of Brazil, Russia, India and China was coined in 2001 (O'Neill, 2001). The exact composition of the group of countries that will emerge as the new global powers during the twenty-first century is not yet clear, but it is now more accepted that the economic and political relevance of the West is in the process of being rescaled.

Some authors, mostly economic historians, refute that these changes are sustainable and make the point that the West has seen its economic dominance threatened before: by the post-war rise of the Communist bloc, by the 1970s oil shock and subsequent stagflation, by the stellar ascent of Japan. In each of these cases, the inexorable decline of Europe and the US was predicted, but, at least so far, did not materialise. In the minds of some, the rise of the BRICs and other large emerging economies might turn out similarly and we could yet see another resurgence of the West (Rosecrance, 2013).

We strongly disagree with this. Table 1 shows that the scale of the change in the pattern of global GDP observed in the last ten years is unprecedented since such economic data has existed. In the early 1960s, Europe and the United States commanded together roughly 67 percent of world GDP and Japan represented a further 10 percent. As Table 1 shows, over the next three decades to 1990, while the relative size of Europe, the US and Japan changed between them (the latter continuing to rise), their combined share of world GDP remained dominant. As recently as 1994 China still only accounted for less than three percent of the global economy.

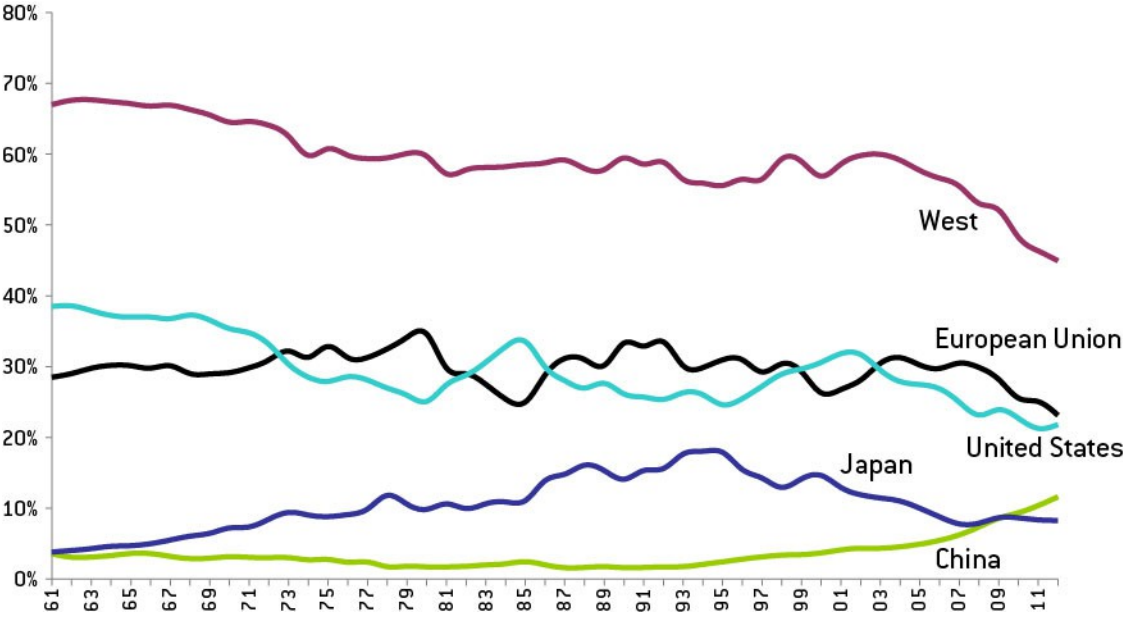
**Table 1: Change in share of world GDP, percentage points**

|                       | <b>1961-<br/>1970</b> | <b>1971-<br/>1980</b> | <b>1981-<br/>1990</b> | <b>1991-<br/>2000</b> | <b>2001-<br/>2010</b> | <b>1961-<br/>2012</b> |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>China</b>          | -0.42                 | -1.36                 | -0.09                 | 2.06                  | 5.25                  | 8.04                  |
| <b>European Union</b> | 0.65                  | 4.76                  | 3.51                  | -6.59                 | -1.21                 | -5.37                 |
| <b>Japan</b>          | 3.39                  | 2.48                  | 3.49                  | -0.70                 | -4.28                 | 4.47                  |
| <b>United States</b>  | -3.13                 | -9.67                 | -1.28                 | 4.91                  | -9.12                 | -16.68                |
| <b>West</b>           | -2.48                 | -4.91                 | 2.23                  | -1.68                 | -10.33                | -22.05                |

Source: Bruegel based on World Bank.

Since 2000, however, things have changed dramatically (Figure 1). Japan began to lose ground at the same speed at which it gained it in the previous decades; China increased its share of global GDP by an unprecedented 5.25 percentage points. The West's share shrunk by 10.33 percentage points: more than the combined loss of the previous 40 years.

**Figure 1: Share of world GDP, 1961-2012**

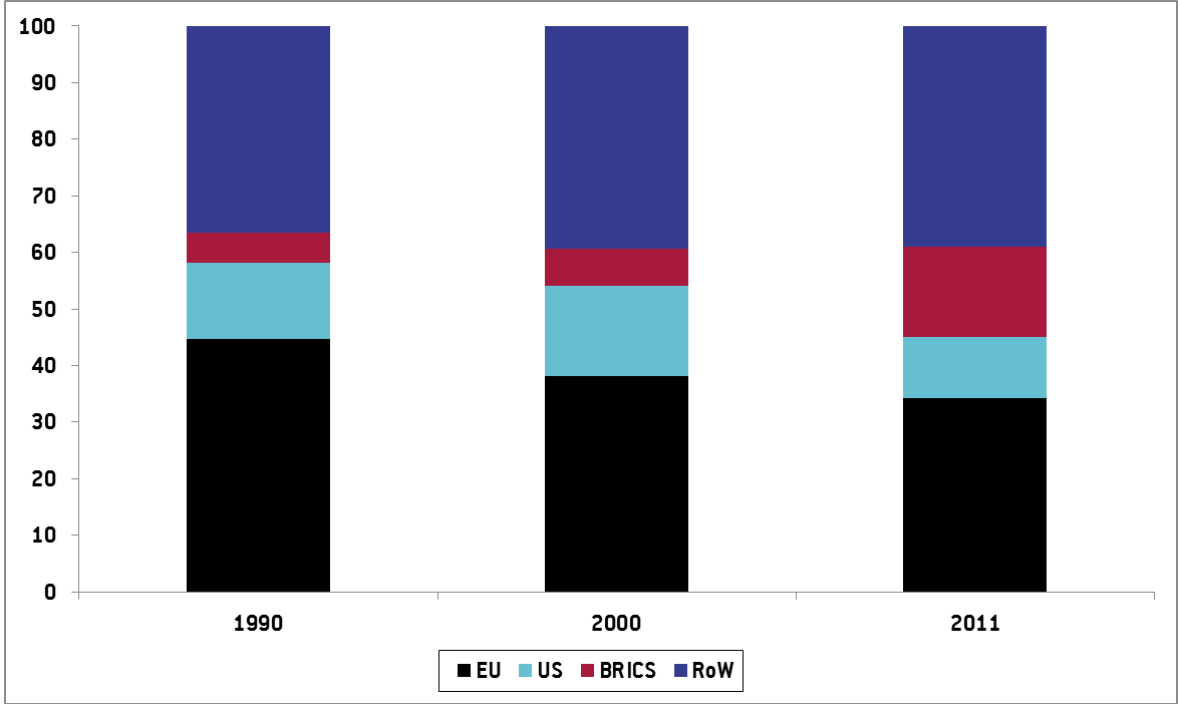


Source: World Bank, Bruegel calculations.

The rise of China and other emerging nations can be partly attributed to an environment of increasing economic interconnectedness between countries. The change in the pattern of economic growth at a global level has thus been accompanied by an unprecedented shift in trade patterns. Similar to world GDP shares, the pace of change in the last decade has been remarkable. BRIC economies accounted for less than 6 percent of world trade<sup>1</sup> in the early 1990s, while the US and EU combined commanded almost 60 percent (Figure 2). While the picture was not too different in the early 2000s, by 2011 the BRICs had more than tripled their share, while the EU alone lost more than 10 percentage points of its world trade share.

<sup>1</sup> Trade is defined as the sum of exports and imports of goods and services.

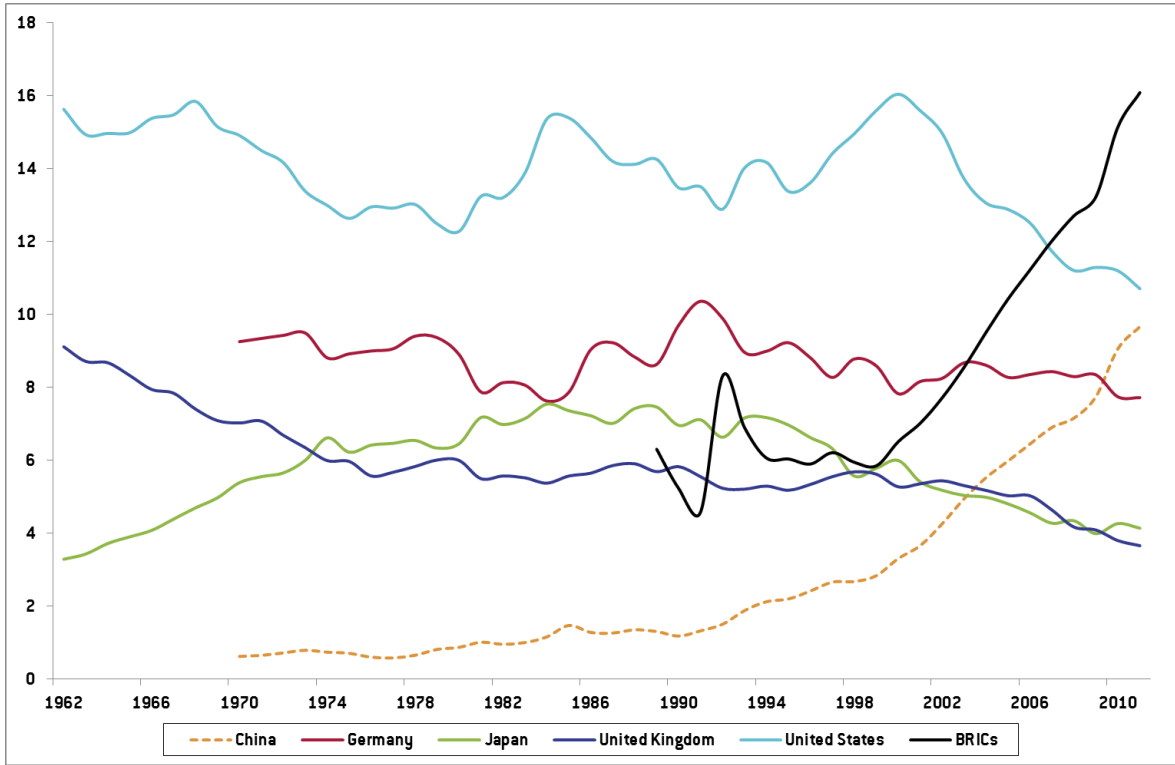
**Figure 2: Share of world trade, %**



Source: World Bank, Bruegel calculations.

Although providing a clear picture of the increasing relevance of the BRICs, the aggregates in Figure 2 disguise how most of the change witnessed during the last decade has been down to one country: China. With an average yearly growth rate in trade of 23.2 percent from 2002-11, China has surpassed the United Kingdom, Japan and Germany in terms of its global trade share. Over the last decade, China increased its world trade share by 5.40 percentage points, while the OECD countries together lost almost 12 percentage points. Over the period for which data is available, such large increases were only witnessed in the 1980s, when the combined EU world trade share soared by 5.27 percentage points, mostly because of the strong export performances of Germany, Italy and Spain. However, such a large decline in the share of developed countries is unprecedented (Figure 3).

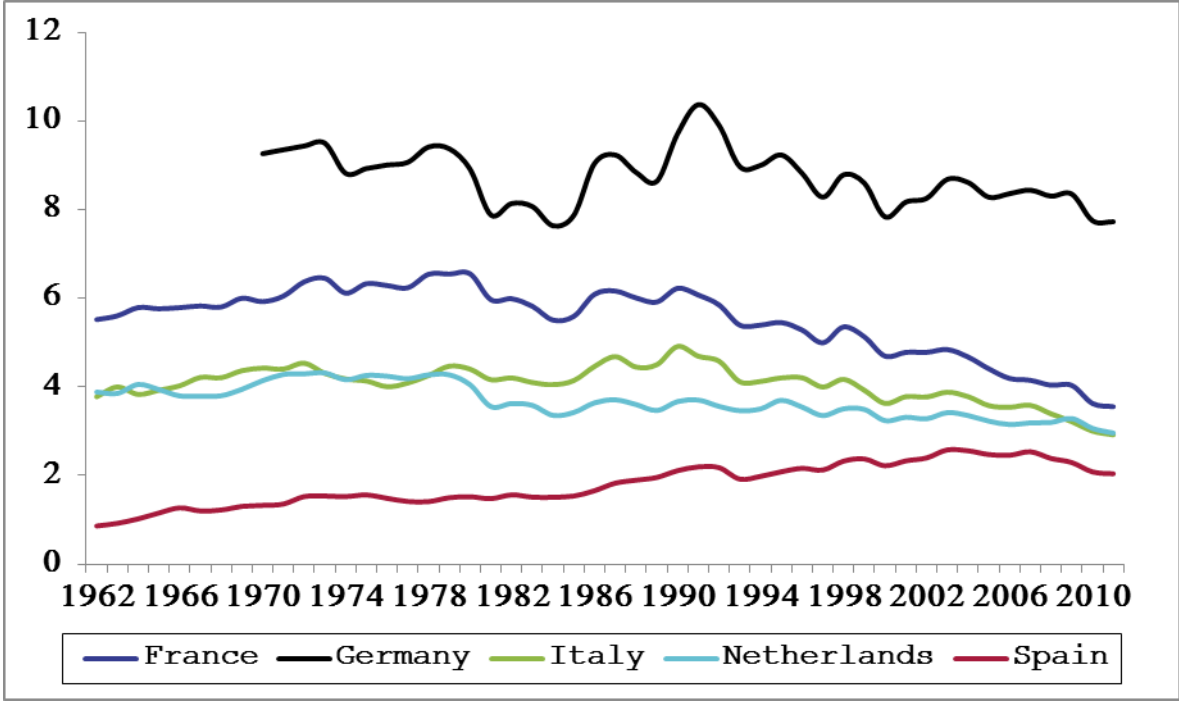
**Figure 3: Share of world trade, %**



Source: World Bank, Bruegel calculations.

Trading patterns are also changing significantly within the EU, which is marked by significant internal heterogeneity (Figure 4). For example, whereas Germany's share has remained practically unaltered for the last 20 years (although marked by a high degree of volatility), France's share has shrunk by almost 2 percentage points. Spain, however, was on a more or less steady upward trend until the financial crisis. Similarly, the range of trade partners of European countries has diversified and evolved along different paths, as we will analyse in section 3.

**Figure 4: Share of world trade of the top five euro-area economies, %**



Source: World Bank, Bruegel calculations.

Our contention is that these major changes in trade patterns will not only have a significant effect on individual countries’ long-term growth prospects, but will also affect the balance of power in global governance, the role of different currencies on the world stage and the functioning of European economic and monetary union (EMU).

In section 2, we analyse the likelihood that the current trends continue for the next decade, and we will forecast trade patterns up to 2020. Section 3 looks at the implications at the global level and at the European level, and section 4 provides some concluding remarks.

**2. The world in 2020**

**2.1 Assessing the fundamentals of the transition**

Before trying to imagine what the (trade) future will look like at the end of this decade, it is worth pausing to reflect on whether the fundamentals of the change in GDP and trade patterns are sustainable, or whether there is a likelihood of a reversal of current trends. We believe that there is a secular transition of economic power from advanced economies to new emerging market nations, and

this trend is unlikely to reverse. There is an alternative view that much of this trade shift is linked to the unsustainable rise of China’s exports and other emerging nations’ – possibly associated – commodity exports. We doubt this alternative view.

Given its disproportionate weight among the BRICs and in a global perspective, deciphering China’s economic trend is fundamental. The established consensus is that at the origin of China’s stellar growth rates was a combination of cheap and abundant labour, favourable terms for foreign companies willing to invest in the country, and the adoption of a mixed capitalist system. This could only be a temporary business model. Sustaining rapid growth rates based on exports (and separately state-directed investment), which depend on low wage advantage, were widely agreed to be not sustainable. Today, China is trying to deal with the adjustment challenges, and at the core of these, wages have started to increase rapidly, which while necessary to help shift the driver of growth to personal consumption, undermines export growth. While this adjustment – along with other forces – will contribute to a slower rate of overall growth, we think that the country is proving itself able to manage successfully the transition to a higher level of the value chain. Through heavy investment in infrastructure, higher education and R&D, China is in the process of improving its non-price competitiveness and is setting the foundation for sustained growth in the years to come. Much of this ‘new’ China is discussed in some detail in *The BRIC Road to Growth* (O’Neill, 2013). China’s ongoing changes are reflected, among other things, in the rising Global Competitiveness Index score assigned to the country by the World Economic Forum in its yearly competitiveness report (Table 2).

**Table 2: China’s ranking in the WEF Global Competitiveness Index (GCI) and its sub-components**

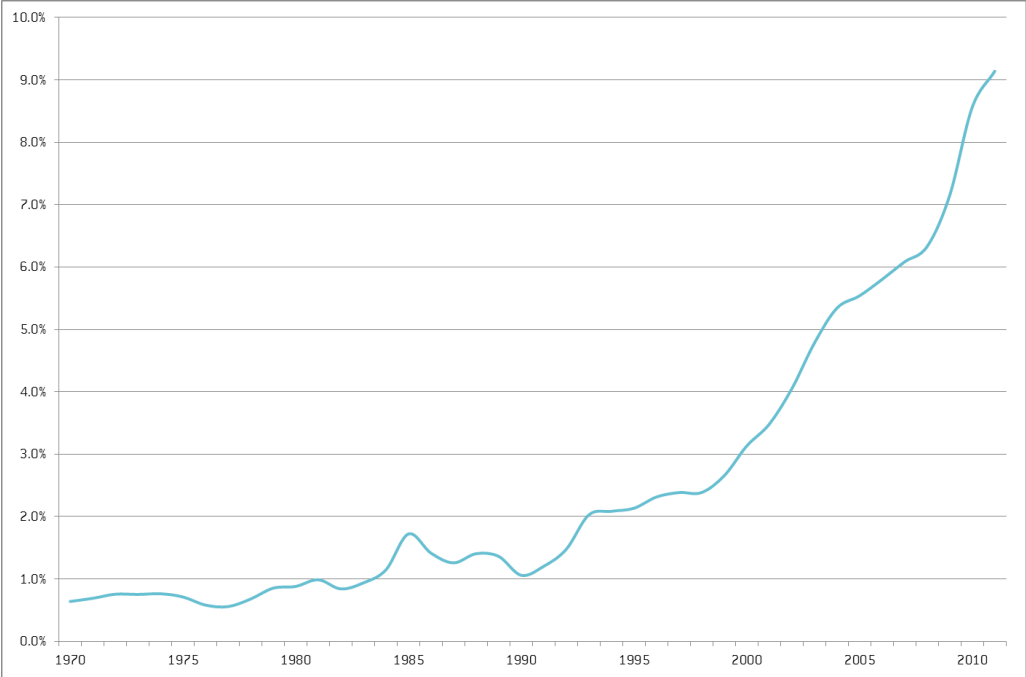
| <b>China</b>                  | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>GCI</b>                    | <b>34</b>   | <b>34</b>   | <b>30</b>   | <b>29</b>   | <b>27</b>   | <b>26</b>   | <b>29</b>   | <b>29</b>   |
| Institutions                  | 75          | 77          | 56          | 48          | 49          | 48          | 50          | 47          |
| Infrastructure                | 52          | 52          | 47          | 46          | 50          | 44          | 48          | 48          |
| Macroeconomic environment     | 3           | 7           | 11          | 8           | 4           | 10          | 11          | 10          |
| Health and primary education  | 85          | 61          | 50          | 45          | 37          | 32          | 35          | 40          |
| Higher education and training | 74          | 78          | 64          | 61          | 60          | 58          | 62          | 70          |
| Goods market efficiency       | 60          | 58          | 51          | 42          | 43          | 45          | 59          | 61          |
| Labor market efficiency       | 54          | 55          | 51          | 32          | 38          | 36          | 41          | 34          |
| Financial market development  | 119         | 118         | 109         | 81          | 57          | 48          | 54          | 54          |
| Technological readiness       | 69          | 73          | 77          | 79          | 78          | 77          | 88          | 85          |
| Market size                   | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| Business sophistication       | 58          | 57          | 43          | 38          | 41          | 37          | 45          | 45          |
| Innovation                    | 38          | 38          | 28          | 26          | 26          | 29          | 33          | 32          |

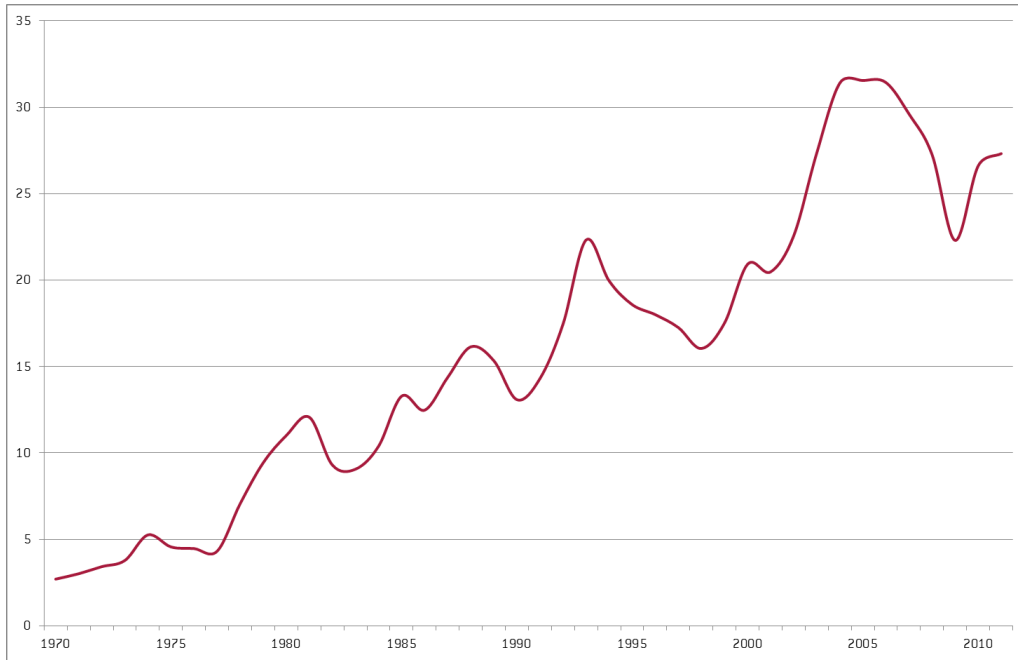
Source: WEF.



From the macroeconomic point of view, the challenge will be for China to re-orient its growth from an investment-based model to a more consumption-based economy. The country's gross capital formation is currently hovering at around 50 percent of GDP. This is likely to prove unsustainable in the medium-run. The Chinese authorities are fully aware of the problem and we are confident they will take the necessary steps in the coming years to curb investment and boost consumption. This important shift across GDP components is likely to have a relevant impact on trade. An increase in consumption in the second largest market in the world (after the US) will be associated with a significant pick-up in imports.

**Figure 5: China's imports as a percentage of world imports (top panel) and of GDP (bottom panel)**

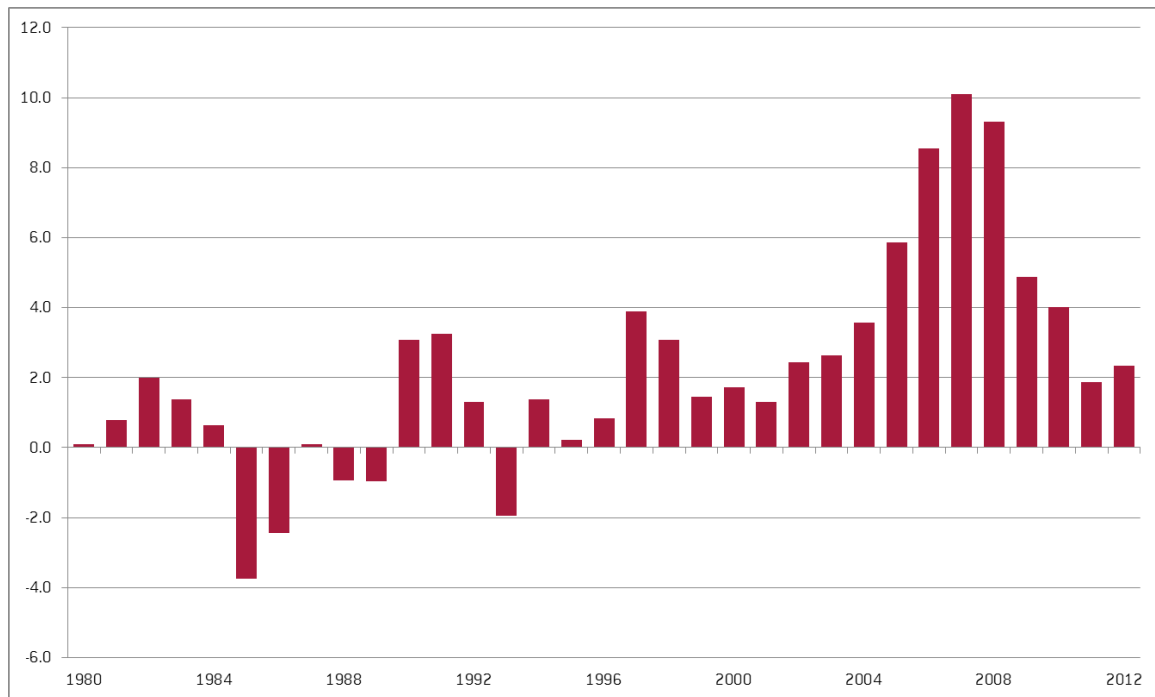




Source: World Bank.

At the same time, foreign firms that originally delocalised their manufacturing to China to reap the benefits of low labour costs might re-locate elsewhere, thus reducing export growth. This probably will contribute to a different pattern of world trade with Chinese exports probably rising at a slower rate and imports probably rising at a faster rate. As a result, China's net trade and current account surplus is set to decline, as it indeed already has been doing (Figure 6). While the global 'winners' and 'losers' of this new China will be quite different, it seems likely that their rise in world trade is set to continue.

**Figure 6: China's current account, % of GDP**



Source: IMF WEO October 2013.

There is a view that China will not be able to adjust to this new model and the weight of the 'old' China will drag down the overall growth rate to such an extent that, just like previous predictions of new world economic powers, China will similarly turn out to be a disappointment. While there will be clear losers inside China and some consequences from the adjustment, and although we believe this will lead to lower rates of overall economic growth, it will still be growth rates sufficient to make it probable that China will become as large as the US within the next 20 years (assuming 6-7 percent real GDP growth rates).

Although the two are marked by different macroeconomic conditions, we expect the US and the EU to broadly experience a declining share of world GDP and trade.

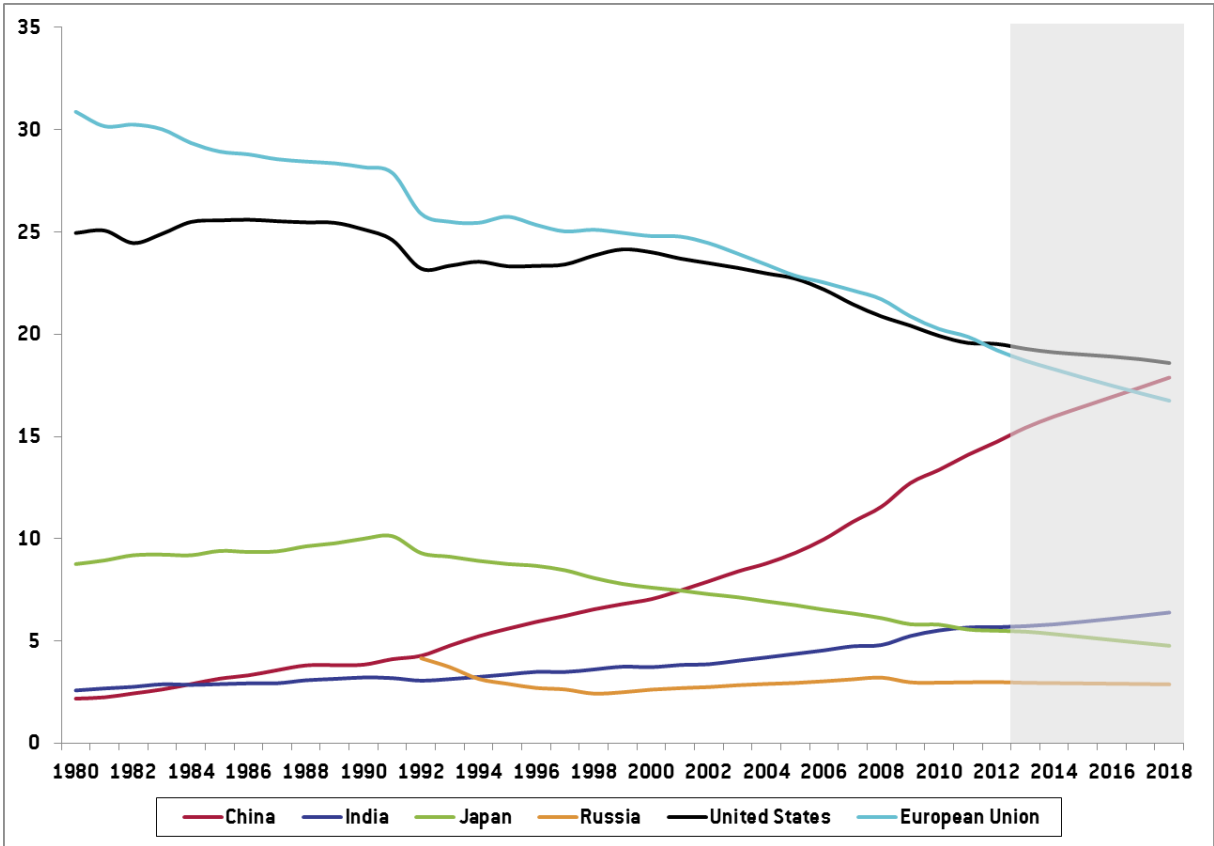
While many believe that the US has been able to generate moderate growth rates in the past decade only because of an ultra-loose monetary policy and the development of fresh bubbles in the internet and housing sectors, there are actually some signs that the post-crash US economy is emerging in a different shape to the pre-crash US. For example, the current account balance of payments deficit declined to around 2 percent of GDP by late 2013 compared to a deficit of more than 6 percent before 2008. For Krugman (2013), this indicates that the country might be entering a period of "secular stagnation," but as 2014 unfolds, there are some grounds for a less pessimistic stance. If the improving

external balance continues, it follows that the US might slow its rate of decline of world trade share (and GDP).

Europe, on the other hand, continues to experience sluggish growth rates. Although structural reforms have been undertaken in several countries as a result of the euro-area crisis, the latter has also harmed the continent's long-term potential by holding back investment and eroding human capital, partly due to the rising structural unemployment rates. Although some cyclical indicators suggest that crisis euro-area member countries are showing signs of some recovery, and their own exports appear to be improving, these are rather tentative and, collectively, European economies continue to struggle. For all the signs of stabilisation and recovery in the likes of Ireland and Spain, and perhaps Greece and Portugal, Italy and France continue to struggle.

We note that the IMF, in its latest macroeconomic projections up to 2018, forecast comparative growth paths that closely resemble the ones observed in the past decade. Looking at world shares of GDP, the Washington-based organisation expects China to expand by roughly 5 percentage points in the period 2009-18, just as the country did in the previous decade. The IMF also project similar paths for others, for example Japan (roughly -1 percentage point) and Russia (flat share). In line with the tone expressed earlier, the IMF projects the share loss of the US to slow down (from -3 percentage points to -2 percentage points), which is however partially compensated for by a speeding up of the fall of Europe (from -3 percentage points to -4 percentage points) (Figure 7).

**Figure 7: GDP in PPP, % of world total**



Source: IMF WEO October 2013.

All in all, it does not seem unreasonable to assume that the next decade will largely continue down the path that the global macroeconomic trends followed in the early 2000s, with perhaps some debate as to whether it will be at the same speed.

In this regard, it is worth noting that the Transatlantic Trade and Investment Partnership (TTIP), a trade agreement currently under negotiation between the EU and the US, is unlikely to interfere significantly with the secular trade changes being observed, which are driven by gargantuan changing patterns of wealth creation. Moreover, even were TTIP to be signed today, its [limited] impact would unlikely materialise before 2020, the end-point of the horizon we are currently analysing. As such, we do not feel compelled to explore its consequences further.

In the next section, we will offer our own extrapolations for trade patterns up to 2020. Of course, by definition, such projections are merely a strong working assumption and subject to considerable uncertainty. However, as we will show, such a simple exercise leads to powerful insights regarding the

likely evolution of the balance of power in global governance, the changing role of different currencies in the foreign exchange market, and challenges for stability within the euro area.

**2.2 Extrapolating trade patterns to 2020**

Following on from Section 2.1, to undertake our projections, we downloaded data on exports and imports of goods and services in current US dollars from the World Bank Development Indicators database. We then aggregated the data to obtain total trade for 256 countries and country groupings from 1960-2012<sup>2</sup>. After having computed year-on-year growth rates, we derived the average yearly growth over the period 2003-12. We then projected trade figures assuming yearly growth at this constant decennial average rate. By doing so, we have effectively assumed an exponential growth pattern in nominal trade.

Such an assumption seems however reasonable, judging from both long-term and shorter-term growth paths in nominal trade. Table 3 shows the coefficient of determination (R-squared) of both a linear and an exponential model, for five countries or country aggregates. Interestingly, in all cases but two (the US and the World in the last decade), an exponential trend is a better approximation of the growth path followed by nominal trade than a linear one. Even in the cases where a linear model is a better fit to the data than the exponential one, we highlight that the difference remains marginal.

**Table 3: Goodness of fit (R-squared) of linear and exponential models**

|                  | euro area |           | EU        |           | China     |           | Japan     |           | U.S.      |           |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>R-squared</i> | 1960-2012 | 2003-2012 | 1960-2012 | 2003-2012 | 1960-2012 | 2003-2012 | 1960-2012 | 2003-2012 | 1960-2012 | 2003-2012 |
| <b>exp</b>       | 0.9634    | 0.7508    | 0.9687    | 0.7444    | 0.9911    | 0.9517    | 0.9187    | 0.7337    | 0.9747    | 0.7804    |
| <b>linear</b>    | 0.8258    | 0.7459    | 0.8191    | 0.7407    | 0.5805    | 0.9287    | 0.8998    | 0.7282    | 0.8570    | 0.7827    |

Source: World Bank, Bruegel calculations. Note: Time spans might vary across countries.

<sup>2</sup> This dataset turns out to be an unbalanced panel, given data is available with quite different time spans for each country.

### Box 1: Value Added Trade Data

As extensively documented by joint work of the Organisation for Economic Cooperation and Development (OECD) and the World Trade Organisation (WTO), gross export figures might prove misleading when trying to establish trade links between countries. In so far as value chains stretch beyond national borders, country A may be exporting to B intermediate products, which could actually be destined to satisfy country C's domestic demand. Whereas this transaction would be recorded as gross exports from A to B, the actual link is with C.

In 2013, a new Trade in Value Added (TiVA) database was made available by the OECD-WTO. This contains value added indicators for 57 countries covering the years 1995, 2000, 2005, 2008, and 2009. Although such a database does not cater for an analysis as detailed as the one we conducted on the IMF's DOTS, and it does not capture the effect of the Great Recession on trade links, it nonetheless allows us to partially test our previous findings.

Throughout this box, we will analyse 'domestic value added embodied in foreign final demand' which, according to the OECD, illustrates the full impact of final demand in foreign markets to domestic output. It can most readily be interpreted as 'exports of value-added'.

Table 4 details how, around the time of the introduction of the euro, for all the top EA-6 economies, the other countries of the European Union represented more than 50 percent of their final export demand. Over less than a decade, however, this share shrunk for all countries and, in the case of Italy and Germany, by 2009 the EU ticked below the 50 percent level. This trend is only likely to have continued, if anything at a faster pace, throughout the crisis.

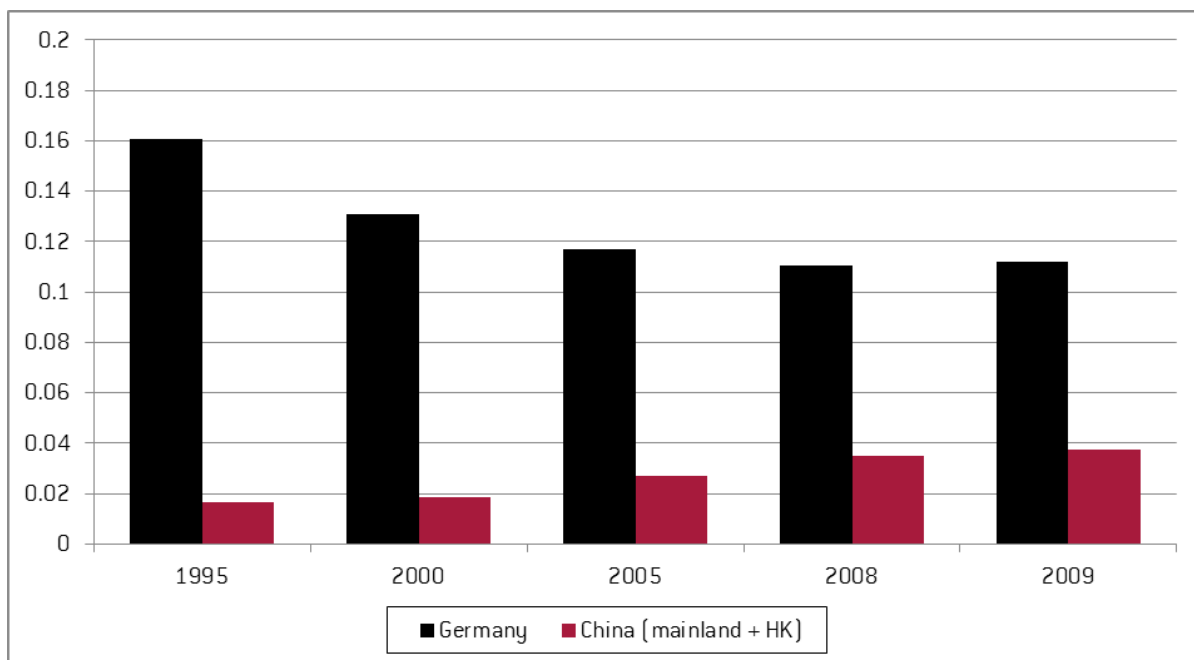
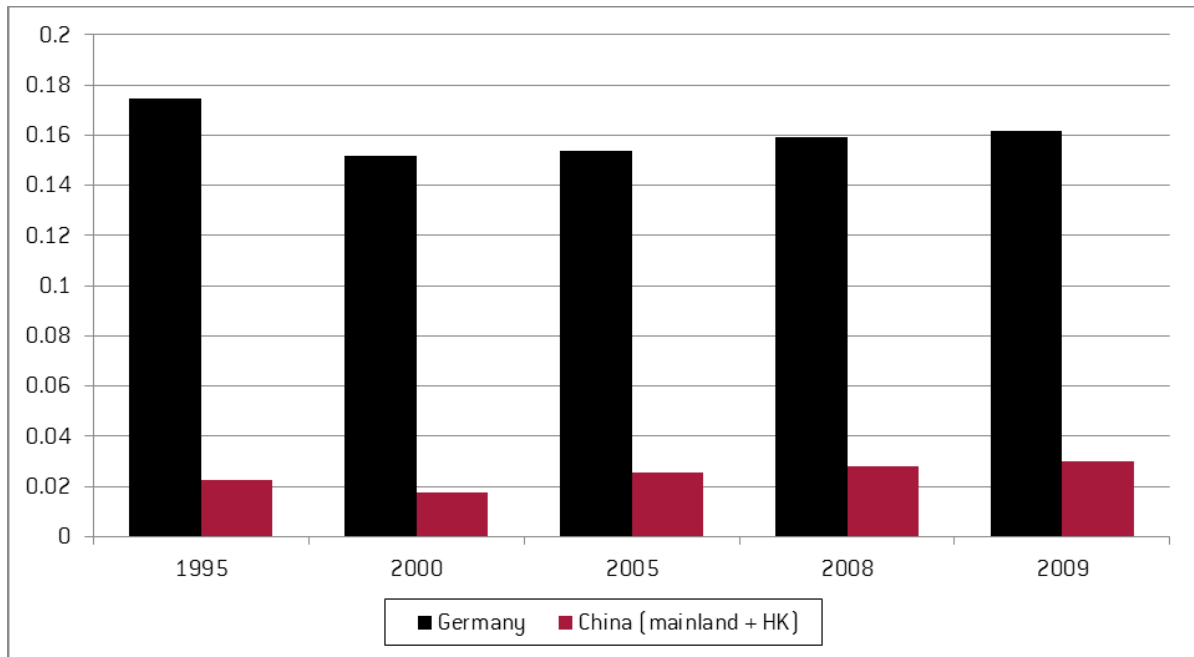
**Table 4: Domestic value added embodied in EU final demand**

|             | 2000  | 2009  |
|-------------|-------|-------|
| France      | 54.3% | 50.5% |
| Italy       | 51.7% | 48.4% |
| Germany     | 52.5% | 49.1% |
| Belgium     | 60.9% | 57.0% |
| Spain       | 62.7% | 59.8% |
| Netherlands | 64.3% | 61.1% |

Source: OECD/WTO TiVA database.

Looking at country-specific developments, as we highlight in Section 3, looking at gross export figures, China was rapidly gaining importance as a trade partner for France. Value added data corroborates this finding, and actually shows how German final demand has been sharply losing ground in the last decade.

**Figure 8: Gross exports (top panel) and exports of value added (bottom panel) by trade partner, % of total**

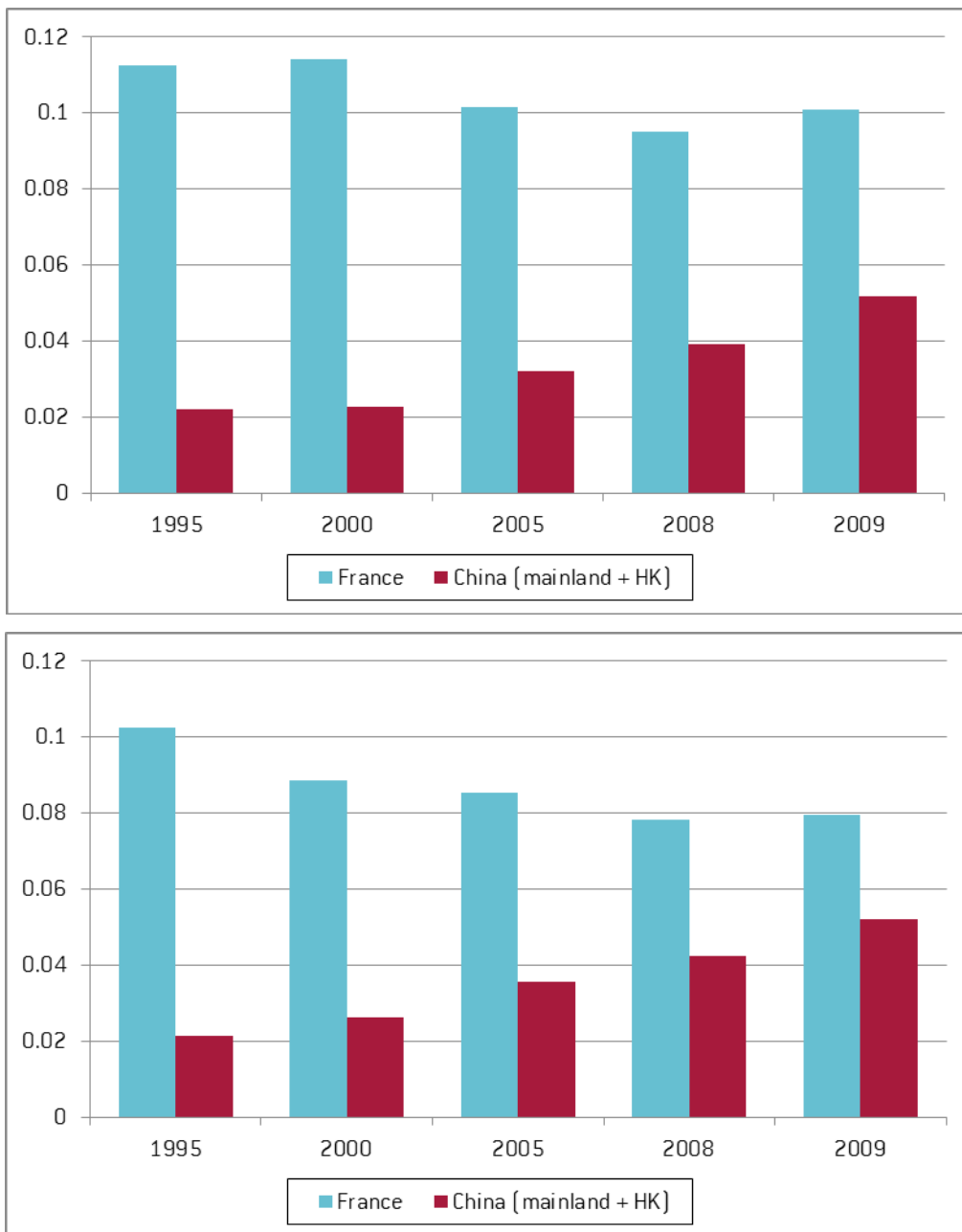


Source: Bruegel based on OECD/WTO TiVA database, IMF DOTS.



When looking at Germany, the major finding in section 3, below, was a fading importance of France as a trading partner and a soaring share of exports being destined to China. In this respect, value added data confirms the trend. While looking at gross export figures China seemed to be a much smaller partner for Germany than France in 2009, this gap is significantly reduced when looking at exports of value added.

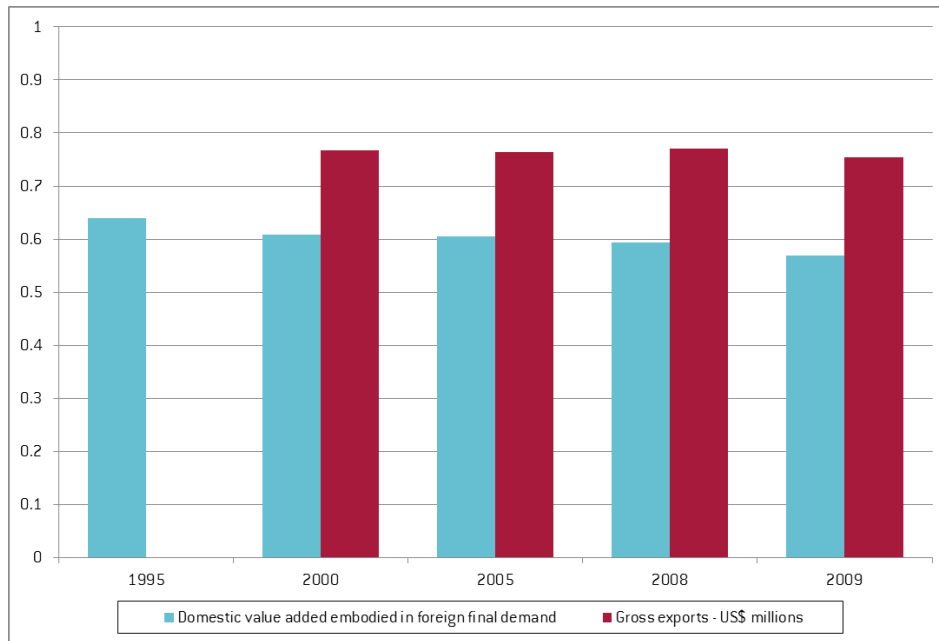
**Figure 9: Gross exports (top panel) and exports of value added (bottom panel) by trade partner, % of total**



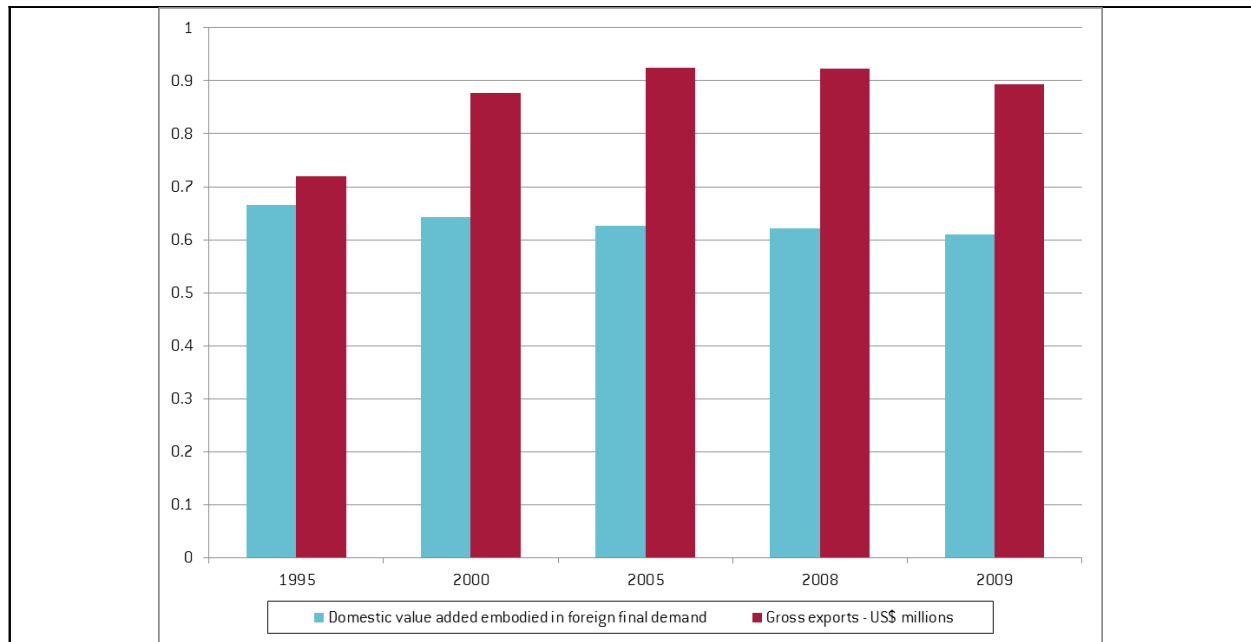
Source: Bruegel based on OECD/WTO TiVA database, IMF DOTS.

Finally, we look at the Netherlands and Belgium, the countries which, due to their economic and geographical characteristics<sup>3</sup>, are more likely to see their gross exports inflated. Interestingly, two of the countries that appeared as most reliant on the EU for their (gross) exports, see this share significantly re-dimensioned (by as much as 30 percent of total exports) when looking at the value added of exports.

**Figure 10: Exports of Belgium (top panel) and of the Netherlands (bottom panel) to the EU, % of total**



<sup>3</sup> Both countries' industrial production is devoted in large shares at providing intermediate goods to German and French firms, respectively. Moreover, both countries experience a strong 'port effect', as goods for other continental countries may be shipped through Antwerp and Rotterdam.

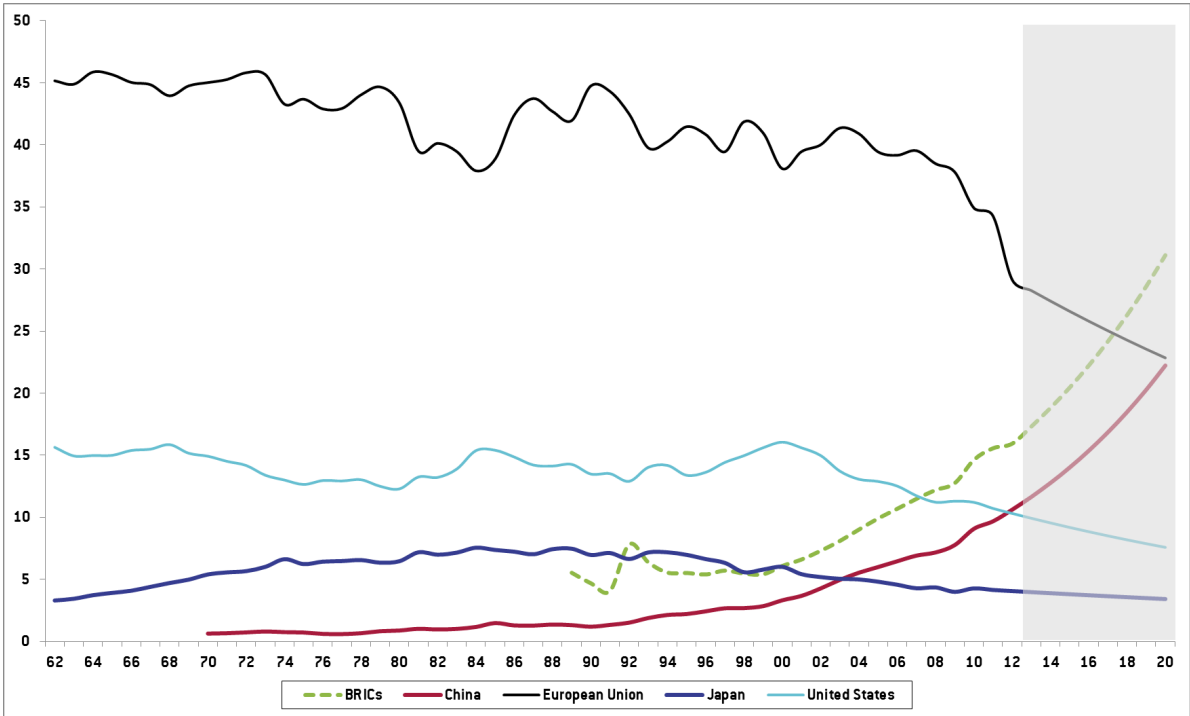


Source: Bruegel based on OECD/WTO TiVA database, IMF DOTS.

All in all, our main message is confirmed that trade patterns are shifting and that EU countries, and in particular those of the euro area, are trading less and less between themselves while increasing their export reliance on other markets. This in turn corroborates our view that, going forward, the trade-related benefits of EMU will become less evident and that a strengthening of the EMU architecture will be needed to shore up against asymmetric macroeconomic shocks.

In order to stress-test our results, we also considered alternative techniques to extrapolate future trade trends. These included using different time-windows for computing the average growth rate to be applied to future years, specifically estimating an exponential growth model based on (varying) past trends and using the fitted values of an Ordinary Least Square (OLS) univariate regression model. The full results are presented and discussed in Appendix 1. Far from aiming to forecast to the decimal digit trade shares in 2020, the main purpose of our exercise is to give a quantitative idea of the large changes that have already taken place and what would happen if these trends were to continue over the next few years. Although at varying velocity, all the methods considered point in the same direction: a change in world trade patterns, main partners, and a (more or less) rapid decline of the West.

**Figure 11: Share of world trade, %**

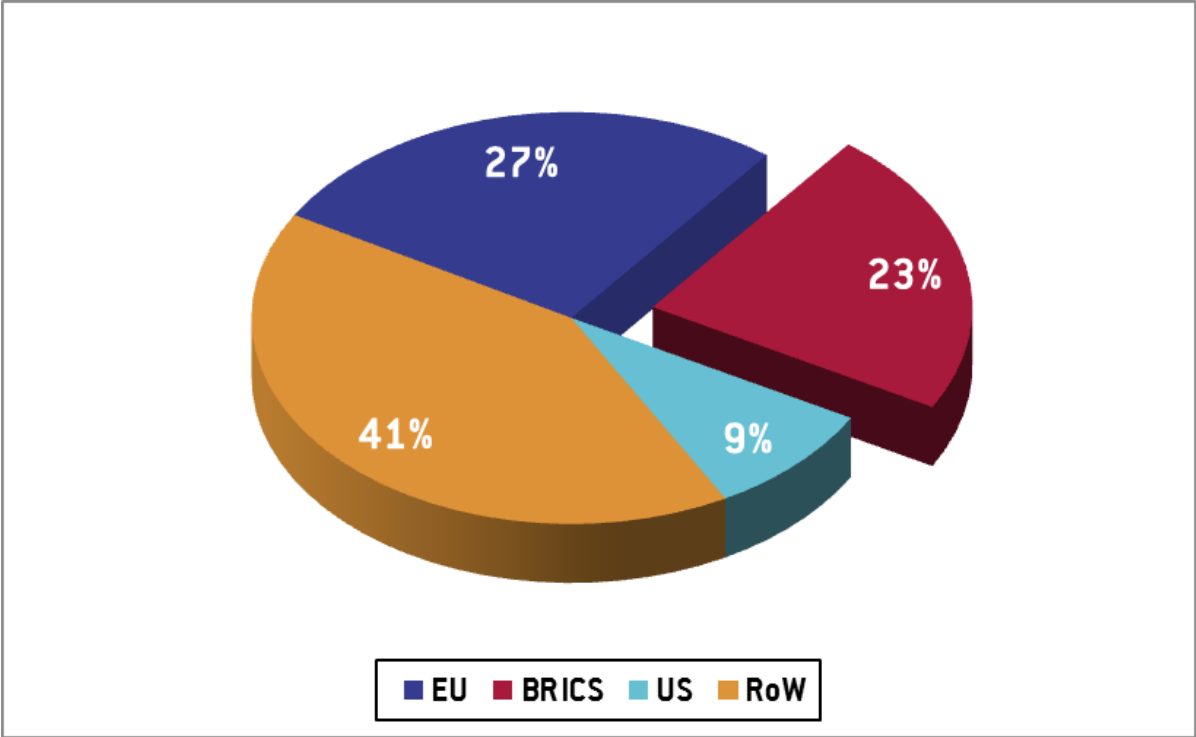


Source: Bruegel calculations based on World Bank data.

As can be seen in Figure 11, our baseline projections suggest a continuation of the trends observed in the past decade. By 2020 the world will look substantially different. While currently the EU is the largest trading block in the world, controlling a third of world trade, by 2020 this will shrink to less than one quarter, with China on its heels. The BRICs, collectively, will represent 31 percent of global trade, significantly more than the EU. China itself, excluding the other BRICs, will have a considerably bigger share of world trade than the US.

As detailed in Figure 12, even when projecting trade figures assuming just half-trend growth rates in the next six years, by 2020 the BRICs will control more than a fifth of world trade, while the EU will be slightly above a quarter. China alone would represent approximately 16 percent of global trade, almost twice the US share.

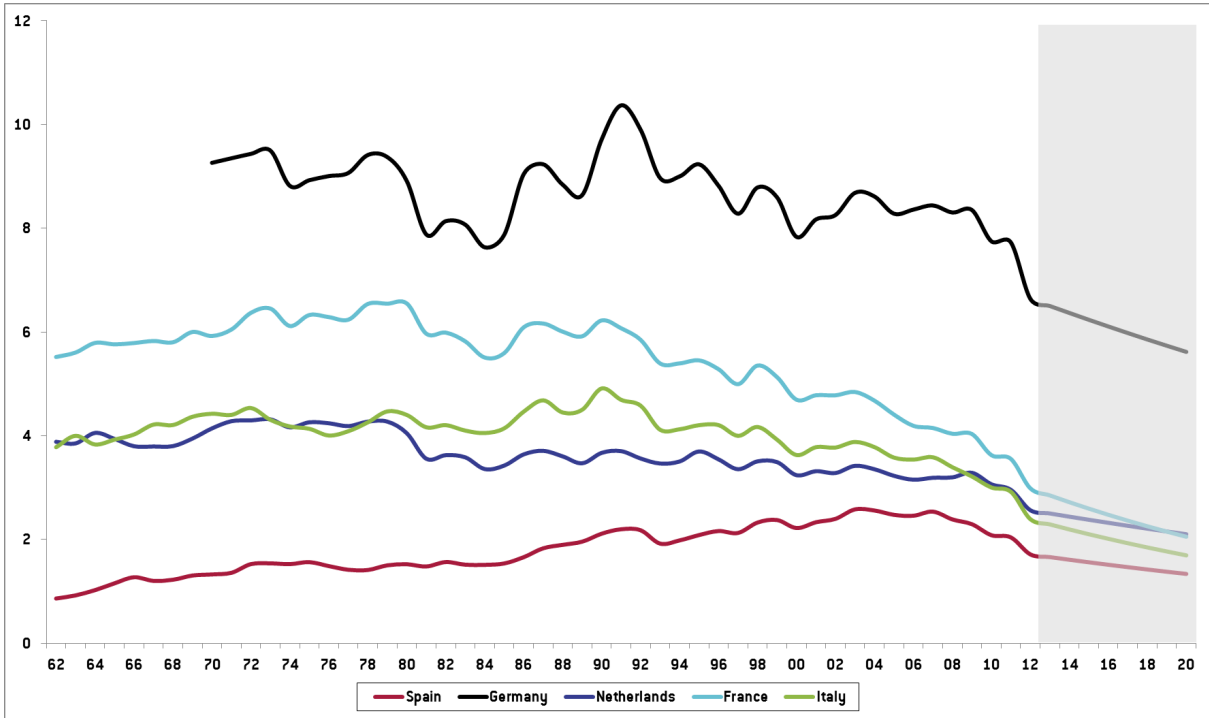
Figure 12: Share of world trade in 2020 (forecast assuming half-trend), %



Source: Bruegel calculations based on World Bank data.

As we discussed briefly earlier, behind the EU aggregate, there are considerable changes going on within EU member countries. Figure 13 plots the world trade shares of the top five euro-area economies. It is interesting to note that, although with largely different initial trading positions, our extrapolation predicts a sharp fall in trade shares of all the countries under analysis. The speed of the fall varies according to the country and depends on the economy's trading performance in the last 10 years, compared to the evolution of global trade. According to our projections, Spain will be the 'best' performing of the top five euro-area economies, losing merely 0.7 percent of its world trade share by 2020. This value will range between -0.9 percent and -2.1 percent for the others.

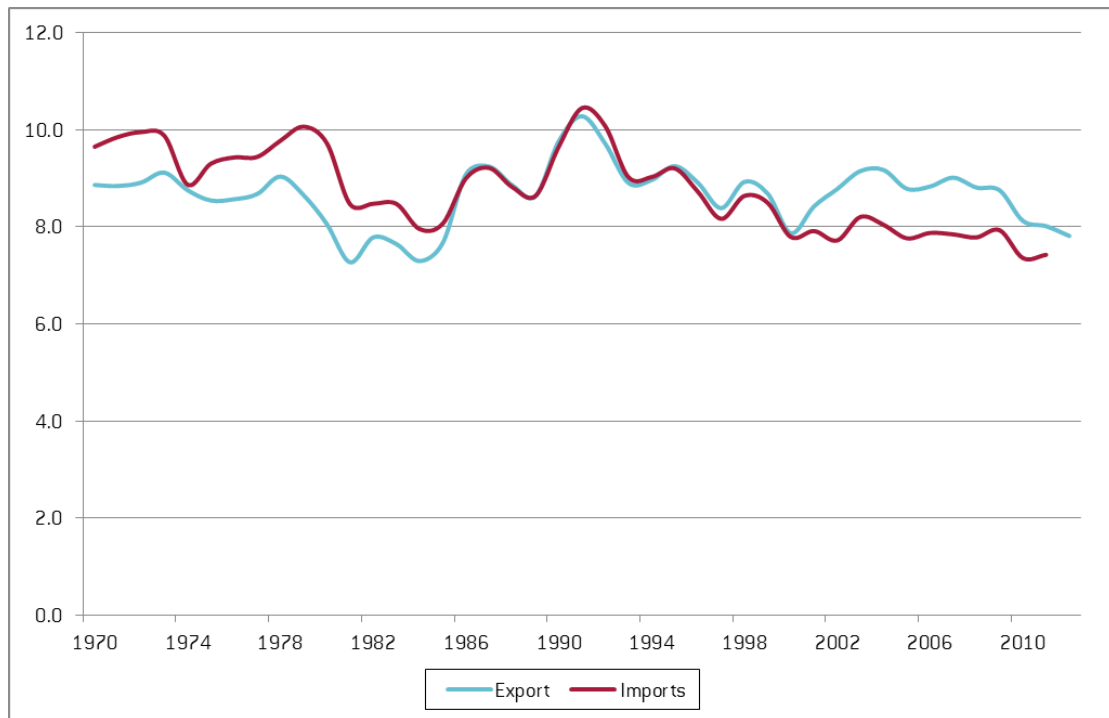
**Figure 13: Share of world trade, %**



Source: Bruegel calculations based on World Bank data.

Interestingly, Germany comes out as the worst top five euro-area performer in terms of trade-share loss. This seems to clash with the common wisdom that the country’s exports are burgeoning. In order to reconcile the latter finding with our analysis, we broke down German trade in world shares of exports and imports. As can be seen in Figure 14 below, whereas Germany has managed to broadly uphold its export share since the 1970s, imports have declined significantly by roughly 2 percentage points of world imports, itself of some importance to the issue of improved euro-area stability. This element will be taken into further consideration when drawing our conclusions for the functioning of the euro area in the next section.

**Figure 14: Share of world exports and imports for Germany**



Source: Bruegel calculations based on World Bank data.

### **3. The consequences for the euro area, global governance and management**

#### **3.1 Europe/euro area**

In this section, we open the 'euro-area box' to look at what the consequences will be of the major trade changes we are witnessing for the individual economies of the common currency bloc. In section 2.2, we hinted at the fact that euro-area countries are expected to be affected differently by the 'decline of the West'. Although the speed of relative decline is different, all countries seem to be on the same downward sloping path of declining global trade share. However, that is only part of the story.

Building on the IMF Directions of Trade Statistics (DOTS) database, we explored individual countries' bilateral trade links from 1980-2012. By applying a similar methodology to the one detailed in section 2.2, we projected export patterns up to 2020. The results are especially interesting. European countries tend to have quite different trading partners' profiles, and this heterogeneity is quite likely to become more pronounced with time.

**Table 5: Top exporting destinations in 2012, 2020 (baseline forecast), and 2020 (half-trend forecast)**

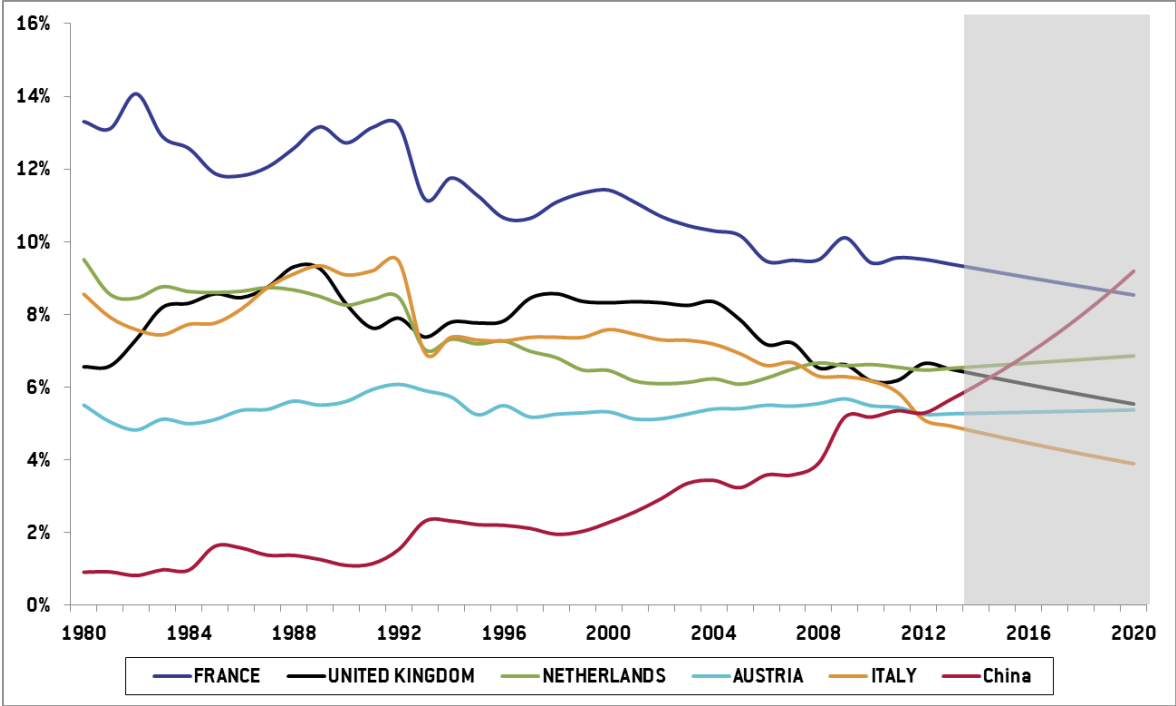
|                    | 2012             | 2020f       | 2020f – half trend |
|--------------------|------------------|-------------|--------------------|
| <b>Germany</b>     | 1 France         | China       | France             |
|                    | 2 United Kingdom | France      | China              |
|                    | 3 Netherlands    | Netherlands | Netherlands        |
| <b>France</b>      | 1 Germany        | Germany     | Germany            |
|                    | 2 Belgium        | China       | Belgium            |
|                    | 3 Italy          | Belgium     | China              |
| <b>Italy</b>       | 1 Germany        | Germany     | Germany            |
|                    | 2 France         | France      | France             |
|                    | 3 United States  | Switzerland | Switzerland        |
| <b>Spain</b>       | 1 France         | France      | France             |
|                    | 2 Germany        | Germany     | Germany            |
|                    | 3 Italy          | Italy       | Italy              |
| <b>Netherlands</b> | 1 Germany        | Germany     | Germany            |
|                    | 2 Belgium        | Belgium     | Belgium            |
|                    | 3 France         | France      | France             |
| <b>Belgium</b>     | 1 Germany        | Germany     | Germany            |
|                    | 2 France         | France      | France             |
|                    | 3 Netherlands    | Netherlands | Netherlands        |

Source: Bruegel calculations based on IMF DOTS.

For example, while in 2012 Germany's top four trading partners were France, the United Kingdom, the Netherlands and the US, by 2020 things will look very different, with China probably Germany's biggest export market, followed by France, the Netherlands and Poland. When EMU was created, it was highly unlikely that 21 years later, many would have envisaged a world in which China, not France, would be Germany's number one trade partner.



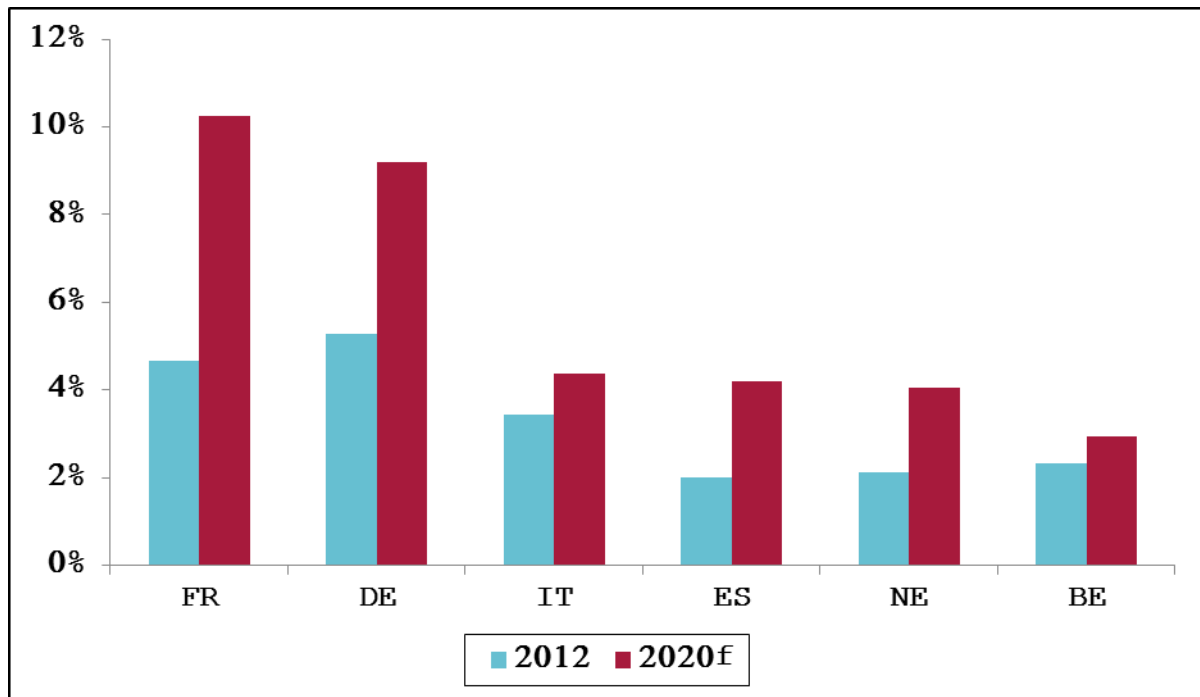
**Figure 15: German export destinations, % of total exports**



Source: Bruegel calculations based on IMF DOTS.

Interestingly, China is expected to become of major importance as an export destination for France as well as for Germany. Just as interestingly, this is less the case for the other five largest euro-area economies. Over the next eight years, China’s weight in the export basket is projected to more than double for France and Spain, increase sizably for Germany and the Netherlands, but only marginally for Italy and Belgium.

**Figure 16: Exports to China, % of total**



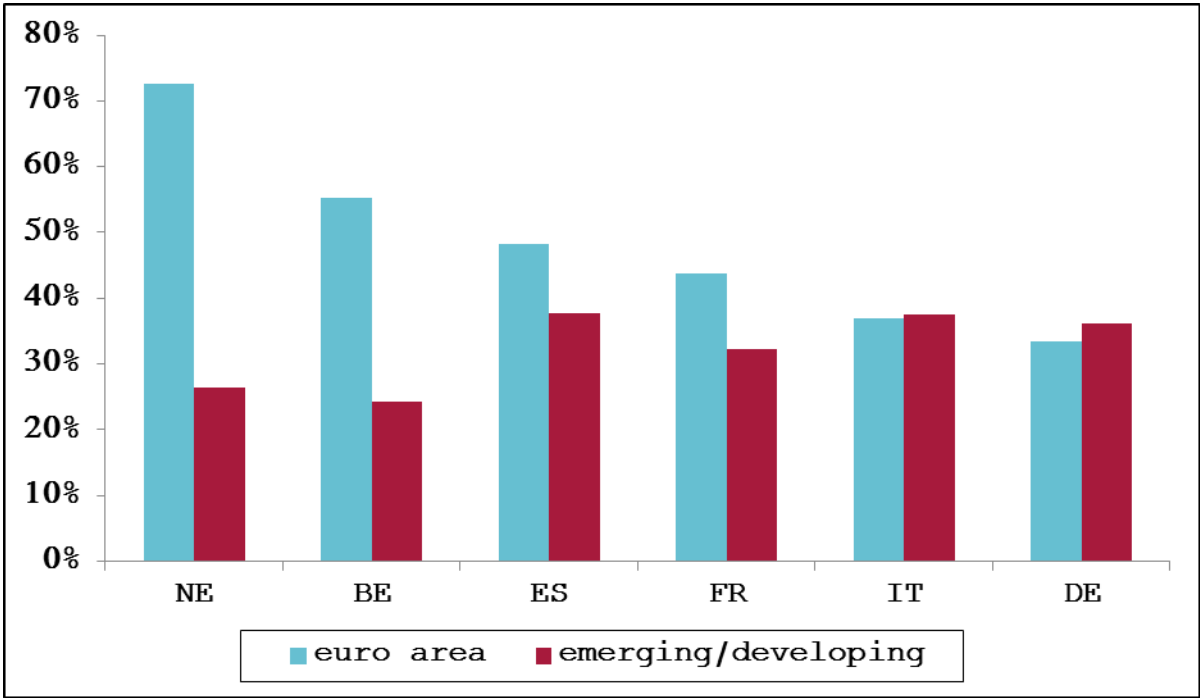
Source: Bruegel calculations based on IMF DOTS.

This suggests that China and emerging/developing<sup>4</sup> markets as an export destination are likely to be very different depending on the country. For example, by 2020 Italy and Germany will export more to emerging/developing markets than to euro-area partners, while the contrary will be true for France, Spain, Belgium and the Netherlands.

The forecasted large surge in French exports to China is led by the strong performance of the country's exports in the period 2003-2012, when France more than doubled the share of its China-bound gross exports. This strong performance finds confirmation in the TiVA value added dataset of the OECD/WTO (see Box 1 for more information). Between 2000 and 2009, the share of French value added embodied in Chinese domestic demand more than doubled (from 1.6 percent to 3.5 percent). Looking at the breakdown by industry, we notice that in 2009 (last year for which data is available) France was exporting value added to China mostly in business services (30.5 percent), machinery and equipment (11.9 percent), and transport, storage, and telecommunications (10.8 percent).

<sup>4</sup> IMF 2012 definition. For more information on the exact composition, please refer to the IMF October 2012 World Economic Outlook.

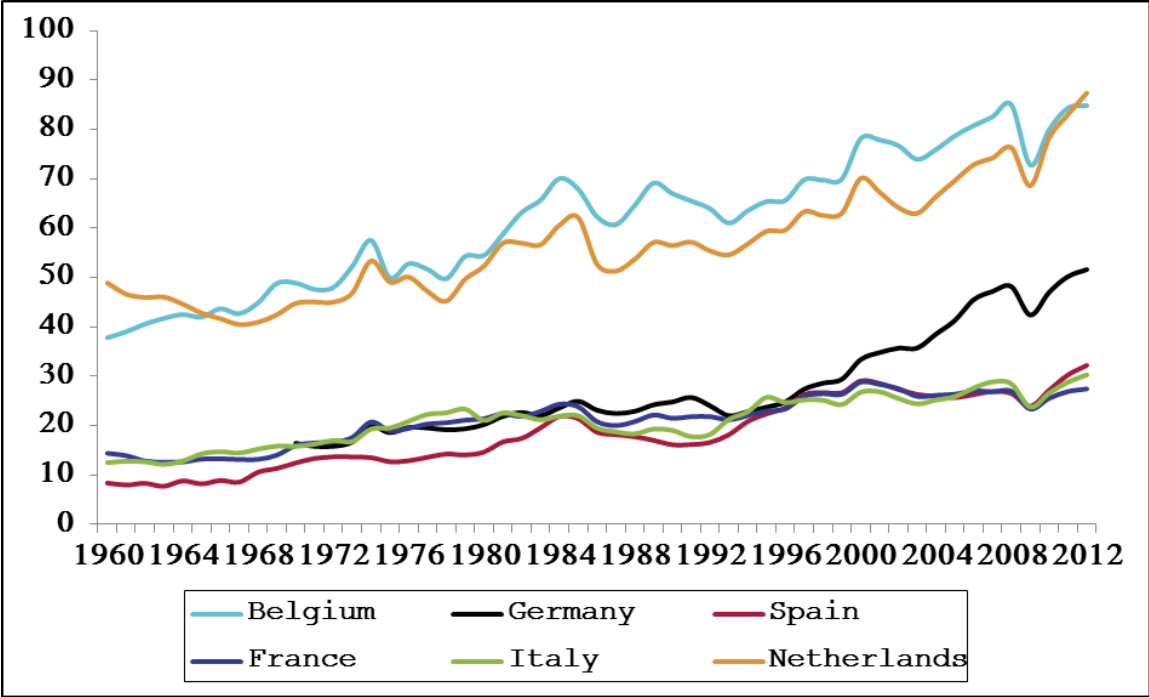
Figure 17: Exports to euro area and emerging/developing markets in 2020 (forecast), % of total



Source: Bruegel calculations based on IMF DOTS.

Of course, the percentages of total exports hide the fact that exports play a very different role in individual countries. For small open economies like Belgium or the Netherlands, exports of goods and services represent more than 70 percent of GDP, while they account for roughly 30 percent of the economies of Italy and France. It is also obviously the case that for smaller euro-area economies, their trade is more likely to remain dominated by their larger immediate neighbours.

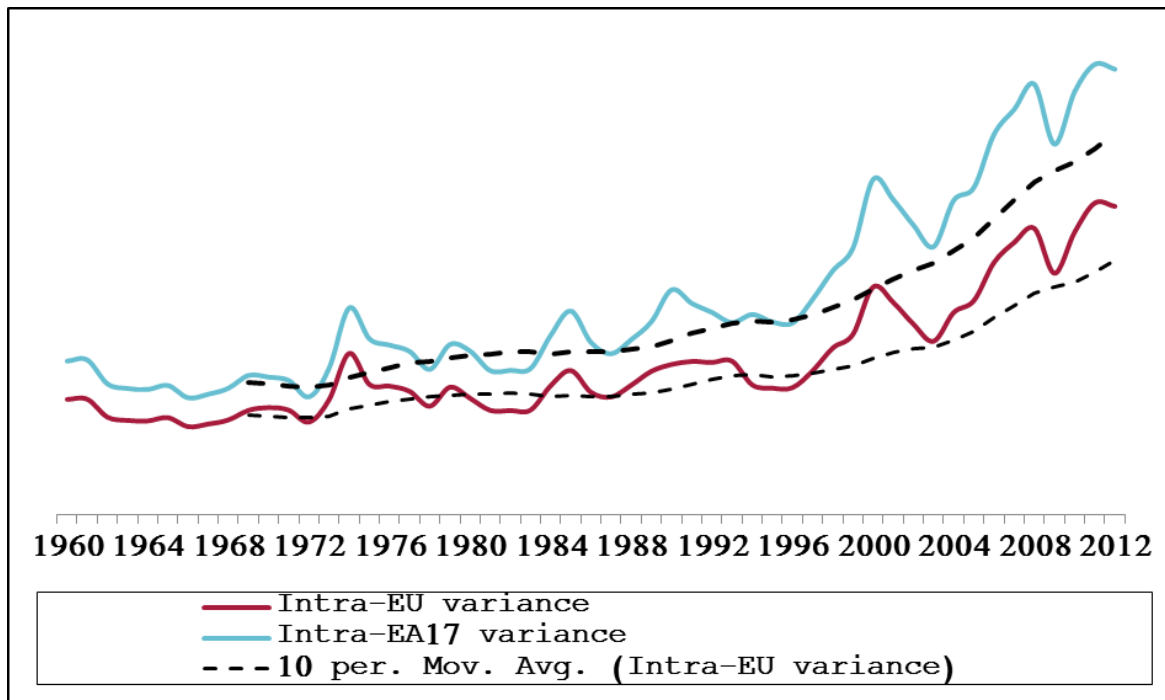
**Figure 18: Exports, % of GDP**



Source: World Bank.

Nonetheless the dispersion in the relevance of trade as a share of GDP is increasing, a trend that has been ongoing since 1995. Interestingly, the dispersion is higher in the euro-area subset of countries, than in the whole EU group. The gap between the 10-year moving averages of the two has been widening (see Figure 19).

**Figure 19: Variance in exports as % of GDP**



Source: Bruegel calculations based on World Bank.

All in all, this evidence seems to suggest that not only exports play a different role (even controlling for GDP size) among euro-area economies, but that for the larger euro-area economies, exports are going to be increasingly diverse beyond the euro area. For Italy, it will be a broader group of the emerging economies and not quite so dominated by China whereas for France and Germany, China becomes a major trade partner.

This suggests quite an important challenge for the effective functioning of the euro area. In principle, the single most important rationale for a currency union is that participating members conduct most of their trade with each other. This obviously underlined the economic rationale for EMU, especially because of the close trade links between the largest economies: France, Germany and Italy. But if it is the case that for each of these (which have less of their overall economic activity originating from international trade than the smaller euro-area economies) more and more of their trade will be with countries outside the euro area, the benefits of EMU are less clear cut and decreasing over time.

Moreover, in terms of the Optimal Currency Area criteria outlined by Mundell (1961) and later authors, we highlight the fact that increasingly heterogeneous trade partners, combined with the mounting weight of exports in countries' GDP, augment the possibility of a heterogeneous macroeconomic shock

hitting the euro area. Under this scenario, optimal monetary policy might differ as individual countries of the bloc find themselves at different points of the business cycle. The benefits of sharing a common currency would then be reduced.

Such a future would be immediately seized on by many eurosceptics as a particularly powerful reason why EMU is not going to survive, and it is probably an issue that European – and the domestic euro-area national – policymakers need to consider more closely than they seemingly do today. But, as we will try to elaborate more in the next section, what it certainly means is that if policymakers genuinely wish for EMU to survive and indeed, become stronger, they have to ensure that it is more robust and adaptable to ongoing challenges, including the likelihood that trade with each other is going to be less important than conceived when EMU was created.

It is beyond the scope of this paper to discuss the other challenges (such as the appropriate fiscal rules and banking union to name just two), however if the euro area needs to be strengthened to mitigate against the pressures for less European focus as a result of rising trade shares with non-euro area countries, then one way for this to progress would be for the euro area, and perhaps even in some cases, the EU to act as one common representative bloc in key global governance institutions, especially the IMF and, within the G20, a revised G7 (allowing each country to still represent itself in the G20 individually). One of the additional benefits of this is that it might, in turn, strengthen the united voice and purpose in terms of the problems inside the euro area and the EU also. This is of course, in addition to the reality that making space in the IMF and other such forums is necessary to allow China and other countries more space, an issue to which we now turn.

### **3.2 Europe and global governance**

If the larger European countries are indeed likely to see their trade patterns shifting to the degree that more trade is conducted outside of the euro area than within, on one level this would suggest that individual nations would have even more interest in representing themselves in global institutions that preside over running the world economy. However, it is undoubtedly the case that other non-euro area countries would see less need for such individual countries to have the same size of seat at the relevant tables. It is also arguably the case therefore that if the euro-area countries wish to maintain (indeed strengthen) the euro then perhaps it might make sense for them to finally allow their common global representation to be shared as one. This notion has been aired before (for example, O'Neill, 2011; O'Neill, 2013; Bini-Smaghi, 2006; Ahearne *et al*, 2006), but based on our global trade share

projections, and the patterns of growth facing individual countries, it is going to be increasingly difficult for euro-area member countries to maintain their current position.

To take one example, although not suggesting they are especially guilty, but Italy today is already less than a quarter the size of China, and not much bigger than any of the other BRIC economies. By 2020, China may be six or seven times the size of Italy (Canada another G7 country is smaller than Italy). Given that they share a common monetary policy with Germany and France, and their fiscal policy is constrained by their EMU obligations, what is really the modern justification for Italy to warrant its own seat at the G7 table, at the IMF and so on? Yes, it is one of the larger democratic economies, which might give it some vague justification in a lesser and lesser important G7 Group, but in terms of an optimal world economy and its governance, this is hardly a reasonable stance. If the G7's remaining virtue is that it is a club of western democracies, then it probably does not have a great – at least in the next decade or two – truly global future. And even if it survives and has some useful purpose for those democracies, it is much more difficult to regard this as a truly modern globally representative entity.

As O'Neill (2011) and Ahearne *et al* (2006) have argued, it would be presumably much more effective to have a 'new' G7 in which the euro-area members would be represented as one. This would immediately make space for two other members in an exact G7, of which China would be clearly the most obvious choice. There is likely to be an increasingly reasonable argument that the other 'smaller' G7 economies, Canada and the UK, will also have less reason to be part of a truly globally representative G7, with other candidates from the emerging world having a greater justification as they get bigger. So an ideal G7 as such would probably only really include the US, Japan and the euro area or alternatively the EU, from the so-called developed world, leaving plenty of space for other rising economies in addition to China.

As O'Neill and others have also argued, if such a revamped and more effective G7 could be established, it would pave the way for much easier reform of the IMF and World Bank and their voting rights and beyond (Leech and Leech, 2005). The inability or lack of desire of European countries to give up their voting power and seats lies at the heart of why the IMF struggles to become more representative of the world we have moved into. However, even the US, which has been officially pushing for an IMF reform since 2010, seems to be experiencing obstacles on the path to opening further the Washington-based institution to emerging countries<sup>5</sup>.

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<sup>5</sup> In January 2014, the U.S. Congress failed to ratify an IMF capital increase, which, as part of a 4-year old reform package, would have paved the way for a shift of six percentage points of total quota to developing countries, and move two of the 24 IMF directors from European to developing countries. Given its budgetary repercussions, this reform seems unlikely to be

Two other issues follow on from this.

First, if there were a more representative G7, it would immediately follow that the G20, close to its current membership group, could survive although perhaps perform a less demanding role than it is currently trying to do. After its initial success, many argue that the G20 – which includes more than 20 countries already – is too cumbersome to be truly effective, albeit more representative. So why not find a smaller, equally representative G7, which could be more effective, but keep the representative but cumbersome G20? This would allow all current (and future) G20 members to maintain their presence, which would mean individual euro-area members such as Italy would still have some presence on the international scene. Or put another very simple way, the G7 should be a group of the largest 7 economies, and the G20 a group of the largest or systematically most important 20 economies.

Second, if this principle can be recognised, the more thorny issue is what is necessary to encourage or entice individual euro-area members to volunteer such an advancement. Do they need to get a reward in order to give up their G7 and IMF prestige<sup>6</sup>? While the answer is probably yes, it is also probably the case that the key countries should spend more time thinking about what might happen if they do not volunteer such moves. To be more specific, it would probably mean that the institutions that they dominate become less and less important to those countries that are excluded. And at the extreme, as we will turn to discuss, it could contribute to a collapse of the current international monetary system.

### **3.3 The world monetary system, the role of the renminbi and Europe.**

So what does the world of our projected 2020 trade patterns and relative GDP size imply for the global monetary system? And following on from our previous discussion, is there some incentive for the Europeans to volunteer a smaller albeit more collective and perhaps more powerful representation in global economic governance?

A number of commentators have discussed the possible rise of the use of the RMB in line with the future growth of China (Wheatley, 2011; Prasad and Ye, 2012; Vallée, 2012) but there is, not surprisingly, no consensus on whether the RMB will ultimately be a truly floating currency like the US dollar or euro, and whether it will play a bigger role within the global monetary system, for example, as

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passed by 2015.

<sup>6</sup> A future paper will explore any rewards that might be necessary to give up these positions of prestige and importance.



part of the Special Drawing Rights (SDR) of the IMF. Most have assumed that the RMB will at some point play some sort of bigger role in the current global monetary system. Very few have considered the possibility that, if the RMB becomes more and more important, that in fact, China only agrees to greater usage of the RMB for trade purposes and instead of an eventual free usage of the currency for capital account purposes, actually attempts to persuade others to restrict the degree of free movement of capital. In more recent times, partly due the euro crisis, but also past crises in a number of emerging economies and fears of future destabilisation, some are starting to articulate the case for wider capital controls. Indeed, the IMF itself has suggested that there are perhaps some circumstances in which this is warranted<sup>7</sup>.

What is clear from the pattern of 2001-10 trade and our projections up to 2020, if the global monetary system is at all supposed to be reflective of global trade, then the role of the RMB needs to increase. As Prasad and Ye (2012) have argued, what the IMF chooses to decide when the mandated review of the components of the SDR are necessary by the end of 2015 will be highly illustrative. If it were solely based on their share of world trade, it would be clear that the RMB would become part of the SDR (possibly a significant share, with a higher weight than any other component than the US dollar or euro). Where it is much less clear is because of one of the other stated key criteria and that is a currency's usage as a potential reserve currency, which often relates to the ease by which investors can use the currency.

In the past year, China has made a number of decisions to allow more use of the RMB, both in terms of investing in and out of China, as well as supporting the growth of a number of so-called offshore trading centres for the RMB, including London, New York, Paris and Hong Kong and Singapore. A further potentially important development was the late 2013 announcement of a free-trade zone in Shanghai in which the use of the RMB for investment purposes would be much more relaxed than elsewhere in the country. Some observers see this as a pilot for more significant opening up of the use of the RMB. It is also the case that since this announcement, the central bank, the People's Bank of China, has announced its intention to give the markets an even bigger role in setting the price of the RMB.

It does not take too big a leap of faith for this gradual opening up of the RMB to continue and to be part of a prelude to the RMB becoming part of the SDR basket as soon as 2015. What would seem an easier

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<sup>7</sup> For a detailed description of the Fund's Institutional view on capital flows, please refer to <http://www.imf.org/external/pubs/ft/survey/so/2012/POL120312A.htm>.

prediction to make, is that if not 2015, by the next formal due date, 2020, the inclusion of the RMB as part of the SDR would be inevitable.

If the RMB were to be included in the 2015 SDR basket revision, this might lead to a fresh debate about whether the SDR itself might play a much stronger role in the global monetary system, rather than just be an accounting currency for the IMF and its settlements. Various Chinese academics and some policymakers including the central bank Governor (Xiaochuan, 2009) have recommended such a future path. Along the same lines, Nobel laureate Robert Mundell explained how the SDR, if complemented with the Chinese yuan and Russian rouble, could replace the US dollar as the new major world currency<sup>8</sup>. Buchanan and O'Neill (2010) have pointed out the difficulties with such a system, but no doubt more research would follow and is worthwhile.

One central aspect of the likely required monetary diplomacy as we approach 2015 is presumably linked to the question we asked earlier in terms of rewards and incentives for the European countries, especially those participating in the euro. If it can be assumed that the major developed countries would like the RMB to be increasingly determined by the markets and not 'controlled' and that the currency will be more easily usable, it would presumably not be a huge step to consider that a grand deal could be reached in which the 'price' for China to undertake the further steps required by the IMF would be for the developed world to agree to whatever steps are necessary to simultaneously allow China (and other emerging countries) more voting power and seats within the IMF, and in turn, a revamped and more effective G7.

Whether China would agree to such a bargain is still open to debate, but it would seem to be quite an obvious basis for a deal. Before discussing this a bit further, it is interesting that a number of central banks around the world have announced in recent years that they now hold RMB as part of their portfolios of reserve investments, including such diverse countries as South Korea<sup>9</sup> and Nigeria<sup>10</sup>. It is also important to point out that if the RMB becomes part of the SDR basket, it would also open the door to some other currencies participating. Indeed as shown by Buchanan and O'Neill (2010), Russia technically satisfies all the stated criteria for inclusion, and the Russian authorities have stated a stronger desire to join the SDR than China, at least in public.

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<sup>8</sup> <http://www.forbes.com/sites/eamonnfingleton/2012/05/25/nobel-laureate-sees-beyond-the-euro-crisis-to-a-post-dollar-world/>.

<sup>9</sup> <http://www.ft.com/intl/cms/s/0/ee99aa2e-7669-11e0-b05b-00144feabdc0.html#axzz2raSG0008>.

<sup>10</sup> <http://online.wsj.com/news/articles/SB10001424052970203986604577257190163679120>.

As suggested, it is difficult to know whether China wants the RMB to become part of the SDR basket in 2015 and would be prepared to accept the greater global responsibility of a bigger role in the IMF, a revamped G7 especially if the price were less control over the performance and use of the RMB. Would the Chinese central party leadership want a group of US and European investors having a major influence on what happens to their currency? We ask this question partly because since the eruption of the 2008-09 global credit crisis and the euro-area crisis in particular, a number of academics and policymakers have started to question the benefits of complete freedom of capital flows (see for example Ostry, Ghosh, and Korinek, 2012; Forbes, Fratzscher, Kostka, and Straub, 2012; Korinek, 2011). Indeed, eleven euro-area countries<sup>11</sup> are trying to introduce, through the enhanced-cooperation procedure, a financial transactions tax to reduce the role of speculative capital flows. On one level, this might be something that Chinese and other so-called emerging market-policymakers have some sympathy with. It is of course, something that will be opposed by the UK and US, the latter being of greater importance. However, an indirect consequence of broad advocacy of some form of restricting or discouraging the current degree of capital flows is presumably that European policymakers and/or the IMF cannot be so rigid in determining the exact requirements of RMB inclusion in the SDR basket. Nor in our view should they. Based on our research about how the rest of this decade will likely unfold, it is high time the IMF welcomes the recognition of China's rise by including the RMB at its earliest convenience.

#### **4. Conclusion**

In this paper, we have shown how the economic and political relevance of the West is in the process of being rescaled, but few realise quite to what degree this is happening, at what speed, and what the far-reaching implications are. The scale of the change in the pattern of global GDP observed in the last ten years is unprecedented in modern history, indeed since such available economic data has existed. In the first 10 years of the 2000s, the pattern of wealth creation started to change dramatically: Japan lost ground at the same speed at which it had gained it in the previous decades, China increased its share of world GDP by an unprecedented 5.25 percentage points, and the West's share of world GDP contracted by 10.33 percentage points: more than the combined loss of the previous four decades together.

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<sup>11</sup> Germany, France, Italy, Spain, Austria, Portugal, Belgium, Estonia, Greece, Slovakia and Slovenia.

The change in the pattern of economic growth at a global level has thus been accompanied by an unprecedented shift in trade patterns. Similar to world GDP shares, the change in pace in the last decade is remarkable and unprecedented in recent history.

Most of the change witnessed over the last decade is largely due to China. With an average yearly growth rate in trade of 23.2 percent over the period 2002-11, China has surpassed the United Kingdom, Japan and Germany in terms of global trade shares. Over the last decade, China increased its world trade share by 5.40 percentage points, while the OECD countries together lost almost 12 percentage points: such a large decline of developed countries is unprecedented.

All in all, it does not seem unreasonable to assume that the next decade will largely see a continuation of the global macroeconomic trends observed in the early 2000s, with perhaps some debate as to whether the rate of change will speed up. Based on past trends, we have extrapolated trade patterns up to 2020. Of course, by definition, such projections are merely a strong working assumption and subject to considerable uncertainty. However, as we have shown, such a simple exercise leads to powerful insights regarding the likely evolution of the balance of power in global governance, the changing role of different currencies in the foreign exchange market, and challenges for stability within the euro area.

By 2020 the world will look substantially different. While currently the EU is the largest trading block in the world, controlling a third of world trade, by 2020 this will shrink to one quarter, with China on the EU's heels. The BRICs, collectively, will represent 34 percent of global trade, significantly more than the EU. China itself, excluding the other BRICs, will have a considerably larger share of world trade than the US.

The world trade shares of the top five euro-area economies, although with significantly different initial trading positions, are all predicted to fall. The speed of the fall will vary according to the country and will depend on the economy's trading performance in the last 10 years, as compared to the evolution of global trade. However, that is only part of the story. European countries tend to have quite different portfolios of trading partners, and this heterogeneity is quite likely to become more pronounced with time. When EMU was created, it was highly unlikely that 21 years later, anyone would have envisaged a world in which China, not France, would be Germany's number one trade partner.

This finding suggests that there is an important challenge for the effective functioning of the euro area. In principle, the single most important rationale for a currency union is that participating members

conduct most of their trade with each other. This obviously underlined the economic rationale for EMU, in particular because of the close trade links between the largest economies: France, Germany and Italy. But if it is the case, that for each of these, more and more of their trade will be with countries outside the euro area, the benefits of EMU are less clear cut and will decrease over time.

Moreover, in terms of OCA criteria, we highlight the fact that increasingly heterogeneous trade partners, combined with the mounting weight of exports in countries' GDP, augment the possibility of a heterogeneous macroeconomic shock hitting the euro area. Under this scenario, optimal monetary policy might differ as individual countries of the bloc find themselves at different points of the business cycle. The benefits of sharing a common currency would then be reduced.

All in all, what it certainly means is that if European policymakers genuinely wish for EMU to survive and indeed, become stronger, they have to ensure that it is more robust and adaptable to ongoing challenges, including the likelihood that trade with each other is going to be less important than conceived when EMU was created.

Moving to the implications for global governance, we have explained how, if the euro-area countries wish to maintain (indeed strengthen) the euro, then perhaps it might make sense for them to finally allow their global representation to be united. This notion has been aired before, but based on our global trade share projections, and the patterns of growth facing individual countries, it is going to be increasingly difficult for the euro-area member countries to maintain their current status.

At the same time, it would be presumably much more effective to have a 'new' G7 in which the euro-area members are represented as one. This would immediately make space for two other members in an exact G7, of which China would be clearly the most obvious choice. An ideal G7 as such would probably only really include the US, Japan and the euro area or alternatively the EU, from the so-called developed world, leaving plenty of space for other rising economies in addition to China. If such a revamped and more effective G7 could be established, it would pave the way for much easier reform of the IMF and World Bank and their voting rights and other issues.

If there were a more representative G7, it would immediately follow that the G20, close to its current membership group, could survive, although it would perhaps perform a less demanding role than it is currently. After its initial success, the G20 – which includes more than 20 countries already – has come to be seen as too cumbersome to be truly effective, though it is more representative. As such, a

smaller, equally representative G7 could be more effective than the representative but cumbersome G20.

The inability or lack of desire of European countries to give up their voting power and seats is acknowledged. However, key countries should spend more time thinking about what might happen if they do not volunteer such moves. To be more specific, it would probably mean that the institutions that they dominate become less and less important to those countries that are excluded.

It is clear from the pattern of 2001-10 trade and our projections up to 2020 that if the global monetary system is at all supposed to reflect of global trade, the role of the RMB needs to increase. In this respect, what the IMF chooses to decide when the mandated review of the components of the SDR is necessary by the end of 2015 will be highly illustrative. If the RMB becomes part of the SDR basket, it would also open the door to the participation of some other currencies, and this might lead to a fresh debate about whether the SDR itself might play a much stronger role in the global monetary system, rather than just be an accounting currency for the IMF and its settlements.

## 5. Appendix

### 5.1 Alternative extrapolation techniques

As discussed in Section 2.2, in our baseline scenario we extrapolate trade patterns up to 2020 by assuming the trends observed in the past 10 years (2003-2012) will broadly continue. To do so, we compute the average yearly growth of trade (in USD) over the period 2003-2012 and then assume constant growth at this decennial average rate until 2020.

As Table 6 below shows, projected trade shares in 2020 do not heavily rely on the past window used for the extrapolation. In the case of the BRICs, for example, the projected share of world trade commanded by 2020 oscillates between 30.5% and 32.6%, using 17-year and 12-year averages, respectively.

**Table 6: Share of world trade under alternative assumptions**

|   | 2011 | 2020f |      |      |      |      |
|---|------|-------|------|------|------|------|
| <i>past window used for projections</i> |      | 10*   | 12   | 15   | 17   | 20   |
| BRICs                                   | 15.6 | 31.1  | 32.6 | 30.9 | 30.5 | 30.7 |
| China                                   | 9.7  | 22.2  | 23.4 | 22.6 | 22.6 | 23.5 |
| European Union                          | 34.3 | 22.8  | 25.2 | 26.0 | 26.0 | 26.5 |
| France                                  | 3.6  | 2.1   | 2.3  | 2.4  | 2.4  | 2.4  |
| Germany                                 | 7.7  | 5.6   | 6.1  | 6.2  | 6.0  | 6.0  |
| OECD members                            | 60.6 | 50.5  | 51.6 | 53.6 | 54.1 | 55.3 |
| United Kingdom                          | 3.7  | 2.1   | 2.4  | 2.5  | 2.7  | 2.7  |
| United States                           | 10.7 | 7.6   | 7.6  | 8.8  | 9.4  | 9.7  |

Source: World Bank, Bruegel calculations. \* baseline scenario.

We have also considered the possibility that past trends could slow down as we approach the end of this decade, as hinted at in Section 2.2. We have thus used the same extrapolation technique, assuming however half-trend growth over the period 2013-2020. The results for selected countries and country groupings are detailed below.

**Table 7: Share of world trade under alternative assumptions**

|                | 2010 | 2015f           |                   | 2020f           |                   |
|----------------|------|-----------------|-------------------|-----------------|-------------------|
|                |      | <i>baseline</i> | <i>half-trend</i> | <i>baseline</i> | <i>half-trend</i> |
| BRICs          | 14.6 | 20.4            | 18.1              | 31.1            | 22.6              |
| China          | 9.1  | 14.0            | 11.8              | 22.2            | 15.2              |
| European Union | 34.9 | 26.6            | 29.4              | 22.8            | 27.2              |
| France         | 3.6  | 2.6             | 2.9               | 2.1             | 2.6               |
| Germany        | 7.7  | 6.2             | 6.8               | 5.6             | 6.4               |
| Italy          | 3.0  | 2.1             | 2.4               | 1.7             | 2.1               |
| Netherlands    | 3.1  | 2.4             | 2.6               | 2.1             | 2.4               |
| Spain          | 2.1  | 1.6             | 1.7               | 1.3             | 1.6               |
| United Kingdom | 3.8  | 2.7             | 3.1               | 2.1             | 2.7               |
| United States  | 11.2 | 9.2             | 9.9               | 7.6             | 8.9               |

Source: World Bank, Bruegel calculations.

Alternative extrapolation techniques were also explored. In particular, we consider a fitted exponential model to project trade trends up to 2020. The results for selected countries and country groupings are detailed below.

**Table 8: Share of world trade under alternative assumptions**

|                | 2010 | 2015f           |            | 2020f           |            |
|----------------|------|-----------------|------------|-----------------|------------|
|                |      | <i>baseline</i> | <i>exp</i> | <i>baseline</i> | <i>exp</i> |
| BRICs          | 14.6 | 20.4            | 20.5       | 31.1            | 30.1       |
| China          | 9.1  | 14.0            | 13.5       | 22.2            | 20.5       |
| European Union | 34.9 | 26.6            | 28.2       | 22.8            | 23.2       |
| France         | 3.6  | 2.6             | 2.7        | 2.1             | 2.1        |
| Germany        | 7.7  | 6.2             | 6.6        | 5.6             | 5.7        |
| Italy          | 3.0  | 2.1             | 2.2        | 1.7             | 1.7        |
| Netherlands    | 3.1  | 2.4             | 2.5        | 2.1             | 2.2        |
| Spain          | 2.1  | 1.6             | 1.6        | 1.3             | 1.3        |
| United Kingdom | 3.8  | 2.7             | 2.7        | 2.1             | 2.0        |
| United States  | 11.2 | 9.2             | 9.2        | 7.6             | 7.7        |

Source: World Bank, Bruegel calculations. Note: 10-year past windows used for both projection techniques.



In line with the analysis carried out for the baseline scenario, we also illustrate how world trade shares projected using an exponential model vary depending on the past-window used for the projection.

**Table 9: Share of world trade under alternative assumptions**

|   | 2011 | 2020f |      |      |      |      |
|---|------|-------|------|------|------|------|
| <i>past window used for exp projections</i> |      | 10    | 12   | 15   | 17   | 20   |
| BRICs                                       | 15.6 | 30.1  | 34.2 | 35.4 | 33.8 | 31.5 |
| China                                       | 9.7  | 20.5  | 22.9 | 24.2 | 23.7 | 23.4 |
| European Union                              | 34.3 | 23.2  | 29.0 | 32.3 | 33.9 | 34.7 |
| France                                      | 3.6  | 2.1   | 2.6  | 2.8  | 3.0  | 3.1  |
| Germany                                     | 7.7  | 5.7   | 7.0  | 7.6  | 7.8  | 7.6  |
| OECD members                                | 60.6 | 51.0  | 52.4 | 54.7 | 56.6 | 59.1 |
| United Kingdom                              | 3.7  | 2.0   | 2.5  | 2.9  | 3.2  | 3.5  |
| United States                               | 10.7 | 7.7   | 7.4  | 8.3  | 9.3  | 10.3 |

Source: World Bank, Bruegel calculations.

Finally, we fitted our data with an OLS model, which was then used to project trends up to 2020. The results for selected countries and country groupings are detailed below. Given the fundamentals of change analysed in Section 2.1, we attach a very low probability to this scenario, which effectively implies little or no change in the *status quo* over the period 2010-2020.

**Table 10: Share of world trade under alternative assumptions**

|                | 2010 | 2015f           |            | 2020f           |            |
|----------------|------|-----------------|------------|-----------------|------------|
|                |      | <i>baseline</i> | <i>OLS</i> | <i>baseline</i> | <i>OLS</i> |
| BRICs          | 14.6 | 20.4            | 16.0       | 31.1            | 17.2       |
| China          | 9.1  | 14.0            | 9.8        | 22.2            | 10.6       |
| European Union | 34.9 | 26.6            | 32.7       | 22.8            | 31.3       |
| France         | 3.6  | 2.6             | 3.3        | 2.1             | 3.0        |
| Germany        | 7.7  | 6.2             | 7.5        | 5.6             | 7.3        |
| Italy          | 3.0  | 2.1             | 2.7        | 1.7             | 2.5        |
| Netherlands    | 3.1  | 2.4             | 2.9        | 2.1             | 2.8        |
| Spain          | 2.1  | 1.6             | 1.9        | 1.3             | 1.8        |
| United Kingdom | 3.8  | 2.7             | 3.3        | 2.1             | 3.0        |
| United States  | 11.2 | 9.2             | 10.3       | 7.6             | 9.8        |

Source: World Bank, Bruegel calculations. Note: 10-year past windows used for both projection techniques.

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