



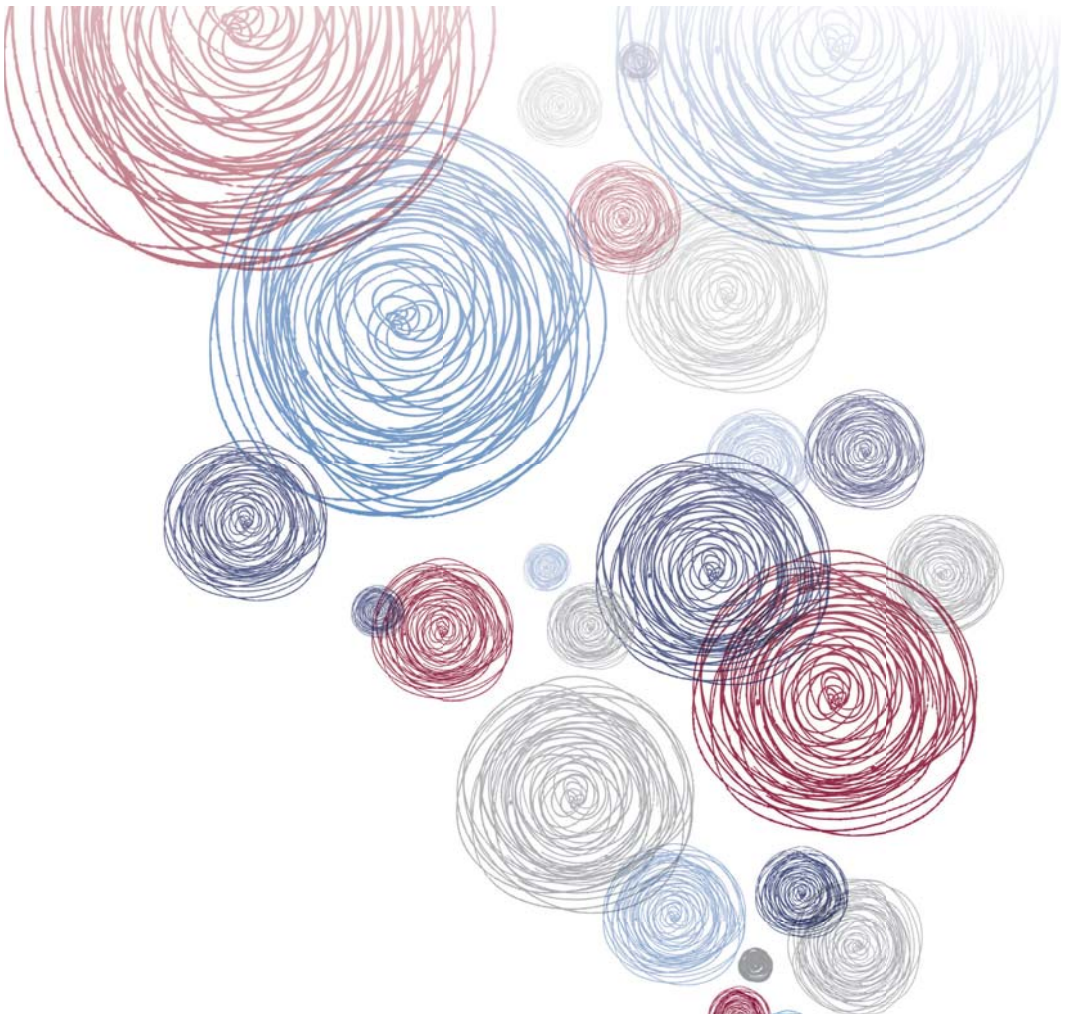
CHATHAM HOUSE



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THINK TANK FOR GLOBAL ACTION

Empowering Europe's Future: Governance, Power and Options for the EU in a Changing World

GIOVANNI GREVI • DANIEL KEOHANE • BERNICE LEE • PATRICIA LEWIS



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Preface

This Trend Report completes the FRIDE-Chatham House project on “Empowering Europe’s Future: Governance, Power and Options for the EU in a Changing World” carried out under strand 3 – Governance and Power – of the European Strategy and Policy Analysis System (ESPAS).

The Report builds on an extensive literature review, accompanied by a broad set of activities aimed at engaging a wide range of expertise and regularly testing the findings of desk research. These activities included four mutually reinforcing components (see also the Timeline of Activities in Annex 3).

First, five seminars were held in Brussels between February and September 2013, involving a variety of experts from Europe and beyond. Three seminars addressed major cross-cutting issues central to the research carried out for this project, namely “Sources of Power”, “The Changing Nature of Security” and “Features of 21st Century Governance”. The Interim Seminar in April and the Final Seminar in September provided the opportunity to discuss and enrich the findings of successive draft versions of the Report. The participation of the members of ESPAS Working Group 3 and of the ESPAS Task Force in these seminars, together with three other meetings with the Working Group, has greatly benefited the project.

Second, a survey of international expert opinion was carried out to explore and compile the perspectives of a group of academics, analysts and practitioners from a range of fields on issues relevant to the research work. The insights drawn from this exercise have informed and complemented the findings of desk research and the debates in seminars and workshops.

Third, the quality of the report has been tested by the members of the Review Panel who have provided very valuable intellectual input and feedback on the Interim Report in June and on the Draft Trends Report in early September. The members of the Review Panel were Cho Khong (Shell), Ivan Krastev (Centre for Liberal Strategies), Anne-Marie Slaughter (New America Foundation and Princeton University) and Constanze Stelzenmueller (The German Marshall Fund of the United States).

Fourth, three workshops were organised in June and July 2013, in Berlin (in cooperation with the Berlin Office of the German Marshall Fund of the United States), London and Paris (in cooperation with the Fondation pour la Recherche Stratégique) to reach out to a broader community of expertise including experts and practitioners in EU national capitals.

Executive Summary

Looking to 2030, global change will be occurring at an accelerated pace and in an unpredictable fashion. The world in 2030 will be a more fragile place due to the rise of economic interdependence, the diffusion of power, and the disruptive potential of technological innovation and extreme events. Ten years ago, for example, the SARS outbreak cost businesses \$60 billion – and caused the loss of about 2% of East Asian GDP. Vulnerability to unexpected events – such as the 2010 Icelandic ash-cloud or the 2011 Japanese tsunami – will only increase as global supply chains expose states and societies to the effects of political crises and disruptions, even in distant regions. Weak or rigid governance systems will increasingly struggle to respond to these trends.

In this less predictable world, power shifts will not be linear, not least due to the proliferation of domestic challenges in emerging economies. Whether they are in relative rise or decline, the risk may be that many governments become more introverted and less inclined to international engagement and compromise, as they cope with increasing turbulence at home. Conversely, a faster-changing world will offer wide-ranging options and new opportunities to more actors – both state and non-state – who are flexible and quick enough to seize them. Cities may lead efforts to reduce carbon emissions; smaller states, like Sweden, Singapore or Qatar, may shape international agendas and regional affairs through the use of technical leadership or coalition-building. Power shifts will not necessarily be a zero-sum game; the gains of some need not entail losses for others.

Governments, regional organisations and international institutions will struggle to cope with the twin trends of increased interdependence and greater fragmentation. With a larger range of influential state and non-state actors, managing complexity and setting political agendas will become more challenging at both the domestic and international levels. This could result in a deficit of leadership and governance on the global stage. Future influence in international affairs will depend on how state and non-state actors deploy their respective power assets. As power becomes more diffuse, it will also become more constrained, which will put a premium on the ability to partner and build political coalitions.

THE VULNERABILITY OF INTERDEPENDENCE

Deepening economic interdependence will heighten systemic vulnerabilities in the global economy and reshape geopolitics. Intensified South-South trade will bring new patterns of interdependence and contribute to a new balance of power. Meeting the needs of population growth and urbanisation by 2030 – in particular the consumer demands of

a burgeoning global middle class, which will account for over half of the global population by 2030 – will depend in part on the continuation of an open global trading system, which will however face serious challenges. The World Bank estimates that by 2025 climate change will cause 1.4 billion people across 36 countries to face crop or water scarcities. Insecure supplies of energy, food or water in many regions could inspire beggar-thy-neighbour politics, leading to protracted trade disputes, intra-state or regional conflicts. Several suppliers of raw materials, such as China and Indonesia, have introduced export controls as part of a broader shift toward more interventionist industrial policies.

A shift in power to the East – or at least a fast catch-up – is likely in the areas of military capacity, science and innovation. By 2030, the non-OECD world is projected to represent over half of global GDP, with China expected to overtake the US as the largest economy in the late 2020s. The US will remain the pre-eminent military power but, for budgetary, political and geo-strategic reasons, it may reduce its global military presence, or at least act more parsimoniously. China's defence spending looks set to overtake that of the US by 2030, but it is unclear whether this will imply a more global reach for the Chinese military, which has ongoing local security concerns. By then, the world may look increasingly tri-polar (China, EU, US) in terms of scientific output and R&D spending.

Dependence on fast-developing technologies, such as super-computing, synthetic biology and cyber- and space-based assets, will grow. Breakthroughs in basic and applied science will deliver change in all areas of everyday life by 2030 – in nanotechnology, biotechnology, advanced materials, robotics, automated manufacturing and information systems. Global internet data flows have increased by a factor of eight in the last five years and they will increase nearly fourfold in the next five years. Many countries possess space capabilities, and almost every country has a stake in space-based meteorological and communications assets. The general trend is toward ever-more connected and intelligent systems, which creates greater dependence on this electronic and space-based infrastructure.

CONFLICTS NEW, CONFLICTS OLD

Disruptive technologies threaten to diminish state control over the means of violence. Non-state actors, including individuals and small groups, will have increasingly better access to lethal and disruptive technologies such as precision-strike capabilities, cyber instruments and bioterror weaponry. Manufacturing methods such as 3D printing will make it easier for

new actors to produce lethal weapons. Civilian uses for technologies such as robots and drones will increase considerably, introducing the risk that they could be modified for violent use. Terrorism and transnational organised crime will remain serious challenges in 2030, given the ease with which non-state actors – ranging from criminal gangs to financial institutions – can exploit opportunities provided by the globalised economy and its easy means of transport and communications.

The risk of inter-state conflict will rise in the coming decades, while both intra-state and regional conflicts are expected to persist. The drivers of such conflict, including the disruptive effects of climate change, persistent economic and social inequality, mass migration, high and volatile commodity prices, and religious or ethnic divisions, will likely intensify in the future. Intra-state wars could spill over from one country to another, potentially disrupting energy supplies, blocking trade routes or exacerbating large inter-state power tensions. There are strong incentives for large powers to avoid direct military clashes and use non-military means of coercion, whether through cyber-attacks, economic sanctions or support for proxies. However, a major inter-state war before 2030 cannot be ruled out, particularly in regions of instability such as South Asia, North-East Asia and the Middle East. Plus, there is a risk that more countries will obtain – and use – nuclear weapons.

The geopolitics of access and denial will shift. To sustain or revive economic growth and to ensure political survival, most countries will need increasing access to resources, trade and technologies such as cyber- and space-based networks. However, the emerging geo-strategic context may create heightened tensions and new geopolitical flashpoints including blocked maritime straits, land grabs and territorial disputes. Resource-dependent rising powers, including China and India, are set to continue to increase their commercial, political and perhaps military presence beyond their immediate regions.

GOVERNANCE WITHOUT LEADERSHIP

The continuing redistribution of power may not be matched by a reassignment of responsibility from incumbents to newcomers. There is a risk that the power of denial, or veto, will grow stronger than the power to achieve results. This will require all actors, including the largest ones, to increasingly operate via networks and coalitions. Power skills may become more important than material assets in determining the future balance of power and the trajectory of different powers.

The coming decades will see the emergence of novel approaches to international governance and norm-setting, spearheaded by “coalitions of the committed” on specific issues, whether on climate change or nuclear security. The “West versus the Rest” paradigm

is unlikely to prevail since rising powers do not form a homogeneous and cohesive bloc, and countries align differently depending on the policy issue.

The growing number of actors will make international cooperation more difficult and less ordered. No single level or model of cooperation will prevail but various ones will intersect, which will complicate collective action but may also engender innovation. For example, some regional bodies may gain significance and influence. Effective international governance will therefore rest on collective bargaining among multiple influential actors, whether governments, companies, transnational networks or non-governmental organisations. Progress will depend on striking a balance between inclusiveness and effectiveness. New mechanisms are needed to leverage the legitimacy of international organisations, chiefly the UN, with the initiative and agility of smaller coalitions.

EUROPE'S OPTIONS IN AN UNCERTAIN WORLD

Current economic, demographic and military spending trends point to the downsizing of the EU's relative weight in the international system by 2030. However, only the US and perhaps China will have combined resources comparable to those of the Union (if taken as one) on a 2030 horizon. The gap between the demand and the supply of international cooperation may be widening. The EU will face a major challenge in trying to both temper geopolitical tensions and advance a rules-based global order.

The EU could become more a "super-partner" than a superpower. The EU's experience of managing rules-based integration uniquely positions it within a more interconnected and competitive global operating system. Managing a more congested and rapidly changing world implies developing new methods of political engagement. The EU may not evolve into a superpower in this emerging world, but by building on its strengths and experiences it could become a "super-partner" for other countries and regions, as well as with its own member-states. This would mean fostering a broader and more flexible diplomatic approach – covering a wide range of issues from trade and resource-management to climate, energy and security – based on cooperative rather than coercive power. It would also mean ensuring consistency between different levels of engagement (bilateral partnerships, coalitions, inter-regional groupings) in pursuing the EU's strategic goals.

The EU's ability to act autonomously where necessary and its agility to partner where possible will be equally important in determining its influence in its neighbourhood and beyond. In a polycentric world, the EU and the US have a strong mutual interest in fostering their strategic partnership; the conclusion of the Transatlantic Trade and Investment Pact (TTIP) may prove an important step in that direction. Concurrently, it will be important for the EU

to invest in deeper partnerships with a range of global and regional actors that will be major players in international affairs by 2030. These include China, India, Brazil and Japan, as well as key neighbours Turkey and Russia.

Patterns of European military spending point to the further reduction of EU capacity to provide for its own security and stabilise critical regions, especially in Europe's broad neighbourhood. Reductions in military power will further limit the effectiveness of autonomous EU action and hamper European ability to work with the US through NATO. Beyond pooling and sharing more of their military assets, European countries need to consider making more targeted investments in aerospace and naval capabilities, along with advanced technologies for communications, intelligence and surveillance.

The effectiveness of European external action will be most tested in its strategic neighbourhood. To the South, deficits in domestic political and economic governance, demographic expansion and severe resource stresses may combine with state power rivalries, conflicts and sectarian dynamics driven by both state and non-state actors. Turkey will play a critical role at the intersection of East and South, with scope for much cooperation with the EU. The Eastern neighbourhood faces the combined challenges of demographic decline and political and economic reform against the backdrop of geopolitical competition between Russia and Western actors. Across the strategic neighbourhood, the activism of middle powers and the engagement of other large global actors, notably China and India, will test the influence of the EU but also offer new opportunities for cooperation on shared challenges.

The EU could make a distinctive contribution to global security in a more multi-polar, unpredictable and interconnected world. Conflict-prevention may become a higher political priority in the future, given the persistence of state fragility and the spread of transnational challenges such as illicit trafficking and radicalisation. The EU could partner with key states, including middle powers, in developing plurilateral security negotiating forums. It could also deepen security dialogues with China, India and Brazil, alongside partners such as Japan and South Korea, on issues such as counter-piracy, cyber-security, maritime and resource security and state fragility. But Europeans will also need to invest in advanced technologies to shore up infrastructure resilience and guard against disruption.

The EU can take concrete steps to help its companies compete in the global marketplace. The EU can work to increase transparency by promoting the sharing of data on production, trade and stock levels for metals. It can also balance multilateral and bilateral trade relations to limit trade disputes. Both of these steps will help European companies stay competitive.

Global energy and climate security will be vital to the EU. This will require continued energy transformation within the EU as well as the creation of new alliances with other

importer and exporter countries. Investment decisions made in the next five years will shape energy, climate and resource pathways out to 2030. A pathway approach to future EU energy policy could help manage the risks inherent in new technologies and sources of energy; such an approach would involve early agreement on a clear set of binding 2030 targets for low-carbon energy and energy efficiency. Internal energy transformation will need to be matched by external diplomatic action. The EU could lead or help strengthen rules-based governance for energy resources; it could also be a leader in the multilateral climate negotiations, which aim to produce a comprehensive international agreement in 2015.

Future prosperity in Europe will depend on the EU's ability to become a technology powerhouse. Harnessing technological capability will depend on market regulation, business models and enabling infrastructure. With diffused innovation capacity, European companies will need to collaborate internationally in order to remain competitive. To bolster innovation in high-value manufacturing and services and to achieve sufficient scale and scope, European investment in R&D will need to rise toward the 3% of GDP envisaged by the Europe 2020 strategy. A risk management strategy could help the EU solidify its position as a technology powerhouse. Such a strategy would include early action to assess the risks and benefits of rapidly evolving and new technologies (such as 3D printers and autonomous vehicles) to ensure that effective regulation can be put in place. It would also entail engagement with trading partners and manufacturing countries to ensure that emerging global standards will reflect best practice.

The EU can be a pathfinder. Europeans will need unity of purpose to uphold their interests and values in the emerging world order. Given its emphasis on rules-based cooperation, the EU may appear to be an exception in a more competitive international system with more assertive powers. However, its experience of consensus-building will be a valuable asset in a world where power is more constrained and international actors are increasingly interdependent. By becoming a “super-partner” with a variety of state and non-state actors on a wide range of issues, the EU may prove to be a pathfinder in defining new rules and shaping the world ahead.

1. Interdependence, Complexity and Shifting Power

1.1. THE NEW AGE OF INTERDEPENDENCE AND SHIFTING POWERS

Globalisation and rising levels of interdependence among states have changed the nature of power – making it harder for individual states, including relatively powerful ones, to dictate the course of events even in their immediate geographical region. At the same time, globalisation has facilitated the rise of transnational communities and actors, while also hollowing out – and perhaps de-legitimising – nation-states. For all of these reasons, globalisation entails a fundamental transformation of world politics.

While it is generally accepted that globalisation has brought tremendous economic gains through trade, the diffusion of technology and economic specialisation, politically and socially it has also been disruptive and to some degree anarchic. States, and groups of states, have limited control over the pace and scope of globalisation, a process that has already upset national social contracts. And the governance of globalisation remains patchy; a handful of regimes have been established, only some of which have been successful.

Even as states have become more interdependent, there has been a fundamental redistribution of power at the global level. These two trends are expected to continue in the future but their pace and extent will depend on a range of factors – from domestic political challenges to the volatility of international markets. The evolution of the international order will be determined by the interactions amongst the growing number of actors in today's polycentric world (EUISS 2012).

Looking to the long term, many competing issues will likely dominate the international agenda. These include the efficacy of open markets, growing economic disparities, resource insecurity and other disruptions caused by climate change, the positive and negative impacts of technological innovation, the myriad risks facing fragile regions and the security of critical infrastructure. Whether and how major actors mobilise their assets to compete or cooperate on these issues will be critical.

It remains unclear if the continuing redistribution of power will be matched by a redistribution of responsibility to manage an increasingly fragile, globalised world. At the same time, this new age of interdependence offers more opportunities to more actors – whether state or non-state. Success in gaining influence on the global stage will depend on these actors' capacity to adjust to a more complex world and deploy their assets effectively.

BOX 1.1: A SELECTION OF KEY POWER ASSETS

Mapping the respective endowments or assets of different actors (including their trajectories) provides a starting point to understand the degree of power that those actors may wield in the coming decades. But any such exercise is far from straightforward. Linear extrapolations can be misleading, due not least to the new vulnerabilities (including the higher likelihood of contagion) brought about by the interconnected world. Moreover, any actor's capacity to project its power or shape global outcomes is a function of its ability to use and leverage its assets. The relative importance of any given asset can also change over time. For example, natural resource endowments can prove more or less relevant to national power depending on their extent (which the discovery or exhaustion of reserves can alter) and their centrality to the economy (which can vary with the advent of new technologies).

Demographic and social changes. When combined with rising income, demographic expansion can be a major engine of growth. By 2030, 97% of the world's population growth may take place outside the currently rich world. The EU, which accounted for 8.9% of the world's population in 1990 and 7.3% in 2010, will represent about 6% by 2030.

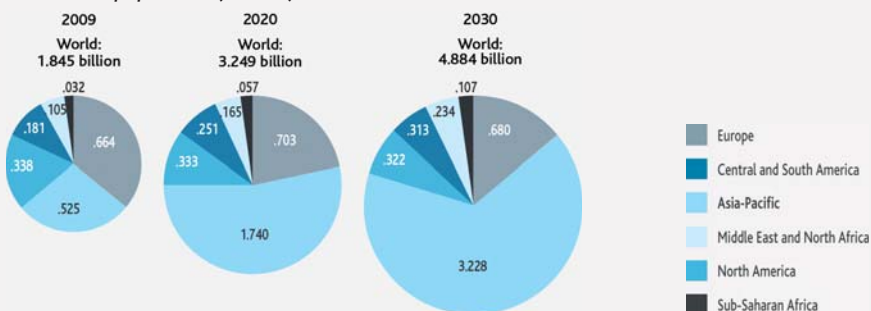
Growing workforces in youthful countries can either contribute to economic dynamism or become a destabilising factor if unemployment is high. In that regard, the quality of political and economic governance in such youth-dominated countries will be an important determining factor. Many states in the developing world will face mounting pressures to create jobs for their working-age population. Meanwhile, the more advanced economies (including China) will face the compound challenge of shrinking workforces and ageing populations.

The distribution of the global middle class will change dramatically in the next 20 years, with a clear shift to the east and south. Today, Asia accounts for about 25-28% of the global middle class; by 2020, this share may jump to 50%, corresponding to 40% of middle-class consumption globally. By 2030, Asia's middle class could represent about two-thirds of the global middle class and account for 60% of its consumption (OECD 2012).

Figure 1.1
Expected growth in middle class population to 2030 by region

Source: UNDP 2013

Middle class population (billions)

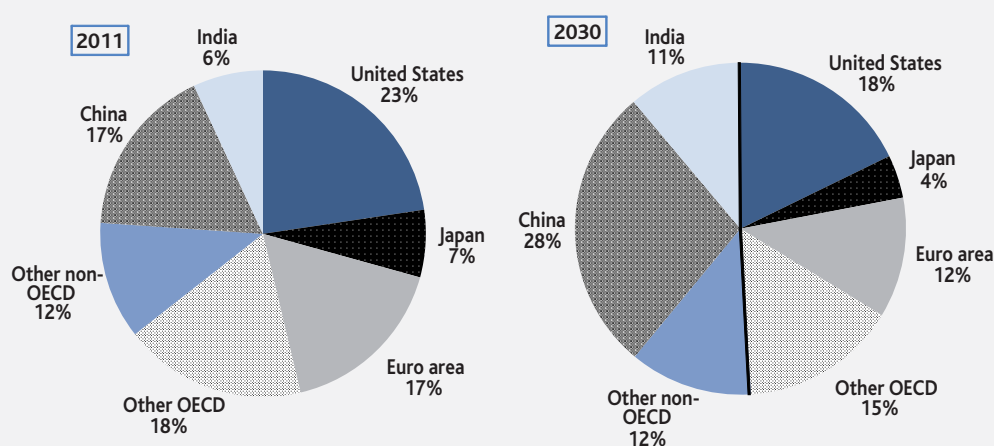


Economy. Economic growth in the next 20 years is expected to average 2.2% in the OECD, compared with almost 6% in the non-OECD world (OECD 2012). Other projections suggest that, within the same timeframe, North America will grow at an average annual rate of 2.5% and Western Europe at 1.8%, whereas developing Asia and Sub-Saharan Africa will average 5.5% and the Middle East and North Africa 4.7% (Kekic 2012). Estimates of respective shares of global GDP in 2030 sketch a broadly consistent picture, with the EU accounting for between 15% and 17% of global economic output (down from 29% in 2010), the US for 16% to 18% (26% in 2010), and China 23% to 28%, compared with 9% in 2010 (European Commission 2012b). The OECD projections described below fit this trend, showing the non-OECD world representing a slightly larger share of global GDP than OECD countries in PPP terms, with the Euro area falling from 17% to 12% between 2011 and 2030 (OECD 2012). However, as with all growth projections, these figures are inherently uncertain. For example, it is impossible to know whether China and other emerging economies will be able to maintain steady growth rates. Thus, a broad range of outcomes is possible by 2030.

Figure 1.2

Shares of global GDP in 2011 and 2030 for selected major economies

Source: OECD, Looking to 2060

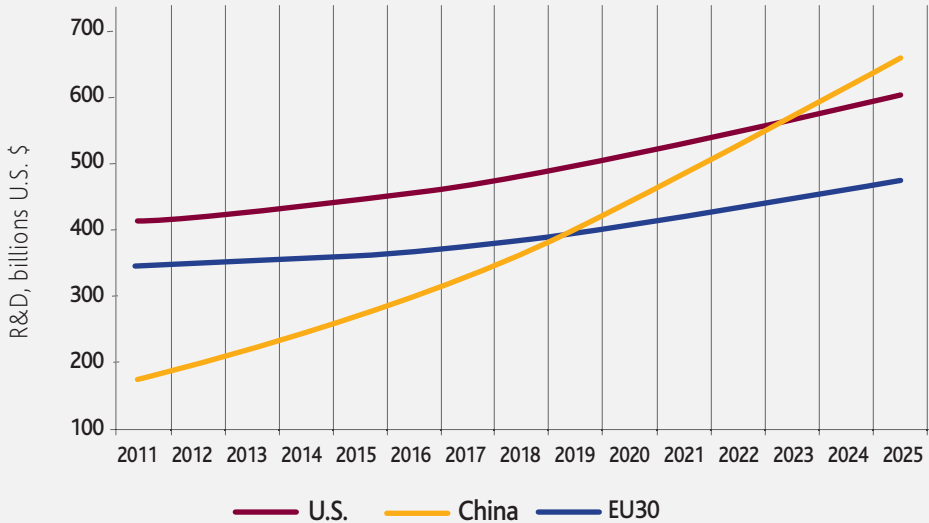


Science and innovation. A shift of power to the east – or at least a fast catch-up – is also evident in the area of science and innovation. Between 1995 and 2009 China's scientific publications grew by around 15% per year, lifting the country's share of global scientific output from 2% to 15%. High levels of annual increase have also been registered in South Korea, Taiwan and Singapore. The US accounted for 26% of global scientific publications in 2009 (down from 34% in 1995) and the EU for 32% (35% in 1995). It is also notable that Asian countries have been specialising in engineering, a field in which China's share of global scientific output is approaching that of the US (Veugelers 2013). The growth in scientific publications in Asia owes to an increasing pool of talent: the number of doctorates in natural sciences and engineering awarded in China has grown tenfold between the mid-1990s and the mid-2000s, reaching roughly 21,000 – a figure comparable to that of the US.

Figure 1.3

US-China-EU annual R&D Spending (2011-2025)

Source: Battelle, R&D Magazine 2012



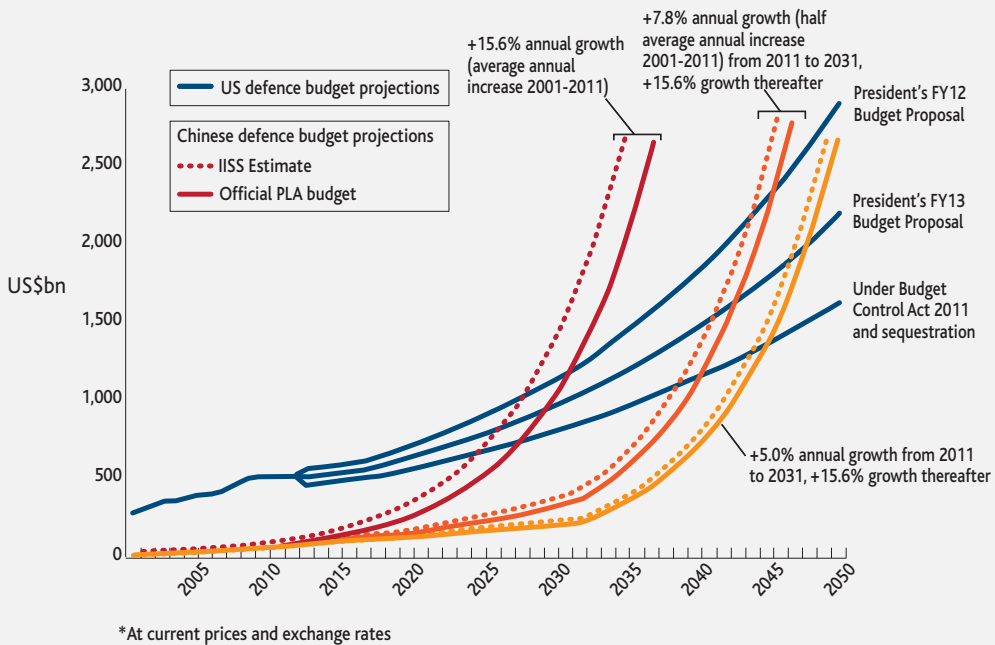
Estimates of future R&D spending largely follow similar patterns, though countries' choices about resource allocation may well change the trajectory. The US has led the OECD in shares of R&D spending; the only challenger to the OECD countries' dominance in this field is China, whose share of R&D spending may equal or overtake Europe's by 2022. Other large emerging countries are likely to remain very small players. McKinsey recently concluded that the predominance of the US, Europe and Japan in R&D investment will also shrink, though those actors will likely account for over half of global R&D spending even under the most pessimistic assumptions (Ablett and Erdmann 2013). In addition, the quality of R&D and patent applications is an important factor. While countries like China and India are increasingly moving into higher value-added areas, the US, EU and Japan have a substantial lead in the quality of their R&D outputs.

The military. Notwithstanding current budgetary difficulties, the United States will remain the pre-eminent military power in the world for the foreseeable future. This is mainly because its military budget is overwhelmingly the largest in the world; thus, the country's current technological and R&D lead will remain (SIPRI 2012, Australia 2012; France 2013a; Libicki et al. 2011). That said, for budgetary, political and geo-strategic reasons, the US may reduce its global military presence in the future, and 'lead from behind' by increasing its reliance on others including Europe, Japan and South Korea (Cronin 2010, Davis et al. 2012).

Figure 1.4

China and US defence spending projections under different assumptions

Source: IISS 2013



China's military rise is set to continue apace with the rest of its economic development. Some studies predict that its defence spending will exceed that of the US by 2030, even perhaps as early as 2023 (IISS 2013; Symonds 2012). The potential consequences of Chinese spending surpassing that of the US are very unclear. Beijing is investing steadily in naval, stealth, space-based and cyber capabilities which could extend its global military reach (Shambaugh 2013); however, it is possible that China could remain mostly a regional military power, rather than becoming a global force on the scale of the US (Watts 2011, Swaine et al. 2013).

In a similar vein, based on current trends, Indian military spending could surpass that of individual major European countries as early as 2020 (Libicki et al. 2011; Wolf et al. 2011). Russia is currently the third-largest military spender in the world (SIPRI 2013), with the science and technology base to continue developing cutting-edge military capabilities in the cyber, space-based, nano and directed-energy domains (Hailes et al. 2009).

Again, specific projections are difficult, but there is generally a broad correlation between GDP growth and growth in military spending over the long term (Ablett and Erdmann 2013). Ablett and Erdmann recently drew up four separate forecasts for military spending in 2022, each of which is based on alternative scenarios. These extrapolations also predict a significant

shift of global military power away from the US and its allies toward emerging countries. In three out of the four scenarios, no EU member state features among the top five global military spenders in 2022.

Figure 1.5

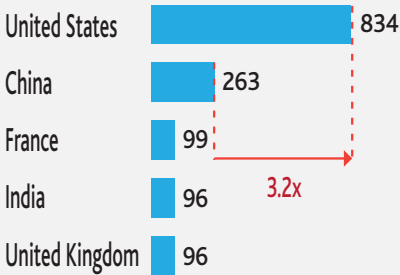
Difference between two biggest defence spenders in 2022 under different scenarios

Source: Ablett and Erdman 2013

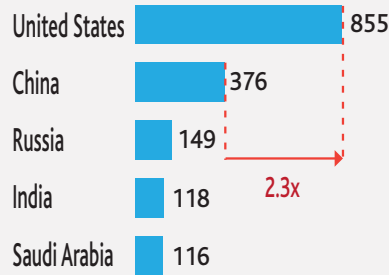
Estimated 2022 defense spending, \$billion, in 2011 dollars

0.0x Difference between US and China defense spending

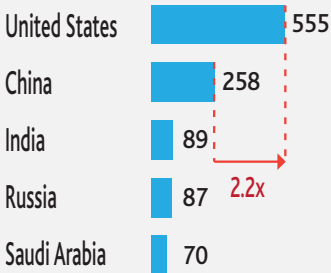
Advanced Economies Rebound



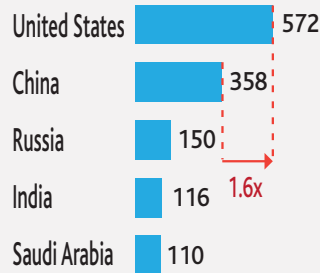
Global Growth Renewed



Global Lost Decade



Emerging Economies Lead



1.2. CUMULATIVE POWER SHIFTS

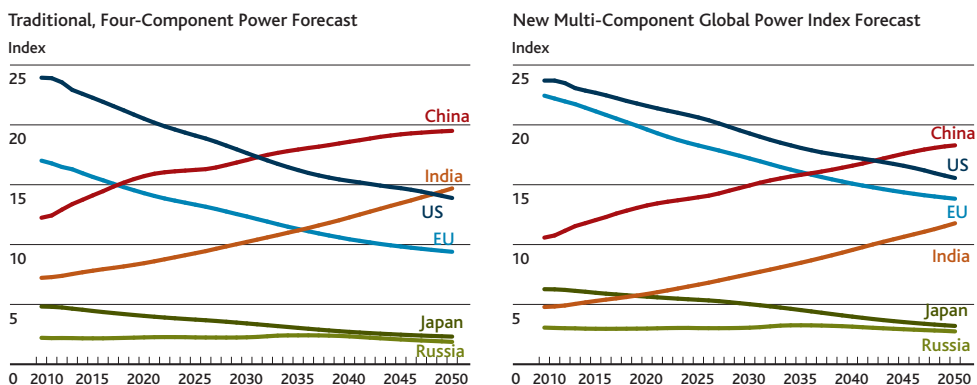
The US National Intelligence Council has forecast upcoming power shifts with two versions of its “global power index” (NIC 2012). Using economic, demographic, military and technology indicators, the index predicts that China’s share of global power will overtake the EU’s between 2015 and 2020, and that of the US around 2030. Under this scenario, the EU would fall behind India in the mid-2030s, while India would overtake the US after 2045. Should a broader range of indicators be added such as health, education and governance, China would not surpass the EU until the mid-2030s and the US in the early 2040s.

While the predicted timings may change, the pattern is clear. But these projections only reflect shifts in relative power, not a zero-sum relationship between the rise of some and the decline of others. There is an important distinction between decay and decline. Decay, for one, has to do with the deterioration or shrinking of power assets in absolute terms (for example a prolonged economic recession) and with the inability to devise domestic and international policies to remedy that. In contrast, countries can be in relative decline while their power is growing, but at a slower rate than that of others.

Figure 1.6

NIC global power index – forecasts for 2050 under different assumptions

Source: National intelligence Council 2012



While some states will indeed gain more than others, the rise of new powers may not necessarily lead to the economic or political decline of advanced countries. For example, the rising purchasing power of the growing middle class in Asia is critical to companies in Europe and the US that are looking for new markets. Conversely, a marked slowdown of the Chinese economy would depress global prosperity, short of alternative growth engines. Asia’s economic fate is also tied to OECD fortunes. Today, nearly 40% of goods produced in Asia are destined for the US, EU and Japan. And

nearly 70% of intra-Asian trade comprises intermediate goods that are used for processing and assembly in global supply chains. On the whole, large powers may have more to fear from the collapse or stagnation of their peers than from their success, given the systemic consequences of both scenarios. Technological progress need not be a zero-sum affair either. For example, the Internet and information and communications technologies (ICT) have given the US a competitive edge since the 1990s, but their spread worldwide has enabled productivity gains, the opening of new markets, the shaping of global supply chains and faster growth in all regions.

1.3. OPPORTUNITIES, THREATS AND DISRUPTIONS

Over the past 30 years, the EU and its member states have played a key role in shaping many globalisation trends; they have also been major players in nurturing global rules, norms and regimes across a broad spectrum of areas including trade, investment, technology, climate change and security. But even as Europe has helped shape globalisation, the continent itself has been fundamentally impacted by it.

States are becoming increasingly interdependent on a number of economic, technology and security issues, which have significant implications for future projection of power and governance structures. The growing entanglement of trade, resource, security, climate and technology issues will provide both opportunities and threats to Europe's development and prosperity.

Economic entanglement: Trade, investment and global supply chains

Much global attention focuses on the rise of emerging economies, not least because those from Asia alone have doubled their share of global output in the past two decades (OECD 2010). Brazil, China and India combined are projected to account for 40% of global output by 2050 (HDR 2013) (see Figure 1-7). The rise in the manufacturing competitiveness of China, India, and South Korea has not only led to the expansion of regional production networks (Deloitte and US Council on Competitiveness 2010); it has also reconfigured the global industrial landscape.

Figure 1.7. Global balancing (2050)

Source: HDR 2013

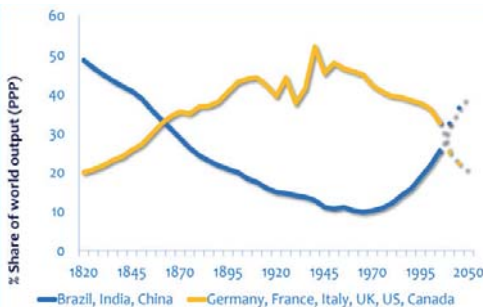
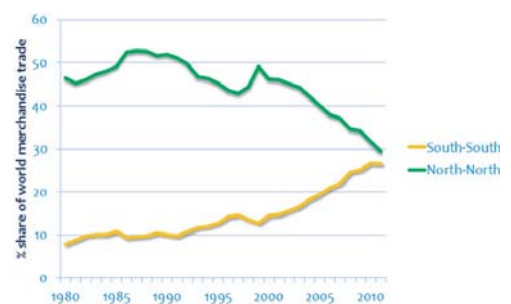


Figure 1.8. Realignment of world trade

Source: HDR 2013



Rising foreign direct investment (FDI) – not only in absolute terms but also as a share of the global total – has contributed to growth in developing countries. The EU remains the world's largest source and destination of FDI, as measured by stocks and flows (WTO 2011), but half of global FDI inflows went to developing and transition economies in 2010 (UNCTAD 2010).

The rise of emerging economies has deepened many economic interdependencies. South-South merchandise trade is fast catching up with North-North trade (HDR 2013) (see Figure 1-8). In weight terms, traded resources have grown nearly 50% from ten years ago, while the value of traded resources has more than tripled in the past decade, amounting to nearly \$5 trillion today.¹ This is mainly due to expanding trade in oil, iron and steel, coal, oilseeds and cereals in response to the spread of new consumption and production hubs, which is also spurring significant expansion in global transport infrastructure (WTO 2010).

South–South resource flows now amount to around 30% of global trade in natural resources, having overtaken South–North flows for the first time in 2010. The nature of North–South flows has also evolved. With sophisticated processing capabilities and infrastructure, emerging economies have been importing large volumes of unprocessed resources from Australia, the US and Canada (instead of mainly importing expensive processed products such as refined oil, alloyed steels and processed foods as they did ten years ago). Emerging economies are also increasingly providing industrialised countries with higher-value processed resources.

As manufacturing supply chains integrate across borders, components are often manufactured in one country then shipped to another, such as China, for final assembly. These cross-border flows have been transformative in many respects, linking trade, investment and services (Gereffi and Li 2012; Baldwin 2012). The emergence of global supply chains also calls into question whether existing governance frameworks are able to respond to these new realities. In 2009, exports of intermediate goods constituted more than 50% of non-fuel merchandise exports, exceeding the combined exports of final and capital goods (WTO-JETRO 2011). Trade figures, as a result, are increasingly inaccurate reflections of reality. International organisations like the WTO and the OECD are moving towards a system that tracks both value addition and production (OECD-WTO 2013).

Even though the globalisation of production and supply chains has created systemic efficiencies in the global economy, this trend has also exacerbated the potential scope and speed of contagion should a disruption to the system occur. The 2010 ash cloud created by the Eyjafjallajökull volcano suggested that in Europe about one week is the maximum tolerance that just-in-time supply chains can sustain (Lee and Preston 2012). Disruption in one sector can swiftly cascade to other parts of the economy and other regions in an interconnected world.

¹ Physical trade in resources has increased considerably. Yet with rising resource prices, the value of these trade flows has increased even more quickly – partly reflecting global price inflation but more importantly owing to a substantial upward shift in real prices for most types of natural resources in the last decade.

Poverty and development

While fostering global prosperity and helping reduce absolute poverty – mainly through growth in large emerging economies – globalisation has also increased inequality, straining social contracts at the national level. This is pertinent in both major Western countries and in large emerging economies such as India and China, where national political stability – and thus, perhaps, global stability – relies on the public's expectations of future prosperity.

Inequality and poverty are related. Even in a world of reduced overall poverty, domestic inequality in both developing and developed countries may increase. Over two-thirds of low- and middle-income countries, comprising 86% of the population in the developing world, will experience a rise in inequality by 2030 (IBRD 2007), some more sharply than others. Income inequality in the EU has also risen substantially since the mid-1980s. In general, the top 10% of earners have captured a growing share of income, while the poorest 10% have lost ground, but there remains huge variation among member states (OECD 2011, Fredriksen 2012).

Global changes in the burden of poverty have profound implications for the future global development agenda. Recent years have seen the graduation of many developing countries to middle income status; the majority of the world's poor now live in middle-income countries (MICs). But it is unclear how this trend will evolve. Some see its continuation, while others predict that by 2050 most MICs will have substantially reduced domestic poverty and the poor will primarily be located in a small group of fragile low-income countries (LICs) (European Commission 2013a). For development partners like the EU, this raises fundamental questions about how to influence MICs that may have limited political will to redistribute wealth within the country, or alternatively how to stimulate investment and growth in fragile LICs. Many analysts anticipate that aid will play an increasingly marginal role as a development tool, not least because of the increasing importance of FDI in developing countries.

Policy Coherence for Development (PCD), which seeks to ensure that non-development policies do not contradict development goals, is becoming more prominent in development discourse. The move from aid effectiveness to development effectiveness and the need for PCD was stressed in the commitments made in Busan in 2011. As development challenges become increasingly cross-border in nature and involve a broader range of private and public stakeholders, PCD will have to be undertaken at global, regional and national levels and include both state and non-state actors. Some emerging powers, such as China and Brazil, signed the Busan agreement, signalling some openness to PCD. Moreover, South-South cooperation generally involves a bundle of development and non-development policies. This perhaps makes it better structured for the integrated approach that PCD requires (King et al. 2012). Even if PCD does not become central to the future global development framework, it is possible that a more ad hoc approach to PCD could emerge through groupings such as the G20, promoting coherence around the less controversial global goods agendas (European Report on Development 2013).

Resource security, climate and energy nexus

Access to and control of natural resources has long underpinned the growth trajectories of national economies and the evolution of political institutions. It has also been a driver of many conflicts. Looking to 2030, intensified resource stresses combined with socio-economic and environmental pressures will bring new risks and uncertainties to the international order.

Driven by expanding populations and rising incomes, global demand for critical resources such as fossil fuels, steel, food and water is expected to grow significantly between now and 2030 (IEA 2012; FAO 2011 and 2012; ODI, ECDPM and GDI/DIE 2012; NIC 2012). Rapid increases in resource consumption are linked to greater industrialisation and urbanisation, phenomena that we are now witnessing in the quickly growing emerging economies. Rising wealth has also brought changes in consumer behaviour, such as shifting diet patterns. Between 1960 and 2004, individuals in the middle and upper classes increased resource consumption by more than 200% (Taylor 2008). The combination of these trends implies a continuation of the upward demand trajectory in the coming decades, barring major shifts and disruptions (see Table 1.1).

Table 1.1
Outlook for natural resources by 2020 and 2030

Sources: Chatham House 2012

	By 2020	By 2030
Food	<ul style="list-style-type: none"> • Average crop prices increase by 15–20% against long-rate average, but lower than 2008–10 spike (OECD and FAO 2011) • Global food production grows by 1.5% per year (FAO 2006) • Stocks-to-use ratios remain at crisis thresholds • Fish-as-food demand increases by 11–17% compared with 2010 (FAO 2012 and UN 2010) 	<ul style="list-style-type: none"> • Cereal prices increase by 70–90% compared with 2010; up to 130–170% with climate change (Willenbockel 2011)² • Crop demand reaches 2.7 bn tonnes, from 1.9 bn tonnes in the 1990s (FAO 2006) • Meat demand growth between 2001 and 2030 estimated at 1.7% per year • Fish-as-food demand grows by 20–30% compared with 2010 (FAO 2012 and UN 2010)
Energy	<ul style="list-style-type: none"> • Demand for energy increases by 18% (from 2009) by 2020 • To meet oil supply in 2020 over \$3 tn of investment in the oil sector is needed • Prices for oil range between \$97 and \$120. Gas prices remain differentiated by regions, with Asia's being significantly higher than North America's 	<ul style="list-style-type: none"> • Demand for energy grows by 50% by 2035 • By 2035 a total of over \$38 tn of investments in the energy sector, half of which will go to the power sector, is needed • Prices for oil are at \$97–140 in real terms for 2035
Metals	<ul style="list-style-type: none"> • 30–50% demand growth for major metals; rare earth demand doubles from 2010 levels • Copper faces a 30% supply gap in absence of considerable additional investment³ • Heavy rare earths remain in deficit until around 2018–20 (Kingsnorth 2011)⁴ 	<ul style="list-style-type: none"> • 90% demand growth for steel, 60% for copper (2010 baseline). Demand for aluminium more than doubles • Copper faces a 50% supply gap in absence of considerable additional investment • Potential for temporary shortages of specialty metals with wider deployment of novel technologies

² 2030 cereal price increase of order of 70–90% compared with 2010 modelled prices rising to order of 100–170% after effects of climate change.

³ "Supply gap" refers here to the gap between projected demand and estimated supply from existing mines and mining projects with firm commitments that are highly likely to come into production. Estimates for demand and supply are from Trench (2010). If supply from probable and possible (as opposed to committed) projects were to be taken into account, the supply gap for 2020 and 2030 would be narrowed to roughly 10% and 30% respectively. No demand destruction is assumed. These projections are subject to large margins of uncertainty.

⁴ Kingsnorth projects rare earths to be in deficit until at least 2016.

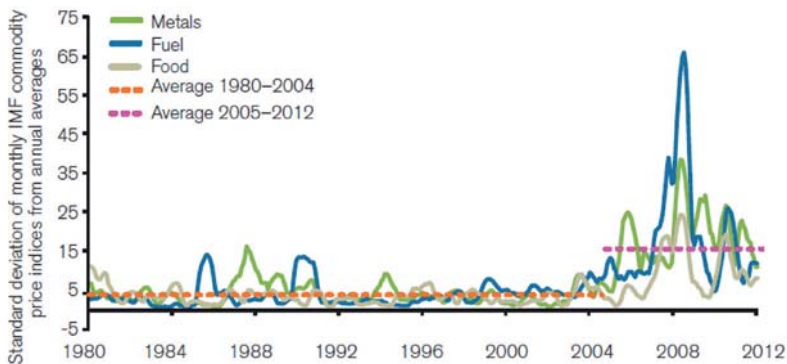
Large-scale resource extraction remains concentrated in a handful of countries. On average, the three largest producers of 19 major resources (crops, timber, fish and meat, metals, fossil fuels and fertilisers) account for 56% of global production. Eight players dominate global production in resources: China, the US, Australia, the EU, Brazil, Russia, India and Indonesia. Others with significant production capacities for one or two major resources include Argentina (soybeans), Thailand (sugar cane), Bangladesh (rice), Saudi Arabia (oil), Iran (oil and gas), Canada (gas, zinc, and nickel), Philippines (nickel), Peru (zinc and copper) and Chile (copper). The production of resources that have smaller production volumes, such as palm oil and many speciality metals, is concentrated even more heavily.

Alongside social and environmental stresses, the persistence of resource price volatility will also continue to shape global geopolitics, not least due to the linkages between resource markets and production systems – the so-called resource “nexus” (McKinsey 2011; NIC 2012; GMF 2011). The IMF has suggested that there is an increasingly strong correlation in the annual average price increases of agricultural products, fuels and metals; indeed, this correlation now appears to be stronger than it has been for at least a hundred years (McKinsey 2011). While brief periods of volatility are not uncommon, the sustained high levels of volatility across the commodities since the early 2000s mark a new trend (Lee et al. 2012).

Driven in part by price volatility, a new wave of resource nationalism has emerged. Many resource-rich countries have been pushing aggressively for greater control and a higher share of profits from their natural resources. In contrast to the 1990s’ privatisation wave, governments are quite prepared to declare extractive contracts void, expropriate assets and make investments through state-owned enterprises. A number of raw material suppliers, including China and Indonesia, have adopted interventionist industrial policies, including export controls. Brazil and India are considering similar measures for iron ore.

Figure 1.9
Volatility in commodity markets (1980-2012)

Sources: Chatham House calculations based on IMF commodity price data



In many respects, the challenges of climate change and resource scarcity are mutually reinforcing, bringing with them new geopolitical tensions and conflicts for which the EU cannot afford to remain unprepared – whether in the Sahel, South Asia or Central Asia. By 2030 Asia will account for 60% of global oil deficits, and the energy demand from Asia will monopolise traditional sources, increasing the EU's reliance on Russia and West Africa, with potential political threats to security of supply (Mitchell 2010).

Furthermore, politically fragile developing economies and poor communities, already disadvantaged in the scramble for dwindling resources, are the most vulnerable to climate change impacts. The EU has recognised the links between global warming, competition for resources and its security (Council of the European Union 2003; European Commission 2008b). These developments call for an integrated and innovative agenda for the EU. Similarly, the United States' 2010 Quadrennial Defense Review notes that climate change may accelerate instability and conflict and will shape the future operating environment of the Department of Defense (United States 2010a).

Meanwhile, the concentration of CO₂ emissions in the atmosphere has continued to increase, reaching 390.9 parts per million (ppm) in 2011 (WMO 2012). This is worrying as CO₂, the most significant long-lived greenhouse gas (GHG), remains the main driver of climate change. The consequences of climate change are manifold and are increasingly well documented. Increased risk of flooding will put millions more people at greater risk of malaria and other vector- and water-borne diseases, especially in low-income countries. Some regions facing the greatest risks of water shortages are also globally important agricultural centres; these include north-west India, north-east China, north-east Pakistan, California's Central Valley, and the US Midwest (Wada et al. 2010; GEO 2012).

Although scientists are generally cautious about linking any specific event to climate change, the prevalence of extreme events is projected to increase over time even in the best-case scenario, according to the latest findings (IPCC 2012). To mitigate future climate threats, the EU can play a key role in fostering progressive partnerships towards the 2015 UNFCCC negotiations. At home, the EU is also preparing its post-2030 climate and energy package. The Green Paper, published in March 2013, outlines the framework for future policies. In order to meet the EU's aspiration that GHG emissions reduce by 80–95% by 2050, a 40% reduction from 1990 would be “cost effective” (European Commission 2013e).

The Arctic region aptly demonstrates the evolving challenges confronting the EU in terms of geopolitics, climate change and resources. The melting icecap is opening up new sea routes and shortening the trading distances between Asia and the EU; it is also facilitating the extraction of newly accessible resources (Yalowitz 2013). The increasingly accessible minerals and hydrocarbons in Arctic region are attracting the interest of extractives

companies, several of which are headquartered in the EU (Emmerson and Lahn 2012). Gas from the Russian Arctic territory (Yamal Peninsula and eventually Stokhman in the Barents Sea) could make a significant contribution to supply to the EU. But further Arctic development remains controversial and will demand informed and far-sighted judgement from EU leaders. Politically, the region will increasingly become a testing ground for inter-continental cooperation and international law.

Unless global demand for oil falls drastically, the global market will continue to rely on OPEC countries – especially Iraq and Saudi Arabia. But production and export capacities in these are far from assured. Iraq, for example, remains in political turmoil, with the status of producing regions and the legislative environment contested. Indeed, the world could see a supply gap for liquid fuels if new reserves are not exploited rapidly enough and if OPEC cannot meet targeted capacity increases in the face of growing demand (Stevens 2008; 2009). Given these projections and the expectation of a continuing per barrel price of \$90 or more, investment is accelerating in non-conventional liquid fossil fuels and deep-water and Arctic oil.

EU interest in natural gas has grown in recent years. This is partly due to the fuel's relatively low carbon emissions, but interest has also been driven by the fact that the supply of gas is relatively secure, thanks to the proliferation of Liquefied Natural Gas (LNG) and breakthroughs in the non-conventional sector. In 2000, non-conventional gas provided just 1% of total gas supply; by 2010 it had reached 23%, with forecasts suggesting the figure will reach 50% by 2035. The scale and speed of the US shale gas developments may also radically affect energy and environment pathways (Stevens 2012; CSIS 2012). That said, it is unclear whether the US experience – in terms of geology, resource availability and extraction capabilities – will be applicable in other parts of the world. The International Energy Agency (IEA) and others have suggested that non-conventional gases, which may one day rival conventional gas in terms of production potential, could affect the future global prices of gas and other resources. As far as Europe is concerned, shale gas is expected to affect "regional gas balances, gas flows, and infrastructure requirements throughout Europe" in the next decades (Joode et al. 2012), as well as prospects for the global transition to a low-carbon economy.

Meanwhile, in response to the imperative to transition to a low-carbon economy, investment in renewable power (excluding large hydro) continues to grow. Renewable investments amounted to 44% of all of the new generation capacity that was added globally in 2011, up from 34% in 2010. Worldwide, the proportion of power generated by renewables (excluding large hydro) stood at 6% in 2011, up from 5.1% the previous year. Gross investment in fossil-fuel generating capacity was \$302 billion in 2011, compared with \$237 billion for renewables (Bloomberg New Energy Finance 2012).

Innovation and technology

The global picture of innovation and technology is rapidly shifting. The EU, along with the US and Japan, are the global leaders in research and development. In 2009, the EU, which is home to just 7% of the world's population, accounted for approximately 24% of world expenditure on research and 32% of world patent applications (European Commission, COM (2012) 497). However, emerging economies such as China, Brazil, Russia and India are all rapidly becoming global powers in technology and innovation. In 2010 China's share of gross domestic expenditure on research and development overtook Japan to be the third largest in the world (European Commission Staff Working Document, SWD (2012) 258); it is projected to catch up with the EU by 2018 (Battelle, *R&D Magazine* 2012). The increasingly multipolar world of innovation has reinforced the importance of scale effects, with each EU member state having a smaller relative impact over the last decade. New technology has also impacted innovation processes, with the Internet allowing for increased collaboration between research centres in different locations. The large number of patents that are needed to deliver specific services (e.g., smartphone technology) requires effective systems for licencing across different businesses. If the EU is to maintain its position as a global innovation leader in the decades ahead, it will be vital for the continent to develop innovation systems that can handle such increased levels of cooperation.

To respond to these trends, the EU has developed the Horizon 2020 programme, which will be open to third-country participants and aims to enhance international collaboration (European Commission, COM(2012) 497). This programme will be complemented by the development of roadmaps for key technologies, targeted bilateral cooperation and engagement at the multilateral level to strengthen governance and set international standards and norms. Together these actions can form the basis of an effective "science diplomacy" strategy to increase engagement with strategic partners. In addition, science policy and scientific cooperation could be mainstreamed across a broad range of EU foreign policy areas. However, a number of critical challenges remain in achieving sufficient scale and scope for new innovation. In particular the interaction with other global trends such as trade, resources and security will shape developments in many areas of technology and innovation.

For much of the last century, corporate strategies and business models were built on the assumption of cheap and stable energy and resource prices (McKinsey 2011). Even today, the shale gas revolution is seen as a potential catalyst for the "reindustrialisation" of the US. Yet in the coming decades, many observers expect to see a paradigm shift in business models "to enable growth through resource efficiency, closed loops, and decoupling energy and emissions at a systems level" (WEF 2012a). Such a change in focus can help businesses avoid costs, generate new revenue streams, and prepare for a tougher regulatory environment and greater public scrutiny (EMF 2012).

On the positive side, governments and businesses are waking up to the economic opportunities of taking such new business models to scale. Reusing and repairing equipment, rather than producing a new item from virgin material, can deliver dramatic energy, water and resource and cost savings if appropriate policies are in place. The Ellen MacArthur Foundation suggests that if even a subset of the EU manufacturing sector adopted “circular economy” business models based on reusing and recycling, it could realise net materials cost savings worth up to \$630 billion per year by 2025 (EMF 2011). The EU Resource Efficiency Platform, which was launched in 2012, has embedded the concept of resource efficiency and a circular economy at the heart of its objectives.

Innovation is also focused on producing advanced materials that require fewer resources or that can improve mechanical or electrical performance. For example, the drive to improve fuel efficiency in key markets is accelerating the use of lightweight automotive composite components in place of metal parts (Frost and Sullivan 2012). Advanced steel materials can also reduce material use in buildings and vehicles; at the same time, alternative metal alloys, composite materials glass-reinforced and fibre-reinforced polymers are increasingly common in commercial construction, where they could begin to displace concrete and steel. Nanotechnology has the potential to enhance the novel properties of certain critical minerals or even open up entirely new avenues for alternative product designs. When combined with other innovation such as in 3D printing, such developments could fundamentally alter the way goods are produced and accessed.

Notwithstanding many exciting potential breakthroughs, experience shows that systemic change involves more than just replacing an old set of technologies. Systemic change comprises a much broader network of technological chains, physical infrastructure, user practices, markets and regulatory systems. It is also contingent on continuous investment in research and development (R&D), as mentioned in Box 1.1.

At the foundational level, breakthroughs in basic and applied science in areas like nanotechnology, biotechnology, advanced materials, robotics, automated manufacturing and information systems will deliver change in all areas of everyday life by 2030. Most technical innovations hinge directly or indirectly on the properties of the materials they use (European Commission, 2008a).

In many cases, innovations come from interactions between different areas of science and technology rather than developments in individual sectors. These “recombinant” innovations are key to speeding up technological progress and enabling the commercialisation of research (Lee, Iliev and Preston, 2009; Frenken, Izquierdob, and Zeppini, 2012). The general trend is towards ever more connectedness and intelligent systems. For example, innovations in energy point towards a more dynamic power grid, with real-time information for homes and businesses.

By the time electric vehicles achieve large-scale penetration, they could be largely running on automated systems. The medium-term impact of other trends, such as wearable computing or the integration of solar PV with a wide range of materials, is even harder to predict.

All of these enabling technologies are critical to the modernisation of EU industries and the upgrading of the continent's research base. Capturing the social and economic benefits of these interconnected systems will also depend on scaling up investment in energy, digital and transport infrastructure in Europe, as well as agreement on common standards. For example, 80% of all electricity meters in the EU are due to be replaced by smart meters by 2020, but progress towards this goal has been slow (EurActiv 2013).

Disruptive technologies also threaten to diminish state control over the means of violence. Non-state actors, including individuals and small groups, are now more likely to have better access to lethal and disruptive technologies such as precision-strike capabilities, cyber instruments, and bioterror weaponry (NIC 2012). This challenge will be compounded by the fact that additive manufacturing methods such as 3D printing will make it easier for new actors to begin producing weapons, by reducing barriers to entry in terms of both cost and knowhow and make it harder to track the production of weapons. Civilian uses for technologies such as robots and drones will increase considerably, introducing risks of modification and dual use.



2. Conflict and Vulnerability

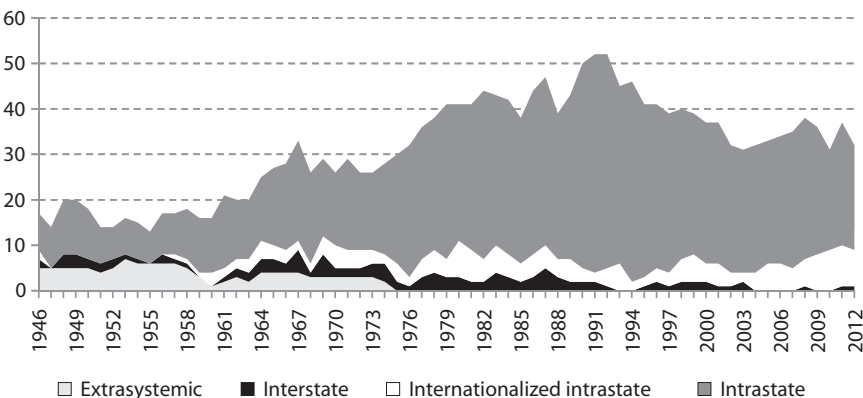
2.1. CONFLICT TRENDS

While the prosperity of a more interdependent world, as well the diffusion and application of technological advances, will depend on the openness and stability of the international system, the latter is increasingly vulnerable to disruptions and fragmentation. The interconnection of the risks is not matched by adequate governance mechanisms. Significant conflict and security risks remain. These include inter-state conflicts; state fragility; terrorism and illicit trafficking; the intersection of resource insecurity, human insecurity and geopolitical tensions; and the exposure of critical infrastructure to cybercrime and cyber warfare.

The world has experienced a downward trend in the number of conflicts in recent decades, and most of the conflicts that have occurred have been intra-state rather than inter-state. Although the number and severity of armed conflicts increased markedly in 2011 (rising from 31 to 37 conflicts), the figure dropped again in 2012 – though severity increased dramatically due to situations in Syria, Somalia and Yemen (Themnér and Wallensteen 2012 and 2013).

Figure 2.1
Number of conflicts by type (1946-2012)

Source: Themnér and Wallensteen 2013



The number of negotiated peace settlements increased in 2012. Four peace agreements were signed in the Central African Republic, South Sudan, the Philippines, and between South Sudan and Sudan. According to new research, peace negotiations and cease-fire agreements are worthy of pursuit since peace agreements have been shown to have a net positive impact on reducing violent conflict even when they fail (HSR 2012).

Although direct large-scale military threats to European countries seem unlikely in the foreseeable future (Netherlands 2010, United Kingdom 2010a, Germany 2011), the upcoming centenary of the First World War is a reminder to Europeans of the dangers of complacency. A number of instabilities could trigger conflicts in the coming decades (United States 2010a). Resource disputes, ethnic clashes and land-based territorial quarrels deserve particular attention given the involvement of nuclear-armed powers in all these potential flashpoints (China 2010). The three regions most likely to trigger large-scale regional conflict are the Middle East, North-East Asia and South Asia (See also section 4.1 on Geopolitical Competition in Chapter 4). The EU could consider increasing investment in the capacity to prevent conflicts, including in such areas as early warning, conflict risk analysis and mediator training.

Tensions in the Middle East are unlikely to abate in the long term and a full-scale regional war within the next decade is all too possible (See also Annex 1 on The Strategic Neighbourhood). Indeed, the current civil war in Syria has caused over 110,000 deaths and led to more than two million refugees – over half of which are children – fleeing to Egypt, Iraq, Jordan, Lebanon and Turkey. Large flows of refugees into under-supported countries can pose a risk to their stability (Mikail 2013). Refugee camps are not only temporary habitats for people fleeing conflict, they can become places where rebellions foment, arms shipments are organised and young people are radicalised. Local resentment of food aid, and the taking of land and use of resources in the host country can spark unrest.

More generally, the destabilisation of the Middle East following the political upheavals since 2011, coupled with the increased power of non-state actors and terrorist organisations, could tip the region into widespread conflict involving Israel, Iran and the Gulf states. Iran's nuclear activities, coupled with its missile developments, have led to lasting suspicions and ten years of negotiations to halt Iran's uranium enrichment programme. Should Iran cross the civil/military threshold, withdraw from the NPT and acquire nuclear weapons, then power balances in the Middle East might spur a regional nuclear arms race, with direct impact on the EU and other regions. A conflict between Israel and/or the US and Iran would radically change the regional and global strategic landscape. The rise in oil and gas prices due to military action in and around the straits of Hormuz would negatively impact the world economy.

There are strong motivations for reducing tension on the Korean peninsula. Preventing the North Korean government from issuing threats and destabilising North-East Asia will be paramount and will require pragmatic relationships between the US, Russia and China. Territorial disputes in the South and East China Seas could lead to miscalculated reactions and regional inter-state conflict over the next few years. Meanwhile, clashes between India and Pakistan are likely to reoccur and could spiral rapidly out of control. Border skirmishes between India and China are now being addressed through negotiations on a new Border Defence Cooperation Agreement (BDCA), which is aimed at improving border management

and enhancing confidence-building measures, but much will depend on how the Beijing-Delhi relationship evolves.

Many of the factors that trigger intra-state wars are likely to be exacerbated in the near future. Extreme climate volatility, mass migration, economic stress, resource shortages and religious or ethnic divisions (Kinnan et al. 2011) will all serve to stress and destabilise precarious and vulnerable political systems. Demographics also play a significant role. Where the median age of minorities remains younger, conflicts may be prolonged (Libicki et al. 2011). Where the median age rises and where there is increased urbanisation, intra-state conflict is more likely to reduce. Intra-state wars can also become regional inter-state conflicts, spilling over from one country to another, perhaps with global implications. The risk of such conflicts is highest in those regions that are experiencing extreme water or food shortages, namely Sub-Saharan Africa, the Middle East and South Asia. Other vulnerable areas include regions such as the East Mediterranean that are undergoing massive economic and resource changes.

Although the major threats to global security come from strong and relatively wealthy countries (Patrick, 2011), fragile states, which suffer from weak governance and are often unable to provide for their citizens' basic needs, will remain a strategic challenge in the foreseeable future (France 2013a, Germany 2011, Netherlands 2010, United Kingdom 2010a). Failing states, many of which are riven with internal strife and fragmented domestic power structures, account for around half of the world's civil wars; almost all failed states are in Africa, the Middle East and South-East Asia (Clément 2010). Fragile states spread instability, hamper regional economic growth, and harbour international terrorist groups and criminals that engage in large-scale trafficking of people and drugs (Symonds 2012).

The 15 countries most at risk of state failure today will likely remain the 15 most at risk in 2030, with little variation in their levels of risk (NIC 2012). Ten of those 15 high-risk countries are in Sub-Saharan Africa and three others are in India's neighbourhood (Afghanistan, Pakistan and Bangladesh). Preventing conflict and reducing the risks of state failure will require a complete re-think of the effective use of development aid in fragile states.

2.2. TERRORISM AND ORGANISED CRIME

Terrorism is likely to persist as an intractable problem through 2030 and beyond. Since 1970, trends point towards the localised (50% of all terrorist attacks in the world have occurred in ten countries), the domestic (93.1% of attacks were carried out without the involvement of foreign individuals), low fatalities (55.87% of terrorist attacks have caused zero fatalities and 94.66% have caused ten or fewer fatalities) and low-tech (explosives were used in 46%

of attacks and weapons in 28% of them) terrorist activities, which are likely to continue (Global Terrorism Database 2013). According to Europol, between 2009 and 2011 there was a steady decrease in reported attacks and arrests across the EU; however in 2012, the numbers increased (Europol 2013). The threat has evolved from structured groups and networks to smaller EU-based groups and lone actors. Seven EU countries experienced terrorist attacks in 2012, with most occurring in France (125) and Spain (54) and were related to separatist terrorism. Religiously inspired terrorists carried out six attacks on EU territory in 2012 whereas there had been no such attacks in 2011. The number of attacks by left-wing and anarchist groups was reduced by 50% from 2011 to 2012 (37 to 18).

EU citizens have also come under attack outside EU territory, most notably in Asia, the Middle East and in North, West and East Africa. Plus, EU citizens have gone to the aid of rebels in the Syrian civil war, raising concerns that – as with similar situations in Afghanistan, Pakistan, Somalia and Yemen – such individuals may return to Europe and engage in terrorist activity in subsequent years. The US National Counterterrorism Center notes that in recent years there has been a marked rise in terrorist incidents in the Middle East, Africa (both North and Sub-Saharan) South Asia and South America, while those in East Asia, North America, Europe and Eurasia have fallen (United States 2012b).

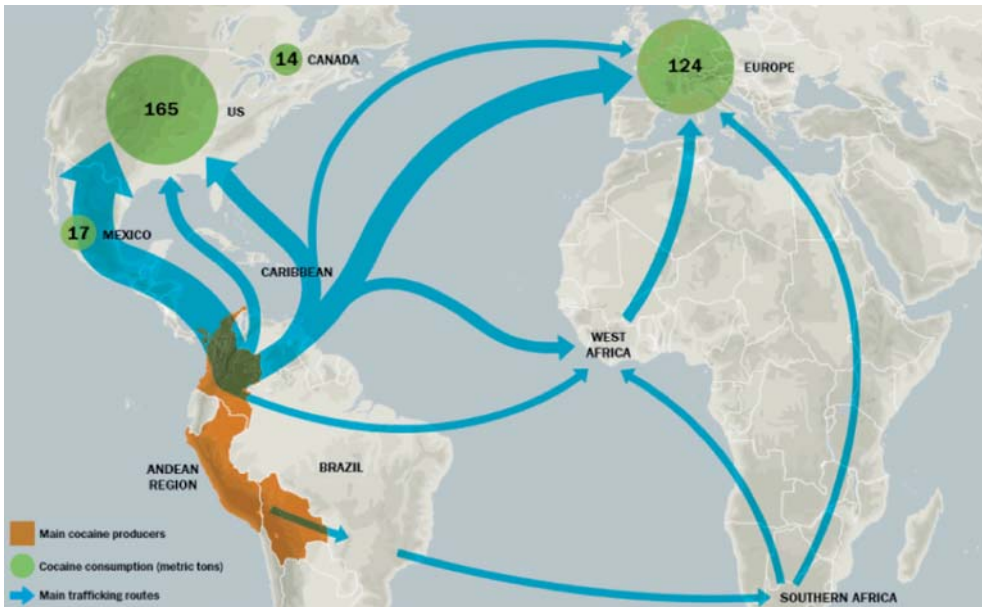
Transnational organised crime will also remain a crucial challenge in 2030, given the ease with which non-state actors – ranging from criminal gangs to financial institutions – exploit opportunities provided by a globalised economy and its means of easy transport and communications. At the national level, organised crime groups will also continue to challenge state authorities for the provision of security, social services, legal commodities and jobs, unless economic situations improve. For example, this has happened in parts of Mexico, where organised crime groups have controlled municipalities, and in Rio de Janeiro where gangs have controlled and provided services for parts of that city.

The drugs trade will remain one of the most critical components of transnational organised crime. As long as demand remains strong, psychoactive substances will be supplied. The nature and provenance of drugs are likely to diversify and increasingly include legal substances such as 'legal highs', prescription and over-the-counter medication (Yorke and Gomis 2012). In addition, the flow of cocaine and other drugs and commodities to Europe via West Africa, the Sahel and North Africa is likely to increase violence, corruption, organised crime and the activities of extremist groups, with serious implications for the EU (see also Annex 1 on The Strategic Neighbourhood).

Figure 2.2

Global cocaine flow and its impact on Europe

Source: The World Today 2012



2.3. THE INTERSECTION OF CLIMATE, RESOURCES AND CONFLICT

Resource challenges will increasingly intersect with the impacts of climate change to place unprecedented stress on some of the most vulnerable and volatile regions in the world, exacerbating the risk of conflict in ways that will be difficult to predict. Particularly where there are overlapping social or political interests in valuable resources, water shortages, rising energy prices and other combined resource-climate effects will increase the likelihood of conflict.

The World Bank estimates that by 2025 climate change will cause 1.4 billion people across 36 countries to face crop or water scarcities. (Six hundred million people in 21 countries are currently impacted by resource scarcities.) The effects of climate change in North Africa are likely to exacerbate existing water and food scarcities and put additional strains on unstable economies, deteriorating urban infrastructure, and socio-political systems. Taken together, these effects could cause an increase in economic migration (NIC 2008). Decreasing supplies of fresh water will fuel geopolitical tensions, particularly along shared water resources and trans-boundary river systems.

Scarcity of key resources such as food and water, together with extreme weather and floods, will cause dramatic changes in patterns of human settlement between now and 2030, vastly increasing the potential for conflict and competition over land. Antonio Guterres, the UN High Commissioner for Refugees, has warned that climate change could uproot populations by provoking conflicts over increasingly scarce resources (Borger 2008). In a worst-case scenario, the world may exceed the often-quoted figure of 200 million permanently displaced climate migrants by 2050, which is already a ten-fold increase over the current total documented refugee and internally displaced populations (IOM 2008).

Dwindling energy supplies and high and volatile prices will increase conflict over energy resources, particularly in areas that are already stressed by food and water scarcity. Climate change will also exacerbate energy shortages as energy generation becomes increasingly dependent on vanishing water resources. The hydropower sector will feel the effects of water stress most directly, leading to vulnerabilities in hydro-dependent regions in Latin America, South Asia and Sub-Saharan Africa. By 2030, the enormous amounts of electricity that will be needed to extract and transform heavy hydrocarbons (particularly coal and tar sands) will place new demands on water resources in already water-stressed areas such as India, China and South Africa. Extreme weather will also increasingly pose threats to critical energy infrastructure, as indicated by the Fukushima incident in Japan in 2011.

BOX 2.1: POTENTIAL CLIMATE-ENERGY-WATER FLASHPOINTS

Source: Lee et al. 2012

Water

- Ethiopia and Sudan have expressed interest in constructing dams on in the Nile Basin to generate electricity. On several occasions Egypt has stated its view that any upstream interference with the Nile waters would be regarded as an act of aggression; in 2010, Egypt and Sudan both declined to sign the Cooperative Framework Agreement seeking to develop access to the Nile's resources.
- The rapid drying of Lake Chad is forcing herders to seek new pastures and exacerbating tensions between Nigeria, Cameroon and Chad over access to increasingly scarce water in this area.
- The Indus Basin, which provides water for over 80% of Pakistan's irrigation needs, is another potential source of tension. Despite the robust nature of the Indus Waters Treaty, increasing tensions between India and Pakistan (in part due to Indian dam projects upstream of the disputed territories of Jammu and Kashmir) have fed the hostile narratives of extremist groups such as Lashkar-e-Taiba and of prominent nationalists on both sides.

Energy

- The Niger Delta region of southern Nigeria has been plagued by a rebellion, mainly (but not exclusively) driven by the unequal distribution of oil and gas revenues and the continued underdevelopment

of the region despite the success of foreign companies, particularly in exploiting oil reserves. The Movement for the Emancipation of the Niger Delta (MEND), a conglomerate of rebel and paramilitary groups, has become notorious for high-profile attacks and kidnappings of foreign oil workers.

- Oil exploration in the Somali region of Ethiopia has provoked a violent response from the separatist Ogaden National Liberation Front. An attack by the group on a Chinese oil-rig in 2007 resulted in 74 deaths; it has also claimed responsibility for other attacks in the last three years.
- In India, higher food prices may lead to discontent and riots, especially in the poorer north and east. Depleting groundwater reserves are likely to reduce agricultural production and trigger internal unrest and tensions with neighbours. Pressure to increase mining (e.g., of iron ore) could result in further forced migration within the country; it could also lead to power outages, which would affect business, industrial productivity and social cohesion.
- Sudan and the newly established state of South Sudan are embroiled in a dispute over the ownership of oilfields. In early 2012, ongoing violence in and around the Heglig oilfields led some commentators to discuss the potential for war over oil profits. Despite progress on a negotiated solution, both countries still have unresolved border disputes.
- In the East China Sea, China and Japan, and to a lesser extent Taiwan and Korea, continue to dispute maritime borders. The discovery of hydrocarbon deposits has exacerbated tensions over fisheries and led to several violent and non-violent confrontations.
- Another potential flashpoint is the South China Sea where China's claim to historical sovereignty is not accepted by several countries, including Vietnam, the Philippines, Malaysia, Taiwan and Brunei. Hydrocarbon deposits and fishing rights are again the main sources of tension.

2.4. CYBER-SECURITY AND SPACE

Across the world, growing dependence on digital technology is increasing vulnerabilities to cyber attacks. In the last five years, global Internet data flows have increased by a factor of eight; they are predicted to increase nearly four times again over the next five years. Within the next three years, cyber-traffic is likely to exceed a worldwide rate of 10^{21} bytes per annum (the so-called zettabyte threshold). Intellectual property theft, together with the hacking of secure systems in sectors such as energy, space and military networks, are also posing serious risks (Cisco Visual Networking Index 2012).

The trends in cyber-security and cyber vulnerability can be separated into two domains: (1) cyber warfare, which involves states or non-state armed groups (cyber terrorists) attempting to invade or attack the cyber domains of other countries as part of a wider conflict and (2) cyber crime, which is generally carried out by individuals or non-state groups (UNIDIR Cyber 2013). Real-world conflicts – whether local, regional or global – are likely to include cyber attacks

on critical infrastructure such as large-scale industry and power production facilities, including nuclear energy plants. As computing capabilities increase in speed, scope and capacity and as computing systems evolve – for example into quantum computing – new security vulnerabilities will be exposed and new approaches to security will have to be formulated (Mullins 2012).

As different incentives and pressures are shaping the rapid evolution of digitally connected infrastructures, the interaction between the private and public sectors will remain crucial. Understanding and managing the risks that arise from interdependencies is key. Critical infrastructure is exposed to dispersed risk, which may ultimately be owned by everyone. The interdependence of cyber space security and outer space security is fast becoming an important trend in the debate on how to increase the resilience of critical infrastructure whilst maintaining fair access to the global commons (Chatham House 2013). In the absence of an international legal framework to prevent the weaponisation of outer space, the destabilisation of the space environment is likely to occur by 2030 through the placement of weapons in space and a renewed interest in the potential to attack satellites from Earth (UNIDIR Space 2013).

Space systems are increasingly being employed for global connectivity. Almost all countries will be space users within the next few years, with a stake in meteorological and communications space-based assets and critical infrastructure such as receiving stations and imagery analysis platforms. The use of commercially operated systems for military communications – an emerging trend – is likely to continue.

Access to space and space technologies no longer resides in the governmental or the commercial sectors alone – a situation that creates opportunities as well as vulnerabilities. In the next few decades, new technologies including mini-, micro-, nano-, pico- and femto-satellites (used in various formations with larger “mother” satellites and “satellite swarms”) will transform the accessibility of space for NGOs and international organisations as well as other non-governmental actors and individuals (Patel 2010).

2.5. MILITARY CAPABILITIES

Looking ahead, a growing number of actors will have access to advanced military technologies. Western countries cannot assume that their technological superiority in all military domains – including cyber, stealth, robotics and unmanned aerial vehicles (UAVs) – will last until 2030 (Lowther 2011). As previously mentioned, states are likely to invest more in space communications and surveillance and satellite protection; at the same time, they may develop anti-satellite weapons and other capabilities for space warfare (France 2013a; Lowther 2011). Ballistic missile defences will remain a priority for some countries as ballistic missile technology continues to spread (Tertrais 2007). In addition, military operations will be more likely to occur in

urban areas, with increased risks to civilians, and in and around littoral spaces such as major ports or maritime strait zones (United Kingdom 2010b). As a result, some countries, such as the US, may invest less in large aircraft carriers and more in smaller but robustly equipped amphibious carriers, littoral ships and submarines (Harrison and Gunzinger 2012, Hendrix 2013).

Digital networks (especially for intelligence, surveillance and reconnaissance) and logistics are increasingly vital to military capabilities (United Kingdom 2010b). Land forces are likely to be used much more sparingly in the future, with an emphasis on special and marine corps-type forces. But to ensure access and gather information, air, sea, cyber and space-based capabilities will become increasingly important (United States 2010a, France 2013a, Missiroli 2013). Looking ahead, most countries will increase their investments in precision munitions (especially long-range-strike), satellites and counter-cyber-warfare (United States 2005, Friedman 2012, Gruselle 2012). New weapons systems such as directed energy, genetic weapons, nano and cyborg – physical and biochemical – capabilities may be coming on stream well before 2030.

The US Air Force has forecast that the use of autonomous systems will be the single most significant feature of military technology in the coming decades (United States 2010b). Autonomous weapons, sometimes dubbed “killer robots”, are fast being developed for use on the battlefield. Their degree of autonomy can vary and they are generally classed into three levels: Human-in-the-Loop Weapons – act on command, Human-on-the-Loop Weapons – act autonomously but can be overridden by a monitoring human and Human-out-of-the-Loop Weapons – programmed to act completely without human oversight. The increasing demands made by data volumes, processing capabilities, and decision speeds means that “humans will have become the weakest component in a wide array of systems and processes. Humans and machines will need to become far more closely coupled, through improved human-machine interfaces and by direct augmentation of human performance.” (United States 2010b). If weapons systems that include autonomous systems, genetic modifications and cyborg capabilities are introduced, warfare could be changed irrevocably.

Just in the last several years, a number of countries have rapidly acquired drones. The US Government Accountability Office reported in 2012 that the number of countries possessing drones rose from 41 to 76 between 2005 and 2011 (GAO 2012). Armed drones, which were until recently were available only to the rich and powerful, are also proliferating; they will soon be available to a wide range of actors, including non-state armed groups (Zenko 2013). Recent European strategic reviews, such as the UK Strategic Defence and Security Review in 2010 and the 2013 French White Paper on Defence and National Security, identify the cyber domain as a key area for future defence investment. It is likely that a number of European defence ministries will acquire more UAVs – armed and unarmed – over the next decade. Based on their 2010 Lancaster House treaties France and the UK have started discussions

on jointly developing UAVs, while three European defence firms (EADS Cassidian, Dassault Aviation and Finmeccanica Alenia Aermacchi) have called on EU governments to invest in a European medium-altitude long-endurance (MALE) UAV programme.

Current procurement plans would suggest that several European defence ministries will acquire some new strategic capabilities in the coming decade, such as A400M transport planes, A330 air tankers, Joint Strike Fighters and the entry into service of more Eurofighters and Rafale jets. However, owing to deep defence budget cuts in many EU member-states, which are hollowing out many national armies in Europe, many equipment purchases are likely to be acquired in much-reduced quantities or much later than currently planned – and perhaps some will not be acquired at all (Mölling 2011, Witney 2011, Larrabee et al. 2012).

3. Power and Powers

Power is becoming more diffuse and more constrained while simultaneously shifting from incumbents to newcomers. Power shifts from (broadly speaking) the West to the rest, will continue, although in a less linear fashion than is often anticipated, reducing power differentials between major countries. Innovation – in technologies, politics and institutions – will be critical. By 2030, a larger number of important powers will have emerged and extended their interests worldwide, but not necessarily their political leverage and projection capacity. The EU may benefit from a broader range of economic and political partnerships with regional and global actors but it will also face stronger competitors for markets and resources.

Two broad trends are at play: international actors have become increasingly interdependent, and global governance has become increasingly fragmented. The trend toward interdependence is creating a world of more options for more actors, whether state or non-state, who are empowered by new technologies. At the same time, the trend toward fragmentation has led to a rise in contested politics, at the domestic and international levels, with competing agendas potentially undermining the legitimacy and effectiveness of collective rule-making and action. The gap between a more interconnected and a more fragmented world challenges the capacity of governments to aggregate collective preferences and build shared agendas.

3.1. POWER AND POLITICS IN THE AUGMENTED WORLD

Whether they are now on the rise or in decline, many large international actors are likely to see their power become more constrained by 2030. This is the consequence of a larger, more connected, and diverse international system. The scientific notion of “augmented reality” refers to the enhanced experience of the physical world enabled by the application of digital and sensory technology. In a similar way, a range of current trends point to an “augmented” world in which power centres, networks, and flows of finance, information and knowledge will multiply, expand and connect – enhancing international politics much in the same way that digital and sensory devices have “augmented reality”.

Taken together, the trends outlined in the previous chapter are producing an “augmented” world in which economic and demographic expansion will occur alongside changing patterns of social and political life. Thus, as the world sees significant growth in populations, GDPs and

trade and investment flows in the years ahead, there will be similar rises in levels of education and access to information, degrees of connectivity and lifestyle quality. At the same time, there will be a proliferation of influential state and non-state actors. Technological progress enables and amplifies these key dimensions of change.

The international political and social environment is about to undergo an enormous shift. By 2030, global GDP will more than double (at constant prices). Standard Chartered reports that the global economy grew at an average rate of 1.7% between 1820 and 1870; 2.7% between 1870 and 1913; 5% between 1945 and 1973; 2.8% between 1973 and 2000; and 3.5% between 2000 and 2007. Estimates for the pace of growth in the next 20 years range between 3.7% and 3.9% – a high rate in historical terms (Kacic 2012, Standard Chartered 2010). Many individuals will accordingly grow richer. In relation to the per capita GDP of the US (100), the world average per capita GDP is estimated to climb from 22.7 in 2010 to over 30 in 2030 (in PPP terms), with China moving from about 16 to 32, Brazil from 24 to 33, and India from 7 to around 15 (Kacic 2012). The global middle class will expand two and a half times and the number of megacities (those with over 10 million inhabitants) will jump from 23 to 37 in less than two decades (Kharas 2010, UN 2011). By 2030, a group of 600 large cities will generate 65% of global output (Mckinsey 2012).

Tremendous changes will come on the technology front as well. Today, one third of the world population uses Internet; by 2030, 60% (around 5 billion people) are expected to be connected to mobile broadband (Roland Berger 2011). Ever-increasing amounts of information will be accessible remotely through cloud computing. Some experts envisage a “social super-cloud” that could make all information available to all users, although in a targeted and customised format, in the coming decades. The microchip revolution will make this technologically possible. The quantity of stored information doubles every two years and amounted to about 1.8tr gigabytes in 2011. By some estimates, this could grow 50-fold by 2020, while the price of generating and storing information will continue to drop (Cukier 2012).

An actor's power – its ability to achieve desired outcomes – is a function of its endowment of a set of assets (such as population, national wealth, natural resources and the military) as well as its ability to mobilise them to achieve goals. Converting assets into outcomes is about politics and strategy (Nye 2011). This is a process that depends on how that power is exercised, in what context and for what purposes.

The augmented world will provide a more challenging context for the exercise of power, compounding its transformation and diffusion, and making politics and governance harder. Specifically, the augmented world is likely to affect power in three ways.

First, the use of power, whether at home or abroad, will be more constrained. This may reduce the risk of abuse but it may also limit the scope for effective action. Multiple checks on power will occur simultaneously, as a larger number of countries will be monitoring and questioning each other's actions. Empowered networks and citizens will be increasingly scrutinising the behaviour of governments, and international regimes may develop more stringent peer-review and verification mechanisms.

Second, challenging or denying power will be easier than exercising it. "Barriers to access" are decreasing in a range of domains, from business to domestic and international politics; this means that, in the future, state and non-state actors will increasingly be forced to compete in their use of power (Naim 2013). Few if any actors will be able to secure their objectives or make a decisive difference on their own. However, a plurality of actors may be sufficiently big or wield enough influence to frustrate or deflect the initiatives of others, whether by opposing them or refusing to join them (Grevi 2009).

Third, power assets such as GDP, resource endowments and armed forces, while remaining critical enablers of influence, will not be sufficient to achieve or preserve influence on their own (Nye 2011). This is not to say that there is no correlation between size and influence, but such a correlation may be less important in the future. Power skills may become more important than sheer assets in defining the future of power and the trajectory of different powers.

Given the transformation of power along these three dimensions, wielding it will probably rely less on coercion and more on attraction and connections. As before, future power strategies will combine hard and soft power. But four factors will equalise power: the proliferation of relevant actors in a polycentric world; the multiplication of those actors' options and constraints; their position in a variety of coalitions; and their access to technologies. All of this will raise the costs of coercion whether by diplomatic, economic or military means, increasing the need to prevent conflicts or bargain them away. As many rising powers take a more assertive tone and brace for geopolitical tensions, prevention may or may not work. However, in an augmented world, the effectiveness of hard power will be put to a hard test.

The effective use of power will relate less to asserting control and more to framing agendas, creating hybrid coalitions of state and non-state actors, and establishing platforms for common action based on more or less codified rules (Khanna 2011, Mr Y 2011). Rules and standards, as well as their monitoring, verification and enforcement mechanisms, will require endorsement by a variety of stakeholders. A chief feature of power will be the capacity to connect and convene coalitions to aggregate different resources and expertise. Power may become increasingly embedded in networks, which would place emphasis on the skills to lead, not command, others (Slaughter 2004 and 2009). Legitimacy, in particular, will be a pivotal

attribute of leadership, encompassing a mixture of vision, consistency, delivery and inclusion. The combination of these trends is not only challenging power and governance at the international level; it is also accelerating the crisis of domestic political regimes, authoritarian and democratic. Authoritarians will face the challenge of controlling and channelling the rising aspirations of more educated and informed citizenries. Economic growth and improving living standards have gone hand-in-hand with tolerance for authoritarian rule in states like Russia and China. But the factors enabling such growth, such as high commodity prices and the availability of abundant cheap labour, may not sustain it in the future. Short of major disruptions to the process of globalisation, the quality of domestic governance will be a critical factor in determining states' abilities to prosper and gain influence in the augmented world (Deudney and Ikenberry 2009).

Some argue that the "extractive" institutions of illiberal regimes are not compatible with lasting growth and welfare since they capture resources for the benefit of ruling elites, constrain innovation and cannot guarantee the rule of law and property rights (Acemoglu and Robinson 2012). With slower growth, redistribution and efficiency become ever more important, which might create uncomfortable dilemmas for those in power. Moreover, growing interconnectedness is unlikely to co-exist with stability in traditionally closed societies, especially in the absence of institutional reform (EUISS 2012). However, domestic turbulence in authoritarian regimes will not necessarily lead to greater liberalisation, especially if this process is impeded by disruptions such as major civil strife.

A main advantage (among many others) of democratic regimes over undemocratic ones is that they should be self-correcting (Krastev 2013). However, there is some evidence that this is not actually the case, and a regime's legitimacy may suffer as a result. Representative democracy appears to be squeezed between global forces that constrain a government's room to manoeuvre and the growth of grassroots digital activism. Growing inequalities and the decline of the middle class in the Western world may challenge the resilience of liberal democratic systems (Fukuyama 2012).

Citizens are increasingly disillusioned by their governments' inability to meet their expectations. A crisis of trust is affecting the quality of democratic regimes (Krastev 2013), which could lead to greater disaffection from traditional forms of political organisation (such as political parties and trade unions); further political polarisation and resistance to social and political change; and the segmentation of identities, with citizens increasingly wedded to distinct issues and a waning sense of collective purpose. The empowerment of individuals (EUISS 2012), while rich with opportunities, is not necessarily a vehicle for collective action, which requires clear, shared agendas and norm-setting. This crisis of trust will require a redefinition of legitimacy in domestic politics, with new standards for accountability, impartiality, transparency and subsidiarity (Rosanvallon 2012).

3.2. MAJOR POWERS – FRAGILITY AND RENEWAL

The diffusion of power and the crisis of politics at the domestic and the international levels are likely to affect prospects for international cooperation and could intensify competition among international actors. A number of countries, including EU member states, may shift from managing globalisation to managing the backlash against globalisation. The link between domestic fragility and the instability of the international system suggests that in the future states will be forced to cope with both mutual strengths and mutual weaknesses.

There is a risk that countries struggling with domestic challenges will grow more introverted and less engaged in a world that they may find more difficult to influence and understand. As a result, their foreign policies may become largely reactive and focused on short-term gains. No state is immune to this risk. But there will still be scope for leadership and renewal within states, depending on their capacity to innovate, bargain, shape or connect to cooperative platforms, and hedge against threats and adversaries. This set of political skills will be critical in the growing number of middle-powers, which are likely to gain influence within and beyond their respective regions by 2030.

These middle-powers can hardly be identified by quantitative indicators, although states that are very large or very small across most dimensions of power do not fit this category. Building on the experience of countries such as Canada, Australia and Norway, middle powers have been defined as playing a proactive foreign policy role, enhancing a rules-based global order and investing in niche issues on which they can make a difference (Evans 2011). Looking to the future, middle powers may or may not contribute to international stability, but their role will be consequential beyond their immediate borders and will impact the future of regional or global governance. Regional heavyweights such as Turkey, Saudi Arabia and Indonesia will play a pivotal role in shaping their regional contexts, whether by institutional or other means. Iran, Egypt and Nigeria may play leading roles on a regional level and beyond, but they also risk generating protracted instability and conflicts. Meanwhile, countries like South Korea (Lee 2012) and South Africa can serve as normative entrepreneurs or bridge-builders.

Japan is a major economic power that has pursued a middle-power diplomacy through multilateral bodies, trade, investment and development cooperation while relying on its alliance with the US for defence purposes. In the changing Asia-Pacific landscape, Japan will have to play a difficult balancing act between China, by far its biggest trade partner, and the US. Territorial disputes in the East and South China Sea have engendered a new debate on Japan's defence posture, with plans to boost investment in helicopter carriers, submarines and fighter jets (Japan 2013). Japan is likely to seek closer connections with a variety of political and economic partners to hedge the rise of China while engaging

with it from a stronger position. The country is actively promoting platforms for regional cooperation such as the East Asia Summit, a trilateral free trade deal with China and South Korea, and also the Indian Ocean Rim Association for Regional Cooperation. It has launched a strategic partnership with Vietnam and has been deepening a "global" partnership with India, while entering negotiations on the US-driven Trans-Pacific Partnership trade deal and on a free trade agreement with the EU.

Most middle powers are going to pursue multi-vector foreign policies that multiply their options and connections in a relatively uncertain world. The volatility of the international environment, however, is in large part due to the changing strategic postures of old and new major powers. Their future priorities and projection on the global stage will increasingly be shaped by domestic factors and challenges. In particular, the evolving roles of the US and China will be a game-changer for the future of the international order.

The US

The US will face the challenge of renewing the domestic sources of its international influence and managing its pre-eminent position in a more polycentric world. Many argue that prophecies of US decline are overblown and that the threats to US power mainly come from domestic political and economic deficiencies (Nye 2010, Altman and Haas 2010). However, the material power assets of the US are expected to shrink relative to those of others (Quinn 2011, NIC 2012). The future of US global leadership rests therefore not on undisputed predominance but on how the US will exercise its power abroad.

The world's leading power is suffering from serious shortcomings in political and economic governance. These include the swelling national debt, which expanded four-fold between 2000 and 2012 and stands today at over 100% of GDP, and an increasingly polarised and ineffective political system, which is less trusted by the public (Zakaria 2013). Meanwhile, domestic inequalities have been growing for decades, eroding the social fabric and prospects for social mobility (Packer 2011).

And yet many factors suggest that the US has the capacity to rebound (Altman 2013). Since the depth of the crisis, the US economy has returned to moderate growth and job creation has followed. The US remains at the cutting edge of innovation, still accounting for about one third of global R&D spending and triadic patent applications (Veugelers 2012). It will also continue to be a rather youthful country; by 2030, the median age in the US will be 39, compared to 43 in Russia and 42 in China (UN 2010). The relative youthfulness of the US is due in part to its shifting ethnic composition. The US Census Bureau reports that in 2010 the country's Hispanic population, which is projected to grow in the coming decades, accounted for approximately 16% of the total population, but 26% of all children under the age of five.

The so-called shale revolution in gas and oil has boosted the competitiveness of US industry and is expected to accelerate growth and generate employment in the coming decade. During the last five years, US oil and gas production has grown by 53% and 25%, respectively, with dependency on oil imports falling from 60% in 2005 to less than 45% in 2012 (Tucker 2012). The International Energy Agency (IEA) expects the US to overtake Saudi Arabia as the largest oil producer by 2020; North America is set to achieve near energy self-sufficiency by 2035 (IEA 2012).

A combination of “smart growth” at home and “smart power” abroad has been described as the main source of US influence and leadership in the years ahead (Mr Y 2011). A lively debate is taking place between those who argue that the US should retrench or restrain itself (Parent and MacDonald 2011; Posen 2013), and those calling for it to continue to “lean forward” and pursue a strategy of “deep” or “forward” engagement (Brooks, Ikenberry and Wohlforth 2012 and 2013; Flournoy and Davidson 2012). According to the former position, the US grand strategy of liberal hegemony has caused Russia, China, and other countries to react with both hard and soft forms of balancing, while allies have been allowed to free ride. Supporters of this view argue that US should adopt a restrained grand strategy focused on tackling core security challenges, including terrorism and nuclear proliferation. On the other hand, those arguing for a “leaning forward” strategy point to the major benefits of deep engagement, such as preserving the stability of critical regions, reassuring allies, and hedging against potential rivals while profiting from an open economic system.

At the moment, the US seems to favour prudent management over active projection of its pre-eminent position (Quinn 2011). This amounts to a policy mix featuring outreach to other major powers; increasingly selective engagement in military undertakings; a lighter, more discreet footprint in the Arab world; and a dispassionate focus on strategic priorities, notably through the so-called “rebalancing” towards the Asia-Pacific region (Clinton 2011). This policy mix is likely to inform US foreign policy for years to come.

In the next two decades, it remains unlikely that decisive progress will be achieved without US engagement, whether in addressing major security crises or clinching important multilateral deals. But US engagement in international affairs may become less decisive in achieving results. Beyond major disruptive events, the US is likely to devolve power (and accompanying responsibilities) to its friends and to rely on flexible coalitions fitted to different purposes, perhaps embedded in broader multilateral institutions such as NATO (Manning 2012). The US will seek to leverage two of its biggest comparative advantages on emerging competitors, namely the unparalleled range of its partners and allies and its central position in a variety of networks including both states and non-state actors. While alliance is a function of diplomacy, connectivity is a function of society. In a “networked world”, the US, as the most connected country, should enjoy a competitive edge (Slaughter 2009).

China

The overriding issue for China's future is whether the Chinese Communist Party (CCP) will be able to introduce economic and political reforms while preserving its rule. China's annual growth rate is expected to slow from around 10% over the last decade to approximately 7% through 2020, if sharp disruptions are avoided. Many argue that China's statist development model has run its course (Magnus 2013; Wolf 2013). The short-term risk is that asset bubbles could burst, precipitating a crisis of the financial system and hitting savings and incomes. If a hard landing is avoided, the longer-term risk is that China falls into a "middle-income trap".

The country has already begun a transition toward a growth model that relies more heavily on domestic consumption. The current account surplus has fallen from a peak of 10% of GDP in 2007 to 2.8% in 2012 (*The Economist* 2012). But sustaining such a transition (and paying for social safety nets that cater for an ageing population) will require higher levels of innovation and efficiency. China's share of R&D expenditure has jumped from 3% of the global total in 1999 to 12% in 2009 (from 0.8% to 1.7% of GDP) (Veugelers 2012).

While China's share of patent applications has been growing significantly in the last ten years, the country still accounts for only a minimal share of triadic patent applications, which deliver the highest economic returns. Knowledge- and high-tech-intensive sectors contribute only 20% to China's GDP as opposed to around 30% for the EU and Japan and 40% for the US (National Science Foundation 2012). The Chinese government has the potential to encourage further innovation. However, this would likely require wide-ranging institutional changes, such as liberalising the financial sector, strengthening the rule of law and encouraging "disruptive" talent, which could challenge powerful vested interests and cultural norms.

Many analysts argue that the overriding concern of Chinese leaders will remain domestic political stability, a proxy for the survival of the CCP (Breslin 2010; Jakobson 2013). For example, China's public security budget, which is spent on internal security concerns, is currently larger than its rapidly growing defence budget, partly owing to tensions in Xinjiang and Tibet (IISS 2013, China 2010). Others stress China's distinct cultural roots, and contest the view that its modernisation will lead to Westernisation or liberalisation (Weiwei 2011). According to this view, an adversarial political system would not suit China, which has been introducing progressive reforms to make the selection of leaders more transparent, gradually conducting popular polls to inform policy decisions, and trying to boost meritocracy. China will need to redefine itself and will probably do so in ways that do not replicate the experience of the West. However, it will not be able to neglect the realities of an interconnected world or deny its citizens' aspirations.

Some argue that China's economic success has not translated into greater self-confidence on the international level (Huang 2013), and that growth has propelled China to great power

status too quickly, making it a “premature power”. Most agree that China’s foreign policy will continue to be dictated largely by domestic concerns of growth and stability (Gill 2010). Until now, two basic factors have accounted for China’s foreign policy: the quest for resources and markets, and the country’s normative approach to international affairs. Oil imports account for over half of China’s consumption and that share is expected to rise to 75% by 2035. Gas imports grew steeply in the last few years and covered 22% of consumption in 2011, but gas demand could triple by 2035 (EIA 2012b). China’s worldview builds on the rejection of Western hegemony and supports the democratisation of international relations and tolerance of differences, which, according to the Chinese view, should be reconciled but not levelled out (Wang and Rosenau 2009). An equally important strand of China’s foreign policy outlook aims to restore the country’s standing after the “century of humiliation”.

China’s diplomacy has been described as risk-averse and self-interested (Shambaugh 2013). Great power peace will remain one of China’s overriding objectives; however, a harder tone can be expected when the country feels confronted. An essentially reactive foreign policy, driven by domestic priorities and the quest for status, carries two major consequences for the future: the risk of incidents around the islands of the East and South China Seas spinning out of control (Jakobson 2013); and a lack of initiative to solving global problems, which is a critical component of political influence in an augmented world.

India

By 2030, India might be the third-largest state power in the world after the US and China. The country’s future status will depend on whether it fulfils its huge potential or falls victim to the many deficiencies that might affect its future prosperity and stability. India’s economy is already larger than Japan’s at PPP (although only 30% at MER). In 20 years, its population will grow to over 1.5bn, overtaking China, with a median age of just over 30 – far younger than any other major power. India will also add about 270 million people to its workforce (McKinsey 2011); the working age population is unlikely to peak before 2050 (NIC 2012). While the economy is projected to grow at a high rate (7% on average up to 2030), population growth will keep India’s GDP per capita much lower than that of other emerging countries. That said, the middle class is expected to grow very quickly, with India possibly becoming the largest middle-class consumer market by 2030 (Kharas 2011). Furthermore, around 220 million people are projected to move from the countryside to urban areas by 2030 (McKinsey 2010).

India’s rise faces considerable challenges at home and abroad. Trade accounts for a growing share of GDP but the country still accounts for less than 2% of global trade, running a large trade deficit. India will need to shift towards a more export-oriented growth model, but the US and Europe are unlikely to provide the same traction as they did for China. On the domestic front, enhancing living standards, creating jobs and improving productivity will require major efforts in areas such as health and education. India’s development will require many resources that might be in short supply.

Between 10% and 25% of the population may face water shortages by 2030, and food security may be endangered by declining growth rates in agricultural output, compounded by the effects of climate change, to which India is particularly exposed (Jaffrelot 2012).

Power shortages and energy security are other major concerns. Today India imports over 80% of the oil and 20% of the gas that it consumes (IEA 2012). The country's energy consumption is expected to grow by as much as 110% by 2030 (BP 2013). Developing India's urban and transport infrastructure will be a decisive factor in sustaining growth. By some estimates, India will need to invest \$1.2 trillion in its cities by 2030 (McKinsey 2010), along with massive investment to upgrade poor road and rail connections.

India will also continue to focus on serious internal security threats, notably jihadist terrorism and the Naxalite insurgency. Tensions in its neighbourhood will also be paramount, as relations with Pakistan are likely to remain fraught and the Indian Ocean will grow in geostrategic importance as a primary maritime artery. Indeed, three of the 15 countries considered most at risk in 2030 – Afghanistan, Bangladesh and Pakistan – are in India's immediate neighbourhood (NIC 2012). India will also expand its profile on the global stage, supported by considerable soft power but also by a defence budget that might range between \$90 billion and \$120 billion within a decade (surpassing that of any individual EU member state). The pragmatic pursuit of "strategic autonomy" is likely to remain central to India's posture.

Russia

Russia faces an uncertain future. This presents the EU with distinct challenges given Russia's geographical proximity and shared vulnerabilities. A number of fundamental socio-economic indicators are blinking red, while the country's political system shows signs of involution. The question is whether the window of opportunity that Russia enjoyed in the past decade is closing. High energy prices in the 2000s afforded it the chance to pursue its international interests, reassert its influence, and promote reforms at home. Russia will remain a major geopolitical player, not least thanks to its membership of the UN Security Council, although the country appears more inclined to block initiatives than to advance them. However, Russia has largely wasted its opportunity for political and economic reforms. It is questionable whether the current ruling elites consider genuine modernisation compatible with their interests.

Owing to the combination of low fertility, high mortality and low migration rates, Russia's population is expected to contract by at least 11 million between 2008 and 2025. Russia holds the world's largest reserves of natural gas, the second largest of coal and the ninth largest of oil (IEA 2012). But these endowments of fossil fuels have provided short-term gains at the risk of long-term losses. Russia's growth rates dropped from 8.5% in 2007 to 3.4% in 2012, while 1.8% growth is expected for 2013. Meanwhile, the World Economic Forum reports that Russia's budget break-even point has climbed from a price of \$34 per oil barrel in 2007

to \$117 in 2012. US oil and gas production is expected to overtake Russia's by the end of this decade (IEA 2012), and the shale revolution may greatly affect gas prices. Rising demand in Asia may help prop up Russia's exports, but Russia's economy has grown increasingly exposed to commodity price volatility (WEF 2013), a trend that is likely to intensify.

The conjunction of high levels of corruption, poor public services, high levels of inequality and worsening economic prospects could progressively erode the power base of the current regime. The expanding middle class is increasingly disillusioned with domestic politics, although it still lacks political weight. Nationalism is on the rise, including small but active xenophobic groups, in a country whose Muslim population is expected to grow from 11.7% in 2010 to 14.4% in 2030. Meanwhile, Moscow continues to worry about separatists in Chechnya and Dagestan (Russia 2010). In short, while the legitimacy of the regime is weakening, no viable alternative is in sight, which suggests prospects for either stagnation or domestic turbulence.

Russia is likely to remain essentially a status quo power, chiefly interested in preserving its status at all of the top tables of international politics. This is also the main rationale, and limitation, of Russia's proactive endorsement of the BRICS format. Moscow sees the coalition of rising powers as an influence multiplier and a vehicle to restate its claims to sovereign independence and non-interference, but it does not consider the BRICS grouping an alternative to relationships with the US and Europe. At the regional level, Russia is keen to establish the Eurasian Economic Union with Armenia, Belarus and Kazakhstan by 2015, but Ukrainian membership would be the real political game-changer in the region.

Brazil

Brazil is a regional giant with a growing global presence. The country has a rapidly expanding middle class, a stable democratic regime and a distinct international identity, enabling it to connect with different partners and coalitions. Brazil holds very significant resource assets, including almost one fifth of the world's freshwater; it is also the fourth-largest food exporter and has very large reserves of iron ore and uranium, among other minerals (Council on Foreign Relations 2011). Following the discovery of large pre-salt deposits in the last few years, estimates of Brazil's oil reserves are in the range of 50 billion barrels of oil equivalent (EIA 2012a), whereas proven oil reserves stand at over 15 billion barrels (BP 2012). The potential large-scale exploitation of pre-salt deposits may have far-reaching internal and external implications. Within a decade, Brazil could emerge as an important oil exporter, to the tune of 1 million barrels per day or more (Council on Foreign Relations 2011).

Large income disparities remain in Brazilian society, but in the last decade an estimated 35 million people have joined the middle class, which now accounts for about 50% of a population of 200 million. This growth is expected to be moderate, with the population stabilising at 215-220 million by 2030, with a median age of 37 – higher than in India, South Africa and Mexico,

but lower than in China (UN 2012). With an average GDP growth rate of over 4% between 2003 and 2010, Brazil has become the seventh-largest economy in the world (World Bank 2013e). However, the main driver of growth has been high demand for commodities from Asia. In particular, bilateral trade with China leaped from \$6.5 billion in 2003 to \$75 billion in 2012 (Tang 2013), making that country Brazil's largest individual trade partner. Commerce with China now represents roughly 15% of Brazil's trade flows, while the EU as a whole accounts for about 19%. However, most of Brazil's exports to China consist of commodities (Jenkins 2012), whereas Brazilian industry has suffered from the inflow of cheap manufactured products from China.

This points to deeper structural problems with the Brazilian economy such as inadequate infrastructure and low levels of competitiveness and trade openness (WEF 2012b, International Chamber of Commerce 2013). With the slowdown of Asian economies, Brazil's growth dropped to a modest 1.5% in 2012. High growth rates and sound domestic governance are going to be critical to improving living standards and sustaining political consensus in the coming years (witness the widespread protests against poor public services and corruption during 2013).

Brazil aims to maximise its autonomy and influence on the global stage by leveraging its participation in top global fora such as the G20 and pursuing coalitions with both advanced and developing countries (BRICS, IBSA, BASIC, the New Quad). Membership of the UN Security Council will remain a driving objective of Brazil's foreign policy. The country can be expected to invest in policies that reinforce its international standing, such as contributing to UN peacekeeping operations, engaging in preventive diplomacy and fostering regional cooperation, not least through the UNASUR. Yet another dimension of Brazil's growing international engagement is a degree of normative and diplomatic entrepreneurship. This is evidenced in the debate over the concepts of "non-indifference" and "responsibility while protecting" (Benner 2013, Wojcikiewicz Almeida 2013); the bilateral initiative with Turkey to unlock the Iranian nuclear dossier; and the "bridging" role between advanced and developing countries that Brazil has played in climate change negotiations (Gratius and Gonzalez 2012).

While charting a distinctive diplomatic profile, Brazil's threat perception remains largely anchored to traditional concerns such as territorial integrity, borders and the protection of national resources, including the pre-salt oil deposits in the Southern Atlantic (Costa Vaz 2013).

The European Union

The core question for the future of the EU and its influence in the world is whether the bloc is a path-finder or an exception. In other words, will the unique experiment of rules-based political integration undertaken in Europe fit or collide with external trends in the distribution and exercise of power (Grevi 2013b)? The basic "switch" factor that will take the EU down the path of renewal or decay is whether its internal diversity will prove an asset or a liability. The economic, demographic and resource trends outlined in this report point to a shrinking

Europe on the global stage. By most projections, the EU will lose about ten percentage points of global GDP between 2010 and 2030 (in PPP terms). As a relatively smaller economy, it will be increasingly dependent on energy imports. The share of Europe's energy consumption supplied from abroad is expected to rise from 54% in 2010 to about 65% in 2030, with imports covering 94% of oil demand by then (up from 84% in 2008) and 83% of gas demand (from 62% in 2008). In 2010, the EU depended on Russia and OPEC countries for, respectively, 32% and 36% of its oil imports. Russia accounted for 40% of the EU's natural gas imports, with Norway providing 30% and Algeria 15% (European Commission 2011a).

Ageing will pose another distinct challenge to the EU. The share of its population over 65 is projected to grow from 16% in 2010 to 22.6% in 2030 (Eurostat 2013a). The old-age dependency ratio would correspondingly rise from 26.2 to 36.4 over the same period. Europe's workforce is expected to start declining in 2013 and might shrink by 50 million in the next 50 years (Eurostat 2010).

Public discontent with the inability of many governments in Europe to cater to the needs and expectations of their citizens has been mounting (Schwarzer and Youngs 2013). Polls indicate that the EU risks becoming the principal victim of the deepening crisis of trust in politics (Pew 2013, European Commission 2012a). Economic distress and domestic political strains within Europe have detracted focus and resources from foreign policy (Vaisse and Kundnani 2012, Grevi 2013a), resulting in member states placing commercial diplomacy at the core of their relations with important partners (Youngs 2012). If Europe fails to generate prosperity for its citizens, solidarity across the Union and stability in its neighbourhood, then the purpose of the whole project may become increasingly questioned at home and abroad.

However, this is not a foregone conclusion. The current travails of the EU can be seen as a major effort to enhance its political and economic integration and resilience in the face of the shocks of globalisation (Schwab 2012). From this standpoint, the EU may be a step ahead. Compared to nation-states, policy-making within the Union may be more laborious and cohesion thinner. But compared to any other form of multilateral cooperation, the fabric of the EU is incomparably thicker, which presents it with considerable opportunities.

The critical mass provided by the Union will be essential to helping Europeans make a difference in shaping the world between now and 2030. The EU can be seen as an influence multiplier for its member states, enhancing their collective contractual power in both multilateral and bilateral settings. Whether on issues of trade, climate change mitigation, resource governance or military intervention, the clout of individual EU countries is going to be marginal 20 years down the line given current power trends. Scale is an EU asset that is likely to grow in importance, but EU foreign policy will not replace national ones. The diversity of the experience, expertise and profile of the EU's member states can be a major political

resource for the Union, if their initiatives are framed by common objectives and undertaken either individually or via flexible formats. In other words, the EU can be home to “separable but not separate” foreign policies.

The EU and its member states have the potential to play an important role on the global stage. The EU remains a trade, investment and R&D superpower, although its advantage is likely to progressively erode on all of these accounts. The EU and its member states have about 66,000 troops deployed abroad, a network of 57,000 diplomats, and an aggregate defence budget that is second only to that of the US (Leonard and Kundnani 2013). Whether these assets will be leveraged will depend on a suitable mix of pooling and flexibility.

Two major external trends will shape the context of Europe’s external action: growing instability and geopolitical competition in its neighbourhood, and the future of transatlantic relations after the rebalancing of the US strategic focus toward the Asia-Pacific. One of the principal questions for the future of EU foreign policy concerns the Union’s global or regional reach. Some have argued that the EU has no choice but to play a global role corresponding to its weight and interests (Simon 2013). At the same time, some suggest that volatility in its “strategic” neighbourhood, including the Caspian, Gulf and Sahel regions, may require the EU to prioritise its external efforts in those places (France 2013b, Keohane 2013a).

Ultimately, the EU may not be able to afford a choice between regional focus and global influence (EGS 2013). Supporting reform and lasting stability in its neighbourhood will be a critical benchmark for its credibility as a global player. Conversely, contributing to curb competition, prevent conflicts and tackling transnational challenges on the global stage will be a condition for the EU’s security and prosperity and that of its neighbourhood. The latter, however, is the region where the EU will be expected, and may need, to act as a security provider able to carry out the full spectrum of crisis management tasks. The recent experience, with the vast majority of Common Security and Defence Policy (CSDP) missions deployed in the “extended” neighbourhood of the EU since 2003, sets a trend that is likely to last in the future.

As with other international actors, the future of European foreign policy starts at home. Unlike its state partners, however, the EU is a collective international actor in the making, whose future shape remains uncertain. Deepening or enlarging the EU have long been presented as alternatives in the debate on Europe. In future, the two strategies may be seen as complementary, a two-way track toward a multi-tier EU. A twin trend could be envisaged whereby some member states seek looser forms of association to a deepening core-Europe, while some of the frontrunners for accession or other well-performing countries in the neighbourhood negotiate innovative forms of strategic partnership with the Union. In this context, the future course of the UK and Turkey will prove critical to the future of Europe and its place in the world.

4. Competition, Cooperation and Governance

The future international system will feature growing competition and faltering cooperation, against the backdrop of deepening interdependence. The paradigms of globalisation and geopolitics will co-exist uncomfortably in an increasingly unstable balance. The spread of connectivity, the empowerment of non-state actors, and the proliferation of transnational networks is changing the context of geopolitical competition and diluting the power of individual state actors. However, this trend has not detracted from the pragmatic pursuit of national interest by large powers and other countries. A fundamental discrepancy is emerging between the generic awareness of mutual dependency and the shallow inter-state platforms of common principles and shared priorities that can enable meaningful collaboration. For the European Union, as an international actor strongly committed to “effective multilateralism” (Council of the European Union 2003), this emerging dichotomy between a world of competition and cooperation is an especially acute challenge.

4.1. GEOPOLITICAL COMPETITION

Most official European defence policy documents tend to focus on transnational challenges and prospects for cooperation rather than inter-state competition. For instance, most consider a direct military threat to European territory as very unlikely for the foreseeable future (France 2013a, Germany 2011, United Kingdom 2010a, Netherlands 2010). This contrasts with the official defence documents of a number of non-EU countries, many of which worry about territorial disputes in their immediate regions (China 2013, Russia 2010, Japan 2013).

Border disputes deserve particular attention, especially in South and East Asia, since they mostly involve major powers. For example, China’s 2013 defence White Paper emphasises the need to be able to win “local wars” in the future, a reference to territorial disputes with neighbours. In recent years tensions have grown between China and Japan over the Senkaku/Diaoyu islands; between China, Vietnam, the Philippines and Indonesia over territorial waters; and between China and India over their Himalayan border. In addition, the Korean War has not yet ended (and North Korea has nuclear weapons), and tensions continue between nuclear-armed India and Pakistan over the Kashmir region. Russia is also very concerned about the military presence of others (the US and potentially China) in Central Asia and has an ongoing border dispute with Georgia in the Caucasus.

The growing spectre of resource insecurities (as described in Chapters 1 and 2) could combine domestic political priorities with international tensions to become a geopolitical game-changer. There are at least two aspects to this: first, resource insecurities may exacerbate existing border tensions; second, increased resource competition may translate into geopolitical competition. With regard to existing border tensions, for example, a number of countries are expanding their claims to maritime exclusive economic zones because of projected untapped oil and gas reserves; this trend has contributed to ongoing maritime disputes in the South and East China Seas. Similarly, future freshwater shortages could multiply Indian-Pakistani tensions over Kashmir. It could also add to tensions in the Middle East, a region that will account for 90% of global oil production growth by 2030 and where Iran is already suspected of trying to develop a nuclear weapon.

More broadly, to sustain their economic growth rates (or, in some cases, to revive them), many countries will increasingly need access to resources and trade. The EU, for example, may need to import 65–70% of its energy needs by 2030, compared with 54% in 2010. Furthermore, by 2030 fully 90% of Middle East oil may be exported to Asia. Similarly, China is expected to further increase its fast-growing commercial presence in regions such as Central Asia, Sub-Saharan Africa and perhaps even the Arctic owing to those regions' large reserves of untapped natural resources. The Arctic is estimated to contain 14% of the world's untapped oil reserves and 30% of untapped gas (France 2013a). In other words, China and India – both resource-dependent rising economic powers – are likely to increase their commercial, political and perhaps military presence well beyond their immediate regions, especially in Europe's broad neighbourhood.

Ninety per cent of world trade (and 90% of EU external exports) is carried by sea. Thus, as competition increases over access to resources, maritime security will become more important, especially in East and South Asia (France 2013a; Holslag 2012, Behr, Aaltola, Brattberg 2013). There are a large number of choke points and narrow straits stretching from the Suez Canal to the Straits of Hormuz and Malacca and up to the East China Sea (Rogers 2009; Netherlands 2010; Kaplan 2010). China and India are already expanding their commercial presence across the Indian Ocean, a body of water that accounts for one-third of world cargo traffic and two-thirds of oil shipments (Australia 2012). This matters for Europe too: in 2010 28% of EU external trade was with East Asia, an impressive 5% more than across the Atlantic (Council of the European Union 2012a).

How the global military presence of the United States evolves will have a major impact on the prospects for geopolitical competition. Currently, it is in the process of re-balancing its military resources away from Europe and toward the Asia-Pacific region (United States 2012a). It is an open question whether the US will reduce its military presence in other critical regions, a shift that could be motivated by budgetary, geo-strategic or domestic political reasons

(Davis L. et al. 2012, Harrison & Gunzinger 2012). However, analysts do not expect the US to greatly reduce its military presence around the Strait of Hormuz, which connects the Persian Gulf to the Gulf of Oman. One third of petroleum shipped by sea passes through Hormuz, and this percentage is expected to rise given that most future growth in oil production will come from the Gulf. Thus, this region will remain of crucial strategic importance for the global economy, even though the US is likely to become much less dependent on oil imports from the Gulf in the near future (Cordesman, 2013).

But there is a growing consensus in Washington that the US will need to increase its reliance on others to assume some of its current military roles, such as protection of the global commons (NIC 2012, Manning 2012). In this regard, Europeans and Americans may adopt different approaches to providing security in different theatres, from the Middle East to South and East Asia, based on their respective strengths and know-how. However, the transatlantic partnership is likely to remain a cornerstone for the security interests of the US and the EU.

Aside from the potential economic impact of the Transatlantic Trade and Investment Pact (TTIP), some argue that, if agreed, it may pave the way to broader strategic convergence between Europeans and Americans (Dassù and Kupchan 2013). Whether this happens will in part depend on Europeans' ability to take autonomous action, notably in their neighbourhood. In turn, this will depend on European willingness to enhance their military capabilities. However, enhanced European strategic autonomy would be unlikely to lead to a neat geographic division of labour between Europe and the US. But a more potent EU would be an important precondition for mutual reliance within a stronger transatlantic partnership, whether or not the allies operate jointly. Likewise, it would be an important variable for the future of NATO, given growing concerns that the ongoing deterioration of Europe's military capabilities will diminish the relevance of the alliance in the future (Gates 2011, Keohane 2012a). A more balanced EU-US security partnership, including – but not limited to – military cooperation, could become a pillar of NATO's viability in the long term.

Regardless of the intentions behind the Obama administration's "pivot" to Asia, China perceives the shift as an attempt to constrain its regional ambitions and actions (China 2013). The risk is that the coming decade could witness a vicious circle in which both powers adopt increasingly adversarial postures from which they may struggle to back down. Direct conflict between the two remains unlikely, as their interdependence runs very deep. But even if major conflict is avoided, a dysfunctional relationship between the two countries would have significant negative consequences for the international system as a whole. The EU should consider how it can carefully navigate the Sino-US relationship and help encourage a cooperative Beijing-Washington relationship. While the US will remain the EU's most important political partner for the foreseeable future, China's economic importance to Europe is also likely to grow significantly by 2030.

Lingering Cold War-era issues continue to plague the US-Russian relationship; these include mutual reductions in nuclear weapons and missile defence (as well as differences over the current situation in Syria). Over time, however, the long-term focus of the Moscow-Washington relationship may lie more in the Asia-Pacific region rather than the Euro-Atlantic sphere. This is partly because Moscow considers China's overall importance as higher than that of any other country bar the US, and partly because the US is re-balancing its military resources to East Asia. Russia would not wish to be drawn into any Sino-US confrontation, but it worries about the growing dependence of its Eastern provinces on China's economic strength and Beijing's increasing influence in Central Asia. As a result, some Russian strategists regard China as a greater long-term threat to Russia and see the US as a potential long-term ally (Trenin 2012). If US-Russian relations increasingly focus on the Pacific, the EU-Russian relationship may become as important as the NATO-Russia paradigm for Euro-Atlantic security.

Cooperation with the US will remain a major axis of Indian foreign policy, but Delhi is likely to pursue it only in so far as the relationship will be instrumental to its needs, and not as a full-spectrum alliance (Khilnani et al., 2012). Some strategists have speculated about the creation of a type of Indo-Pacific version of NATO, centred on an Indian-US alliance (along with Australia, Japan, South Korea and perhaps some European countries) (Curtis et al. 2011). However, India has little interest in antagonising China, its most important trading partner. Although tensions between China and India will persist along their shared border, across South-East Asia, and in relation to Pakistan, future relations between the two countries may oscillate between pragmatic rivalry and cold partnership. As both China and India become world powers, the nature of their relationship will matter a great deal in the world of 2030.

4.2. A NEW NORMATIVE DIVERGENCE?

Geopolitics is not the only relevant arena of competition in the medium to long term. Equally consequential will be the competition of ideas in a polycentric world. In the emerging international system, powers with vastly different concepts of world order not only co-exist; they intensely interact (Grevi 2009; Weber and Jentleson 2010, Kupchan 2012). Looking to 2030, it is unclear whether the traditional liberal democratic and market-oriented consensus at the basis of the international order will continue to be the predominant model of reference. Those carrying an alternative value system, notably China and Russia, have been gaining strength in the last decade. If their rise continues, and their regimes do not reform, the market of ideas may grow increasingly competitive.

The central question for the future of global governance is whether modernisation and Westernisation will go hand-in-hand or be delinked. Some have argued that the West – including the EU – will have to embrace or deal with diverse political perspectives as the

world heads toward different concepts of modernity, making global governance more difficult (Kupchan 2012; Patrick 2010). Conversely, the road to modernity may continue to go through the current international order, which should be flexible enough to accommodate rising powers (Ikenberry 2011a and 2011b). Over time, autocracies may not survive without economic liberalisation, nor would they wish to exclude themselves from a system on which they depend (Deudney and Ikenberry 2009). Others anticipate a new era of competition between liberalism and autocracy, with great powers aligning according to the nature of their regimes (Kagan 2008).

However, political values prevalent at home may or may not inform behaviour on the international stage. For instance, large democracies such as Brazil and India often criticise perceived Western intrusiveness in the domestic affairs of others. The EU and the US do not always agree on global governance, for example on the Comprehensive Test Ban Treaty or the International Criminal Court. China and Russia do not always share the same priorities: Beijing tends to prioritise economic governance (such as that provided by the WTO), whereas Moscow focuses more on security architecture (Grant, 2012). Prevalent trends do not seem to point to a world dominated by two “blocs” – liberal and illiberal. Based on recent experience, alignments are likely to continue to change depending on policy issues.

The progressive, if contested, mutual approximation of different normative approaches may also come to define new agendas. In the field of development, for example, the dominant (OECD-framed) agenda is already being challenged by the emergence of new development partners – the BRICS, Gulf states and others – who bring different normative agendas and forms of partnership. As the global development landscape continues to be reshaped over the coming decades, traditional donors will need to assess the extent to which they may adopt elements of the emerging powers’ approach to development (Fejerskov 2013).

In addition, the “revival of sovereignty” poses another challenge for the EU, whose project is predicated on the pooling and sharing of sovereignty to manage interdependence. Emerging powers regard the principle of non-interference as legal insurance of their growing political clout. The US shows little inclination to limit its freedom of manoeuvre with binding rules. In a world where domestic problems can very easily spill over borders, the revival of sovereignty will not necessarily resolve global challenges, but it may prove a lasting political trend.

4.3. MANAGING THE GLOBAL COMMONS

The commons (open seas, space, cyber-space) are best governed when power structures are stable, the rules of the game are well defined, and there is a clear understanding of both who is in power and how those in power are allowed to govern. But at the international

level the world is seeing a shift in power, the rise of new questions about the rules of the game and the emergence of differing understanding of rights and responsibilities. Pragmatic technical solutions may not always work when countries routinely play for advantage (natural resources), where objections of principle and perspective dominate negotiations (climate change) or where states have radically different interpretations of the risks and opportunities of putting the commons to use (information).

Institutions are necessary to governance, but new ones may not always be required. Plus, the proliferation of semi-permanent institutions – each with its own logic and framework for competition – may be counter-productive. Rather, a methodology of global governance that is sufficiently loose but inclusive – involving players that bring knowledge, resources, interests and will to the table – may allow governance deficits at the global level to be better addressed. A world of new platforms and partnerships is most likely to emerge under such a scenario, in addition to changes in the content, structure and membership of the existing global institutions,

Potential disruptions to global systems between now and 2030 could lead to a range of possible outcomes: from a *prise de conscience* driving enhanced global action to a narrowing of perspective on defending particular positions or gains at the expense of others. A serious risk looking to 2030 is that the ungovernability of the global commons becomes the new norm, causing states or other groups to claim their piece of the global commons (maritime, informational) at the cost of global welfare. If rules-based global governance of the commons remains elusive in the short term, the chief task will be to ensure that other forms of cooperative governance are given space to emerge.

4.4. EMERGING CHALLENGES IN SECURITY GOVERNANCE

Unless global nuclear disarmament and non-proliferation efforts are stepped up significantly and consistently, it is likely that there will be an increase – probably small – in the numbers of possessors of nuclear weapons by 2030 (Yusuf, 2009; Potter and Mukhatzhanova 2010). However, with the exception of the successful 2010 Review Conference of the nuclear Non-Proliferation Treaty (NPT), the consensus-based multilateral negotiating machinery is struggling to make further progress. In contrast, negotiations of multilateral disarmament treaties that have been agreed through stand-alone, non-consensus-based processes have had far more success (such as the 1997 Mine Ban Treaty, the 2008 Cluster Munitions Convention and the 2013 Arms Trade Treaty). Looking to 2030, if governments prioritise progress over form there is likely to be further frustration with established frameworks and continuing defection to plurilateral processes.

In the next few decades, the numbers of space-faring countries will increase and almost all countries will be space users. In the absence of an international legal framework to prevent

the weaponisation of outer space, the destabilisation of the space environment is likely to occur by 2030 through the placement of weapons in space or growing interest in the potential to attack satellites from Earth. The diplomatic process launched by the EU in June 2012 “to discuss and negotiate its initiative for an International Code of Conduct for Outer Space Activities” is a worthwhile initiative, seeking to harmonise the current patchwork of unofficial guidelines, bilateral agreements, and informal industry standards.

Cyber-attacks against EU critical infrastructure are likely to happen with increasing regularity, and the resilience of these systems will be tested. The EU has an opportunity to continue developing best practice in the cross-border governance of infrastructure resilience. By 2030 the knowledge gained from close EU technical and political linkages (e.g., policies and best practice) might be highly desirable to other regions, where digital interconnections may be a decade or more behind the EU.

In the emerging era of big data, governments will have an unprecedented ability to monitor their own societies, as well as societies in other countries. This will pose difficult questions about the trade-off between providing security and protecting privacy and freedom of the individual. Plus, the kinds of mass surveillance technologies previously only used by governments will be available to the private sector and to non-state actors by 2030. To date, legislation and regulation has lagged behind the pace of technological change. The long-term policy challenge is to make informed choices about the trade-offs between the availability, confidentiality and integrity of data. This will require updated legislation and regulation, and adaptations in governance models at the macro level (i.e., the global Internet).

4.5. A REVIVAL OF REGIONALISM?

Regional cooperation may grow in importance but it will take many shapes, making it difficult to identify a consistent pattern. Drivers of regionalism – such as the weakness of larger multilateral frameworks, the priorities and vulnerabilities shared by neighbouring countries, and the extent to which leadership from regional heavyweights is accepted (or not) – will combine in different ways (EUISS/NIC 2010). In the long term, regionalism is unlikely to provide an alternative to global governance, but regional bodies may come to play an important role in mixed coalitions and platforms.

Overlapping layers of cooperation can be expected, as opposed to overarching highly-institutionalised regional architectures. Multiple regional frameworks exist because economic, political and security regional interests do not always coincide, for example in East Asia and Latin America. In the latter, Brazil drives UNASUR, but Chile, Mexico and Peru are members of APEC – and those three along with Colombia have established the Pacific Alliance. Asia is

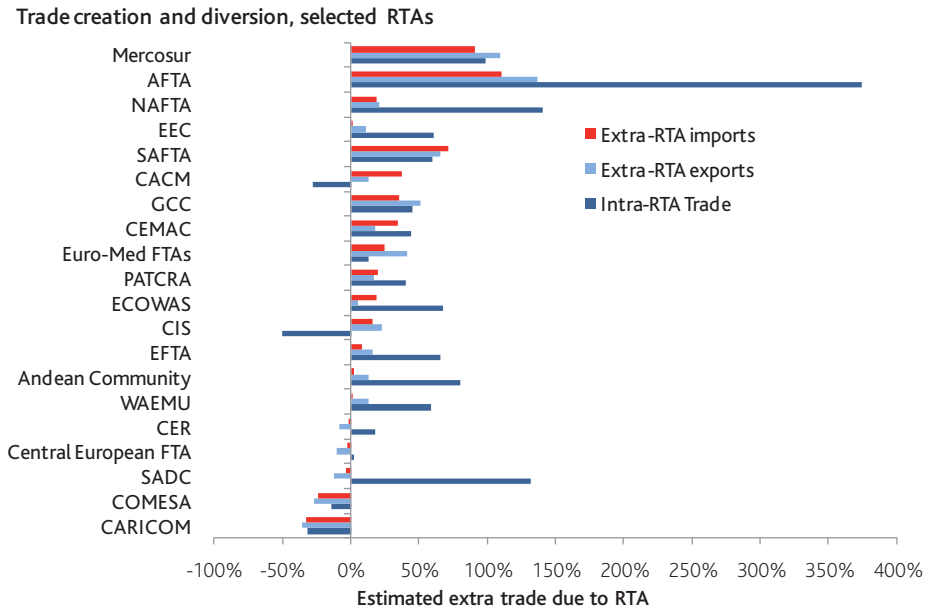
developing a thick alphabet soup of regional arrangements, many of which are centred on ASEAN-based fora such as the ASEAN Regional Forum, which is an important mechanism for dialogue in a region fraught with tensions. ASEAN holds considerable potential: it aims to establish an ASEAN Economic Community by 2015 and there is a debate on deepening cooperation to establish a borderless economic community with stronger institutions by 2030 (Asian Development Bank Institute 2012).

Trade is a domain where regional cooperation has clearly been on the rise. With the Doha Round at a standstill, all regions have recently responded to the challenging trade environment by negotiating new preferential trade agreements (PTAs), including East Asia and the EU (with Canada, India, Japan and South Korea). The US is also negotiating a Trans-Pacific Partnership with a dozen Asia-Pacific nations, and wide-ranging free trade talks were recently launched with the EU.

The blossoming of regional trade agreements has been a clear trend since the 1990s. While regional trade agreements (RTAs) will create some trade diversion, this effect may not be as harmful to overall global trade prospects as is sometimes suggested (see Figure 4-1). Indeed, RTAs may offer an imperfect but politically sound way to progress economic globalisation, brick by brick. Evidence suggests that RTAs act more like general trade liberalisation schemes – and are trade-enhancing – with the exception of COMESA and CARICOM (Baldwin 2011).

Figure 4.1
Recent estimates of trade creation and diversion resulting from RTAs

Source: Archarya, Crawford and Renard (2010) cited in Baldwin 2011



4.6 .THE FUTURE OF INTERNATIONAL COOPERATION

Growing disorder in the international system will make cooperation harder but not beyond reach. However, the effectiveness of such cooperation in delivering shared rules, as opposed to simply coordinating action, will be severely tested. The world is entering a novel situation in which there is growing demand for cooperation but no “supplier of last resort”. This is a critical discontinuity with the past, when hegemonic powers spread norms and built them into lasting regimes. But current power shifts do not amount to hegemonic succession because no emerging power seems willing and able to take on such a system-shaping role (Clark 2011).

In the past, the US and Europe have played a leading role in shaping the current multilateral order. The relative shrinking of their weight in the international system and growing normative competition will narrow their agenda-setting and normative power – although their combined power will remain significant, for instance on regulatory issues. Meanwhile, the BRICS countries have found common ground in voicing their opposition to what they perceive as an unfair Western-led global order (Valladao 2012). However, current trends point to different trajectories for each BRICS country (Stephens 2001, Sharma 2012). Their security interests often differ and sometimes conflict. Political and economic relations between the BRICS have been intensifying but, for each of them, relations with the US and the West at large are likely to remain a priority. Membership of the BRICS can be regarded as a hedging strategy vis-à-vis established powers rather than a strategic choice to dilute links with, or antagonise, them. In this sense, the BRICS are unlikely to offer a viable and consistent alternative to current governance regimes over the long term.

In this fragmented environment, leadership, trust and fairness are the three main factors that will determine the future of international cooperation and global governance. Trust is one of the scarcest resources in international politics and generating it will be one of the biggest challenges to enabling cooperation. Building trust and stability in conflicted national political systems will be a salient condition to building trust at the international level. Trust will also increasingly depend on perceptions of the fairness of respective initiatives and decision-making processes (Hurrell 2007). Norms can tame power, but they can also be an expression of power – a prevalent perspective of those who have traditionally felt at the receiving end of multilateral norm-making. Perceptions of fairness will remain at the core of negotiations over climate change, trade and sustainable development, among other domains. A mix of principled stances and tactical posturing has affected the Doha Round of trade negotiations and those over a post-Kyoto emissions regime, as well as debates on the implementation of the responsibility to protect. Consistency between norms upheld at home and abroad, and across different policy areas, is going to become more important to legitimatising propositions. For example, in development cooperation, the focus is shifting

from one-way conditionality to “shared” conditionality, with demands put on donors to ensure that their broader external action is consistent with their development objectives.

The global governance deficit (EUISS/NIC 2010; NIC 2012) primarily consists of the international community’s decreasing ability to set and enforce general binding rules. The gridlock of existing multilateral frameworks and processes is broadly acknowledged and calls for reform abound (Hale, Held and Young 2013). The success of institutional reform will depend on three main factors, namely: the redistribution of votes and seats in international financial institutions and at the UN Security Council (UNSC); the uncovering of sufficient common normative ground between key stakeholders to operate these institutions; and the capacity of the institutions to work with a variety of other actors and networks. In other words, making institutions more representative of a new balance of power will be only the first step toward meaningful governance reform, which will depend on the elaboration of shared agendas and on the performance of institutions as catalysts for action. Conversely, in the absence of reforms with regard to representation, the relevance of these bodies, including the UNSC, might be very much in question by 2030.

Institutional reform will not be the only driver of cooperation. Various parallel strands of governance innovation have been undertaken that are likely to be sustained into the future. So-called trans-governmental networks of government units have been established to perform mainly regulatory or soft rule-making functions and to address the governance tri-lemma: the requirement for global rules, the absence of central authority and the need for accountability (Slaughter 2004). Prominent examples include the Financial Stability Board, the Basel Committee on Banking Supervision, the Financial Action Task Force and the International Competition Network. Private actors, namely business and civil society, have also set up networks, such as those promoting market certification schemes for commodities. And 58 large cities have joined the C-40 network dealing with climate change (Hale and Held 2012). The trend is toward “hybrid” initiatives, involving both public authorities (national and international) and private stakeholders.

The rise of networks corresponds to a new form of “experimentalism” in global governance (Sabel and Zeitlin 2011). Experimental governance frameworks consult a wide array of stakeholders to set goals and indicators, leaving some flexibility to individual actors to adopt relevant measures and report on compliance through peer review mechanisms (such as those used by the OECD).

Networks enable coordination and a degree of supervision of both national measures and the conduct of relevant non-state actors. In this sense, they can also serve as confidence-building platforms and engage actors that are reluctant to enter more binding forms of multilateral cooperation. But they generally lack enforcement powers, mainly rely on

information provided by their constituent units rather than independent verification mechanisms, are exposed to free-riding given their voluntary nature, and are mostly sector specific – thus running the risk of missing the links between different policy areas (Hale and Held 2012). Aside from the specifics of different arrangements, many of these networks will perform best as complements to multilateral arrangements and not as alternatives to them. The focus is likely to be on the connection between different governance frameworks rather than on their separate operations. The underlying principle is that legalised and fully inclusive multilateralism may not always be the best way to trigger cooperation, and that the multilateral agenda should not be overburdened. However, the rule-making capacity of institutions remains a core (if severely tested) requirement of international cooperation.

The G20 is the most visible instance of recent governance innovation and provides important pointers for the future. Because of the direct involvement of heads of government, it is endowed with a potentially vast agenda-setting power, including issue-linkage between, for example, trade, development, and resource issues. The G20 has been criticised for being more an aspiration than an organisation (Bremmer 2012) and for being too small to be legitimate and too large to be effective (Rachman 2010). Having succeeded to overcome the meltdown of the global economy in 2008–09, the body has struggled to convert itself from a “crisis management committee” to a “steering board” for global economic cooperation (Angeloni and Pisani-Ferry 2012).

The experience of the G20 so far anticipates broader trends for global governance. Short of clear and present dangers motivating resolute action, progress is likely to be incremental at best, confronted by normative differences and domestic turbulence, while involving a wide range of actors for reasons of both legitimacy and effectiveness. “Coalitions of the committed” are going to become a frequent operating procedure, if not a standard one, in cases where broader consensus cannot be achieved.



5. Implications and Options for the European Union, 2014–19

The evolution of the international system over the next twenty years will challenge the European Union but not necessarily reduce its influence. Current economic, demographic and military spending trends point to the relative downsizing of the weight of the EU in the international system. Even so, on a 2030 horizon only the US and China will have resources comparable to those of the EU taken as a whole. The redistribution of power is not a zero-sum process, in that the gains of some need not entail losses for others. The gap between demand and supply in international cooperation may, however, be widening. The EU will face a major challenge to both temper geopolitical tensions and advance a rules-based global order.

Europe's strongest card in a more interconnected and competitive global context will be confidence in its experience of rules-based integration. That is what principally defines Europe in the eyes of others, whether for better – when it works – or for worse – when it does not. While its legitimacy is currently challenged, the EU has an opportunity to chart a new course out of the economic crisis and shape a rules-based international system in which interdependence and diversity become assets rather than vulnerabilities. Doing so would send a strong message to publics and leaders worldwide that national sovereignty can be used to join forces, not just to counterbalance one another. The ways in which the EU leverages its remarkable resources in the coming years will define its international influence over the long term.

Given the current and envisaged trends, reinvigorating the EU's approach to external action in the next five years (2014–19) could reap considerable dividends in the longer term. In a world of permanent bargaining and constrained power, EU governments and institutions may be in a good position to navigate complex negotiations and forge compromises. However, a growing range of more assertive actors are competing for influence in a polycentric world. This puts a premium on unity of purpose and consistent action, which may challenge a collective international actor like the EU.

The need to find a new point of equilibrium between geopolitical competition and cooperative frameworks is a challenge that needs to be addressed today. The EU is not alone in facing this challenge. Most large and middle powers are undergoing an uncertain transition; many also confront domestic strife. A weakened or broken global order would have serious repercussions for all of them – and would take far longer to restore than it would to damage or destroy.

The emerging weakness in global structures, combined with the advent of new forms of governance and influential networks, raise a particular set of challenges for the EU. On the one hand, Europeans will have to consider consolidating their presence in international forums. On the other, the EU has a strong interest in advocating and investing in the need for rules-based global governance. Even so, it will have to develop more flexible and innovative approaches to some negotiating frameworks and coalitions. This is especially the case in those policy areas where the governance gap is growing (climate, cyber, space) in a less permissive environment. For example, striking the appropriate balance between the availability, confidentiality and integrity of big data will be a priority and will require engagement with key state and non-state actors. The EU can neither seek to contain change on the global stage nor hope to drive it unilaterally. Instead, it will need to invest in shaping global governance in conjunction with other state and non-state actors.

5.1. THE SUPER-PARTNER APPROACH

Over the next five years, the European Union is uniquely positioned to develop new ways of engagement. As power becomes more diffuse and change more rapid, the EU could leverage its assets and enhance its influence by becoming a “super-partner” rather than aspiring to be a more traditional “superpower”. Becoming a super-partner would mean developing an effective diplomatic approach to a wide range of connected issues (such as the resource security, development and state fragility nexus) and exercising cooperative rather coercive power. The EU’s ability to act autonomously where necessary and the agility to partner where possible will be equally important determinants of influence in its neighbourhood and beyond.

Forming an enhanced set of partnerships would not only serve EU interests in bilateral relations but also help create the conditions to enable cooperation in broader frameworks. In a world of competing normative and political agendas, there will be no quick deals and success may sometimes prove elusive. But partnering could help the EU curb power politics. Becoming a super-partner would require it to devise a strategic approach to partnering – managing different levels of engagement in the pursuit of clearly defined strategic goals.

Partnering can also address the domestic vulnerabilities that narrow the scope for international engagement for many countries. Fostering engagement over the next five years on sustainable growth with China, India and South Africa would contribute to both confidence-building and tangible progress, for example on energy efficiency and urbanisation, which could over time create more space for an agreement on a multilateral framework to mitigate climate change. The EU could also consider fostering dialogue with some of the new aid donors to combine respective efforts more effectively in dealing with poverty reduction and state fragility. To that end, bilateral partnerships could be complemented by convening plurilateral platforms

including a variety of stakeholders and investors from donors such as Brazil, China, India, South Korea and Japan, among others. Conversely, multilateral negotiations towards the post-2015 sustainable development goals could become a central item in bilateral partnerships with these and other countries.

The US is likely to use its power more parsimoniously and rely more on others. That creates an opportunity to strengthen transatlantic relations over the next five years. The partnership is likely to remain central to both the US and Europe by 2030, but it will be largely based on what each party can bring to the table. The conclusion of a free trade agreement between the EU and the US may provide considerable energy to this partnership, boosting political relations beyond the economic dimension proper.

The evolution of China will be a major game-changer for the EU and the international system, and calls for a more strategic approach on the part of the Union. Faced with a volatile security context in East and South-East Asia – the region expected to drive global economic growth in the coming decades – the EU could explore ways to develop its relationship with China while enhancing engagement with a number of other Asian countries, some of which have concluded (South Korea, Singapore) or are negotiating (Japan, Malaysia, Vietnam and Thailand) free trade agreements with the EU. In other words, the Union could devise its own distinctive approach to the Asia-Pacific region in the coming years. In so doing, while its interests will broadly overlap with those of the US, it may contribute to stability and prosperity through different means. This could consist of a broadly preventive strategy directed to strengthening the political resilience and economic development of a vast region exposed to crises and shocks.

EU interest and values will be well served by partnering not only with some of the largest emerging countries but also with a range of middle powers that have the potential to make a difference to regional and, on select issues, global affairs. Over the next five years, a closer relationship could be pursued with Indonesia, for example, which will play a pivotal role for the future of ASEAN, and Nigeria, whose role is critical within ECOWAS and for the stability of West Africa and the Sahel. In the EU neighbourhood, the likely expansion of Turkey's role will call for a deeper political and security partnership with the EU.

Regional cooperation is an important part of the multi-level approach to partnership. The EU can bring substantial added value in interregional relations, notably via regional organisations in Africa and Asia, including in security affairs. By dedicating more resources and efforts towards building their capacity, the EU could strengthen the role of regional organisations in global and regional rule-making. The EU may also contribute to strengthening cooperation in broader regional spaces, such as engaging partners in the Atlantic basin (encompassing both North and South Atlantic). It could also invest in bolstering links between regional and global governance, for example when it comes to preventive diplomacy, mediation efforts or crisis management.

While faced with many challenges to the south and east (as illustrated in Annex 1 on The Strategic Neighbourhood), foreign policy towards the neighbourhood could aim not only to protect the EU from an increasingly volatile environment, but also to reaffirm and expand the values that are at the core of its external action. If the EU could shift from a mainly defensive to a more proactive stance, its approach to the strategic neighbourhood could be reinvigorated. This could require the EU to adapt the ways in which it wields its “normative” power, including further efforts to reach out to peoples as well as governments, and to respond to demands from local stakeholders, in shaping joint priorities and programmes.

Another important aspect of partnering will be to build cooperation for investment in advanced technologies to shore up infrastructure resilience as a strategy against disruption. Investing in the sustainability of physical infrastructure along major trading corridors – whether maritime or land-based – is also vital. Increasing transparency in global resources markets is a priority, as is balancing multilateral and bilateral trade relations to ensure EU economic competitiveness.

Unity of purpose combined with flexible implementation, multi-level coalition-building and proactive engagement in its strategic neighbourhood can be considered important guidelines for the EU to maximise its considerable assets and pursue its objectives over the next five years. This plurilateral partnering approach would enable it to engage with many different actors in different ways to secure its goals.

In the period 2014–19 there are four key areas where the EU could focus its partnering initiatives:

- Investing to make global markets work for trade creation, transparency and development;
- Promoting sustainable energy policies to cope with climate change and leading international action to reduce emissions and manage adaptation to future climate impacts;
- Preventing geopolitical confrontation and conflicts in the face of growing drivers of insecurity; and
- Enhancing Europe’s position at the frontier of innovation through investment partnerships that also address the governance of new and potentially disruptive technologies.

5.2. MAKING GLOBAL MARKETS WORK

As the largest free trade area in the world, the EU needs well-functioning global markets as prerequisites for its future growth and prosperity. In recent years, prevailing concerns over economic competitiveness have led to a focus on market access, market expansion and investment conditions in the EU’s external trade and investment agenda. While rebalancing the global economy was highlighted as a major priority in 2008, fears of economic stagnation

among industrialised economies have now spread to other parts of the world. The financial crisis has further eroded confidence in the multilateral trading system, as countries channelled protectionist pressures into policies not well covered by enforceable WTO rules.

To enhance future growth prospects in the period 2014–19, improving the functioning of global markets – in addition to trade creation – is a critical priority for the EU. This comprises several dimensions. First, the power of OECD economies as rule-setters in international markets is likely to decline with their shrinking global market share. It is therefore critical for the EU to invest in diplomatic strategies and build coalitions to deepen the global rules-based system.

However, the desire of the EU to champion global rules will depend in part on its ability to ensure a level playing field for its companies. Despite the 2013 G8 discussions, for example, transparency in many sectors remains an aspiration rather than a reality, affecting the competitiveness of many major economies and companies. The US Dodd-Frank Act (Section 1504) requires extractive companies listed on US stock exchanges to report annually on payments to foreign governments. Similarly binding disclosure requirements have been agreed by European leaders through EU Transparency and Accounting Directives. Continuing to strengthen and consolidate the spread of transparency norms as a global agenda item is an important consideration over the next five years.

Enhancing security of supply for metals through enhancing transparency and global data on production, trade and stock levels is also key for the EU, whose manufacturing base relies on their imports. It could leverage its consumer power together with other major economies to ensure that stockholding figures from traders could be collated by an escrow service and published in aggregated form. It could also invest in making the work of the international commodity study groups for zinc, copper and other metals publicly accessible and expanding them to include production data for all key metals in virgin and secondary markets.

Reinvigorating the multilateral trading system also remains a priority, despite the stagnant Doha Round negotiations. The same applies to the plethora of bilateral trade deals pursued by the EU and the US, Japan and other allies. Whether or not the large or “emerging” developing economies will continue to drive global growth in the near to medium term, their willingness to participate in any future rule-making in the multilateral or regional arena will have significant implications for the functioning of global markets. Stepping up engagement with emerging economies – not only on trade rules but also on fragmented investment norms across the world – is therefore of great importance.

Exploring new mechanisms at different levels to limit or reduce trade disputes over natural resources or raw materials could also be useful, especially at a time when the global economy (including Europe) is more dependent than ever on their trade. This involves exploring the

development of export-related disciplines in bilateral, regional or multilateral arenas. One option is for countries to work towards a set of guidelines that limit the use of export restrictions, especially at times of commodity price spikes.

Ensuring that future trade will bring sustainable growth also requires investing in the sustainability of physical infrastructure – whether international shipping routes or major trading corridors. Since 90% of world trade is carried by sea, maritime security will become increasingly important. A number of countries are expanding their claims to maritime exclusive economic zones, and this has already contributed to resource disputes in maritime areas such as the South and East China Seas. The EU has an interest in these disputes beyond its growing trade with South and East Asia, as it supports applying the international law of the sea, especially the United Nations Convention on the Law of the Sea (UNCLOS), to help resolve maritime disputes in the region. The EU's voice in this area is both important and legitimate since the US has yet to ratify UNCLOS. The EU has also operated with Chinese, Indian and Russian ships (along with American, Japanese and South Korean vessels, among others) in the western Indian Ocean to counter piracy disrupting Eurasian maritime trade. The EU could try to build on those experiences to encourage more cooperation with rising powers on maritime issues of joint concern in Europe's broad neighbourhood.

Improving resilience against supply chain disruptions remains challenging as modern manufacturing often involves combining thousands of components from different sources. Temporary shortages of any of these parts could bring production to a standstill. Measures such as mandatory stock holding or maintaining multiple suppliers could be costly and impractical, especially where products are evolving rapidly. Practical starting points for the EU could include training and support for small and medium-sized enterprises on risk assessment and resilience planning.

On development issues, the EU has traditionally been at the forefront of international efforts to strengthen links between trade and development. Its commitment to harnessing trade for development can be seen in its historical partnership with the African, Caribbean and Pacific (ACP) group of countries (although this has become troubled in recent years because of proposed Economic Partnership Agreements – EPAs), its Everything But Arms initiative for least developed countries, and its active engagement on Aid for Trade (AfT). However – as the European Commission recognised in its 2012 Communication “Trade, Growth and Development” – the global trade context is being profoundly “reshuffled”. As emerging economies increase their share of world markets, developing countries (in particular the ACP) diversify their trading partners and sources of finance, and the EU expands its bilateral trade agreements, the value of preferential access to EU markets may be increasingly eroded and EU influence reduced (such trends can already be seen in ACP resistance to EPAs).

The EU will face several key challenges in pursuing a development-friendly trade policy in this future context. It could consider strengthening and expanding AfT to go beyond aid and mobilise

private investment for trade (given the growing marginalisation of aid), as well as increasing AfT's focus on informal sectors in which the majority of the poor work. Critically, trade liberalisation alone does not automatically bring development benefits, but needs to be embedded within broader strategies for inclusive and sustainable growth that take account of specific economic, governance, institutional and infrastructure contexts. In the light of this, the EU will increasingly need to dovetail its trade and development agendas in a way that goes beyond paying lip service to policy coherence for development (PCD) and places trade policy within a much broader development and sustainability agenda, with a view to promoting global public goods.

5.3. SECURING CLEAN AND SUSTAINABLE ENERGY RESOURCES

Climate change and an uncertain energy revolution imply the need for a new energy strategy. Even under the most ambitious scenarios for global greenhouse gas mitigation, the manifestations of the changing climate will become more frequent and pronounced. This will increase the probability of extreme weather events, drive migration, increase pressure on the production and distribution of key global resources, and increase the risk of conflict in areas of particular climate stress. These challenges have significant short-term implications, as the investment cycles for energy and infrastructure mean that decisions in the period 2014–19 will shape pathways to 2030.

For the EU, issues such as increased price volatility, competition for raw materials from emerging economies and political restrictions on access to raw materials are creating new challenges for industry and economies. Unequal access may hurt the competitiveness of European companies *vis-à-vis* other players that have privileged access to key resources. Increased domestic resource efficiency can help limit international exposure, but a purely defensive strategy will never be sufficient to deliver effective security. Improved energy security will be vital for the EU to ensure resilience in the face of these trends. As such, the EU should promote dialogue between the major resource producers and consumers to enhance overall resilience.

In the energy sector, coordination among different EU institutions and among member states remains challenging. Although under the Lisbon Treaty energy policy has become an area of joint EU member-state competence, individual member states have reserved considerable autonomy in this domain. The Lisbon Treaty also called for further cooperation in the EU's external relations on the global environment and the sustainable management of global resources. But national preferences – on for example the routing of Russian gas pipelines to the EU – often undermine common negotiating positions. The energy mix and investment strategies in different countries also affect the ability of the EU to implement a concerted external energy and climate policy.

Growth in clean energy is likely to continue, but it will be accompanied by rising consumption of fossil fuels, especially gas. This trend – when combined with the potential replicability of the US shale gas revolution in places such as China and the EU – will highlight both the risks of fracking and the pressing need for new carbon capture technologies by 2030. Growth in the use of gas and clean energy may also displace coal use in many parts of the world.

Against this backdrop it remains in the EU's interest to demonstrate the economic viability of moving towards a diversified low-carbon, climate-resilient economy within a long-term framework. A key plank of delivering these outcomes would involve pushing towards a clear set of binding targets for low-carbon energy and energy efficiency in 2030. Agreeing a set of targets in the short term would send clear signals to investors and avoid the risk of stranded assets or lock-in to high-carbon systems. Principles such as the circular economy could also be further mainstreamed into European economic activities to adjust production and consumption patterns.

It is unclear whether Europe will experience its own “shale revolution”, particularly in gas. Shale resource exploration and development will remain inhibited by countries' investment and ownership laws, as well as their much higher population density than that of the US. Environmental concerns over water quality and seismic activity will postpone development in many areas, with the possibility of more member states joining France in declaring moratoria – though government incentives are expected to push shale projects forward in Poland and the UK.

Member states considering pursuing shale gas development will need to examine their existing regulatory environment. Given the uncertainties over chemical use and impacts of fracking, there is a strong case for developing common regulations underpinned by stringent testing at the EU level. The impact of shale gas on greenhouse gas emissions will depend on whether the gas replaces coal in the energy mix of a country, and whether it will defer or disincentivise the deployment of renewable energy.

Internal energy transformation will also need to be matched by external diplomatic action. The EU could lead or help strengthen rules-based governance for energy resources. This could include support for developing disciplines on export restrictions to maintain liquid global markets and removing barriers to trade in low-carbon technologies. Securing clean and sustainable energy resources will require the EU to build new coalitions of committed actors, for example to strengthen producer–consumer dialogue and to unlock new forms of bilateral trade-related cooperation. Capacity-building and support to key countries such as China's carbon trading pilot schemes could also strengthen global networks on carbon trading.

The EU could also redouble its efforts on technology demonstration partnerships for key low-carbon technologies such as carbon capture and storage (CCS), as well as electric vehicles and

fuel cells (and also to improve energy efficiency and further the development of the hydrogen economy). Support for smart grid technology and other demand-side options could be strengthened with a goal of giving them equal status alongside supply-side solutions. The EU could also support the creation of increased grid interconnection such as the North Sea Countries' Offshore Grid Initiative (NSCOGI), and the potential for similar action in the Mediterranean.

The EU could also strengthen diplomatic links and coordination in key exporting countries such as Russia and Qatar, and transit countries such as Ukraine and Turkey. Given the large potential unconventional gas reserves in Ukraine and Europe's eastern neighbourhood, the EU could support the development of effective governance systems to assess potential impacts of these developments and to foster environmental responsibility.

The EU's leadership on climate change has been a key plank of its external relations and, to some extent, a source of its normative or soft power. In recent years however, the continuation or scaling-up of collaborative activities on climate change has become more challenging owing to a combination of factors – from the European debt crisis to the stalemate in global climate negotiations. The impending 2015 timeline for the UNFCCC negotiations again provides an opportunity to secure a global deal to limit climate change, covering all major emitters.

The EU could continue to take a leadership position in the negotiations alongside strategic partners to steer global thinking towards a new rules-based system. The credibility and effectiveness of the EU at the multilateral level will depend on its ability to continue to invest in its own energy and resource transformation. Clear and binding domestic climate and energy targets for the post-2020 period will help create a common position that will enhance effectiveness of multilateral engagement. Outside the EU, expanded support and strengthened partnerships with progressive countries are also critical. This could include scaling up partnerships with African states to help steer investment patterns in the region towards lower carbon pathways. Strategic engagement will also be necessary with the larger emerging economies such as China, India, Brazil and South Africa. This could include strengthened public–private partnerships to utilise business links alongside traditional diplomatic channels.

5.4. PREVENTING CONFLICT AND SUPPORTING COOPERATIVE SECURITY

Global security will become more multipolar, interdependent and complex. The EU will be expected to make a much greater contribution to global security, including militarily, and by promoting interstate cooperation rather than competition. An increased political focus on preventing conflicts – particularly those with the potential for serious regional and global consequences – is likely. Not least because of the large number of fragile or failing states

in its neighbourhood, in the next five years the EU could consider further strengthening its comprehensive approach to conflict prevention in fragile states, in particular by developing stronger early-warning capacities, better employing development aid and other tools for promoting stability, and investing in mediation and peace negotiations. Supporting peace negotiations is effective in reducing violence and building peace. The EU could reinforce these processes by extending participation and connecting to a wider range of stakeholders in the field, including non-state actors.

Organised crime and the drugs trade will continue to expand into new regions and diversify into new commodities, necessitating an international rethink of current policies, which have largely failed. Indeed, some of these policies have caused unintended negative consequences across the supply chains. The EU could work in partnership with others in the Americas, West Africa and Central Asia to develop a more nuanced understanding of the global situation on drugs and organised crime. Exploring ways to mitigate and manage the global flow of drugs and to reassess drug policies in Europe could focus on the public health implications, including the violence and harm that drugs cause in communities.

The EU could also develop plurilateral security forums for negotiations on developing cooperative security regimes, such as conflict prevention and arms control agreements. As part of its effective multilateralism approach, in the next five years the EU could put more emphasis on evaluating the “effective” criterion and the efficacy of standing negotiating forums in the UN and other international organisations. New negotiation tracks that are not bound by vetoes might produce better results and in turn help to trigger progress in broader frameworks. In particular, the EU could substantially ratchet up efforts for Middle East regional security and a WMD Free Zone in parallel forums. Long-term EU planning for the implementation of the Arms Trade Treaty and coherence across the EU on arms exports policies will be vital over the next five years. Building on the momentum and initiating a process for follow-on controls on conventional weaponry such as drones and automated robotics, and implementing existing constraints on the use of explosive weapons in populated areas, could be fruitful new areas of cooperation.

As the US rebalances its military resources away from Europe towards the Asia-Pacific region, Europeans will have to take more responsibility for security in their strategic neighbourhood, and to work more closely with other partners such as Turkey, Russia and the African Union. China, India and Brazil are increasingly active in Europe’s neighbourhood given their economic and energy interests. The role of Turkey will be a critical factor at the intersection of East and South. The EU already works with China and Russia on curbing Iran’s nuclear programme and cooperates with a range of powers on maritime security in the Indian Ocean. Options for the next five years may include creating mixed platforms to discuss shared challenges in Europe’s strategic neighbourhood, such as state fragility and the spread of illicit trafficking and radicalisation, with partner countries, regional organisations and relevant non-state actors.

The EU has established platforms for dialogue on security affairs with China, India and Brazil and has an interest in deepening them and in fostering cooperation with other partners such as Japan and South Korea. The EU, in partnership with NATO, could also explore new approaches to security in the Euro-Atlantic region, engaging the US and Russia in new broad-framework dialogues to address emerging security threats and responses, as well as to build confidence.

A military role for the EU in the Asia-Pacific region will remain less significant (albeit some EU member states may take on certain military tasks), but this does not mean the EU has no security interest in that region. There are a number of areas where it could potentially play a useful role in Asian security in the coming years. These include working with South and East Asian countries on common cross-border challenges such as counter-piracy, cyber-security, maritime security, energy security, the impact of climate change and responding to natural disasters. Linked to this is continued EU support for developing ASEAN's role in the governance of East Asian security.

Europeans will also need to wield the necessary capabilities to back their broad engagement in security, including with military action when necessary. NATO will almost certainly continue to underpin European territorial defence, but in the coming five years the EU could consider developing its role in three areas: the external aspects of internal security, such as organised crime and terrorism; protecting trade routes and access to resources; and responding to crises in Europe's broad neighbourhood.

However, short of major progress on pooling and sharing military capabilities and targeting investment programmes to selected common needs, there is a clear risk that most individual EU countries will not be able to afford critical enablers for future external operations (whether conducted through the EU, NATO or the UN). EU governments could consider focusing their investments more on advanced technologies in the realm of cyber-security/defence, and technologies for intelligence, surveillance and reconnaissance such as satellites and unmanned aerial vehicles. More generally, by 2030 EU defence ministries will probably need to invest much more in naval and aerospace equipment and much less in (excessive) manpower.

In the 2014–19 period, the EU could also look to increase investment in research for developing upstream security strategies for new technologies – such as cyber-security in a quantum computing environment, non-state actor deployment of space-based assets, cyborg and neuroscience military applications and synthetic biology. That investment would be likely to yield manifold future rewards.

Cyber attacks on critical infrastructure will test the resilience of Europe and its societies. As the EU increases its cyber-security know-how, it could consider exporting this expertise globally, to the benefit of other regions that are still in the early stages of connecting their infrastructure sectors. Reducing the level of connectivity would be a way of mitigating the problem, but

there are significant associated costs. In addition, the EU could exert more pressure on the international community for collective engagement on security issues such as cyber-security, outer-space weaponisation and nuclear disarmament.

5.5. BECOMING A SCIENCE AND TECHNOLOGY POWERHOUSE AND FOSTERING INNOVATION

New technology and innovation have the potential to reshape all areas of everyday life by 2030. Breakthroughs in basic and applied science in areas such as nanotechnology, biotechnology, synthetic biology/chemistry advanced materials, robotics, automated manufacturing, high-performance computing (HPC)/supercomputing and information systems will all disrupt and help reshape today's markets and sectors. Future prosperity in the EU will depend on its ability to harness these trends and to become a future technology powerhouse. Investing in technology is important not only to generate higher-value economic growth, but also to help Europe overcome the challenge of a shrinking and ageing workforce. In the period 2014–19 the EU can lay the foundation for its future competitiveness in global innovation through increased international cooperation and building an effective risk-management approach to new technology.

While advances are often measured in terms of hardware and software, these key technologies only emerge and thrive as part of an innovation ecosystem that stretches from the laboratory to their widespread application. Harnessing technology will depend as much on investment in underlying market regulation, business models and enabling infrastructure as on the physical technology itself. As more and more countries look to move up the value chain, it is critical that Europe invests in the education, capacity and systems that will enhance its competitiveness in an interconnected world. It is also critical that competition between the EU and other major economies does not act as a barrier to trade and investment, which would undermine the economic incentives for continued investment in innovation.

Becoming a technology powerhouse could help the EU address the challenge of competitiveness. Future prosperity will require directing investment flows to create high-value-added goods and services in a world of disruptive technological change. The potential for horizon technologies to reshape the economic and social landscape has significant implications for EU innovation policy, market regulation and education. Support for R&D and demonstration will be essential if EU companies are to retain a comparative advantage in new technologies.

Enhanced international cooperation – both for specific technologies and to develop open standards and platforms that EU companies can access – will be critical. In particular, this will require building meaningful bilateral partnerships with other key countries such as China and the US. The decline of individual member states' levels of innovation implies that enhanced

coordination will be increasingly important. Education policy will also be critical to support people moving into high-tech jobs.

The EU should continue to build on Horizon 2020 and other approaches to foster increased international cooperation through “science diplomacy” – as science, engineering and technology could be useful tools in foreign policy. Former US Secretary of State Hillary Clinton stated in 2009: “Science diplomacy and science and technology cooperation is one of our most effective ways of influencing and assisting other nations and creating real bridges between the United States and counterparts.” Science diplomacy can facilitate international science cooperation, enhance foreign policy objectives, and improve international relations. As innovation capacity is diffused around the world, enhanced collaboration not only in technological development but also in strengthening global norms and standards will be essential for EU companies to remain competitive. To bolster innovation in high-value manufacturing and services and to achieve sufficient scale and scope, European investment in R&D will need to rise towards the 3% of GDP envisaged by the Europe 2020 strategy.

While there is pressure to keep up with the US–Chinese race in supercomputers, the EU may do better by fostering the best laboratories and researchers and buying the supercomputers – or supercomputing time – from elsewhere. Following the multinational model that established the International Space Station, the EU could also establish supercomputing partnerships with combinations of China, the US, Brazil and India. This could give the EU a major advantage over attempts to progress in these areas in individual countries where such collaboration would be very sensitive.

A risk-management strategy could also help drive forward the EU’s position as a technology powerhouse. Such a strategy would include early action to assess the risks and benefits of rapidly evolving and new technologies (such as 3D printers, autonomous vehicles) to ensure effective regulation can be put in place; engagement with trading partners and manufacturing countries to ensure that emerging global standards will reflect best practice; and investment in resilience, given the threats and challenges that new technologies often pose. The strategy could also support enhanced action on data security and make transparent the trade-offs between availability, confidentiality and integrity of data. The EU could also strengthen cooperation on innovation areas with weak governance regimes such as space technology and geo-engineering. Innovations in these areas can be controversial, with transboundary implications that may result in tensions – especially if governments adopted these technologies unilaterally.

Strengthened rules-based governance systems, including those related to the effective use of intellectual property rights, could also help incentivise continued innovation while limiting detrimental activities such as patent thickets (where a dense web of overlapping intellectual

property rights is central to the delivery of a system or service, as in mobile phones) that will impede new entrants and slow the diffusion of critical technologies.

The EU could also promote regulation to enable new market entrants to compete and introduce disruptive technological change. Incumbent businesses often favour incremental innovation approaches which guarantee continued market share. More open systems of competition can yield tremendous growth benefits by allowing new ideas and models to overtake out-dated concepts.

New coalitions and public–private partnerships are essential to drive innovation in key technology sectors as well as investment in R&D and infrastructure support. This is particularly important where technology systems need to be developed – for example around the smart grid and electric vehicles. With its relatively open societies, broad and deep skills base and high Internet penetration rates, the EU is also in a strong position to leverage the work of new actors and platforms in the innovation space. Informal groups of individuals, often blended with traditional in-house research departments at corporations or universities, are increasingly integral to the innovation process – from problem identification and product design to development and commercialisation. They participate, for example, through a combination of crowdsourcing, crowd-funding and citizen science.

ANNEXES

ANNEX 1 – THE STRATEGIC NEIGHBOURHOOD

Interdependence and connectivity have made geography less relevant, but not irrelevant. The future of Europe cannot be de-linked from the future of its neighbourhood, a vast region in which the EU can make a difference by working in partnership with local actors and third parties. Trends in Europe and its neighbourhood point to an intensification of mutual dependencies and vulnerabilities. The question is whether EU political, economic and security engagement in the neighbourhood will match these trends.

Vulnerabilities intersect, risks spread, and geopolitical competition extends across the various sub-regions of the EU's "strategic" neighbourhood, which suggests the need for an overarching perspective on engagement with these countries. Indeed, the EU must adopt a geostrategic approach to its neighbourhood in order to capture the interconnections between the different regions and fully understand the implications for the EU.

The "strategic" or "extended" neighbourhood of the Union (EGS 2013) is taken here to include the six Eastern partnership countries, the five Central Asian countries, Russia, Turkey, Iran and the Gulf countries, the Levant and North Africa, the Horn of Africa, the Sahel and West Africa. This vast area is home to about 1.2 billion (510m in the EU) and is expected to grow to between 1.6 billion and 1.7 billion by 2030, with growth concentrated in Africa and a few countries in the Middle East (UN 2012). The combined GDP (PPP) of the strategic neighbourhood amounts to about \$10 trillion today and is projected to jump to \$14.5 trillion within only five years; the current figure for the EU is €13 trillion or \$16.5 trillion (IMF 2013). The strategic neighbourhood holds over 62% of proven global oil reserves, with nearly half of the world total located in the Middle East; the region is also home to 80% of proven natural gas reserves, with 43% of global reserves in the Middle East and 17.6% in Russia (BP 2013).

The EU's strategic neighbourhood is a diverse region, but common features include poor political and economic governance, state fragility, political transitions, and potential for civil or inter-state conflict. Most countries in the neighbourhood rely on commodity exports to sustain growth, face a strong detrimental impact of climate change, and are undergoing rather marked demographic trends. (Populations are declining in Eastern Europe and Russia and expanding rapidly in Africa.) Plus there are very low levels of cooperation within the region, and middle powers such as Turkey and Saudi Arabia are gaining influence. At the

same time, links are growing with external powers such as China, while the US footprint is shrinking.

This is on the whole a vulnerable region, and Europe is vulnerable to developments therein, because of energy dependency and vital trade routes. However, the region is also experiencing the more positive structural changes to global politics that are identified in this report: a multiplicity of new actors is tempering statist control, and social-civic networks are spilling across borders. The EU can interact with its neighbourhood in the short term, as circumstances require, but the Union can also take a longer view in helping to shape the region's incipient, longer-term potential. The EU has a pivotal interest in ensuring that the region does not miss out on the benefits of economic growth, connectivity and new governance frameworks that are occurring elsewhere. On a normative level, too, the EU has much at stake in its strategic neighbourhood, not least the Union's reputation as an actor bent on promoting platforms for regional cooperation, domestic reforms and democratic values.

The Middle East and North Africa

The post-independence order in the Middle East and North Africa (MENA) is under serious stress and may unravel. Deficits in domestic political and economic governance, coupled with underlying demographic trends and severe resource stresses, will test the resilience of governments and societies in the region. At the same time, there are some modest signs that the immobilism of the past has been breached in the last three years. Helping to shape the outcomes of this new dynamic will be a key challenge for EU foreign policy.

A vulnerable region

Unemployment, weak economic governance, inequalities and resource constraints will all be sources of tension and potential instability in the Southern Neighbourhood (Mabey et al. 2013). The current political turmoil in the region has been exacerbated by underlying demographic trends, which have led to an unprecedented bulge in the population aged 15 to 24 years. While the share of youth in the overall population of Arab countries peaked in 2010 at about 20% (Mirkin 2013), there are significant regional variations. For example, youth population is expected to expand by 107% in Iraq, 87% in Yemen and 80% in the Palestinian territories between 2010 and 2050 (Roudi 2011).

Table A1.1
Demographic trends in the Arab region

Source: Mirkin (2013)

	Total population			Increment	Annual growth rate	
	1980	2010	2025	2010-2025	1980-2010	2010-2025
Country or area	(thousands)			thousands	(percentage)	
World	4,453,007	6,895,889	8,002,978	1,107,089	1.5	1.0
Arab Region, of which:	172,699	357,433	467,945	110,512	2.4	1.8
Transition countries	113,085	230,985	343,256	112,271	2.4	2.1
Egypt	44,952	81,121	100,909	19,788	2.0	1.5
Iraq	13,744	31,672	48,885	17,213	2.8	3.1
Libyan Arab Jamahiriya	3,063	6,355	7,465	1,110	2.4	0.8
OPT 1/	1,510	4,039	6,207	2,168	3.3	2.8
Somalia	6,436	9,331	14,152	4,821	1.2	2.6
Sudan 2/	20,071	43,522	60,811	17,289	2.6	2.4
Syria	8,907	20,411	26,009	5,598	2.8	1.7
Tunisia	6,457	10,481	11,921	1,440	1.6	1.0
Yemen	7,945	24,053	36,698	12,645	3.7	3.0

1/ Occupied Palestinian Territory (OPT)

2/ Includes South Sudan

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat 2011. *World Population Prospects: The 2010 Revision*.

With a low median age in the region – notably so in Egypt (24), Syria (21), the Palestinian Territories and Iraq (both at 18) – already high unemployment levels pose a critical challenge for the future (Roudy 2011). In particular, the rate of youth unemployment in the region stands at about 20% for males and over 30% for females, while the labour force participation rate (including those employed and those unemployed but looking for jobs) is very low at 36–38% (Roudy 2011).

Fertility rates and population growth are dropping in most Arab countries, but accommodating the current youth bulge will be key to determining the potential for unrest in the Arab region in the coming decades. A range of other factors can increase the risk of instability that comes with a youthful population. These include population movements from rural to urban areas and the spill-over of nearby conflicts in the form of refugees and repatriated migrants. The urban population of Arab countries is expected to grow from about 196 million in 2010 to 275 million in 2025 (Mirkin 2013). Moreover, most countries in the region have bloated and inefficient public sectors that will be unable to meet future employment challenges; in many places, a vigorous private sector is yet to emerge (Malik and Awadallah 2013). In Egypt, for example, the public sector has six million employees whose salaries represent a quarter of the state budget (Halime 2013).

The middle classes in the region have grown dependent on their governments for jobs and services rather than acting as drivers for economic development. As a result, unlike in other regions, the middle class is not a significant source of GDP generation. Furthermore, reliance on the government has marginalised the private sector and weakened any incentives for innovation and entrepreneurship (Shediac et al. 2012).

Economic growth and expanded employment opportunities will require significant reforms and the decentralisation of political and economic power. Expanding trade and investment will be necessary not only to enhance growth, but also to distribute its benefits more evenly (International Labour Organisation 2013). The Arab market offers considerable untapped potential for intra-regional trade, which could help spur the necessary growth (Saif 2013), and tariff barriers to trade in the MENA region have been reduced significantly in the last two decades (Chauffour and Hoekeman 2013). Nevertheless the economic effects of tariff reductions have been dampened by the continued dominant role of the state in most Arab economies as well as high barriers to entry and the high cost of investment, a result of regulatory impediments. In addition, cumbersome and invisible behind-the-border barriers continue to be a source of trade frictions. Dismantling these barriers will be critical for growth, but this will not be easy (Malik and Awadallah 2011). As long as the current volatile climate across the region persists, substantial advances on regional economic integration are unlikely.

Alongside stagnant economic reform, dynamic demographics and uncertain politics, the stability of the MENA region will be particularly exposed to resource stresses and rising commodity prices, with the impact of climate change compounding both factors. Food prices are expected to rise steeply in the next 20 years while water stress may affect an additional 100 million people in the region by 2025. Egypt, for example, already imports about 60% of its staple grain wheat (Halime 2013). Tunisia is expected to see a 30% decrease in available drinking water by 2030, and the concentration of industry and population on the Nile Delta makes Egypt extremely vulnerable to rising sea levels (Mabey et al. 2013). MENA countries will also require an estimated \$30 billion annually in energy investments up to 2030, not least to cope with considerable energy shortages (Mabey et al. 2013). Rising oil prices will affect oil-rich energy exporters and oil-poor energy importers in the region in opposite ways, with the latter highly exposed to price variations given their poor finances.

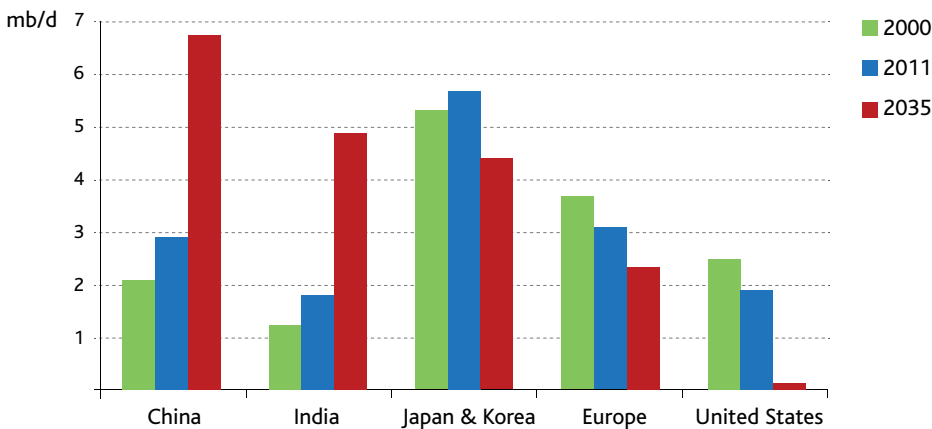
The global energy landscape is changing owing to new discoveries and new technologies. Despite these changes, the pivotal role of fossil fuel exporters, notably the Gulf countries, is likely to be further enhanced by ever-growing global demand. Today, the MENA region accounts for about 37% of the world's oil production and 52% of total reserves. Over 20% of the world's gas production comes from this region, which holds over 42% of

global gas reserves (BP 2012). Between now and 2035, more than 90% of growth in oil production is expected to come from MENA countries (Echagüe 2013).

Notwithstanding the ongoing shale revolution, the MENA region is likely to continue to play a central role in oil and gas markets; as such, the region will remain critical for the energy security of Europe and Asia. The US will have to remain engaged in the region if it wants to avoid price volatility and keep energy markets stable. For the same reason, China's political and security engagement in the region is likely to increase. The IEA forecasts that the EU will overtake the US and become the biggest importer of oil in 2015, and that by 2020 China will overtake Europe (IEA 2012). By 2035, almost 90% of the oil exports from the Middle East will go to Asia (IEA 2012).

Figure A1.1
Middle East oil exports by destination

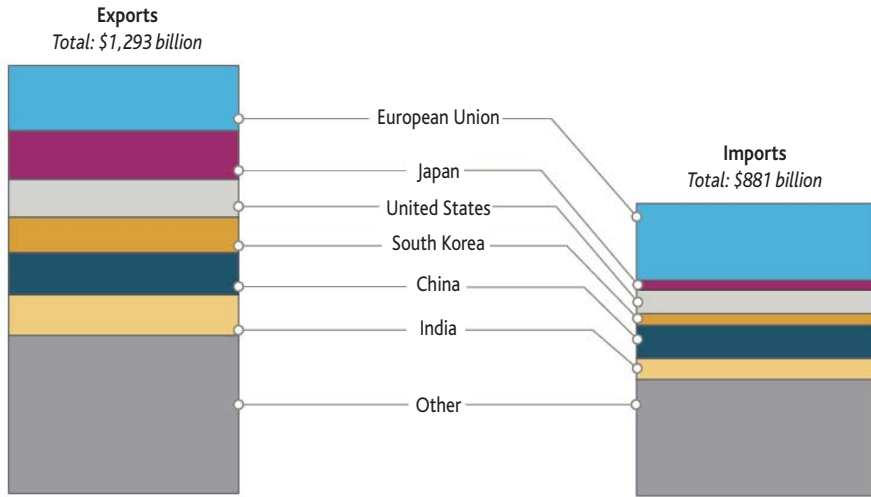
Source: IEA 2012



While growing more exposed to critical vulnerabilities, the MENA region and the Gulf in particular will be at the crossroads of the strategic priorities of a growing number of powers seeking to ensure access to resources. At the same time, both old and emerging regional powers will attempt to diversify their diplomatic, commercial and security ties, including via the increasing involvement of non-Western players such as China and India in the region and enhanced intra-Arab, Arab-Asian and Arab-African relations (Kausch 2013).

Figure A1.2
MENA major trading partners (merchandise only)

Source: Akhtar et al. 2013



The EU and its member states have long been the principal trade and investment partners of the countries in the Southern neighbourhood; that is still the case today, by a considerable margin. Current trends, however, suggest that Europe will not be quite so economically pre-eminent in the future given the growing influence of other countries, notably in the Middle East. Large emerging powers are developing political partnerships and deepening economic ties with the region. For example, trade between China and the Arab league countries rose from \$36.7 billion in 2004 to \$200 billion in 2012 (Guofu 2013). Trade between Brazil and Arab countries grew by 138% between 2005 and 2011, reaching over \$25 billion (Clemesha 2013). European countries remain by far the main investors in the region, but others, notably China and India, have stepped up their investments, focusing very much on extractive industries and the chemical sector. About 75% of FDI flowing to the region goes to energy-exporting countries (Mabey et al. 2013).

Domestic political and social dynamics

Even if it happens, reform and democratisation in the Arab world will be a drawn-out, fragile process of backtracking and advances, breakthroughs and counter-revolutions, deep polarisation and unrest, marked by struggles for power between competing elites. The outcome of the Arab uprisings will largely depend on new governments' ability to implement systemic political and economic reforms; the economic development of the transition states (World Bank 2013); and the perceived inclusiveness of reforms.

Identity politics and faith-based ideologies will be important, but they will not necessarily be the overriding feature of the new regional order. Recent unrest in Tunisia and in Egypt, which has brought citizens' frustration with weak policy implementation and unfulfilled electoral promises to the fore, suggest that identity politics on their own will not suffice for political success. As witnessed most recently in the military coup in Egypt, the prospect for further uprisings, and even renewed revolution, is high: unrest resulting from high societal pressures and unresolved grievances is likely to become the new normal in North Africa. Non-revolutionary reformist models (Morocco or Jordan) are also likely to come under pressure as their citizens become increasingly frustrated by the shallowness of political reform and modest economic advancement and redistribution (Youngs 2011). The expansion of the middle class in the region – from 105 million in 2009 to an estimated 234 million in 2030 – as well as the steeply growing level of Internet penetration in relatively traditional societies may add to demands for change and increase the risk of instability.

The political and financial involvement of Gulf powers in North African domestic developments could turn out to be an especially important variable, but the scope, durability and long-term impact of this support is uncertain and will also depend on the evolution of the domestic political regimes in transition countries. Besides, the undercurrent of dissatisfaction sparked by the Arab Spring has spread to pockets of the populations in the Gulf and poses a challenge to EU policy towards the region.

Regional competition and conflicts

The geopolitical context of the MENA region is fluid and there is little prospect of stabilisation and consolidation over the medium term. New regional alliances are likely to coalesce along ideological and sectarian lines, or according to security challenges and economic interests. Two overlapping trends seem particularly consequential in shaping the future of the region. The first is state power rivalries, such as between Iran and Saudi Arabia but also those involving Egypt, Qatar and Turkey. The second is the sectarian dynamic that is at play in many countries, a trend that is being driven by state and non-state actors. Recent events in Egypt have dealt an important blow to Sunni institutional Islamism, which had been empowered by regime changes following the 2011–12 popular uprisings. Its future relevance in politics is imperilled by the potential marginalisation and possible radicalisation of the Muslim Brotherhood in Egypt. Meanwhile, the deepening of Sunni-Shi'a sectarian divides both at the international and local levels provides a convenient, if over-simplified, vehicle to frame the competition for regional dominance between a (not clear-cut) Iran-led Shi'a axis and a Saudi-led Sunni axis (Mikail 2012).

However, the depth and long-term implications of sectarian divides and conflicts are unclear. The Sunni-Shi'a relationship is not a purely adversarial one, as some factions will often ally opportunistically around national-specific objectives (Youngs 2013). Regional powers' emphasis on the sectarian dossier is often a function of competition for regional dominance

and domestic vulnerabilities, rather than religious or sectarian considerations. Nevertheless, heightened sectarian tensions would increase the fragility of the region's security balance.

Ascendant sectarianism has been accompanied by another noticeable trend, namely the region-wide struggle for influence of local powers (Huber et al. 2013). Qatar is the most visible expression of such a phenomenon with its interventions in Libya, Syria and Lebanon and its material support to Egypt. Saudi Arabia has also been patronising Islamists in Lebanon to challenge Hezbollah's armed predominance, seeing in Bashar al Assad's eventual demise an opportunity to weaken the Shi'a resistance movement (Haykel 2013). Turkey and Egypt are also establishing more independent foreign policies and playing a role in regional affairs. Not only states but also regional institutions such as the Arab League and the GCC are trying to up the ante with their involvement in the Syrian and Bahraini crises. Such regionalisation of crises and politics has revealed additional cleavages, most noticeably between Qatar, as patron of the Muslim Brotherhood, and the UAE and Saudi Arabia, which are more inclined to be distrustful of Islamist movements that are not aligned with states.

The conflict in and around Syria is increasingly regarded as opening the way to a redrawing of national borders, potentially undoing the MENA's post-colonial nation-state order (Jeffrey 2012; Heydemann 2013). Regional spill-over from the Syrian conflict is likely to affect Jordan, Lebanon and Iraq most closely, given the increasing number of refugees flowing to these states and their intricate and sectarian relations with Syria (Mikail 2013). While the fall of the current regime in Syria is not assured, such an outcome would lead to a weakening of Iran's regional power, to the benefit of Saudi Arabia and the Gulf more broadly (Cole 2013). While others think such predictions of a fundamental redrawing of the region are exaggerated, the prospect is one that the EU will need to consider when looking ahead to 2030.

The Middle East Peace Process (MEPP) continues to hold substantial spoiler potential for the region's peace and security. However, emerging shifts in the regional balance of power are not likely to have a strong influence on the Peace Process. The main potential game-changer in the conflict's equation continues to be US preparedness to exert pressure on Israel with a view to achieving a negotiated solution. At the same time, the mix of socio-economic deprivation and simmering political tensions in the Palestinian Territories entails a serious risk of further destabilisation.

Turkey is a middle power of critical and growing importance in Europe's neighbourhood and well beyond. Its economy is the 17th largest in the world, its army by far the strongest in the MENA region, and its median age stands at about 30 (36 by 2030). Turkey's trade with the Arab world doubled between 2005 and 2010, reaching \$50 billion (Caglar 2013) and its territory provides Europe with vital energy transit routes, whose relevance may grow in the future. However, Turkey's own internal weaknesses and tensions – on stark display in recent months – need to be

addressed even as the country projects its power outwards. Turkey's foreign policy has undergone two major shifts in the last decade. First, it rebalanced its engagement with the West with a multi-vector foreign policy toward its own neighbourhood. Following the Arab uprisings, the country re-aligned to some extent with traditional allies (Bourdy and Marcou 2013). It is likely that Turkey will continue to pursue stronger links with the Arab world, leveraging its considerable soft power and growing financial resources, while facing competition from Gulf countries. However, the prospect of "zero problems" with its neighbours seems remote for the years to come. Turkey and the EU share many challenges in the region (although their threat perceptions sometimes differ). This could pave the way for a deeper partnership between the EU and Turkey, on a parallel track to accession negotiations (EGS 2013).

West Africa and the Sahel

Many of the trends that affect the security and the prosperity of the MENA region in the short and long term are also at play in other parts of the strategic Southern neighbourhood of the EU. The Sahel serves as a conveyor belt of transnational threats stretching from West Africa to North Africa and the Middle East. West Africa is a region whose importance for Europe is likely to grow but whose stability is challenged by a number of critical factors. The future of West Africa will be shaped by four main trends: rapid population growth and movement; increasing importance as a source of energy and commodities; continued political instability and fragility; and environmental and climate vulnerability.

The population of this region will grow from 305 million today to 515 million by 2030 (UN 2012), a major shift that will require already fragile states to provide increased levels of education, services and jobs, as well as a greater supply of resources. Levels of migration within the region are expected to remain high and will be critical to managing population growth, with many moving South towards coastal and urban areas. However, the mismanagement of migration and lack of investment in services and infrastructures could generate instability. Plus, the combined impacts of climate change, growing population and urbanisation may undermine food security.

Large deposits of natural resources have been discovered in the region (particularly oil, but also other commodities). West Africa currently accounts for 12% of the world's oil and gas supplies; however, this share will rise significantly as it is estimated that the region holds 60 billion barrels of oil (Verma 2012). The region's strategic relevance will grow accordingly (Annan 2013). Commodity exports fuel high growth rates but it is not guaranteed that they will also produce jobs and a more even distribution of wealth. If oil sales fail to deliver widespread benefits, the risk of political violence and regional destabilisation could rise.

Domestic governance and the rule of law have traditionally been very weak in the countries of West Africa, which have been prone to coups and crippled by corruption. In some countries, such

as Nigeria, Senegal, Sierra Leone and Liberia, a consolidation of democracy is underway. However, other countries, such as Côte d'Ivoire, Guinea Bissau and some Sahel states are experiencing extreme political instability. Drivers of insecurity such as illicit criminal activities, ethnic and regional rivalries, and mismanaged natural resources are expected to grow stronger in the coming years. Two security challenges carry particularly direct implications for the security of North African countries and Europe: drug smuggling and violent Islamic militant groups.

It is estimated that around 60 tonnes of cocaine pass through West Africa each year on the way to Europe, while opiates from Afghanistan and Pakistan also transit there to be processed for the US market; this illicit trade is likely to grow in the future (IRIN 2013). Furthermore, the current nexus between Islamist militants, drug trafficking networks and local insurgent groups is likely to strengthen – particularly in the Sahel. Islamist militant groups, such as Boko Haram, MUJAO and AQIM will continue to expand their presence and activities in West Africa. There is some evidence of growing links between militant groups in North Africa and the Sahel (AQIM), West Africa (Boko Haram and MUJAO), Somalia and the Horn of Africa (al Shabaab), and even the Arabian Peninsula (AQAP) (Boukhars 2013). Such trends can be seen in the fact that the primarily West African-based MUJAO is increasingly recruiting across the Sahel and Maghreb, Sudanese extremist groups are reportedly among those promoting radical forms of Islam among populations in the Sahel, and AQIM is regrouping in Libya following its expulsion from Mali in 2013 by French military action.

As long as states in the Sahel and Maghreb continue to be characterised by political instability and weak institutions, large and insecure peripheral zones, and large youth populations with strong political and socio-economic grievances, terrorist and criminal groups will be able to expand their networks, activities and trafficking corridors across these regions and into West Africa and the Horn of Africa.

Implications and options for the EU (Southern neighbourhood)

The potential diffusion of instability, the struggle for influence among regional powers and the economic penetration of external ones will make the Southern neighbourhood a more competitive region, less prone to the influence of any given individual actor, no matter how big. The paradigm that has underpinned the EU approach to the region before the Arab uprisings, namely promoting the progressive convergence of neighbouring countries towards EU norms and standards, is challenged by either the new assertiveness or the weakness of local interlocutors and, sometimes, by a mix of both.

Europe's power of attraction and economic clout may further erode relative to those of other international actors, but the EU will still have significant sway in the medium-term developments of North Africa and the Middle East. The question for the future is how the EU and its member states can leverage their considerable assets and extensive connections in the

region in a more effective way. Priorities for cooperation will need to be increasingly set on mutually defined terms. At the same time, further fragmentation in the region will require the EU to diversify its policies and make its cooperation schemes more flexible (Kausch 2013).

Since the Arab Spring, the European Neighbourhood Policy has focused engagement on the incentive-based “more for more” principle based on the “three Ms” (money, markets and mobility) and on “mutual accountability”. However, the context for the EU’s external support to political transitions has changed significantly – in ways that have affected the Union’s credibility as a conditions-setter for cooperation. Citizens’ empowerment has lowered the domestic tolerance of abuse of power but it has also decreased public acceptance of conditions that are externally imposed. This appears to be a lasting trend, which will limit the EU’s ability to offer conditionality-based cooperation. That could be the case even if differences remain between countries such as Tunisia and Morocco, that are highly dependent on economic links with the Union, and others such as Egypt (Kausch 2013).

EU policies in the Arab world have been upgraded rather than fundamentally redesigned. Although the Union has mobilised significant resources to support transitions in the region, many question whether the incentives that the EU is offering are large enough to induce change (Dunne and Youngs 2013). There is also a risk that Western policies could end up rewarding short-term stability over reforms that could pave the way to socio-economic development and democratic governance. The key challenge for the EU will be to strike a new balance between limiting turmoil and supporting positive change. There is a need to focus on laying the conditions for lasting stability, which is predicated on the genuine ownership of reform and democratic politics by local constituencies. Inclusiveness will be a key factor for the success of transitions and the progressive opening of illiberal regimes. It is important that the EU base its policy on the long-term trajectory of change that is under way in the region, looking beyond the fluctuations of different actors’ political fortunes in the short term.

Providing technical assistance, for example on the rule of law and capacity-building for parliaments, and expanding support to independent civil society actors, will be important tracks for EU engagement in the years ahead. At the same time, technical cooperation cannot replace political engagement. More consideration could be given to ways of institutionalising mutual accountability through regular high-level joint reviews of EU policies towards the MENA region and corresponding developments in recipient countries, focusing on selected priorities.

Stimulating sustainable economic growth will be a key condition for political stability. In the coming decade, prospects for EU-MENA economic integration are likely to fare better when implemented on a bilateral basis (Elkhafif, Taghdisi-Rad, Elagraa, 2012). At the same time, the EU could continue to experiment with innovative approaches, such as convening platforms of public and private actors, including as relevant regional bodies and international financial

institutions, to set a common agenda with local interlocutors and channel resources and investment around shared priorities. The EU could also consider how to further bolster its aim of developing a common knowledge and innovation space with its neighbours.

The EU will remain dependent on fossil fuels from the MENA region in 2030. However, policy choices over this period can help lessen such dependency and create win-win cooperation for sustainable development on both sides of the Mediterranean. Priorities for investment to address energy poverty, economic development and public health in the MENA region include renewable energy, energy efficiency, water, desalination and irrigation (Mabey et al. 2013). The degree to which the EU will be able to generate commitment for projects like the Mediterranean Solar Plan (Escribano 2012), which is aimed at unblocking renewable energy integration between EU and Southern Mediterranean, could help to enhance the energy security of participating countries.

In the volatile region stretching from West Africa to the Gulf, long-term challenges to European interests will not organise themselves into a neatly separate, sealed “neighbourhood”. Authoritarian rule, state fragility, human insecurity, illicit trafficking and terrorist networks may all combine to threaten supply routes and the stability of energy exporting (or transit) countries and regions. The Sahel and the Horn of Africa present the EU and its member states with the challenge to provide human and state security through a comprehensive approach on a regional scale.

A regional approach to insecurity in West Africa and the Sahel could see the EU engage in high-level dialogue with ECOWAS. This would help the two neighbours develop common agendas on the region’s challenges with a focus on terrorism, drugs, demography and the environment, while helping to build up the institutional capacity of ECOWAS. Yet another component of this engagement could include promoting intra- and interregional cooperation (e.g., within and between ECOWAS and Maghreb states) on intelligence-sharing, monitoring of financial flows from drug trafficking and joint security activities.

The EU could also better link its initiatives on terrorism and transnational crime with its work on governance, fragility, institution-building and human security. Responses to terrorism or crime that focus only on law enforcement have the potential to push different criminal actors (such as traffickers and terrorists) closer together; they could also fuel local grievances and generate support for militancy.

Besides, the EU has an important contribution to make in addressing environmental degradation and food insecurity. On climate change, the EU could promote natural resource management and climate adaptation policies that are migration- and conflict-sensitive; encourage regional cooperation to address climate change; and build capacity for data collection and early warning systems. On food insecurity, the EU can provide support to the agricultural sector that focuses on increasing yield, avoiding land saturation and providing food for the regional market.

Eastern Europe

The countries that make up the Eastern Partnership (EaP) – Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine – have made some progress in recent years. With the exception of Belarus and Azerbaijan, broadly pluralist politics have advanced in this region far further than in the Southern neighbourhood. Yet disappointment now prevails in a region that many had assumed was firmly headed into an EU orbit of democracy and open markets. The underlying fragility of Eastern partners' governance and economic structures has become increasingly apparent. Some of these states flirt with relatively pro-Russian external orientations. The path to 2030 for these countries will be difficult. They have by and large retained the centrist cultures inherited from their 20th-century history, and added layers of corruption and instability.

Many observers fear that the region's politics are no longer heading incrementally toward democracy and liberal markets, but have atrophied in a stubbornly persistent state of nepotistic governance styles. Compared to the Southern neighbourhood, the potential for the influence of "European values" remains significant, but progress so far has fallen below expectations and some of the trends are not encouraging. Critical factors include demography, the rule of law, geopolitical competition and the future of protracted conflicts.

Domestic political and social dynamics

Economic reform in the Eastern neighbourhood will be crucial. Yet it should not be assumed that trade and economic benefits by themselves will bring about political and social change. Evidence suggests that while Eastern countries are happy to trade with Western governments, the economic rewards of that activity tend not to filter down to the broader population. Elites in capital cities have grown richer through exposure to the West, but populations outside large urban areas have not. Political reform has also been slow. High levels of corruption are severely curtailing prospects for the economic and democratic development of all six countries.

Table A1.2

Corruption Perception Index in Eastern Partnership countries (2009–12)

Source: Transparency International Corruption Perception Index (2012)
2009-2011: 1 (high perception of corruption) -10 (low perception of corruption);
2012: 0 (high perception of corruption) – 100 (low perception of corruption)

	2009	2010	2011	2012
Belarus	2.4	2.5	2.4	31
Ukraine	2.2	2.4	2.3	26
Moldova	3.3	2.9	2.9	36
Georgia	4.1	3.8	4.1	52
Armenia	2.7	2.6	2.6	34
Azerbaijan	2.3	2.4	2.4	27

With the exception of Azerbaijan, EaP countries face demographic decline by 2030, with losses of around 10% of the current population in Ukraine, Moldova, Georgia and Belarus. Social mobility is a key factor for the future of the Eastern neighbourhood countries and the EU's "carrot" of visa liberalisation is of high interest to all. However, the brain drain from the young, educated professional classes may have a detrimental effect on growth prospects, at least over the short term.

Table A1.3

Populations of Eastern Partnership countries, 2010 and 2030 (in thousands)

Source: World Bank (2013)

	2010	2030
Armenia	3,092	3,077
Azerbaijan	9,054	10,636
Belarus	9,490	8,764
Georgia	4,452	3,831
Moldova	3,562	3,121
Ukraine	45,871	40,797

EaP countries feature a range of political regimes, from authoritarian Belarus and Azerbaijan to reformist Georgia and Moldova. Even the most advanced countries, however, lag behind Western levels of democracy and rule of law (Freedom House 2012). Civil society in almost all post-Soviet countries remains weak. Under the EaP, the EU has been working on a number of bilateral initiatives with Eastern partners; these include Association Agreements, Deep and Comprehensive Free Trade Areas (DCFTAs), institution-building programmes, and visa liberalisation initiatives. However, progress on these fronts is slow and the projects risk running out of steam in the coming years. Legal frameworks may be agreed but the basic economic and governance situations in most Eastern neighbours have barely changed.

Regional competition and conflicts

The Eastern neighbourhood countries have become skilled at playing external powers against one another. This is despite Russia's increasingly assertive use of coercive diplomacy and soft power in the region, alongside the West's efforts to reel those same nations in. This balancing act is likely to continue over the coming years, with most Eastern nations seeking to avoid having to make hard choices on full alignment with or membership of either the EU or the Eurasian Union. In this respect, Ukraine is a swing state – and a crucial one for Russia's Eurasian project. The country has undergone some of the most painful swings in recent years and its immediate prospects do not look promising.

The 2008 war between Russia and Georgia, and the subsequent unilateral recognition of Abkhazia's and South Ossetia's independence by Moscow, has changed the geopolitical balance in the region. With the exception of the EU, which rapidly deployed a monitoring mission to shore up the ceasefire, international and regional organisations – NATO, the OSCE and the UN – have been marginalised while Russia and, to a lesser extent, Turkey stepped up engagement without bringing the conflict any closer to resolution (Boonstra and Melvin 2011).

Of the four protracted conflicts in the EaP region, Transnistria is ostensibly the easiest to solve – and yet there has been virtually no movement. Divergent interests (in Chisinau and Tiraspol) and the costs of reunification suggest the deadlock will continue. In the coming years, there will be little chance to unlock the stalemate in the absence of a convergence between the EU and Russia, which remains highly unlikely. The South Ossetia and Abkhazia conflicts are less volatile than before the 2008 Georgia-Russia war. The swift end to that war and subsequent Russian recognition of South Ossetia and Abkhazia has led to greater stability at the interstate level, but at an unacceptable cost for Georgia.

Nagorno Karabakh remains the region's most intractable problem, with basic contradictions of sovereignty versus self-determination set to continue, over which either side is unwilling to move while the Minsk Group (in which the EU still lacks a seat) is regarded as bankrupt. But Azerbaijan's military build-up – the country's military expenditure amounts to more than four times the Armenian defence budget (IISS 2013) – suggests that without stronger international pressure there are real chances of a conflagration in the medium term. An all-out conflict between Armenia and Azerbaijan might trigger Russian involvement (on Armenia's side) and even Turkey's support to Azerbaijan.

Table A1.4

Military Expenditure (% of central government expenditure)

Source: World Bank (2013)

	2008	2009	2010	2011
Belarus	4.3	4.2	4.4	3.8
Ukraine	7.2	7.0	6.6	6.5
Moldova	1.9	1.2	0.9	0.9
Georgia	29.3	18.1	14.8	12.1
Armenia	16.0	17.5	18.6	18.1
Azerbaijan	22.1	17.6	16.5	31.3

Russia is by far the most committed external actor in the region. For the Kremlin, any further loss of influence in former Soviet republics is unacceptable. And Russia's position is indeed still

dominant (except perhaps in Georgia), while the West hesitates and China remains a bit-part player. That said, Russia is losing influence. The West has made significant gains economically, culturally, technologically and linguistically. This is not to say that this cannot change by 2030, but it is far from certain, especially since the least likely alternative trajectory for Russia is that of liberal democracy.

Central Asia

Central Asia is one of the most authoritarian regions in the world, and one where regional cooperation is practically non-existent. Over the next 20 years, as the post-Soviet legacy dissipates, nationalism and Islamism are likely to be on the rise. With the possible exception of Kazakhstan, which holds the resources to sustain socio-economic development if political reforms are introduced, the other countries are at high risk of failure, with unpredictable consequences for regional stability. Drivers of instability include the upcoming political transitions in Kazakhstan and Uzbekistan, two regional heavyweights where uncertainty prevails over who will replace the current rulers; the rise of radicalised political Islam and the spread of jihadist groups; tensions over water resources between Tajikistan and Uzbekistan and ethnic tensions in the Fergana valley; and the potential spill-over from instability in Afghanistan post-2014. These challenges find fertile ground in the region's poverty, unemployment, corruption, abuse of power and collusion of public authorities and criminal networks.

Short of meaningful reform, the region is "pregnant with crises" (Kassenova 2013). The population will expand by about 25% by 2030, from 61 million to 77 million, while there is little prospect for sustained job creation. The economies of Central Asian countries are largely dependent on remittances and the export of few commodities – notably aluminium and gold from Tajikistan and Kyrgyzstan and oil and gas from Kazakhstan (50% of exports) and Turkmenistan (80% of exports) (Juraev 2013).

The EU's engagement in the region has been mainly driven by energy security interests. Kazakhstan holds the tenth-largest proven oil reserves in the world and Turkmenistan the fourth-largest gas reserves. About 50% of Kazakh exports go to the EU, but the story is different in Turkmenistan, where the Union's plans to bypass Russia and tap into Turkmen gas have hit a wall. Both Kazakhstan and Turkmenistan are turning east, building pipelines to connect to the Chinese market.

Russia and China will remain the two most influential external actors in the region, while the US approach has been framed by the requirements of the intervention in Afghanistan (Cooley 2012). As post-Soviet generations come to power, Russia's influence is expected to shrink whereas China may step up its engagement beyond economic investment and energy issues, notably if the threat of radical Islam were to affect its Xinjiang province (Deletroz 2013). For their part, as in Eastern Europe and the Caucasus, Central Asian states have grown

skilled at playing external powers off of one another and extracting benefits while doing so. This is a short-term tactic that might continue to bear fruit, but it cannot replace a long-term strategy, supported by external assistance, to address the grave political, social and economic deficiencies that threaten the stability of the region.

Implication and options for the EU (Eastern neighbourhood)

The EU has a better base for shaping long-term trends in Eastern Europe than in the Southern neighbourhood; states in the region, albeit to differing degrees, still desire the Union anchor. But the EU could risk losing this potential if it fails to revive the political spirit of its eastern strategy. EU programmes aimed at regional cooperation in Eastern Europe as well as member-states' initiatives, for instance on institution-building, have so far yielded modest progress on economic development and democratic reforms. Amongst other challenges, corruption directly impacts the effectiveness of EU development aid. A stronger focus on conditionality and proactive anti-corruption strategies will be essential over the coming years to genuinely connect Eastern markets and societies to those of the EU.

As institutional reform programmes with incumbent governments have yielded less success than was hoped for in most cases, the EU will need to build ties with local civil societies and help in training community leaders, not least through instruments such as the Civil Society Facility for the Eastern and Southern neighbours and the Non-State Actors-Local Authorities in Development (NSA-LA). Creating the domestic conditions for shaping value-based partnerships is in the long-term interest of the EU. Civil society would benefit from an EU approach that strongly supports the most transparent NGOs while widening its focus from human rights to economic justice, inequality, education and public services. This is an area where, with long-term commitment, the EU can make a difference. However, there is also a need for the EU to better connect with civil society actors who complain that existing policy instruments need to be better funded and that rules should be simplified.

The regional power context is slowly shifting, with East European neighbours carving out more room to manoeuvre between external powers, and international and regional organisations losing influence. However, the EU could find itself with a new opportunity to re-energise its strategic presence in the east in the next five years. A number of new association agreements with eastern partners are in the pipeline. The very assertiveness of Russian behaviour in recent months may help re-awaken European interest and determination in the region. The key will be to harness the new association agreements as geo-strategic and not merely technical tools over the long term. These agreements can be seen as a starting point for renewed effort rather than an end-point in themselves.

The questions that confront the EU over the medium term include its role as a security provider and broker of settlements over the protracted conflicts; the promotion of

stability through democratic and economic reform; and the diversification of energy supplies in and through the region. Because of this changing landscape – where the United States also plays a less active role – there is scope for the EU to step up involvement in security affairs, including by focussing on mediation and security sector reform and better linking the Common Security and Defence Policy (CSDP) missions to the European Neighbourhood Policy (ENP) (Huff 2011) and the Eastern Partnership. The challenge, whether in Eastern Europe or Central Asia, will be to determine how to provide effective development assistance to regimes that are unwilling or unable to tackle corruption and undertake genuine democratic reforms.

In Central Asia, upcoming political transitions and widespread state fragility require the EU to seek broader engagement with civil society and stakeholders beyond the current regimes. European assistance to the region is considerable given the low levels of local absorption capacity. At the geopolitical level, the EU's main interest is not to play a "great game" in Central Asia but to avoid a "great gap" between Europe's neighbourhood and East and South Asia, not least given the uncertainties that will arise in Afghanistan post-2014. That situation will require cooperation on issues of security and development with the US and Russia, and potentially China in the future, to maximise the impact of the EU's engagement in the region.

ANNEX 2 – ESPAS SURVEY OF EXPERT OPINION

Process and method

- This expert consultation is one component of the broader set of activities carried out by the FRIDE-Chatham House team to garner expert opinion and regularly test the findings of their desk research. This process included eight workshops (in Berlin, Brussels, London and Paris) within seven months (see Timeline of Activities in Annex 3) and feedback from the members of the Review Panel. Some of the experts who responded to the survey have also been involved in the workshops as participants or speakers. The project was accompanied by regular exchanges with the members of the ESPAS Task Force and Working Group, with the latter meeting the contractors three times in addition to the Interim Seminar and the Final Seminar.
- The team consulted a group of academics, analysts and policy-makers from a range of fields on issues relevant to the themes of the report. This expert consultation provided additional intellectual input on a range of pertinent issues over the 2030 time horizon. The aim was to highlight issues or topics which might have been missed and to challenge or validate some of the trends highlighted in the research.
- Questions were separated in to five sections, addressing different issues:
 - Section 1: Game-changers
 - Section 2: The international agenda
 - Section 3: Global governance
 - Section 4: Strengths, weaknesses, opportunities and threats for major powers
 - Section 5: Risks and threats to the EU
- The intention was to learn from the perspectives of 50 experts from a variety of fields and backgrounds. In total, 49 experts responded, after 125 were invited to reply. The responses were completed online between April and July 2013. Some of the participants did not answer all of the questions.
- The questions generated both quantitative data (for example, by asking candidates to rank a series of statements) as well as qualitative data (for example, where respondents had a free-form box to complete). Free-form questions allowed participants to add additional considerations and issues beyond those listed in the questions so that their views were not restricted to the options offered. For example, this allowed respondents to add their own “game-changers” or to suggest alternative issues which might top the international agenda in the future.

- For questions which produced free-form data, the responses were clustered together to identify patterns in the results. For example, when identifying the weaknesses of India, a number of responses that related to governance issues and institutional challenges were grouped together as “Governance Challenges”. This process necessarily involves a degree of generalisation and generates indicative results rather than definitive responses.

Interpretation

- Insights that can be drawn from the findings are based on what can be reasonably inferred. This is not a representative opinion poll using weighted samples. Instead, it is an attempt to harness expert opinion in a format that allows those opinions to be aggregated. These insights build on the review of the responses from across the survey, to identify issues and challenges that a significant number of respondents concurred were highly relevant. These insights have informed, complemented or corroborated the findings of the desk research carried out by the FRIDE-Chatham House team and the output of the debates in the workshops, along with the feedback from the Review Panel.

Key points

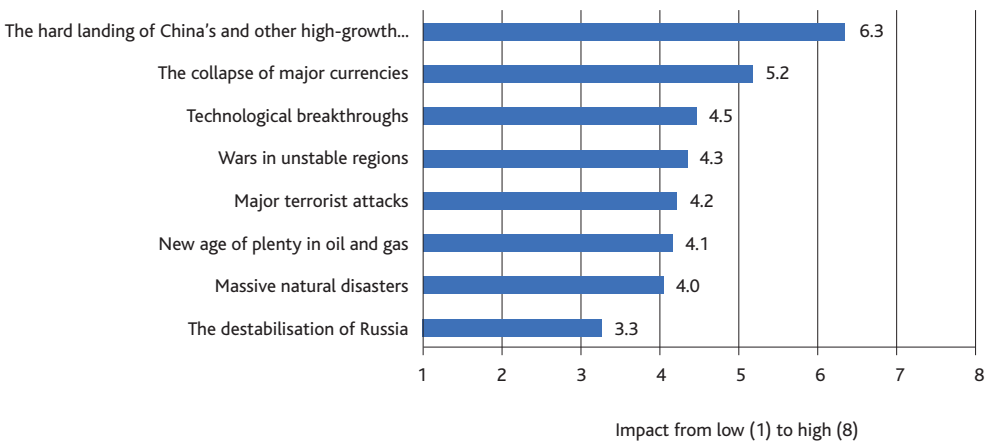
- The expert consultation confirms the importance of resource security and governance as key issues in future. The experts ranked resource security as the issue most likely to top the international agenda up to 2030. Resource scarcity and security was most frequently ranked as the issue which presented the greatest opportunity for international cooperation.
- The importance of technological change was a recurring theme in the responses. Technological breakthroughs were considered both likely and impactful “game-changers”. In addition, fostering science and regulating new technologies were judged to be issues with high potential for international cooperation.
- The SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis provides a snapshot of expert attitudes to major emerging powers. This highlighted the resource strengths of many emerging powers, but also the governance challenges they face, as well as the threats of internal violence and dissent. The EU and the US were considered to have strengths in innovation, but were threatened by weak growth and, in the EU’s case, demographic change.
- The most frequent response to questions about threats to the European Union was conflict in the EU’s neighbourhood, followed by issues related to EU leadership and governance and immigration alongside a range of economic challenges.

(1) Game-changers

Which potential "game-changers" would have the greatest impact on the international system?

- The top response was the hard landing of China's and other high-growth economies, followed by the collapse of major currencies and technological breakthroughs.
- The destabilisation of Russia was on average ranked as lowest of the eight.

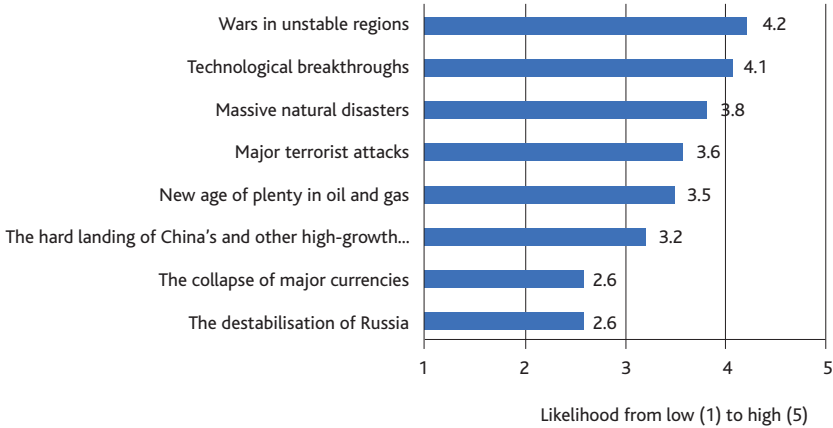
Which potential 'game-changers' would have the greatest impact on the international system?



What is the likelihood that these game-changers will occur in the next 20 years?

- Of the eight options presented, the most likely game-changer was considered to be "wars in unstable regions".
- The spread was from 2.6 to 4.2, where 5 indicates "high" and 1 indicates "low" likelihood. As the spread shows, respondents think that there is at least a "medium" likelihood of the majority of these game-changers taking place in the next 20 years. The closest to a high-impact, low-probability event would be the collapse of major currencies.
- The events considered least likely were the collapse of major currencies, and the destabilisation of Russia. Both had a rating of 2.6, between medium and medium-low.

What is the likelihood that these game-changers will occur in the next 20 years?



Are there other potential game-changers?

- The collapse of the European Union was the most common additional game-changer. Of those, seven out of eight identified the collapse of the EU as having a high impact. A majority of those indicated a medium-low or low likelihood of its occurrence.
- A global pandemic was the second most frequently mentioned.
- Other game-changers listed included:
 - Resource scarcity
 - religious polarisation
 - climate change
 - cyber-attacks
 - regime change in the Gulf
 - American isolationism

Please suggest one or two plausible high-impact, low-probability events involving a combination of these factors.

- Six responses were linked to environmental events, either natural disasters or through the political and security risks created by climate change.

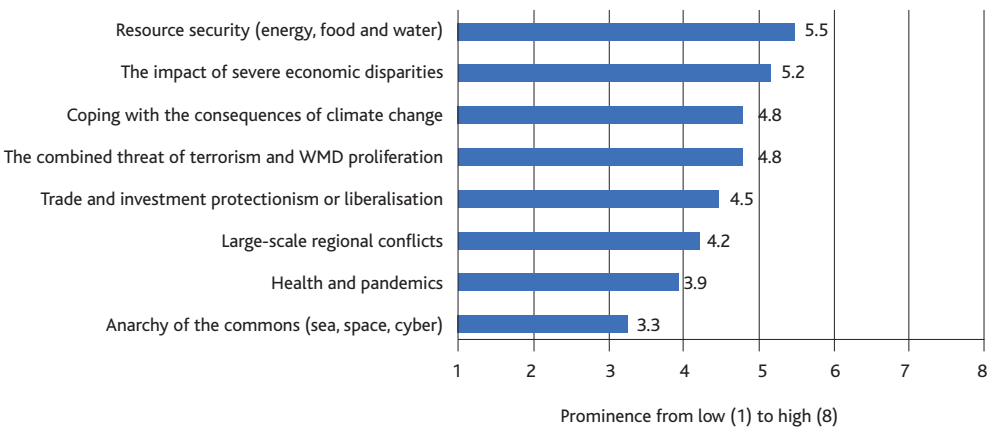
Additionally, experts identified potential risks related to cyber-security and the collapse of the Saudi regime as “high-impact, low-probability” events.

(2) The International Agenda

Which issues will top the international agenda over the next 20 years?

- Resource security received on average the highest ranking of the eight issues put forward. A quarter of respondents ranked it as the top issue. It had an average ranking of 5.5 (where eight would be highest).
- The impacts of economic disparities were ranked second, followed by climate change and terrorism/WMD.
- “Anarchy of the commons” was considered least likely to top the international agenda, with an average ranking of 3.3.

Top issues on the international agenda, 2013-30



Are there other issues that will top the international agenda over the next 20 years?

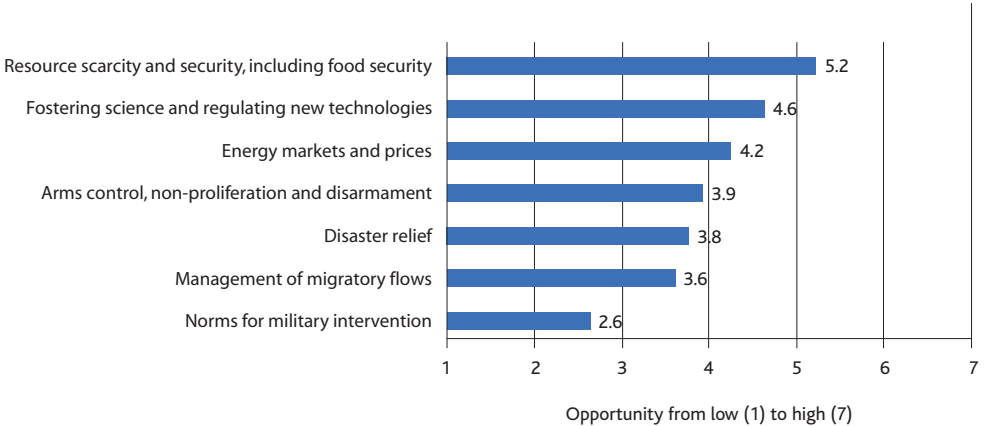
- The most frequent response was demographic change. This was followed by issues relating to weak or ineffective global governance, identified by three respondents.

(3) Global Governance

Over the next 20 years, which issues present the greatest opportunities for innovation on international cooperation and global governance?

- Resource scarcity and security was seen as the area with the greatest potential for increased international cooperation. It was ranked first by 40% of respondents and had an average ranking of 5.2, where 7 would be highest and 1 would be lowest.
- Science and new technologies was ranked second overall, with an average ranking of 4.6, with energy markets/prices ranked third.

Over the next 20 years, which issues present the greatest opportunities for innovation on international cooperation and global governance?



Are there other areas with significant potential for innovation in international cooperation?

- Climate change (mentioned five times) was the most frequently highlighted additional area for international cooperation.
- Other issues or areas with multiple responses:
 - Global health and disease control
 - Global governance and institutional reform
 - Information technology and cyber regulation
 - Regional cooperation and institution-building
 - Labour mobility

(4) Strengths and Weaknesses of Key Countries

Participants were asked to specify potential strengths, weaknesses, opportunities and threats for the BRICS (Brazil, Russia, India, China and South Africa), the United States and the European Union.

Summary: strengths and weaknesses

- Resources were seen as a major strength of a number of the BRICS. This was the most frequently highlighted strength of Russia, identified by over half the respondents, and it was also the most common response for Brazil and the third most common for South Africa.
- “Self-reliance” was also a commonly identified strength of the BRICS states. Brazil was identified as self-reliant more times than any other power, followed by China and India.
- The top strength identified for both the US and the EU was innovation.
- While South Africa and Brazil were especially likely to be identified as regional powers, only the United States and EU were identified as having a global reach.
- With the exception of Brazil, every country’s weaknesses were related to governance challenges.
- Demographics were the most common weakness identified for the EU. Respondents also described the EU’s weaknesses in the following terms: fragile; lumbering; brittle; and lacking in unity.

Summary: opportunities and threats

- Respondents highlighted the opportunities that arose in all the BRICS from their status as emerging economies.
- The end of the recession was the most frequently cited opportunity for the West (US 23% and EU 30%).
- While the most commonly cited threat to the BRICS (with the exception of India⁵) were issues related to internal violence and dissent, the most common threat to the West highlighted by experts was slow economic growth.

⁵ India’s key threat was identified as regional conflict (55%) followed by internal dissent (31%).

Brazil

- Resources, both human and natural, were most frequently highlighted as a strength. Common descriptions of Brazil included: self-reliance, innovativeness and inclusiveness, and having a strong regional presence in South America.
- Economic disparities ranked highest in the list of Brazil's weaknesses. Issues related to its commodity dependence were the second most common response.
- Brazil's status as an emerging economy was its most frequently mentioned opportunity, followed by its role as a regional leader and wealth of natural resources.
- Social pressures and internal violence were seen as being Brazil's biggest threat, as were slow economic growth and regional instability.

BRAZIL		Total Answers: 32	
Strengths		Weaknesses	
Resources (Natural and Human)	10	Economic Inequality	10
Self-reliant	7	Commodity Dependence	5
Innovative	7	Lumbering	4
Regional Role	6	Corruption	2
Inclusive	5	Education System	2
Global	5	Slow Growth	2
		Regional	2
		Overly Confident	2
Opportunities		Threats	
Emerging Economy	9	Social Pressures and Internal Violence	8
Natural Resources	5	Slow Growth	5
Regional Leadership Role	5	Regional Instability	4
Growth	3	Economic Mismanagement	3
Role in Africa	2	Recession	2
		Corruption	2

China

- China's economic potential was viewed as its greatest strength. It was described as competitive by many respondents, with economic growth and development seen as a strength. Like Brazil, China was described as being self-reliant and innovative, as well as playing a regional role.
- Governance challenges were selected by one-third of respondents as a weakness, the most common response, with demographics and fragility second and corruption and domestic inequality third.
- China's global reach and international engagement were ranked as its greatest opportunity, followed closely by its status as an emerging economy, innovation and the resurgence of its domestic currency.
- Internal dissent and social pressures were overwhelmingly identified as the main threat to China, with regional instability/conflict and environmental degradation second and third.

CHINA		Total Answers: 36	
Strengths		Weaknesses	
Competitive	11	Governance Challenges	12
Economic Growth/Development	9	Demographics	7
Self-reliant	5	Fragile	7
Innovative	4	Domestic Inequality	6
Size	4	Corruption	6
Global	4		
Regional Role	4		
Opportunities		Threats	
Global Reach/International Engagement	5	Internal Dissent and Social Pressures	16
Emerging Economy	4	Regional Instability/Conflict	8
Innovation	4	Environmental Degradation	7
Resurgence of Domestic Currency	4	Corruption	3
End of Recession	3	Demographics	3

India

- India was described as democratic, innovative and resilient, as well as having a well-trained and educated workforce.
- Governance challenges, corruption, and poverty and economic inequality were highlighted as India's weaknesses.
- One-third of respondents identified India's status as an emerging economy as its strength. Its regional role and potential for international leadership (14%) were also highlighted.
- Regional conflict was ranked as the top threat to India, with internal dissent/violence and social and economic inequality coming equal second.

INDIA		Total Answers: 29	
Strengths		Weaknesses	
Democratic	6	Governance Challenges	11
Innovative	6	Economic Inequality and Poverty	9
Well-Trained/Educated Workforce	5	Corruption	9
Resilient	5	Lumbering	5
Self-Reliant	4	Fragile	4
Opportunities		Threats	
Emerging Economy	12	Regional Conflict	16
Regional Role	7	Internal Dissent/Violence	9
Potential for International Leadership	4	Social and Economic Inequality	9
Market Potential	3	Slow Growth	5
Technological Strengths	2	Terrorism	2
Diaspora	2		
Linkages to English-speaking World	2		

Russia

- Over half of the respondents identified natural resources as strength of Russia, ahead of its educated workforce and its resilience.
- Similar to China and India, governance challenges ranked as Russia's most commonly cited weakness, selected by over half of the experts. Over-dependence on commodities was second and corruption was third.
- Alongside resources, stronger ties with Asia (and China, in particular) were viewed as Russia's greatest opportunities.
- Internal dissent and instability dominated the list of threats, ahead of regional instability and demographics.

RUSSIA		Total Answers: 34	
Strengths		Weaknesses	
Natural Resources	19	Governance Challenges	19
Well-educated Workforce	5	Overdependence on Commodities	14
Resilient	5	Corruption	11
Self-Reliant	4	Demographics	8
Size	4	Lumbering	5
Opportunities		Threats	
Stronger Ties with China/Asia	5	Internal Dissent and Instability	21
Resources	5	Regional Instability	5
Emerging Economy	4	Demographics	4
Stronger Ties with Europe/the West	3	Corruption	3
Economic Diversification	2	Low Oil/Energy Prices	3
End of Recession	2		
Arctic	2		
Political and Economic Reform	2		

South Africa

- Of all the countries assessed, South Africa had the highest proportion of respondents who highlighted its regional role as a strength. This was followed by resources and resilience.
- Inequalities, both economic and social, were identified as a weakness by over half of the respondents.
- South Africa's status as an emerging economy was noted frequently as an opportunity, coming ahead of economic growth in Africa and its regional leadership role.
- The top threat was identified as internal dissent and violence. This was followed by governance challenges, corruption and slow growth.

SOUTH AFRICA		Total Answers: 33	
Strengths		Weaknesses	
Regional Role	19	Economic and Social Inequality	19
Resources	6	Weak Governance	12
Resilient	5	Social Inequality	8
Inclusive	4	Overly Dependent	4
Democratic	3	Corruption	3
		Fragile	3
Opportunities		Threats	
Emerging Economy	9	Internal Dissent and Violence	14
Economic Growth in Africa	7	Governance Challenges	8
Regional Leadership	5	Corruption	6
Economic Growth and Diversification	4	Slow Growth	6
Strong Cultural Ties with English-speaking World	2	Regional Conflicts	4
Education Reform	2		

United States

- Almost half of participants listed innovation as the greatest strength of the United States, followed by its global role, and competitiveness.
- Political polarization and governance challenges were overwhelmingly identified as weaknesses, with respondents describing the American political system as deadlocked and in logjam. Some considered overconfidence to be a weakness while others noted inequality and the level of the national debt.
- The end of the recession was the most commonly mentioned opportunity, followed by energy resources and international trade partnerships.
- Both terrorism and slow growth were viewed as the top threats to the United States, with political polarisation and governance challenges the second most frequent responses.

UNITED STATES		Total Answers: 35	
Strengths		Weaknesses	
Innovative	17	Political Polarisation and Governance Challenges	22
Global Role	9	Overconfidence	5
Competitive	8	Inequality	4
Resilient	7	National Debt Level	4
Resources	5	Military Intervention	2
		Poor Infrastructure	2
		Low Education Standards	2
Opportunities		Threats	
End of Recession	8	Terrorism	7
Energy Resources	4	Slow Growth	7
TTIP	3	Political Polarisation and Governance Challenges	4
TPP	2	Declining Soft Power	3
Innovation	2	Isolation	3
Demographics	2	Recession	3
High-tech Market Growth	2	Immigration	3
		US-China Relations	3

European Union

- As in the United States, innovation was identified as the top strength of the European Union, followed by inclusiveness and its regional and global role.
- Weak governance was the most commonly identified weakness, followed by demographics and economic disparities.
- The end of the recession was seen as the greatest opportunity for the EU, followed by trade and TTIP, and the resurgence of the Euro.
- Slow growth ranked highest on the list of threats to the EU, followed closely by continued recession, internal dissent and violence and issues in the neighbourhood.

EUROPEAN UNION		Total Answers: 37	
Strengths		Weaknesses	
Innovative	9	Weak Governance	15
Inclusive	7	Demographics	6
Regional	6	Disparities	4
Global	6	Lack of Political Legitimacy	2
Economy	4	Eurozone Dysfunction	2
Technology and Science	4	Inward-oriented	2
		Unemployment	2
Opportunities		Threats	
End of Recession	11	Slow Growth	9
Trade and TTIP	5	Continued Recession	8
Resurgence of the Euro	4	Issues in the Neighbourhood	6
Neighbourhood	2	Internal Dissent and Violence	6
Political Union	2	Break-up of the Union	5
Skilled Immigrants	2		
Soft Power	2		
Strong Cultural Ties with US	2		

(5) Risks and Threats to the EU

What are the five main threats and risks that the EU will have to face over the next 20 years and why?

- The most frequent threat highlighted was conflict in the EU's neighbourhood (18 times), followed by issues related to EU leadership and governance (15) and immigration (12).
- A large number of the threats to the EU related to economic challenges: Eurozone collapse (11), slow economic growth (10), and a lack of competitiveness (10).
- Threats relating to climate change (7) and energy (7) were seen as lower priorities.

On what issues can the EU make a positive difference in international affairs?

- Climate change (mentioned 18 times) was the issue on which respondents felt the EU could make the most positive difference.
- Issues relating to conflict prevention/resolution and stabilisation came second, mentioned 15 times.
- These were followed by international trade (13) and human rights (11).

What critical factors will determine the EU's ability to do so?

- Respondents felt that the success of the EU in tackling these challenges was most dependent on restoring economic growth (highlighted 16 times), on unity within the EU (15), and on effective governance (15).
- The United Kingdom remaining in the EU was highlighted six times.

ANNEX 3 – TIMELINE OF ACTIVITIES

- 18 December: Meeting with the ESPAS Working Group (strand 3) and ESPAS Task Force, Brussels
- 18 February: Meeting with the ESPAS Working Group (strand 3), Brussels
- 20 February 2013: Seminar on Sources of Power, Brussels
- 25 March 2013: Seminar on Features of 21st Century Governance, Brussels
- 8 April 2013: Seminar on The Changing Nature of Security, Brussels
- 12 April 2013: Draft Interim Report delivered
- 18 April 2013: Interim Seminar, Brussels
- 10 May 2013: Interim Report delivered
- 17 June 2013: Interim Report Workshop, in cooperation with the German Marshall Fund of the United States, Berlin
- 21 June: ESPAS workshop on Scientific and Technological Futures and Policy Challenges, Brussels
- 26 June 2013: Interim Report Workshop, Chatham House, London
- 4 July 2013: Revised Interim Report delivered
- 5 July 2013: Interim Report Workshop, in cooperation with the Fondation pour la Recherche Stratégique, Paris
- 22 July: Meeting with the ESPAS Working Group (strand 3), Brussels
- 29 July 2013: Draft Trend Report delivered
- 6 September 2013: Final Seminar, Brussels
- 2 October: Final Trend Report delivered

ANNEX 4 – GLOSSARY AND ACRONYMS

Glossary

3D printers	A process for making a physical object from a three-dimensional digital model, typically by laying down successive thin layers of material. The technique has the potential to revolutionise manufacturing owing to the easy dissemination of designs and the possible wide-ranging availability of printing facilities.
Biotechnology	The use of living organisms or other biological systems in the manufacture of drugs or other products or for environmental management, as in waste recycling. Applications include the production of certain drugs and synthetic hormones.
Bioterror weaponry	Biological agents such as bacteria, toxins and viruses used as weapons for the purposes of terrorism.
CO ₂ emissions	Carbon dioxide released into the atmosphere. It is a greenhouse gas and is a cause of global warming.
Circular economy	An economy based on sustainable resources use in which waste output becomes input, reducing costs and resource depletion while limiting damage to the environment. Key approaches to building a circular economy are systems thinking, renewable energy and recycling of waste food and materials.
Cyber attack	An attempt to gain unauthorised access to a computer, computer system or electronic communications network with the intention of damaging or disrupting it.
Cyborg	A person whose physical abilities are extended beyond normal human limitations by mechanical or electronic elements built into the body
De facto	Latin: concerning fact. Commonly taken to mean in practice as opposed to according to law ("de jure")
De jure	Latin: concerning law. Commonly taken to mean according to law as opposed to in practice ("de facto")
Emerging economies	The countries whose economies are undergoing rapid growth, normally characterised by industrialisation. The economic growth of these countries is changing the balance of global economic power, and are in this context contrasted with "incumbent" economies. As of 16 July 2012 the IMF defines the following countries as emerging economies: Argentina, Brazil, Bulgaria, Chile, China, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, Turkey, Ukraine and Venezuela.
Exchange rate	The rate at which the currency unit of one country may be exchanged for that of another
Foreign direct investment (FDI)	An investment made by a company or entity based in one country, into a company or entity based in another country.

Fibre-reinforced polymers	A composite material made of a polymer matrix reinforced with fibres. The fibres are usually glass, carbon, basalt or aramid, although other fibres such as paper or wood or asbestos have sometimes been used.
Free-riding	Benefiting from resources, goods, or services without paying for the cost of the benefit. Normally used in relation to common or public goods.
Game-changer	A development causing a significant shift in the current balance or in the way of thinking or acting on a given issue. Such developments could be political, economic, social, technical or geographical.
Genetic weapons	A weapon designed to harm only individuals possessing specified genes or phenotypes.
Global commons	Areas or resources that lie outside the political reach of any one nation State. International law identifies four global commons: the High Seas; the Atmosphere; Antarctica; Outer Space. More generally used to refer to common rights or resources, the maintenance or protection of which rely on international cooperation.
Governance	The process and manner of governing or administrating people or resources at the national, sub-national or supra-national level or jointly by groups of actors. Lack of good governance could include the absence of governance, a political vacuum, or poor governance, as in deficient institutions, processes or behaviour.
Greenhouse gas	A gas that absorbs radiation: a gas that contributes to the warming of the Earth's atmosphere by reflecting radiation from the Earth's surface, e.g. carbon dioxide (CO ₂), ozone, or water vapour.
Horizon technologies	Technologies that have shown promise in early stage innovation and have the potential to significantly impact society before 2030. In some cases such technologies are already deployed in niche markets.
Hydrocarbons	Anorganic compound consisting purely of hydrogen and carbon. The majority of hydrocarbons on earth are found in crude oil.
Hydro-dependent	An entity or process relying on water in order to function. Examples include agriculture and power generation.
Incumbent economies	The countries that dominated the global economy from the industrial revolution until the end of the twentieth century and into the twenty-first. This includes, broadly, the economies of Western Europe, North America, Australia, New Zealand, Japan and South Korea.
Legal highs	A substance with stimulant or mood-altering properties whose sale or use is not banned by current legislation regarding the misuse of drugs.
Liquid Natural Gas	Natural gas that has been converted to liquid form for ease of transport or storage, principally through pipelines or by ship.
Littoral ships	A class of surface combat vessels intended for operations close to shore. Usually small, fast, manoeuvrable, flexible and relatively inexpensive. Designed to be capable of countering anti-access and asymmetrical warfare strategies.
Low-, high- and middle-income countries	The World Bank classifies economies according to 2012 Gross National Income (GNI) per capita, as follows: low-income, \$1,035 or less; middle-income, \$1,036–\$12,615; and high-income, \$12,616 or more.

Middle-income trap	A situation in which a country's economic development stagnates at the middle income level (\$1,000 to \$12,000 GNI per capita) as rising production costs makes it unable to compete against lower-income countries in the export market, before its economy is sufficiently advanced technically and structurally to compete with high-income countries.
Nano/ Nanotechnology	A branch of technology dealing with the manufacture of objects with dimensions of less than 100 nanometres and the manipulation of individual molecules and atoms, especially to create computer chips and other microscopic devices. Also used to denote the meaning "very small, minute".
Nexus	A point where two or more things, processes or concepts converge or are linked. Examples include the resource nexus between food, water and energy, and the transport nexuses at the Panama and Suez canals.
Non-conventional gas	Gasses requiring greater than industry-standard levels of technology or investment to harvest are known as "unconventional gas" resources. The three most common types of unconventional gas resources are tight sands, coalbed methane (CBM) and shale gas.
Over-the-counter medication	Drugs available to buy without the need for a prescription authorised by a medical professional and therefore relatively readily available.
Policy coherence for development (PCD)	The principle of taking into account the effects on development of non-development related policies, to ensure that the latter do not undermine development goals.
Purchasing power parity (PPP)	The technique used to calculate the relative value of different currencies.
Precision-strike capabilities	Weaponry capable of much greater accuracy in targeting than conventional weapons, e.g. by using enhanced sensory data.
Recombinant	Making new combinations from existing processes or practices, often leading to improvements or entirely new capabilities. Re-combination has a tendency to lead to developments that are difficult or impossible to predict on the basis of current trends.
Regionalism	The expression of a common sense of identity and purpose, often leading to cooperation or collective action, within a geographical region. Regionalism may or may not be facilitated by supra-national or multilateral institutions.
Satellite swarms	Groups of smaller satellites used together to provide multi-point measurement and complex images.
Shale gas	Natural gas that is found trapped within shale formations. Shale formations are sedimentary rocks formed by compression of successive layers of clay-rich sediment. Recently developed technology has allowed the extraction of shale gas at a substantial scale, and the future development of shale gas extraction is a substantial uncertainty factor in the global energy market.
Smart growth	Holistic policy approach to economic and social growth to ensure continued, stable, sustainable development. Examples of smart growth policies include the provision of healthcare and education to maintain social stability and an optimal workforce, and city planning for efficiency and sustainability.

Smart meters	Usually an electrical meter that records consumption of electric energy in intervals of an hour or less and communicates that information at least daily back to the utility for monitoring and billing. Can also be used for water and gas.
Smart power	An effective combination of hard power and soft power strategies in international relations, involving appropriate and foresighted application and interaction of military power and diplomacy respectively.
Solar PV	A method of generating electrical power by converting solar radiation into direct current electricity.
South-South relations	The economic and diplomatic ties between countries in the less developed "global South", contrasted with the more developed "global North". South-South investment and cooperation are projected to increase in importance, altering the current political and economic balance and reconfiguring established relationships. Chinese investment in Africa is a frequently cited example of the increasing importance of South-South relations, and the way in which non-Western political and economic models may become increasingly dominant as a result.
Trend	A general direction or tendency of development.
Unmanned Aerial Vehicle (UAV)	Unmanned aerial vehicles, also known as drones, are programmed or remote-controlled aircraft without a human pilot, deployed for reconnaissance or combat.
Vector- and water-borne diseases	Diseases that originate in water owing to micro-organisms and chemicals. Vectors are agents (fleas, mosquitos) that carry and transmit water-borne disease such as malaria and shistosomiosis. Vector- and water-borne diseases are affected by global warming as increases in global temperature can increase the productivity of vectors.
Weapons of mass destruction (WMD)	Weapons that can be chemical, biological, radiological or nuclear in nature.
Zero-sum	A situation in which one actor's gain is necessarily balanced by a loss of equal magnitude on the part of other participants. Such situations are therefore by nature competitive. Sometimes used to refer to an erroneous perception of a situation capable of being solved to the advantage of all participants.
Zettabyte	A unit of digital information. A multiple of the unit byte. The prefix zetta means 1000^7 (1000 multiplied by itself seven times). 1 ZB = 1,000,000,000,000,000,000 bytes

Acronyms

ACP	African, Caribbean, and Pacific Group of States
APEC	Asia-Pacific Economic Cooperation
AQAP	Al-Qaeda in the Arabian Peninsula
AQIM	Al-Qaeda in the Islamic Maghreb
ASEAN	Association of South East Asian Nations
BASIC	British American Security Information Council
BDCA	Border Defence Cooperation Agreement
Bn	A billion
BRICS	Brazil, Russia, India, China and South Africa
C-40	Climate Leadership Group
CARICOM	Caribbean Community
CCP	Chinese Communist Party
COMESA	Common Market for Eastern and Southern Africa
CSDP	Common Security and Defence Policy
CO2	Carbon dioxide
DCFTAs	Deep and comprehensive free trade agreements
EaP	Eastern Partnership
ECOWAS	Economic Community of West African States
EEU	Eurasian Economic Union
ENP	European Neighbourhood Policy
ETP	European Technology Platforms
EU	European Union
FDI	Foreign direct investment
G20	Group of Twenty
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GHG	Greenhouse gas emissions
IBSA	India, Brazil and South Africa
ICT	Information and Communications Technology
IEA	International Energy Agency
IMF	International Monetary Fund
LDCs	Least developed countries
LICs	Low-income countries
LNG	Liquefied natural gas
MEND	The Movement for the Emancipation of the Niger Delta

MER	Market exchange rates
MICs	Middle-income countries
NATO	North Atlantic Treaty Organisation
NGO	Non-governmental organisation
NPT	Non-proliferation treaty
OECD	Organisation for Economic Cooperation and Development
OPEC	Organisation of the Petroleum Exporting Countries
PCD	Policy coherence for development
PPM	Parts per million
PPP	Purchasing power parity
PTA	Preferential trade agreements
Solar PV	Solar photovoltaic
TTIP	Transatlantic Trade and Investment Pact
UAV	Unmanned Aerial Vehicle
UNASUR	Union of South American Countries
UNASUR	United Nations
UNDCP	United Nations International Drug Control Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNSC	United Nations Security Council
US	United States of America
WMD	Weapons of mass destruction
WTO	World Trade Organisation

ANNEX 5

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