Assessment of global megatrends — an update

Global megatrend 6: An increasingly multipolar world

European Environment Agency

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Europe is bound to the rest of the world through an enormous number of systems — environmental, economic, social, political and others. Such networks enable complex flows of materials and ideas across the globe, producing uncertain feedbacks and knock-on effects over time. Greenhouse gas emissions in Europe today can affect the climate in distant locations and far into the future. Land management choices on the other side of the world can influence food and energy prices in Europe. Global communication and trade networks fuel innovation — sometimes boosting efficiency, sometimes creating new environmental pressures.

Most of these interactions are intimately linked and set to unfold over decades. All are likely to have important implications for living standards and well-being.

The European environment's status, trends and prospects have always depended in part on events outside its borders. Yet the growing importance of global networks and flows has augmented this interdependence, creating complex challenges for traditional governance systems framed within national or regional territories. To design effective ways to manage the environmental changes ahead, societies and governments need to understand the global drivers at work and their potential implications.

With this challenge in mind, the European Environment Agency in 2010 produced its first assessment of emerging global trends as part of its five-yearly flagship report on the European environment's state and outlook (SOER 2010). The exploratory analysis summarised 11 global megatrends grouped into five clusters — social, technological, economic, environmental and governance. Introducing the issues succinctly, it sought to trigger a discussion about how Europe should monitor and assess future changes in order to better inform environmental policymaking.

In preparation for its next report on the European environment's state and outlook (SOER 2015), the EEA has initiated an update of the assessment of global megatrends, analysing each of these drivers in a little more detail than previously in terms of their impacts on the European environment and well-being. During the second half of 2013 and early-2014, the EEA is reassessing the 11 megatrends and publishing the updates separately on its website. In 2014 the chapters will be consolidated into a single EEA technical report and will provide the basis for the analysis of megatrends included in SOER 2015. The present chapter addresses megatrend 6: 'An increasingly multipolar world'.

Again, it needs to be emphasised that the complexity of highly interconnected human and natural systems introduces considerable uncertainty into projections and forecasts. As much as anything, the assessment of megatrends aims to encourage readers to acknowledge this interdependence and uncertainty. In so doing, it may help point the way towards systems of planning and governance better adapted to meeting the challenges ahead.

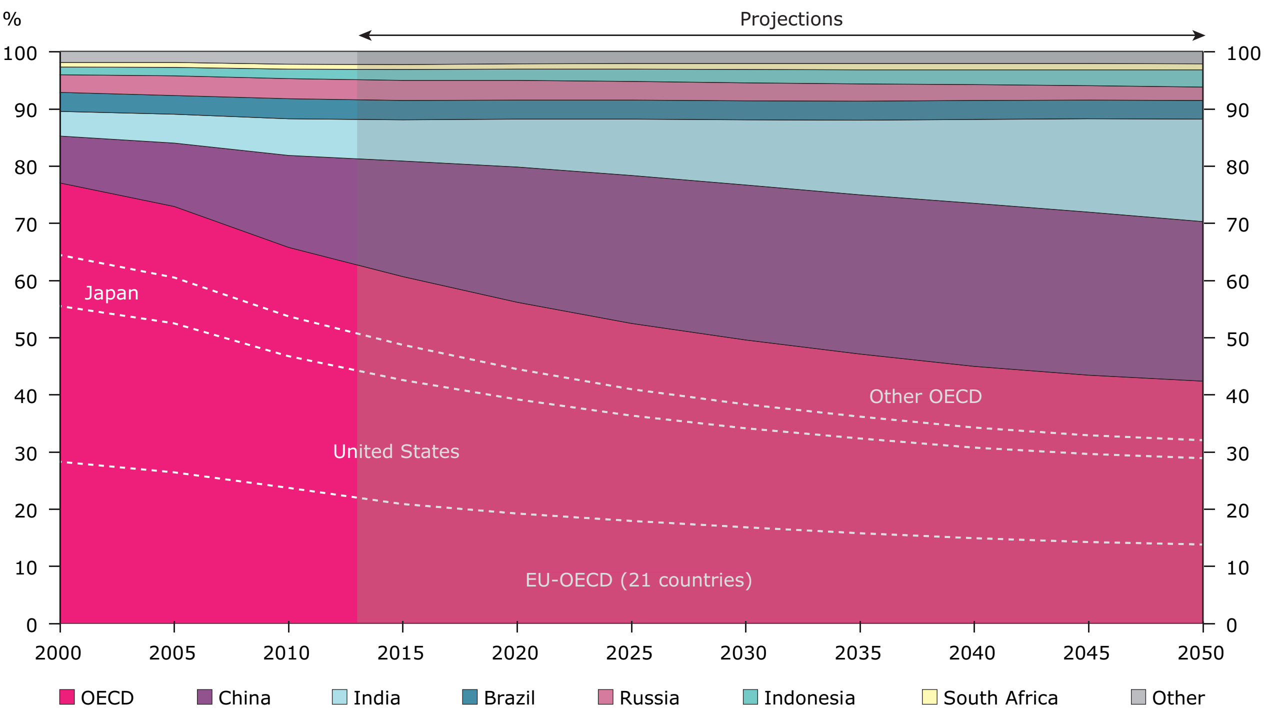
Global megatrend 6
From a unipolar to a multipolar world

Globally, economic power is shifting. In the last century or two, a relatively small number of countries, together accounting for about a fifth of the world population, have dominated global economic production and consumption. Today, a significant rebalancing of power is under way, with Asian countries coming to the fore.

Economic and demographic projections suggest that the influence of today's wealthiest economies will continue to lessen as other countries and regional power blocs become increasingly important — economically, politically and diplomatically. As global interdependence and trade expands, Europe has opportunities to benefit from improving its resource efficiency and knowledge-based economy.

Projections of the composition of global GDP underline the increased economic significance of today's developing and emerging economies. Organisation for Economic Co-operation and Development (OECD) estimates (based on PPP-adjusted 2005 US dollars) indicate that the contribution of its current member states to global GDP will decline significantly — from 77 % in 2000 to 50 % in 2030 and 42 % in 2050 (Figure 6.1). The EU share in global output is projected to drop by more than half between 2000 and 2050, falling from 28 % to 14 %. The US and other non-European OECD countries will face comparable declines (OECD, 2013).

Figure 6.1 Composition of global GDP

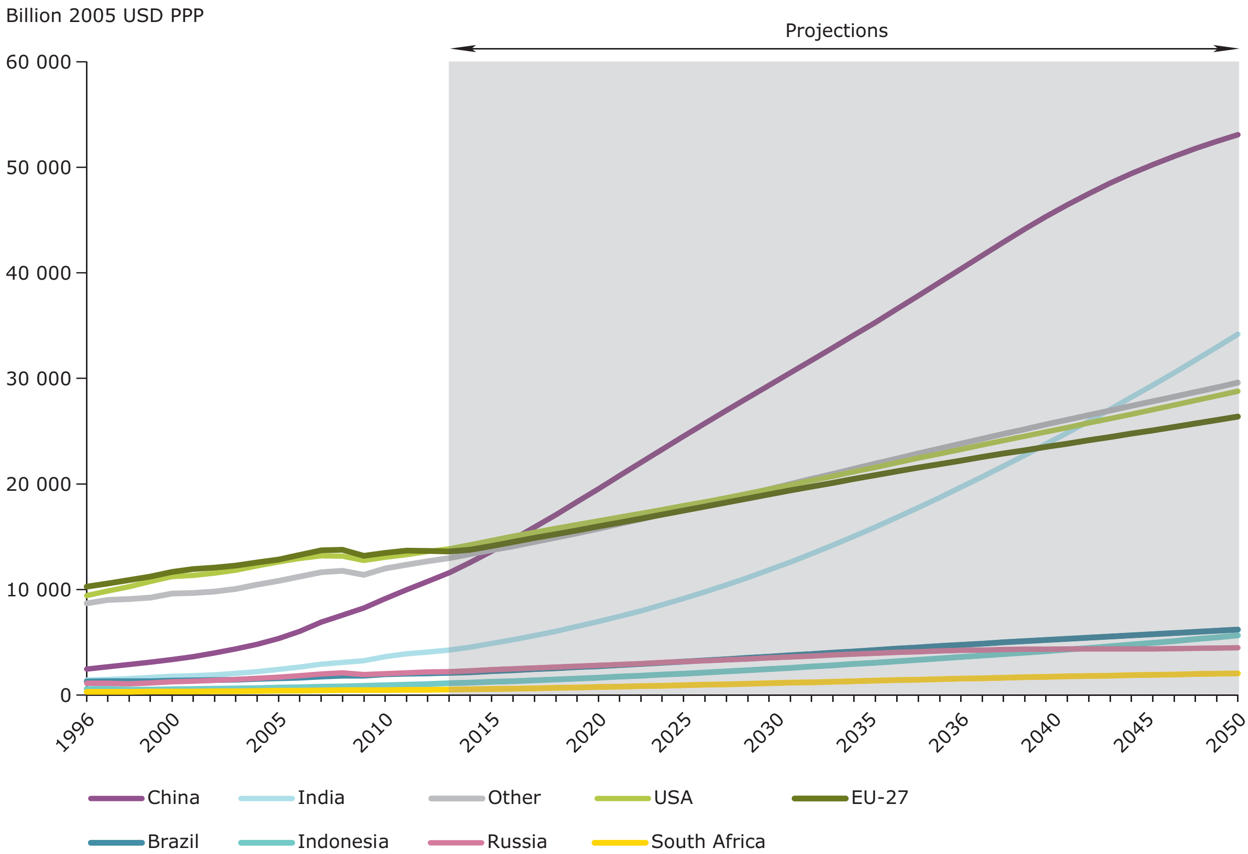


Note: The figures presented are percentages of global GDP, based on PPP-adjusted 2005 USD.

Source: OECD, 2013.

([1]) The global middle class is defined by Kharas (2010) in absolute terms as households with available funds of between USD 10–100 in purchasing power parity per capita per day. See also GMT 2 Living in an urban world, for further discussion on this issue.

Figure 6.2 Past and projected GDP in the EU, the US and BRIICS countries and other countries, 1996–2050



Source: OECD, 2013.

Box 6.1 What is driving the shift to a multipolar world?

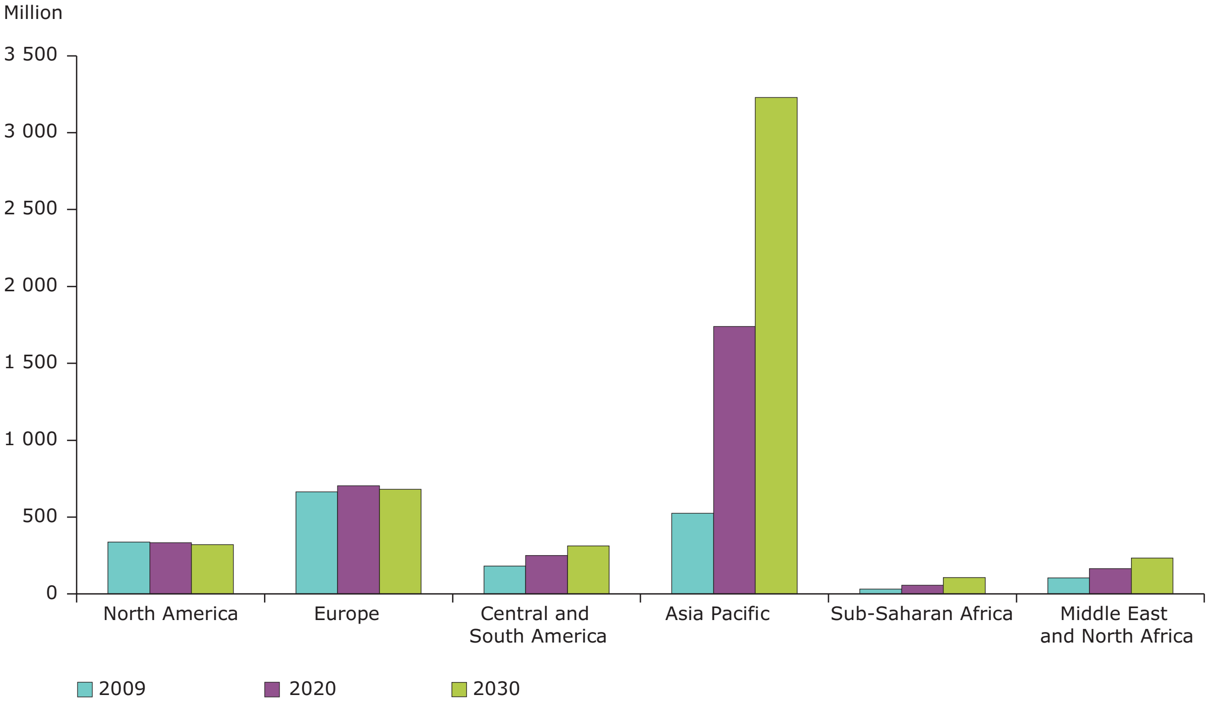
The global shift of economic power from advanced economies to emerging economies is largely a result of the relative increase in productivity and income growth. The drivers underpinning these trends match those underlying economic growth generally: population growth, technological innovation, accumulation of skills, favourable economic policies and institutions, and integration of markets at the regional and global levels (Maddison, 2001).

As illustrated in Figure 6.2, the OECD projects that economic expansion in China and India will dwarf growth in the world's other major economies. China is projected to have the world's largest economy (in PPP terms) by 2017, although its share of global GDP is expected to wain slightly after 2045. India is projected to achieve a similar increase from a significantly smaller base, with its share of global economic output rising from 4.3 % in 2000 to 18 % in 2050.

Rapidly expanding global middle class

Global economic growth is expected to bring major demographic changes. The middle class ([1]) is set to expand hugely in coming decades, increasing from 27 % of the world population of 6.8 billion in 2009 to 58 % of more than 8.4 billion in 2030, according to OECD projections (Kharas, 2010) (Figure 6.3). The data reveal a particularly significant increase in the middle class in the Asia-Pacific region,

Figure 6.3 Middle class population by world regions, 2009, 2020 and 2030



Source: Kharas, 2010.

rising from 28 % of the total world middle class population in 2009 to 66 % in 2030. This is in contrast to the situation of the middle class in developed countries where the projections point towards a slight drop in the absolute numbers in North America and a more or less constant number of people belonging to the middle class in Europe. The expected developments will clearly have implications for the environment since middle class consumption patterns are typically resource-intensive. At the same time, a growing middle class is also associated with evolving attitudes and societal values.

Growing integration of global markets

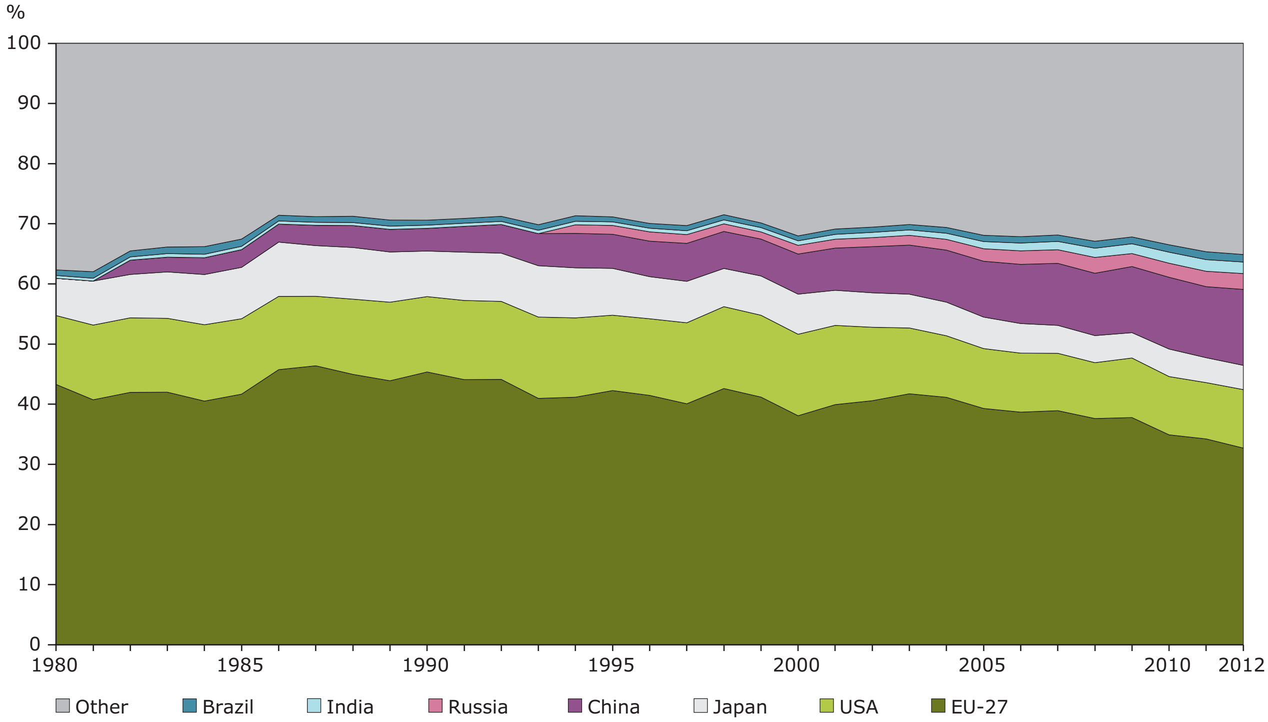
Continuing globalisation and the increasing importance of emerging countries as both producers and consumers in the world economy are also apparent in world trade data. Trade and market liberalisation (through regional integration and the formation of the General Agreement on Tariffs and Trade (GATT) and later the World Trade Organisation (WTO)) have been major drivers here, facilitating cuts in tariffs and the removal of non-tariff barriers to trade. The average level of tariffs on manufactured products in industrial countries dropped from 45–50 % in 1948 to an average of about 3 % in 2009 (Krueger, 2009).

World exports grew at an average rate of 7.9 % per year between 1990 and 2011, whereas global GDP increased by about 5.5 % (in nominal terms) per year in this period (World Bank, 2013). The financial crisis of 2008–2009 had only a temporary effect on export volumes, as the most recent data indicate that trade has almost reached pre-crisis levels.

As illustrated in Figure 6.4, the largest advanced economies have become less dominant in world trade, with China in particular emerging as a major exporter in the three decades up to 2012. Despite declining since 1982, the EU still accounted for almost a third of international trade in 2012, although a substantial proportion of that constituted intra-EU trade. If such trade is excluded then the value of EU imports and exports are comparable in scale to those of China and the US (Figure 6.5).

Recent data underline the importance of trade between developing countries. Such exports grew by 19 % per year on average between 2001 and 2010, compared to a growth rate of 12 % for total world exports. By far the biggest share of trade between developing countries (more than 80 %) originates

Figure 6.4 National or regional exports as a percentage of total global exports (current USD and exchange rates)



Note: Due to the absence of national data before 1994, figures for Russia for 1982–1993 are included in the 'Other' group. South Africa and Indonesia accounted for less than 1 % of global exports in 2012.

Source: UnctadStat, 2013.

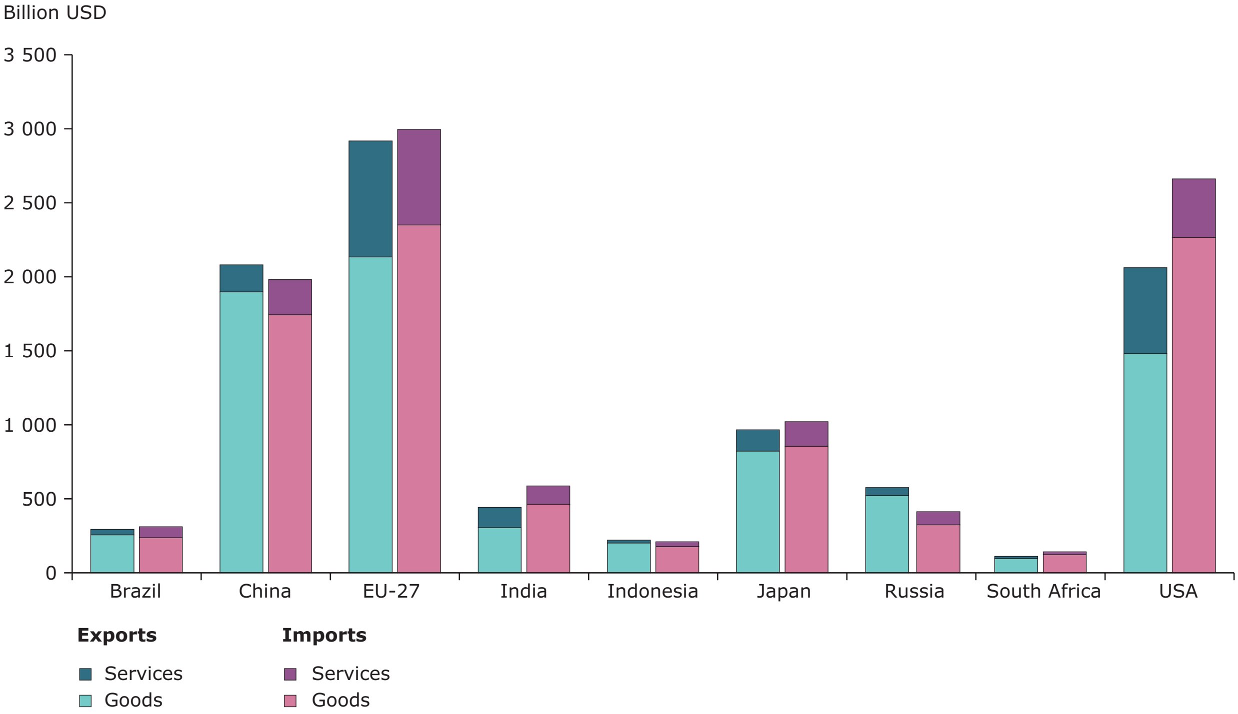
in Asia, underlining this region's growing economic importance (UNEP, 2013).

Integration into the world economy can also be measured by examining 'trade openness' — the dependence of domestic producers on foreign markets and the reliance of domestic demand on imports, quantified as the ratio of aggregate imports and exports to GDP. As illustrated in Figure 6.6, global trade openness has increased markedly in the last three decades, with particularly significant increases in China and India, from around 15 % of GDP in 1980 to more than 50 % in 2012.

The EU-27 is very open to trade, although again these figures include trade within the bloc. Focusing only on external trade, the EU figure drops to the same level as Japan and the US in 2011 (World Bank, 2013). External trade thus appears to plays a proportionally much larger role in the economic output of the BRIICS countries (other than Brazil) than the advanced economies shown here — a reality that reflects the very different economic structures of those countries. Services tend to play a substantially larger role in GDP in advanced economies (accounting for approximately three-quarters of EU economic output (CIA, 2013)) and few are traded across borders in significant quantities. In contrast, comparatively low labour costs have enabled the major developing economies to establish themselves as manufacturing bases for consumers globally, often importing raw materials and exporting finished products.

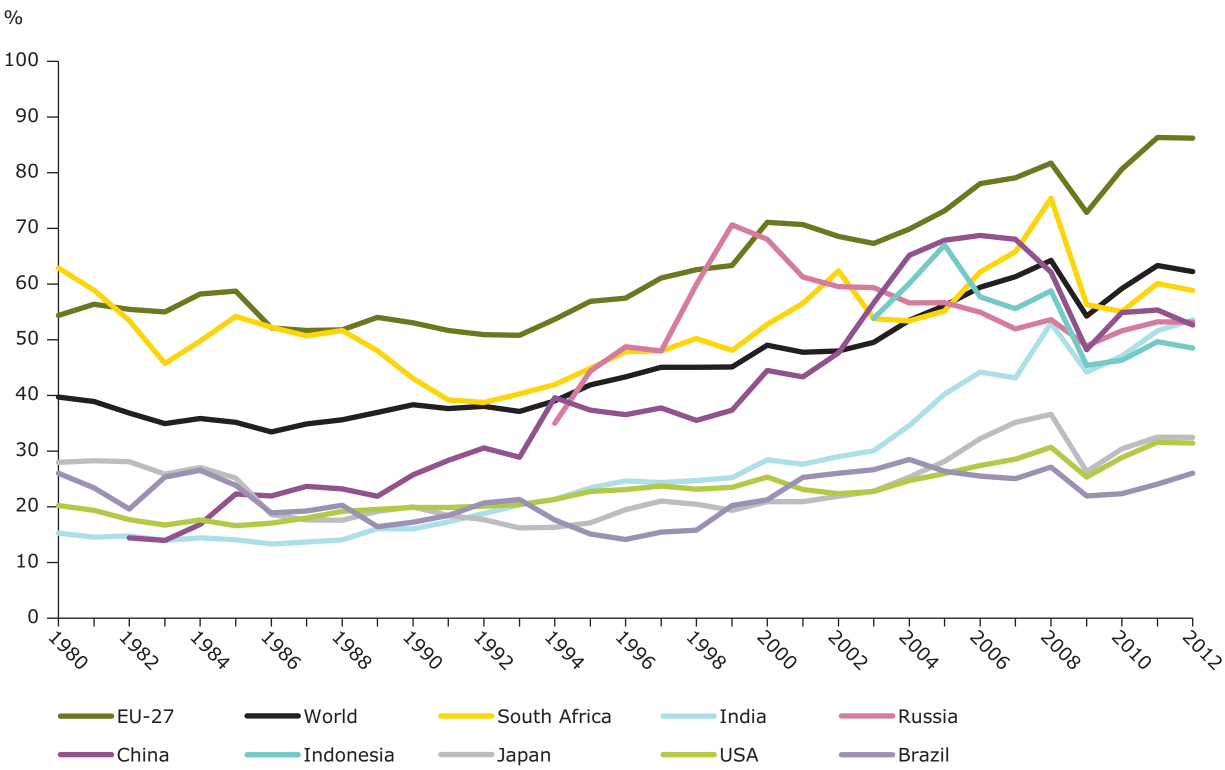
Looking ahead, it appears likely that the extent of global trade, its origins and destinations will continue to undergo substantial shifts. For example, as China's economy develops, domestic consumption is likely to play an increasingly important role and as a driver of growth, with services contributing more to output. Already, increased wage costs in China have resulted in the relocation of some labour-intensive manufacturing industries to countries with lower wages such as Bangladesh, Indonesia and Vietnam (FT, 2012). Projections of wage costs and changes in productivity are subject to much uncertainty but outsourcing to manufacturing companies outside China (e.g. Thailand, Malaysia or Vietnam) may become increasingly attractive for multinational companies (Accenture, 2011).

Figure 6.5 Imports and exports of selected countries and regions, 2011



Source: WTO, 2012.

Figure 6.6 Trade openness — exports and imports relative to GDP between 1980 and 2012



Source: UnctadStat, 2013.

Such trends may mean that China's trade openness recedes somewhat towards advanced economy level in coming decades. It is clear, however, that the scale of expected economic growth (Figure 6.2) and the expansion of the middle class are likely to underpin a substantial increase in trade flows to and from the country in coming decades.

The importance of regional power blocs and trade regimes

Regions differ in how far they have liberalised trade and developed trading blocs. Since the 1990s East Asian countries have been progressing towards an economic union, starting with multilateral free trade agreements (FTAs) between the members ([2]) of the Association of Southeast Asian Nations (ASEAN) in 1992. This process expanded shortly afterwards to encompass ASEAN and China, Korea, and Japan (ASEAN+3).

In 2003, the goal was set to create an ASEAN Economic Community by 2020. Free trade agreements with Australia and New Zealand were signed in 2009. At the beginning of 2013, the ASEAN member countries started negotiations with Australia, China, India, Japan, New Zealand and South Korea on establishing a Regional Comprehensive Economic Partnership. Parallel to this, regional cooperation progressed in South Asia ([3]) and the Gulf region ([4]) and in 2002 the Asia Cooperation Dialogue (ACD) was created to promote Asian cooperation at a continental level with the ultimate goal of transforming the continent into an Asian Community.

In Africa several regional economic communities form the basis for the proposed African Economic Community (AEC). These regional blocs have the stated intention of becoming an economic and monetary union by 2028, and have progressed towards this goal at varying speeds. In the Americas, the process of regional integration has so far reached the level of free trade areas (e.g. North American Free Trade Agreement (NAFTA) and the Latin American Integration Association (LAIA) ([5]). In 1991 Mercosur (Southern Common Market) was established with the purpose of promoting free trade and movement of goods, people and currency between the member states as well as the coordination of macroeconomic and sectoral policies ([6]).

Box 6.2 Key uncertainties in the shift to a multipolar world economy

A variety of uncertainties surround the continuing shift towards a more balanced global economy. These include concerns about the ability of emerging economies to secure access to key resources under changing scarcity patterns and to maintain or gain an additional competitive edge vis-à-vis the advanced economies. As with the issue of economic growth more broadly, it is also unclear whether technological innovation will proceed fast enough to sustain economic growth despite increasing resource prices.

Socio-political developments in developing countries (for example democratic processes, growing income disparities, and potential ethnic conflicts) are very hard to anticipate, as are the effects of shortages of skilled labour due to demographic changes (e.g. migration and ageing).

In terms of international relations, uncertainty surrounds the ability of emerging countries to develop economic cooperation mechanisms and undertake further economic integration, which could bolster their position on the global stage. The last and perhaps most important uncertainty concerns geopolitical stability and the absence of military conflicts.

([2]) ASEAN's first members were Indonesia, Malaysia, the Philippines, Singapore and Thailand. Since then, membership has expanded to include Brunei, Burma (Myanmar), Cambodia, Laos, and Vietnam.
([3]) The South Asian Association for Regional Cooperation (SAARC) is an economic and political organisation established on 8 December 1985 by Bangladesh, Bhutan, Maldives, Nepal, Pakistan, India and Sri Lanka.
([4]) The Gulf Cooperation Council is a political and economic union involving the six Arab states of the Persian Gulf with many economic and social objectives.
([5]) NAFTA's members are Canada, Mexico and the US. LAIA's members are Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Paraguay, Peru and Uruguay and Venezuela.
([6]) The member states of Mercosur are Argentina, Brazil, Paraguay, Uruguay and Venezuela as well as Bolivia which became accessing member in December 2012.

Economic integration in Europe is comparatively advanced. A system of economic and monetary union has been in place for several decades, with an internal market more recently accompanied by the a single currency for many EU Member States. In spring 2013 the US and the EU agreed to launch a round of negotiations to create a new free trade agreement, the Transatlantic Trade and Investment Partnership (TTIP), in anticipation that it would boost economic output and create thousands of new jobs on both sides of the Atlantic.

Developing countries emerge as key destinations and sources of investment

Foreign direct investment (FDI) is of considerable importance for the world economy, particularly in terms of facilitating economic progress in developing and emerging economies. This is because, in addition to financing the development of productive capital in a recipient country, FDI is often associated with the diffusion of technologies, skills, institutions and management expertise.

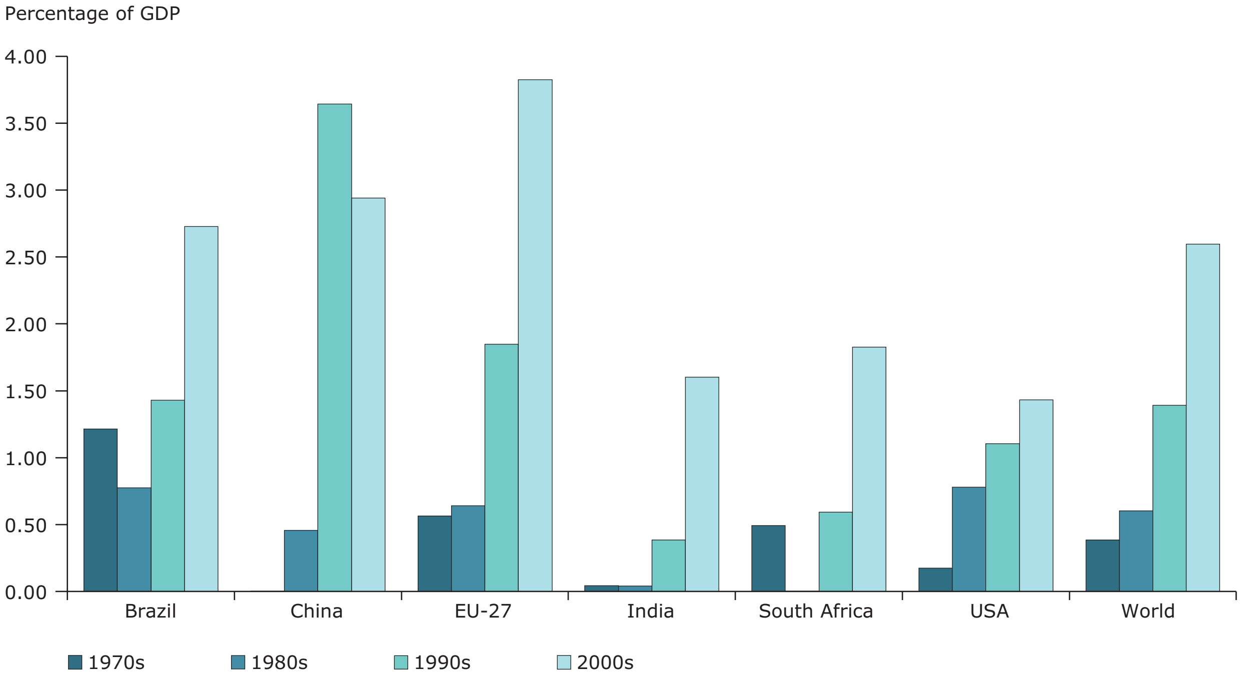
As illustrated in Figure 6.7, FDI has expanded enormously in recent decades, from 0.4 % of world GDP in the 1970s to 2.6 % in the 2000s.

As in the case of trade, the global economy has become slightly more balanced in recent decades in terms of the origins of investment. Advanced economies have become less dominant, with the combined contribution of the US, EU-27, EFTA and Japan declining from almost 100 % in the early 1970s to 60 % in 2012 (Figure 6.8). China and Russia in particular have come to the fore as important investors in the last two decades.

Why is the redistribution of economic influence important for Europe?

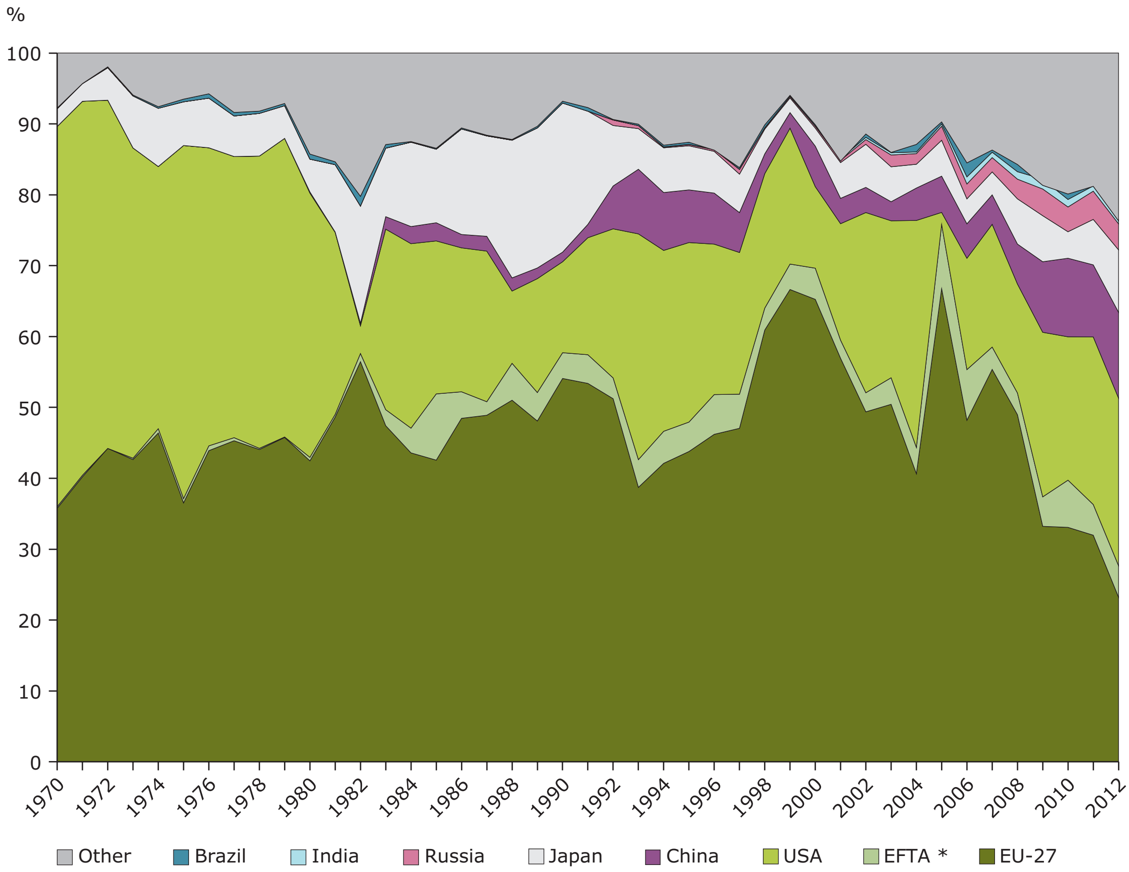
Variance in growth rates and economic restructuring linked to increasing wealth are set to shift global economic patterns. Countries and blocs will lose and gain competitive positions. Trade relationship will adjust and trade will become more diversified. This may fundamentally influence the way Europe conducts its economic activities, and where and how it earns income — with important economic, social and environmental consequences. More balanced, multipolar global growth may lead to a more resilient world economy, less vulnerable to boom and bust in a few wealthy economies. Equally, however, the integration of financial markets

Figure 6.7 Foreign direct investment, net inflows



Source: UnctadStat, 2013.

Figure 6.8 **Net foreign direct investment outflows by source country or region, 1970–2012**



Note: * EFTA — European Free Trade Association.

Source: UnctadStat, 2013.

globally creates obvious interdependencies and risks of contagion.

Emerging economies have competitive advantages in low-skilled, labour-intensive production and gain further when they build up their capital stock and increase the quality of their products (i.e. increase productivity). While this potentially affords Europeans access to relatively cheap imports, it clearly creates a competitive challenge. This can put downwards pressure on wages for low-skilled workers. And even if Europe manages to enhance its already high labour productivity through technological innovation, it seems sure to lose its share in some world markets such as agricultural products and basic manufacturing.

On the other hand, a variety of factors suggest that Europe is well positioned to compete in the evolving economic order. First, the competitiveness of emerging economies is sure to adjust over time, as they become increasingly prosperous. Cost advantages may level out and disappear in the long-term if these countries do not boost their productivity, perhaps ultimately leading to the repatriation ('backsourcing') of some production to today's advanced economies.

Second, although advanced economies will face increasing competition in areas where they currently dominate (e.g. high-tech industries or financial services), the restructuring of emerging economies towards largely non-traded services as they become wealthier may alleviate some of this competitive pressure. Services accounted for approximately 45 % of China's GDP in 2012, against 80 % in the US (CIA, 2013).

Third, rapidly growing markets and the emergence of an enormous middle class in Asia potentially offer a substantial and wealthy customer base for exports in areas of European specialisation, such as luxury brands and scientific innovation. Certainly, Europe will need to find its own niche to maintain its income-earning capacity. Yet its relative resource poverty may lead to a more resource-efficient economic structure, leaning further towards profiling as a service economy. For example, with increasing purchasing power in emerging economies, Europe may become more and more attractive as a tourist destination.

Beyond competitiveness, the integration of global markets also creates concerns and opportunities related to the impacts of production and related governance issues. Globalised supply chains mean that consumers are extremely unlikely to comprehend the full social and environmental implications of their purchases. On the other hand, Europe's substantial consumer base means that it is arguably well placed to influence global governance of traded goods through its leadership in product standards and environmental policy. As Table 6.1 illustrates, Asian countries have been swift to adopt the EU's emission standards for road vehicles. Such issues are considered in more detail in GMT 11.

Table 6.1 Adoption of the EU's Euro emissions standards for road vehicles in Asian countries, 1995–2025

	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
EU	E1	Euro 2					Euro 3				Euro 4			Euro 5					Euro 6												
HK (a), China	Euro 1		Euro 2				Euro 3					Euro 4			Euro 5																
South Korea												Euro 4			Euro 5																
China (b)						Euro 1				Euro 2			Euro 3			Euro 4															
China (c)					Euro 1			Euro 2			Euro 3			Euro 4				Euro 5													
Singapore (b)	Euro 1						Euro 2																								
Singapore (d)	Euro 1						Euro 2					Euro 4																			
India (e)							Euro 1				Euro 2					Euro 3															
India (f)					E1	Euro 2					Euro 3					Euro 4															
Thailand	Euro 1						Euro 2			Euro 3								Euro 4													
Malaysia			Euro 1												Euro 2				Euro 4												
Philippines									Euro 1				Euro 2								Euro 4										
Vietnam													Euro 2										Euro 4					Euro 5			
Indonesia											Euro 2																				
Bangladesh (b)											Euro 2																				
Bangladesh (d)											Euro 1																				
Pakistan															E2 (b)		Euro 2 (d)														
Sri Lanka									Euro 1																						
Nepal							Euro 1																								

Note: (a) – Hong Kong.
(b) – Gasoline.
(c) – Beijing [Euro 1 (Jan 1999); Euro 2 (Aug 2002); Euro 3 (2005); Euro 4 (1 Mar 2008); Euro 5 (2012)], Shanghai [Euro 1 (2000); Euro 2 (Mar 2003); Euro 3 (2007); Euro 4 (2010)] and Guangzhou [Euro 1 (Jan 2000); Euro 2 (Jul 2004); Euro 3 (Sep-Oct 2006); Euro 4 (2010)].
(d) – Diesel.
(e) – Entire country.
(f) – Delhi, Mumbai, Kolkata, Chennai, Hyderabad, Bangalore, Lucknow, Kanpur, Agra, Surat, Ahmedabad, Pune and Sholapur.

Source: CAI, 2011.

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