Center for Security Studies

STRATEGIC TRENDS 2012

Key Developments in Global Affairs

CSS
ETH Zurich

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

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Acknowledgments

Strategic Trends 2012: From a multipolar to a polycentric world

In the first two issues of *Strategic Trends*, we painted the picture of a world that is subject to profound change. We argued that the global power shifts that accelerated as a result of the financial crisis have given rise to an international order marked by growing fragmentation, lack of leadership, and more instability. We depicted an emerging multipolar system where great power relations and geopolitics take centre stage again while the fight against non-state jihadist terrorism turns from a strategic priority to an ongoing operational challenge. We also drew attention to changing regional dynamics, focusing in particular on the domestic upheavals in many Arab states that are bound to alter the balance of power in the Middle East.

In *Strategic Trends 2012*, we seek to take our analysis of major global and regional developments one step further. Focusing on the five themes of a more assertive China, a strategically weakened Europe, conflict-torn Africa, the changing geopolitics of energy, and the militarisation of cyber security, the chapters of this year's issue confirm that global leadership is in short supply, with political fragmentation and polarisation continuing unabated. But they also bring to the fore structural interdependencies that continue to frame state behaviour and interstate relations. These interdependencies, be they economic, societal, or technological, suggest that there are limits as to how far divergence will translate into non-governance and large-scale confrontation in a globalised world. They also explain why geopolitics is a much more complex phenomenon today than at any time before. As the notion of 'multipolarity' fails to capture these linkages and mutual dependencies between the centres of power, it is perhaps more adequate to describe today's international system as 'polycentric'.

As our chapters indicate, domestic politics play a large role in accounting for the extent to which individual states emphasise political divergence or the need for cooperation. At this stage, the predominant trend is for divergence to remain strong, with interdependence often providing for minimal governance only.

Uncertainties about China's rise

After years of impressive economic growth, China by now plays the sort of global role that renders it a major actor in all our chapters. China has become a much-sought investor in debt-ridden Europe, a source of hope and conflict in Africa, a key player in global energy relations, and a main suspect as far as cyber attacks are concerned. However, there are two major uncertainties concerning China's further rise. First, although its relative economic power will continue to increase to some extent, China's growth rates may well shrink significantly. The downturn of the global economy and especially the crisis in Europe have resulted in decreasing demand for Chinese exports. Adapting China's growth and development model may become inevitable in this context, but any such move implies serious political risks for the leaders in Beijing. Like the Western economies, China faces its own major structural problems these days.

Second, not least as a result of the unfolding growth challenge, China's political elites are increasingly nourishing nationalistic sentiments as a means to cement domestic cohesion. Together with other factors such as the growing role of the Chinese military in shaping foreign policy, this has resulted in Beijing gradually taking a more assertive line internationally, particularly as

far as the Asia-Pacific neighbourhood is concerned. On the global level, China's economic interdependence with the US and Europe may still provide enough incentive for Beijing to work within the established, Western-shaped economic system. By contrast, on the regional level, growing polarisation between China on the one side and many of its neighbours and the US on the other seems a distinct possibility, irrespective of the recent surge in mutual economic ties and multilateral schemes. The political successions that are due in Beijing and Washington in the second half of 2012 will provide additional markers as to how Sino-US relations might evolve.

Europe's growing frailty

In Europe, the question of where China is heading has not received nearly as much attention as in the US. This is not just because of differences in geography, power, and strategic culture, but also because the Europeans are preoccupied with themselves these days. The EU is in a bad state, having suffered much fragmentation as the debt crisis has shaken both the Eurozone and the European project proper. Intra-European power shifts that have catapulted Germany into a new leadership role, political and economic divisions between Europe's North and South, renationalisation tendencies in the EU, and the rise of

Euroscepticism across the continent are profoundly changing the nature of European unification. Britain's self-marginalisation in Brussels and the growing split between the 17 Eurozone members and the ten other EU member states raise further questions as to Europe's future cohesion. All this amounts to a significant weakening of the EU's capacity to serve as an anchor of stability in Europe.

With distrust and divergence on the rise and national treasuries empty, European foreign policy is losing clout too. Projecting stability beyond its periphery is an ever bigger challenge for the EU as enlargement fatigue grows, soft power wanes, and EU incentives for neighbours to reform remain modest. The EU's relations with global powers have become cacophonous as individual member states focus on their own strategic partnerships with China and the likes and tend to stress commercial diplomacy rather than EU normative vocabulary.

Interdependence in the case of the EU has had negative contagion effects as far as the spreading of the debt crisis is concerned. But it has also been a major source of cooperation, as it compels member states to show enough solidarity to keep the Eurozone and the European project afloat. Close economic, cultural, and historical ties in Europe lend the EU a degree of resilience that makes the scenario of disintegration look improbable – even if domestic politics are bound to render the search for effective solutions to the debt and euro crisis ever more difficult. Interdependence may also mitigate fragmentation as far as European defence is concerned, as national defence cuts and Washington's turn towards the Pacific strengthen the case for more 'pooling and sharing' in the EU and NATO if Europe's security and credibility are to be preserved.

Regional conflict as Africa's sore spot

While there are many gloomy headlines about the EU these days, there is a growing sense of optimism concerning the future of sub-Saharan Africa. The extent to which current signs of democratisation and economic growth provide for sustainable development remains debatable, however. Above all, armed conflicts constitute a persistent source of instability in large parts of Africa, especially in the Middle and the Horn. While these conflicts have complex causes, bad governance by political elites is often a major driver, with natural resources and ethnic or religious divisions playing important roles too. What renders these conflicts particularly intractable is the fact that they are usually transnational in nature, a characteristic

that will likely become increasingly prominent as China and others build up transport and communications infrastructures across Africa.

Interdependence in the case of Africa has not yet reached levels that would push political elites to undertake effective regional governance and crisis management efforts. To be sure, African security institutions have been set up, and African peacekeeping is on the rise. But the performance of these institutions has been poor so far, as political fragmentation continues to be strong and regionalism superficial. As for the UN, while it has recently paid more attention to the cross-border nature of troubles in Africa, it is still struggling to come up with much-needed regional solutions because of the difficult local conditions on the ground.

There are those who have expressed hope for 'Arab Spring' dynamics to enter into sub-Saharan Africa as a means of tackling the bad governance problem in many conflict-prone countries. Compelling though their logic seems at first, they will have to consider carefully what they wish for. There is a high risk that domestic revolts would not translate into better local politics, but rather into violence of a scale and intensity not seen in the Arab world so far.

Unconventional resources changing the geopolitics of energy

If our outlook for Africa emphasises continuity over change, there are important new dynamics when it comes to global energy markets. Here, we do not refer to the Iranian nuclear crisis and related worries over oil supplies that send oil prices skyrocketing. Nor is it the rapid rise of Asia as an oil importer we have in mind, as this trend has been around for some time. Rather, our energy chapter focuses on the growing importance of unconventional resources and the marked changes this implies for the energy supply picture and geopolitical variables.

The advent of unconventional hydrocarbons such as oil sands and shale gas helps consumers gain common ground, as the positive-sum character of oil and gas supply is enhanced. Unconventionals are a prime example of economically driven investment and technology development, countering the trend of ever-growing concentration of suppliers. As they strengthen market coordination over other forms of resource acquisition and allow for diversifying supply relationships, they reduce the power of land-based petrostates such as Russia.

Even as unconventionals are reinforcing market governance on a global

level, they are increasing the need for accommodation on the domestic level, as production moves to new regions and new technologies are being contested for their ecological impact. The growing salience of domestic politics translates into divergent policy responses to unconventional resources by the three main consumers in the energy market: Whereas the US (together with Canada) has been the main host of technology development and production from the start, China was quick to jump on the unconventional train. The EU, meanwhile, remains marred in internal quarrels and mainly sticks to its decarbonisation goals, while remaining extraordinarily dependent on world energy markets. This is another example of a major EU governance deficit, fitting in nicely with our assessment above.

Militarisation of cyber security

Lack of common governance has also become a defining feature in the field of cyber security. Although there is a shared worldwide dependency on a stable Internet environment, policy responses are fragmented and reflect a strong sense of vulnerability and mutual distrust. The current trend of militarising cyber security may well become a major source of international tension, with signs of a cyber security dilemma already discernible.

In the US military, cyberspace is now depicted as the fifth domain of warfare after land, sea, air, and space. Since October 2010, the US has had an operating Cyber Command. Particularly after the discovery of Stuxnet, the computer worm probably programmed to sabotage the Iranian nuclear programme, more and more states are following suit by setting up their own military cyber units. They reckon that Stuxnet could mark the beginning of the unchecked use of cyber weapons in open or more clandestine military aggressions.

The tendency to see cyber security mainly as a matter of national security and not as a civil defence or economic issue, and the efforts by states to acquire offensive cyber means, are bound to make both the virtual and the real world less and not more safe. Rather than paying too much attention to the diffuse notion of large-scale 'cyber war', states should focus on protecting their information systems and national critical infrastructures against cyber crime, espionage, and sabotage. They will also have to work towards better governance structures, both across countries and in public-private partnerships, to ensure that the world can continue reaping the benefits of the information revolution.

A polycentric world

Collectively, the different chapters in *Strategic Trends 2012* indicate how the extent to which structural interdependencies affect international affairs varies greatly depending on the region and on the subject-matter. But the chapters also underline that for all the visibility and predominance of political fragmentation, these interdependencies do constitute an important part of the evolving international system and are even being strengthened in some respect. This is also why the notion of 'multipolarity' seems ill-suited to fully capture the forces that shape this system today.

The advantage of 'multipolarity' is that it accounts for the ongoing diffusion of power that extends beyond uni-, bi-, or- tripolarity. But the problem with the term is that it suggests a degree of autonomy and separateness of each 'pole' that fails to do justice to the interconnections and complexities of a globalised world. The term also conceals that rising powers are still willing to work within the Western-shaped world economic system, at least to some extent.

This is why the current state of play may be better described as 'polycentric'. Unlike 'multipolarity', the notion of 'polycentricism' says nothing about how the different centres of power relate to each other. Just as importantly, it does not elicit connotations with the famous but ill-fated multipolar system in Europe prior to 1914 that initially provided for regular great power consultation, but eventually ended in all-out war. The prospects for stable order and effective global governance are not good today. Yet, military confrontation between the great powers is not a likely scenario either, as the emerging polycentric system is tied together in ways that render a degree of international cooperation all but indispensable. ●

China's uncertain peaceful rise

Prem Mahadevan

China's recent economic growth has been spectacular, and has helped the country build its military muscle. Whether the Asian giant can continue rising peacefully is questionable, however. China's growth model will hardly be sustainable as Western demand declines. Adapting it without weakening domestic political cohesion will be difficult. With nationalist sentiments increasingly affecting China's foreign policy, concerns about its geopolitical ambitions are mounting across the Asia-Pacific region. In this context, the US is positioning itself as a long-term stakeholder in the regional balance of power, a stance Beijing interprets as hostile.
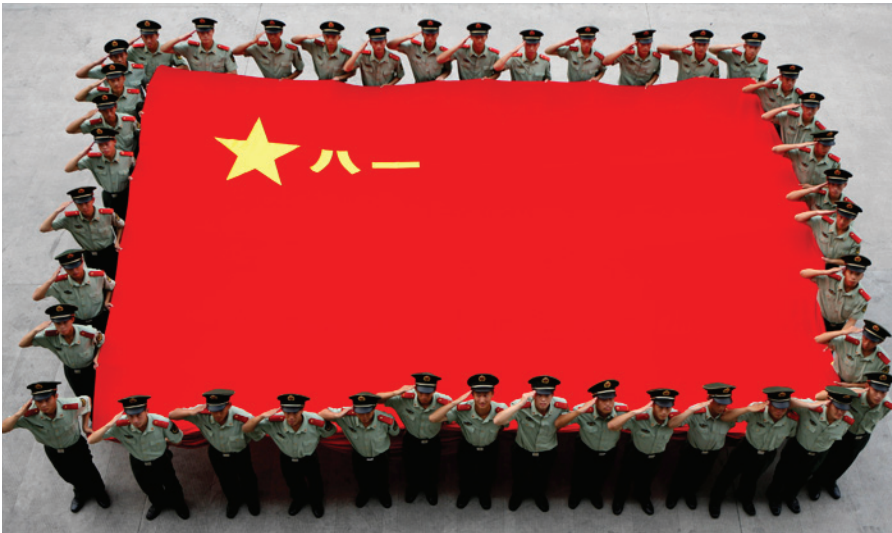
Paramilitary policemen hold a Chinese PLA flag to celebrate the 84th anniversary of the founding of the PLA, 1 August 2011

THE NOTION THAT THE GLOBAL BALANCE OF POWER IS SHIFTING FROM WEST TO EAST HAS BEEN PREVALENT FOR SOME YEARS NOW. What is new is the sharp focus that the discourse on this shift has acquired – the notion that one country, above all others, is fast becoming a global power. That country is the People's Republic of China. With sustained annual economic growth of nearly 10 per cent since 1978, China has lifted half a billion people out of poverty. It has become the world's second-largest economy in terms of nominal GDP (and the largest in terms of purchasing power parity). It has the world's largest army and is the world's largest exporter.

This Sino-centric assessment of global power redistribution dovetails with that of Chinese analysts themselves, albeit with a nuanced difference. To the latter, China is not so much 'rising' as it is regaining its natural importance in the world order – a position from which it was ousted by Western aggression in the 19th century. Thus, while the West sees China's rise as a 'game-changer', Chinese interpretations view it as a benign resurgence. Both agree on one central point: After the United States, China is the most prominent power in the current international system and the one with the greatest potential to reshape world politics.

This chapter argues that the rate of China's further rise is not as assured as experts sometimes assume. The country's transformation has thus far been achieved under unique politico-economic conditions, which might not continue to hold good in the future. The Chinese economy, being export-dependent, cannot escape the negative effects of the global economic downturn, even if these effects are somewhat delayed. Another crucial factor that has driven both Western and Chinese assessments of the re-distribution of global power, namely, China's political cohesion, remains untested. Already, civil unrest against burgeoning state corruption and income disparity is posing an ever-present challenge to political stability. If such unrest were to gain more momentum, or even if fear of such an escalation were to permeate Chinese decisionmaking, the country's continued rise would be neither assured nor peaceful. Finally, China's ascent may also be partly stunted by its limited quantum of 'soft power'. Even if some developing countries admire the efficiency of the Chinese model, replicating it will probably prove to be beyond their capabilities.

Although China is likely to remain extremely important to the global power balance and will avoid a drastic downturn in its economic fortunes,

the country may now be nearing the zenith of its international trajectory. The danger is that growing domestic pressures resulting from structural impediments on China's continuing rise may further nourish nationalist and xenophobic sentiments in the country and translate into a more assertive foreign policy. Against the background of Beijing's expanding claims in the South China Sea and the growing capabilities and political influence of the Chinese military, a period of tension may well be in the offing in the Asia-Pacific region. Even as multilateral economic and security cooperation continues to accelerate in Asia, and even as Washington and Beijing emphasise the need for partnership, the US and other Asian powers seem to be gradually embarking on a balancing policy against China. What they are apprehensive of is not so much a rising China, but a China that first overestimates its own ability to continue ascending and then subsequently refuses to scale down its geopolitical ambitions.

Limits to China's rise

Between 2001 and 2008, the Chinese economy tripled in size. This in itself was a significant acceleration of growth, since the economy had already doubled every eight years since 1978. Prior to reforms introduced by the Communist regime in that year, the economy had grown at a moderate rate of 4 per cent between 1952 and 1978. Such a rate could be called 'healthy', given that China experienced economic and political turmoil on a massive scale between 1958 and 1978. First, in 1958–61, the country embarked upon a collectivisation effort known as the 'Great Leap Forward'. Intended to make China self-sufficient in industry, it led to the biggest famine in recorded history, with between 30 and 45 million people dead. Damage to property was incalculable.

Political infighting over the failure of the Great Leap Forward subsequently prompted China's paramount leader Mao Zedong to launch a purge within the Chinese Communist Party (CCP). Known as the 'Cultural Revolution', this purge left China convulsed in factional warfare for another ten years (1966–76). Dissident party leaders were eliminated by Mao loyalists, while millions of Chinese citizens were persecuted for not being sufficiently militant in their political views. After Mao's death in 1976, survivors of the purge took control of the party. Foremost among the new leadership was Deng Xiaoping, who introduced economic reforms.

From 1978 onwards, the CCP exercised tight but unofficial control over the economy through party cells embedded in corporate management

bodies. This ensured that China's economic liberalisation never became as comprehensive as foreign investors initially assumed it would. The investors pumped money into a country where overt state intervention had decreased not because of a trend towards political inaction, but rather because of constant regulation through shadow bureaucracies. An informal understanding was forged, requiring foreign investors to share technology and specialised expertise with Chinese counterparts, in exchange for access to the local market. Over time, this increased the domestic competitiveness of the partnering firms to such an extent that they were able to block foreign businesses from further expanding their share of the market.

Tight regimentation of commerce introduced a high degree of discipline into the Chinese economy, which meant that major economic shocks were avoided. The most profitable sectors remained under state ownership in various guises. These included energy, steel, and telecommunications. By ensuring that foreign access to these industries was limited, the regime prevented the emergence of well-funded rival power centres in the form of corporate elites. Any private business interests that did come up did so in conformity with the CCP's dictums, not in spite of them. State control over the most lucrative industries and senior-level personnel appointments thus bred macroeconomic stability.

China's recent economic surge

GDP in current US$ bn
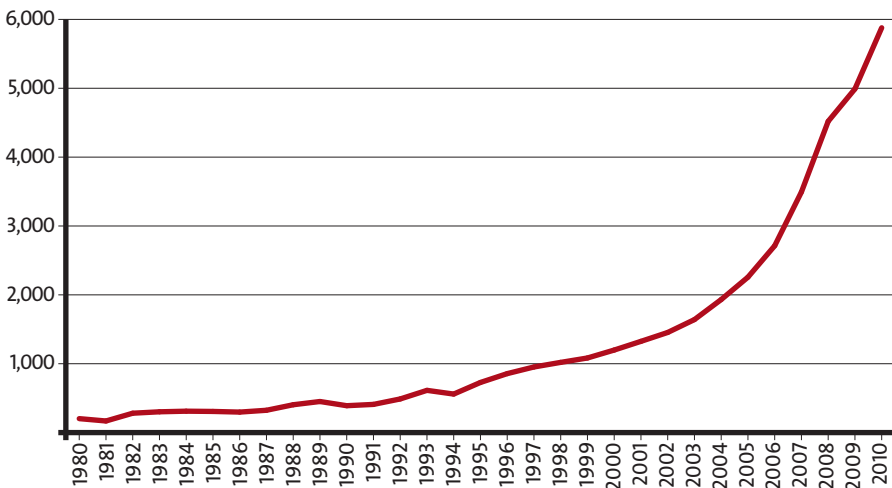
Source: IMF, World Economic Outlook Database, September 2011

An unsustainable economic surge

The last ten years have been exceptionally kind to the Chinese economy. Having joined the World Trade Organisation in 2001, it has grown to dominate global exports due to low labour costs, good infrastructure, easy availability of credit, and an undervalued currency. However, its current trajectory is predicated on the extent of international consumer demand, which has weakened following the sub-prime and Eurozone crises in the West. Initially, Beijing sought to bypass this downturn by spending massively on infrastructure creation, but that has now led to over-capacity in production. Unless Chinese exporters lower prices to levels that would wipe out all profits, they may not be able to expand their overseas market share much further. A supply glut would cause surplus stock to build up, forcing some businesses into bankruptcy. This poses a problem for the Communist regime, as a slowdown in manufacturing would lead to mass unemployment, something a government bereft of popular legitimacy cannot afford.

Maintaining production at current levels would require increasing domestic consumption, which requires eliminating many of the factors that have kept the Chinese economy internationally competitive. For instance, wage rates would have to be raised so that disposable incomes can rise, interest rates would have to go up so that savers can be confident of high returns upon retirement and thereby spend more freely, and the renminbi would have to be allowed to appreciate so that consumers can have greater buying power. All of these steps would make Chinese exports more expensive to foreign consumers and raise the cost of doing business within China. In other words, a slowdown simply might not be avoidable.

At present, the regime is forced to implement a structural adjustment of the economy that would ideally unfold over some years, but which has to be compressed into a shorter timeframe due to the magnitude of the West's economic troubles. Ironically, the same factor that has projected China onto the global stage as a rising power – its strong economic growth amidst a general downturn since 2007 – is now in danger of being adversely affected by that same downturn. There is widespread apprehension that growth could slow after 2012. Aware of this, the government has begun raising interest rates and deflating a real estate bubble caused by years of speculative investment. However, it remains apprehensive of anger from the middle class, which has invested heavily in property. A controlled slowdown of

the economy is thus likely, unless the international economic situation drastically improves in the next year.

Foreign investment, hitherto considered central to economic growth, might only provide short-term relief. It is unlikely to be a sustainable solution in the long term. Over recent years, Western investors have complained about widespread intellectual property theft by Chinese companies. Beijing has been relatively complacent about the issue, having calculated that a bankrupt West needs China more than China needs the West. Such confidence is justified, for now. However, it is not certain that over the next decade, foreign investors will remain strongly attracted to a market that is only semi-transparent and heavily biased in favour of local commerce. In the event of a slowdown, they might be disappointed by the returns to be obtained from investing in China. For its part, China's success as an exporter has been based upon its ability to combine local quantitative advantages with Western qualitative superiority in industrial design. It cannot retain its position as the world's biggest exporter without technical assistance from the West. By themselves, Chinese industries have shown limited capacity for innovation, due to an education system that privileges rote learning over critical thinking. This has prevented

them from acquiring a reputation for high-quality manufacturing and so constrained their capacity to go it alone in the international market.

Domestic challenges

Perhaps the most important factor upon which China's image as a great power hinges, is domestic stability. Since 1989, when the CCP regime used troops to suppress widespread protests, China has been relatively free of political turmoil. Its success in resisting democratisation has projected it as internally even stronger than the former Soviet Union. Beijing has outlasted successive waves of anti-authoritarian protest that swept over Communist and former Communist states in China's immediate neighbourhood. However, it has done so through relatively subtle methods of domestic surveillance and has not had to resort to massive repression after 1989. Owing to this, it has garnered grudging respect for its ability to preserve internal order.

Even so, the key to understanding the lack of large-scale political tension within China is the implicit bargain that the ruling CCP elites have struck with their subjects. In return for policies that favour economic growth, the Chinese middle and working classes do not protest against abuses of official power, except when the perpetra-

tors are relatively junior CCP officials. The party, for its part, occasionally sacrifices minor functionaries through anti-corruption investigations in order to assuage public anger and protect the top leadership. This approach has worked since the 1990s, while the economy was growing massively.

However, it might not prove tenable in the event of an economic slowdown. China already suffers from societal strains caused by rampant corruption. The considerable autonomy to conclude business deals that Beijing has granted to provincial governments has resulted in free-for-all competition aimed at attracting investors. Local bureaucrats have been known to forge backhand deals with commercial enterprises at public expense in order to undercut rivals in other departments and bolster their own career prospects. Growing public awareness of this phenomenon poses a threat to the CCP regime, since it impinges on the party's claim that its rule is efficient and beneficial for the country.

With the consolidation of state-regulated capitalism, the CCP has moved far from its ideological moorings. The party has transformed itself from an (in theory) egalitarian mass movement to a hierarchically structured, mercantilist elite. Membership in its ranks is a route to wealth and status,

not to mention privileged access to civil administrators who can facilitate business deals (or impede them). Although in-party democratisation is taking place, whereby senior leaders gradually make way for younger ones to rise into positions of power, the party as a whole is losing contact with the rural peasantry that was once its primary support base. Restrictions on rural-to-urban migration have already produced a two-tier class system in China that impedes social mobility. Compared to the local population, rural immigrants working in large cities are subjected to poor treatment by employers. Underpaid and prevented from relocating their families to join them, many rural workers are angry at the lack of alternative opportunities.

Within the interior provinces, peasant disillusionment with the party is being fuelled by alleged cases of land-grabbing by government officials acting on behalf of commercial interests. One estimate suggests that 60 per cent of public protests in China are connected with illegal land acquisition. On rare occasions, the issue has exploded into terrorist violence perpetrated by individual protesters who succeeded in acquiring bomb-making skills. Incomes in rural areas are, on average, 3.5 times lower than in cities, creating a substantial wealth gap. In any case, poverty reduction in China

has slowed. From 1993 onwards, the primary beneficiaries of economic growth have been urban elites, with a limited trickle-down effect among the middle class. The condition of the rural poor remains relatively unchanged. If the state now proves unable to raise living standards in urban areas as well, public unrest could increase. Indeed, there are indications that the number of socio-economically driven protests has already started to mount. Add to this the growing challenges China faces in preserving stability in some of its border regions (see below), and the resulting impression is that of a rising power increasingly vulnerable from within.

Limits to Chinese 'soft power' overseas
With its rapidly expanding commercial footprint across Africa and the Middle East, China is seen as a major international player. Trade with Africa alone has increased by 1,000 per cent in the last decade. Some analysts are concerned that China's economic success, combined with its resistance to democratisation, could lead to the formation of a neo-autocratic bloc among developing nations. Fears of a 'Beijing Consensus', substituting state-led economic growth for political freedom, are being articulated in Western capitals. With democratically elected leaders struggling to deliver rapid socio-economic change in many

poor countries, local elites might be tempted to opt for the Chinese model of 'development without democracy'.

Such concerns are not entirely baseless, but they should not be exaggerated either. China itself has not shown keenness to export its model of governance overseas, sticking instead to a stance of non-interference in the internal affairs of foreign powers. This has won it goodwill, albeit primarily among states that were already suspicious of Western dominance to begin with. Beijing's willingness to enter into trade deals regardless of the political nature of its partners is an indication of pragmatism rather than deliberate subversion. It has offered obviously authoritarian regimes, such as that of Robert Mugabe, a commercial alternative to the West. Within more democratic contexts, it has allowed corrupt elites to reap the electoral benefits of infrastructure creation while bypassing Western demands for better governance standards. However, this does not necessarily mean that such elites would choose to abandon democratic politics. Still less does it imply that they would climb on the Chinese bandwagon in defiance of Western wishes, even if Beijing wanted them to.

This is because most developing countries cannot hope easily to

emulate China's model of economic development, which is derived from several context-specific factors that help in unobtrusively suppressing civil disturbances. These factors include extensive surveillance capacity, vast geography, cultural insularity, and linguistic barriers to communicating with the outside world. It would be harder for a less authoritarian regime than China's to achieve the same degree of efficiency at suppressing labour unions or public unrest against corrupt business transactions. A high economic growth rate requires lowering entry barriers to foreign businesses, which would bring with it the risk of political contamination in a geographically smaller country than China. Furthermore, few states can be as easily closed off to outside influence as China, due to cross-border cultural linkages. The 2011 'Arab Spring' partly proves this point: Dictatorial regimes in Tunisia, Egypt, and Libya were unable to suppress domestic dissent unobtrusively without inviting attention from media networks in other Arab states.

Secondly, China has started suffering from the same malady that led to its own split with the erstwhile Soviet Union in the early 1960s, namely, that of unrealistic expectations. Complete economic dependence upon a single patron is likely to produce disappointment, as many African states are finding out. The September 2011 election of an avowedly anti-Chinese politician to the presidency of Zambia is a case in point. Cashing in on popular resentment against cheap and allegedly low-quality Chinese manufactured goods, as well as the absence of a trickle-down effect from Chinese investment in the copper industry, the new Zambian government looks set to tighten regulations concerning trade with China. The same trend is occurring elsewhere in Africa, albeit in less pronounced forms. Governments are becoming aware of trade deficits that favour China and lead to increasing unemployment caused by the poor competitiveness of local manufacturers vis-à-vis Chinese imports.

China faces difficulties in projecting soft power

Lastly, China has an extensive commercial presence across the globe, but this does not necessarily translate into mass political appeal. Beijing's position on international law – that it is a set of norms and rules crafted by Western countries to serve their own interests – has limited resonance in many post-colonial developing states. Such states see practical benefits in maintaining ties with the West, if only to extract development aid. Unlike the US, China also faces difficul-

ties in projecting its soft power. Merely setting up Confucius Institutes (over 500 in 87 countries) does not erase the challenges associated with justifying the Chinese regime's position on human rights. Such institutes have been criticised both within and outside China for overemphasising traditional Chinese culture without being able to provide a convincing rationale for the country's current authoritarian nature.

At present, China's participation in multilateral efforts to resolve global governance problems is considered essential, and rightly so. However, China itself has only enough material power to block solutions that it does not wish to support, but seems to lack an alternative vision of global governance to push forward. It does not have the capacity to shape solutions in accordance with its own preferences and ensure their acceptance by the international community. Following its veto at the February 2012 UN Security Council debate on Syria, appreciation of its stance on non-interference in the domestic affairs of sovereign states is also starting to wear thin. Many countries that have long been favourably disposed towards China have started to perceive that its foreign policy is based not so much on moral principles as much as on the narrow prioritisation of Chinese interests.

A more nationalistic and militarised China

In view of the growing challenges Chinese leaders face in securing long-term economic growth and preserving domestic stability, there are signs that the CCP will increasingly resort to militant nationalism as a means of defusing criticism and fostering national unity. While this in itself is not a new trend, the scope and intensity of Chinese nationalism is bound to expand. This will likely affect Chinese foreign policy.

Fertile ground for a nationalistic turn
The CCP began to stoke nationalistic fervour more than two decades ago. The regime's abandonment of Communism in the late 1970s bred an ideological vacuum that was deeply unsettling to many Chinese. Events in 1989 showed that unless this vacuum was filled, pressure for political reform could build up against the regime. To forestall this eventuality, the CCP has promoted a kind of nationalism that has been tinged with xenophobia. The latter has become an important tool of its strategy of political control, since it has allowed the regime to denounce pro-democracy groups as foreign agents. Democratisation is portrayed in official Chinese discourse as an instrument of Western subversion, intended to promote social instability in China and derail its

progress. By restricting press reporting on the Arab Spring and imposing new restrictions on journalistic practices and Internet discussions, the regime currently hopes to ride out the anti-authoritarian wave sweeping the Middle East.

Its worry is palpable: In 2011, the police budget rose above the country's already prodigious defence budget. Terrorist attacks by separatists in Xinjiang as well as self-immolations by protesting monks in Tibet have upset the tenuous control exercised over these regions. Since the resource-rich frontier provinces of China account for just 10 per cent of its population, but more than 60 per cent of its territory, Beijing is extraordinarily sensitive about disturbances in these areas. Any large-scale political turmoil could spill over into the Chinese heartland, either in the form of anti-regime protests or Han chauvinism against ethnic minorities. For this reason, the CCP

China: Core vs. frontiers

- Core
- Frontiers
- ⬙ Separatist conflicts
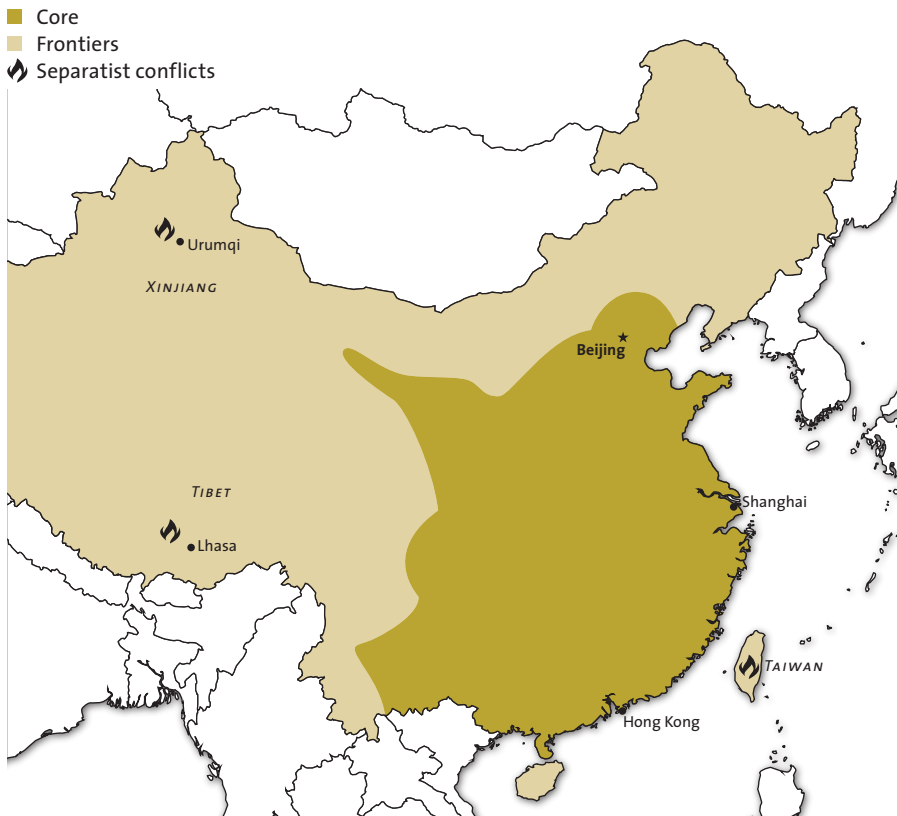
has long taken a stance that domestic instability is a result of foreign designs against Chinese sovereignty. A threat narrative has been constructed that casts the West and Japan as indirectly responsible for disturbances in the country by encouraging separatism.

The threat narrative rests upon a historical foundation that is partly factual and partly fanciful. It highlights the Western and Japanese invasions of China and describes the country's national past in terms that have been disputed by several scholars. China, according to this narrative, has long been a united country bound by civilisational homogeneity. Any political divisions that occurred during the last two millennia were aberrations. This view has been officially espoused by CCP historians in order to validate the party's own claim to power and project it as a unifying force that continues to hold China together, following the tradition of the country's great imperial dynasties. It has however, been contested by academics, who suggest that China has led a fractured existence for most of its history. They argue that the country's present borders greatly exceed its civilisational core, particularly with regard to Xinjiang and Tibet. Present-day China, according to them, is an internally fragile country in need of a shared past that is being concocted by CCP propagandists.

The West has unwittingly become a victim in the CCP's attempt to rewrite Chinese history in terms flattering to the party. As per the CCP's official interpretation, China was last divided against itself by Western intrigues that started with the First Opium War in 1839. Since that was also when outlying provinces of the county broke free of central rule, separatism or any other kind of internal dissidence has since become associated with foreign subversion in Chinese political discourse. The 1989 uprising coincided with the 150th anniversary of the First Opium War, thus providing the CCP regime with an opportunity to fashion a xenophobic narrative and anoint itself as protector of Chinese sovereignty. As part of this process, Japan, with whom the regime had long maintained friendly relations, was abruptly recast as a historical adversary of China, alongside the West.

If the CCP seems set to fuel nationalistic sentiment further in the years ahead, this is not just because it will have to cope with the limits of China's rise. Rather, the CCP will also have to accommodate those who believe that China's rise is unlimited. Over recent years, domestic pressure has been building up for the CCP to take a more uncompromising stance on foreign policy issues. Such pres-

sure emanates from sections of the military as well as radical elements within the student community and the professional class. Since the failed uprising of 1989, Chinese society has been indoctrinated to view China as a historically wronged power that has only just began to reclaim its rightful international status. According to this narrative, China has been a great power for the last two millennia, and its resurgence is inevitable. Having replaced the Soviet Union in the superpower league, the country needs to assert its national interests in the face of determined opposition by status quo powers.

This narrative has produced an undercurrent within Chinese politics that reduces the CCP's flexibility in foreign policy. The party now runs the risk of being accused of capitulationism whenever it seeks to resolve differences with foreign powers through compromise. On such occasions, it is made to feel the brunt of public anger, indirectly expressed in patriotic terms. Since direct criticism of the regime is a political crime, a legion of 'patriotic dissenters' with an active Internet presence regularly hits out at the CCP for not living up to its own militaristic ideals.

Having stoked militant nationalism in order to deflect domestic resentment over its rule, and being pushed to play the nationalism card ever more frequently, the CCP needs to be careful that such a course does not scare away foreign investors. The result is a dilemma that the CCP usually navigates past on the basis of legal techni-

China's perceived return to greatness

Share of global GDP over past 2000 years
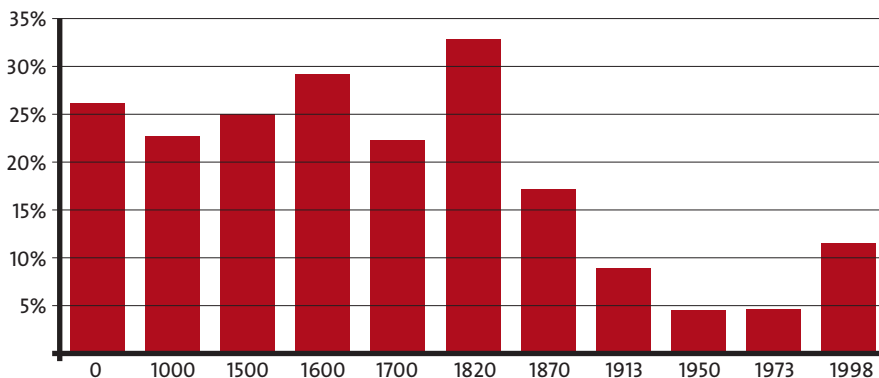
Source: Maddison, The World Economy: A Millenial Perspective 2001

calities: It takes the position that while nationalist demonstrations against foreign powers (usually carried out near embassies) are legitimate, such protests should not disrupt public life. What this means in effect is that once the protestors have had their say, they are expected to disperse rather than start criticising the government for not changing its foreign policy. In this way, China's patriotic dissidents are accommodated within the authoritarian state structure. How long this bargain will hold remains an open question.

Growing role of the military
The surge of Chinese nationalism is all the more troubling since it has been accompanied by a parallel trend: a growing role of the Chinese military in foreign affairs. Over the past two decades, civilian heads of state have essentially bought peace with the mili-

tary through substantial yearly increases in defence spending. Initially started under Jiang Zemin, this policy has continued under his successor Hu Jintao. Both ascended to the position of CCP chairman as technocrats with no credibility within the military establishment. Unlike their battle-hardened predecessors Mao and Deng, they could not browbeat the military leadership by claiming a distinguished war record. Their way of controlling the military, therefore, has been to accommodate its wishes, first on promotions, then pay increases, and finally, force modernisation.

During 2001–11, China's defence budget increased annually at an inflation-adjusted rate of 12 per cent. Initially, most of the additional funds went towards improving living conditions for military personnel and their

China's military expenditure 1989 – 2010

Constant US$ m (figures are based on estimates)
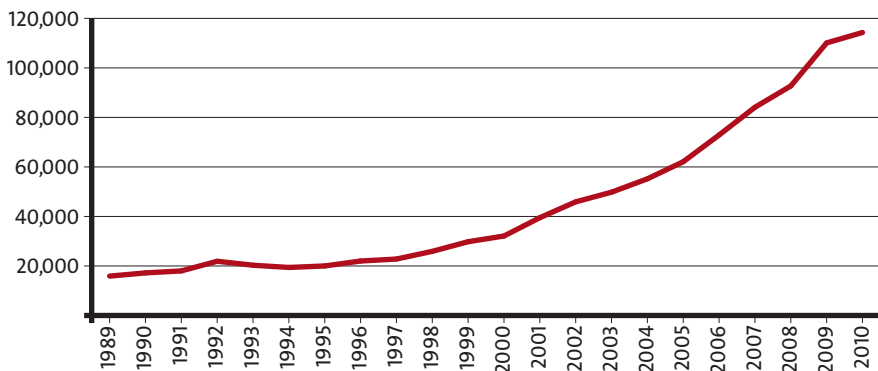
Source: SIPRI 2011

welfare benefits. Of late however, these funds have been put to use preparing for a possible military confrontation with the US, most likely over the status of Taiwan. What is more, Hu has expanded the military's role in security affairs from a narrow focus on defence policy to broader issues relating to foreign policy.

The new mandate is ostensibly based on the assessment that, as China develops global interests, the military will need to play a more active role in force projection and protecting trade routes. It might well be, however, that the real reason is domestic: Since 1992, there have been quiet tensions in Chinese civil-military relations. That year, two senior People's Liberation Army (PLA) generals were ousted from office, allegedly for planning a coup. From then onwards, the CCP has annually hiked defence spending in double-digit percentage terms. In the process, it has prodded the military into gradually distancing itself from domestic politics. This trend has dispensed with the Maoist model of civil-military relations, which held that the PLA was the enforcement arm of the CCP and would thus be closely involved in the country's internal affairs.

At any rate, there is a broad consensus among analysts that the military's power in China has increased considerably relative to the civilian foreign ministry. In part, this is due to an objective diminishment of the ministry's influence due to the recent proliferation of interest groups and lobbies within the Chinese decisionmaking apparatus. The Ministries of Commerce and Energy, for instance, have pushed forward their own agendas as a result of burgeoning trade relations and concerns over energy security. However, the PLA's role stands out in that it makes the case for a more assertive foreign policy.

The PLA has increasingly focused on training for and adapting to conventional inter-state warfare in recent years. Its preoccupation with a potential conflict with the US has also shaped Chinese military doctrine. The PLA has realised from studying the 1991 and 2003 Gulf Wars and US naval manoeuvres near East Asia that it cannot hope to win a head-on battle with the US, whose superiority across the spectrum of military operations is too great. China's military buildup, though sophisticated by the standards of the developing world and enormous by any standards, still qualitatively lags behind the operational capabilities of most Western armies. Therefore, the PLA has developed an elaborate doctrine that aims to hit the US where it would be most vulnerable to disruption: in intelligence and

logistics. Under its so-called 'anti-access doctrine', the PLA has developed weapons systems that would deny sea-borne US forces an operational base near China in the event of a war. Anti-ship ballistic missiles such as the DF-21D would be targeted at US vessels steaming towards a conflict zone, while other missiles would wreck Asian ports that might be used by US forces. Meanwhile, cyber-measures and anti-satellite systems would disrupt the command-and-control mechanism of the US military, which relies upon secure real-time communications in order to maintain central control of combat forces over long distances.

Through a high-tech version of asymmetric warfare, the PLA hopes to make a military engagement in Asia ruinously expensive for the US. The anti-access doctrine, in keeping with Chinese military thought, is viewed by the PLA as being purely defensive, intended to prevent the US from bullying China. It challenges US military power not at the global level, but at the regional level. Its use would occur in situations where China feels its legitimate interests threatened by Western powers that it sees as inherently aggressive and hegemonic. Crucially, the doctrine does not violate the 'peaceful rise' commitment made by top-ranking Chinese leaders in 2003–5, which emphasised that China would

not challenge US dominance in world affairs. East Asian affairs are a different matter, however, as per the logic of PLA strategists. They feel that the US has no business maintaining a military presence in East Asia. With the Cold War long over, they want Washington to scale down its profile in the region.

Security implications

Perhaps despite the intentions of CCP leaders, the combination of militant nationalism promoted by the party and the PLA's increased profile in making foreign policy has already led to changes in Chinese behaviour. These changes are felt at both the global level and the regional level. They are likely to become more pronounced in coming years.

Starting with the global level, there is a real danger that PLA behaviour may lead to a deterioration of Sino-US relations. In general, the Chinese military has been more exuberant about the prospects for China's continued rise than civilian analysts. The latter estimate that, with its economy still developing, China will have to wait until at least 2060 before it would be in a position to challenge the US. Conversely, there is a perception among members of the Chinese military leadership that the US is in terminal decline. Having discerned that US soft power has reduced since

the 2003 Iraq War – a trend thought to have been accelerated by the 2008/9 financial crisis – they believe that the US no longer has the right to criticise China for being assertive. Furthermore, they believe that it will gradually become possible for Beijing to begin dictating terms to Washington in the medium term.

Early manifestation of such sentiments occurred in February 2010, when senior PLA officers suggested that China punish the US for supplying weapons to Taiwan by selling US Treasury bonds. More than the actual substance of this proposal, it is the flawed logic underlying it that is disturbing. Firstly, China holds just 8 per cent of US sovereign debt, with over 70 per cent being held by US government agencies and private households. Therefore, the impact of dumping US bonds would not have been crippling. Secondly and more importantly, such a move would have harmed China more than the US, since it would have diminished the ability of US consumers to buy Chinese products.

The fact that some Chinese officials can misread the balance of economic power would not be worrying if similar overconfidence could be avoided in security issues. This does not seem to be the case, however. On at least three occasions, the PLA has already acted

semi-independently of the civilian arms of government, escalating tensions with the US. The first was the EP-3 spyplane crisis of April 2001, when the PLA forced down a US reconnaissance aircraft. The Chinese foreign ministry was initially not even informed about PLA decisions during the crisis. The second was the January 2007 test launch of an anti-satellite weapon, which again caught the foreign ministry unawares and limited its effectiveness at addressing international concerns. The third was the January 2011 test flight of the J-20 stealth fighter, which occurred as US Defence Secretary Robert Gates was visiting China. It has been suggested that even Hu Jintao was not informed about the planned flight, hence its awkward timing. Seemingly indifferent to the impact of Chinese military posturing on international opinion, the PLA appears to have gradually developed a habit of occasionally contravening diplomatic efforts meant to emphasise the peacefulness of Chinese intentions.

The US, for its part, is not inclined to ignore these signs of increased Chinese military assertiveness. It has adopted a policy of 'congagement' towards China, combining elements of both containment and engagement. While it seeks to co-opt China into global governance efforts, such as

nuclear non-proliferation and reducing the impact of climate change, it is also hedging against a potentially aggressive PLA by enhancing its military footprint in Asia and seeking to strengthen its network of bilateral alliances in the region. In November 2011, the US announced that it would base military aircraft in northern Australia and would also arrange to have 2,500 Marines stationed there. In January 2012, the Obama administration released new strategic guidance for the Department of Defense, according to which the US military will 'of necessity rebalance toward the Asia-Pacific region'. The decision to expand its military presence in East Asia, at a time when defence spending is expected to contract, shows that the US is prepared to contest Chinese claims to regional dominance.

Regional tensions
Besides the US, there are at least two other major powers that are likely to resist any Chinese effort to establish an exclusive sphere of influence in East Asia. These are India and Japan. Both countries can claim to rival China on at least one measure of national power. In India's case, this would be military power, while in Japan's case, it would be economic power. Both countries have long-standing territorial disputes with China. Most importantly, in recent years, both have

perceived a hardening of Beijing's negotiating stance on these disputes. Indian analysts accuse the PLA of pressuring Beijing to abrogate a bilateral agreement signed in 2005 regarding a possible compromise on the border issue. Japanese policy-makers, meanwhile, insist that China has opportunistically reopened a dispute over the East China Sea – a dispute that had been left idling for several decades by mutual consent. They assert that Beijing's changed policy stems from recent discoveries of hydrocarbon resources in the area.

Since 2009, Chinese rhetoric posturing has also caused alarm in Vietnam, the Philippines, and Malaysia. These countries are worried by China's decision to include the South China Sea as a core national interest. Traditionally, the term 'core interests' has been applied to regions that China regards as integral parts of its territory and whose status is non-negotiable. Any foreign interference in these regions would be a trigger for war. Previously, there were only three such territories: Xinjiang, Tibet, and Taiwan. Now, however, Beijing has signalled that it is also prepared to assert its claim over the South China Sea by force. As an apparent demonstration of its resolve, it has intensified coastal patrolling in these disputed waters. In response, other claimants have increased their

defence spending substantially with a view to upgrading their naval strength. The US, while remaining aloof from the dispute at a general level, has repeatedly indicated that it does not support a unilateral expansion of the Chinese claim. These claims, if left unopposed, could massively increase Chinese territorial waters from the internationally recognised limit of 12 nautical miles offshore to over 200 nautical miles. The resultant disruption to shipping would greatly complicate US efforts to maintain a maritime presence in East Asia and would block off regional US allies from each other.

Acknowledging the concerns of its neighbours, Beijing has made efforts

Strategic situation in the South China Sea

- US allies (defence treaties)
- Implied US security guarantee
- US military cooperation partners
- China's claim of the South China Sea
- Established international boundary
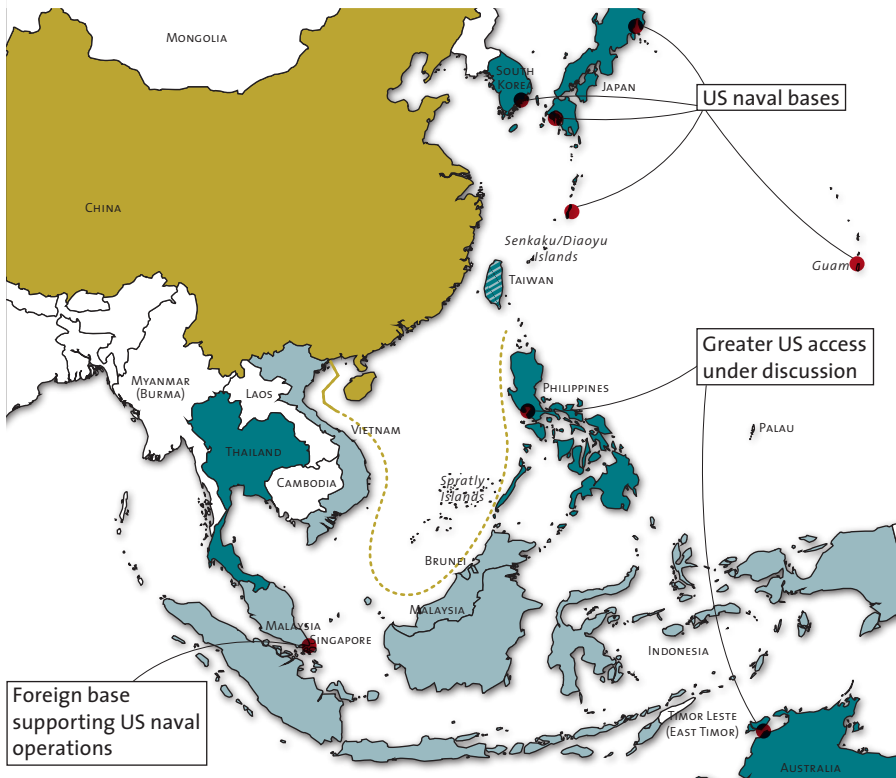
to repair the damage that military assertiveness had caused to its image. It has toned down the stridency of its criticism over US aid to Taiwan and sought to reassure its southern neighbours that the South China Sea dispute can be peacefully resolved. However, it appears from diplomatic posturing at the November 2011 Asia-Pacific Economic Cooperation (APEC) Summit that a trust deficit has developed. While China seeks to minimise the US footprint in East Asia, regional players are determined to develop close security ties with Washington while simultaneously maintaining cordial relations with China and continuing to do ever more trade with it. Even Myanmar, long a client state of China, has made overtures to Washington, partly in response to domestic anger against allegedly exploitative Chinese commercial activities. By invitation, therefore, the

US looks set to become an Asian power in the long term, in keeping with the wishes of its own leaders as well as those of regional allies.

At present, contradicting dynamics are shaping the Asia-Pacific region. On the one hand, intra-regional trade is booming, and a growing number of multilateral schemes have been set up to foster economic and security cooperation including both the US and China. On the other hand, there are signs of growing polarisation between Washington and Beijing in the region. To a significant extent, developments in China will determine the course of regional events in the years ahead. A combination of economic slowdown, militant nationalism, and an adventurous military could lead China to take an uncompromising stance on security issues. While this

Military expenditure in the Asia-Pacific

Constant US$ m
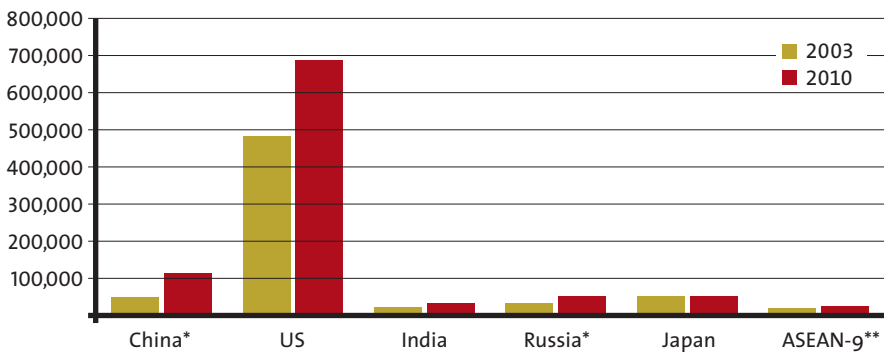
Source: SIPRI 2011

* Figures are based on estimates
** Without Myanmar; estimated figures for some countries

might not automatically lead to armed confrontation, either with neighbouring states or with the US, it does suggest that Chinese actions might lead to some tension. At the moment, the narrative of historic greatness that has been propagated by the CCP regime since 1989 does not make allowances for a rising China to accept a secondary status in the international system. The problem is that China does not seem capable of developing the economic, military, and diplomatic strength needed to rival the US as a world power. Should its strategic community refuse to accommodate the possibility that China might not ascend further, the risk of a military-led miscalculation would remain a possibility. ●

The strategic weakening of debt-ridden Europe

Daniel Möckli

The debt crisis has strategic consequences for Europe. The EU's role as an anchor of stability among its member states has been weakened. Intra-European power shifts, political fragmentation, renationalisation dynamics, and declining public trust in the EU have thrown the European project into its biggest crisis ever. In foreign policy, the EU's clout is shrinking for lack of cohesion, money, and political will. European defence is bound to suffer from a credibility deficit unless decreasing military expenditure is compensated with more 'pooling and sharing'. While the EU is resilient enough to prevent collapse, it faces years of austerity in more than just economic terms.

German Chancellor Merkel and France's President Sarkozy after a joint briefing at the EU summit in Brussels, 23 October 2011

THE DEBT CRISIS HAS HIT EUROPE HARD. MANY COUNTRIES HAVE BEEN FORCED TO RESORT TO AUSTERITY MEASURES NOT SEEN IN DECADES. Drastic spending cuts, tax increases, and structural adjustments have led to growing economic hardship, particularly in Southern and Eastern Europe. The EU-27 unemployment rate has risen to 10 per cent by early 2012. Almost a quarter of Europe's young people (below 25) are without a job. Social unrest has grown and may yet intensify should the situation in countries like Greece, Spain, Portugal, or Hungary deteriorate further. Across the continent, domestic politics have been shaken by the crisis, with several governments ending prematurely. While electorates are still voting responsible leaders into office in most places, trust in public institutions and democracy is eroding, and populism is on the rise.

The European Union has been badly bruised by the debt crisis too. Its single currency, long praised as the key symbol for Europe's unity and a major source of integration, has unleashed highly divisive dynamics. For several Eurozone member states, it has actually become a main cause of their economic weakness. EU crisis management has proven to be exceedingly slow and is subject to much controversy. While the process of European unification has seen many difficulties in past decades, the current

crisis is more severe than any before. To be sure, talk of a collapse of either the euro or the EU seems premature. The European project is bound to last. The EU may even resurge in a more unified and more competitive shape one day. But there is little doubt that its troubles will not go away anytime soon. Europe faces a period of austerity in more than just economic terms.

These developments have strategic consequences. Some of them concern the outside world, as the state of the EU economy has a major bearing on the growth potential of many other countries, including China (see Chapter 1 in this publication). First and foremost, however, the debt crisis has major repercussions on Europe itself. Three such repercussions, which collectively amount to a strategic weakening of Europe, are the focus of this chapter.

First, as a result of Europe's economic and political malaise, the nature of the European project is changing. The current power shifts within Europe, the sidelining of EU institutions, the increasing fragmentation among member states, and the growing legitimacy deficits of the EU are all weakening the role of the EU as a major anchor of stability in Europe.

Second, Europe's long-term relative decline in the global context has been

accelerated by the debt crisis. Its share of economic power is shrinking ever faster. Its global standing has taken a blow by the way in which it has handled the euro crisis, not least since it has become the object of IMF intervention and felt compelled to woo emerging powers for financial help. Much more significantly, the EU's capacity to implement a common foreign policy and defend collective European interests in an increasingly non-Western world has been further diminished. Its inability to come up with a strategic response to the monumental changes that have occurred in Southern Mediterranean countries since the beginning of 2011 speaks volumes in this regard. With its Common Foreign and Security Policy (CFSP) receiving less attention and fewer resources, and with cohesion and trust among member states decreasing, any positive post-Lisbon effect has largely been undone. Foreign policy is being renationalised in crisis-driven Europe, which bodes ill for the EU's ability to project stability to its neighbourhood and play a global role commensurate with its economic weight.

Third, the debt crisis has also left its mark on European defence. In many European countries, armed forces had been underfunded well before the recent fiscal straits set in. But the dramatic new cuts now being decided in numerous capitals, coupled with the lack of coordination in reducing national military capabilities, suggest that Europe may be reaching a tipping point as far as the credibility of its defence and military crisis management capacities are concerned. There are those who predict a gradual 'demilitarisation' of Europe. However, in the case of defence, it seems just conceivable that the debt crisis may actually have the positive effect of pushing states towards more 'pooling and sharing' or 'smart defence', eventually leading to a 'remilitarisation' of Europe.

This last point does suggest that the debt crisis will not necessarily only have bad outcomes for Europe. Less money will mean more incentives to set priorities. Less cohesion implies a new potential for multi-speed policy solutions that allow countries other than the EU-27 to secure a bigger stake in the European project. By shedding light on deficits and weak points, crises generally provide opportunities to adapt and put things on a firmer footing. On balance, however, the net strategic effect of the current economic and monetary turmoil for Europe is bound to be negative.

Sovereign debt as high politics
Just a few years ago, it seemed inconceivable that sovereign debt would become an issue of strategic relevance.

To most security analysts, terms such as 'bonds', 'bank capital ratios', and 'debt restructuring' were unfamiliar and appeared to belong to an economic world largely detached from the realm of high politics. But things have changed. In the wake of the global financial crisis, geo-economics came to the fore as a major feature affecting the worldwide redistribution of power (see Strategic Trends 2010). As the financial crisis in Europe spilled over into a debt crisis by 2010, issues relating to sovereign debt and EU monetary union began to have a strategic impact on European unification on a scale unmatched by any other development since the end of the Cold War.

A complex crisis

The reasons why sovereign debt has thrown Europe into crisis are manifold. For one thing, the level of debt has risen dramatically in many European countries in the past few years. In some cases, this was the result of large bailout packages for the financial sector or stimulus measures designed to reverse the economic slowdown. In other cases, it was the cumulative result of long-term overspending. Whatever the specific reasons, the fact is that the ratio of government debt to GDP for the EU-27 has reached record heights of more than 80 per cent by 2012 and even exceeds 100 per cent in the cases of Greece, Italy, Portugal, and Ireland.

Only five of the 17 member states of the Eurozone (EU-17), and only 13 of the 27 member states of the EU still meet the Maastricht convergence criteria of a debt level below 60 per cent of GDP.

The crisis cannot, however, be explained with high debt levels alone. After all, Germany has a debt level of over 80 per cent but gets more favourable conditions at the bond markets than most other countries. Rather, it is market confidence that determines the cost of borrowing for each country. While a variety of factors account for why lenders and rating agencies have come to regard some countries as more creditworthy than others, membership in the European Monetary Union (EMU) has become a major handicap for a series of countries at Europe's periphery. These Eurozone members have experienced a loss of competitiveness as a result of the single currency, yet at the same time no longer have monetary instruments such as an adjustable exchange rate at their disposal to ease their economic and fiscal burden. Their weakness, in turn, has put a serious strain on the Eurozone at large, which is why the debt crisis is a euro crisis to a significant extent, too.

Part of the problem lies in the design of EMU. The single currency was

EU-17 deficit and debt levels 2007
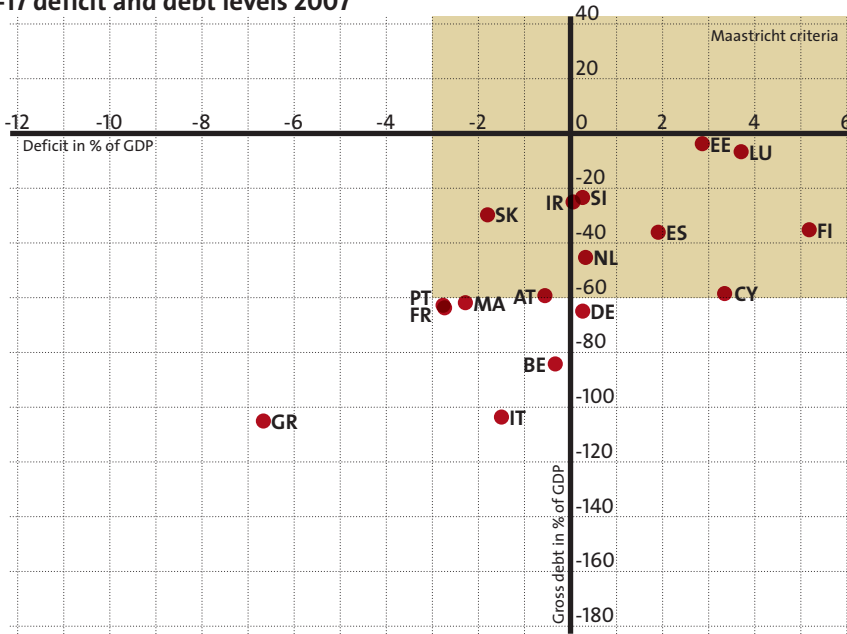
Maastricht criteria

-12 -10 -8 -6 -4 -2 0 2 4 6

Deficit in % of GDP

40
20
-20
-40
-60
-80
-100
-120
-140
-160
-180

Gross debt in % of GDP

EE LU
SK IR SI ES FI
NL
PT MA AT CY
FR DE
BE
GR IT

EU-17 deficit and debt levels 2011*

Maastricht criteria

-12 -10 -8 -6 -4 -2 0 2 4 6

Deficit in % of GDP

40
20
-20
-40
-60
-80
-100
-120
-140
-160
-180

Gross debt in % of GDP

EE
LU
SI SK
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CY ES NL MA
AT
FR DE
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IR PT
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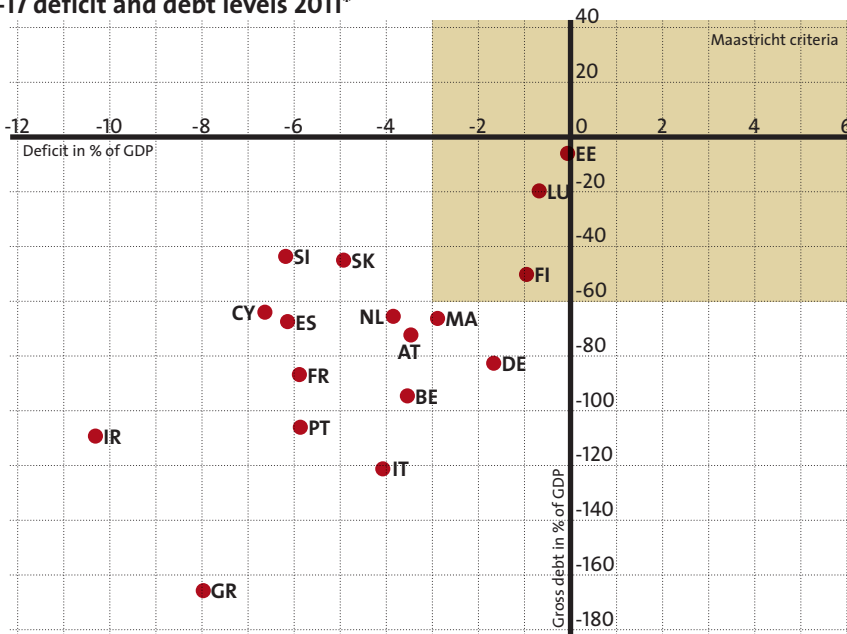
Source: IMF, World Economic Outlook Database, September 2011   *Estimates

mainly launched for political reasons, despite the warnings of economists who cautioned that it might have counterproductive effects if imposed on such a heterogeneous group of countries with disparate fiscal and economic policies. Instead of becoming a source of economic convergence, the euro has in fact accentuated the differences in competitiveness during the first decade of its existence, as most members failed to keep up with Germany's rising productivity.

However, it was not so much the design flaw itself, but rather a series of actions taken by governments and markets that brought about the euro crisis. First, the Stability and Growth Pact that was created to compensate for the lack of fiscal union by enforcing budget discipline was hollowed out as early as 2005, when the EU, pressured by France and Germany, relaxed its rules. Second, because they benefited from low interest rates and easy credit conditions in the Eurozone, governments and households in Southern European countries significantly increased their borrowing in the past decade. Whereas Germany implemented far-reaching reforms of its labour market and pension system, these countries largely put off such structural measures. Third, when it became clear that Greece was no longer able to repay its debt in full, markets

began to panic and introduced risk premiums to compensate for potential sovereign defaults, which for many countries led to growing yield spreads on government bonds relative to Germany. This caused new crises of illiquidity and insolvency for both states and banks, spreading the problem to major economies such as Italy and Spain. The inadequate capital levels of many European banks and the widespread linkages among banks and with sovereigns have done much to exacerbate the euro crisis.

The limits of EU crisis management

It is worth noting that the euro itself has not been fundamentally undermined by these developments so far. It has remained fairly stable against major other currencies, and it continues to attract large quantities of hard cash reserves. Nevertheless, the risks of default and contagion within the Eurozone have meant that it was the EU-17, and the EU at large, that have become both the epicentre of the European debt crisis and the primary platforms for crisis management efforts. The trouble is that neither the Eurozone nor the EU was built to manage such crises. Political decision-making is taking very long, with the number of emergency summits proliferating. Policy outcomes have often been ambiguous so as to get as many member states as possible on board.

Bold decisions have also been prevented by domestic constraints that have become manifest in both creditor and crisis countries. For all these reasons, the EU has found it very difficult to come up with solutions that are quick and solid enough to regain market confidence.

To be sure, some important measures have been taken. Euro governance structures are gradually being improved. A new intergovernmental fiscal treaty seeks to ensure fiscal discipline by obliging signatories to write debt brakes into binding national legislation and making excessive deficit procedures more automatic. Eurozone summits have been institutionalised to allow for more effective coordination of fiscal and economic policies. European rescue funds have been set up (and will become a permanent fiscal vehicle in the form of the European Stability Mechanism in July 2012) to provide financial assistance packages to countries in fiscal difficulties, tied to strict conditionality concerning austerity and structural adjustment. Beyond such governance measures, a writedown of privately-held bond debt was agreed in the particular case of Greece. It was also decided that banks in the Eurozone should increase their capital ratios. Moreover, outside the realm of EU politics, there was the bold decision by the European Central

Bank (ECB) to offer unlimited three-year liquidity to squeezed banks. In terms of short-term crisis management, this turned out to be the most important measure of all, resulting in falling borrowing costs for crisis-hit countries and therefore buying valuable time for political leaders.

Nevertheless, market uncertainty has prevailed. For all the crisis management efforts, the majority of euro members were downgraded by rating agencies at the beginning of 2012, reflecting ongoing scepticism as to their ability fully to address the systemic stresses in the Eurozone. As the crisis is gradually shifting from acute to chronic, there continues to be much controversy as to the right remedies. There are those who propose measures such as an ECB 'bazooka' role of intervening as lender of last resort to Eurozone sovereigns, the introduction of Eurobonds to mutualise national debts, or an easing of austerity for the sake of growth-oriented policies. Others, particularly Germany, will have none of this, arguing that the only way for crisis countries to become more competitive is through budget cuts and supply-side reforms.

Muddling through as the likely way forward

How the euro crisis will be resolved is impossible to predict at this stage.

It may well be that market confidence can only be fully regained again if monetary union is complemented by fiscal and political union. Yet, such a major advance in European integration seems completely off the cards. In Germany and other solvent countries above all, domestic resistance would likely be insurmountable, as national sovereignty would become all but meaningless with such a move.

The opposite scenario of a demise of the Eurozone or even the EU appears equally unlikely. There is simply too much at stake politically and economically for European leaders to let this happen. While a default and return to a national currency remains a distinct possibility for Greece in particular, precautions are gradually being taken to contain the negative effects of such a development.

The most probable scenario, therefore, is for Europe to continue to muddle through. There will be more of the same in terms of austerity, adjustments, EU late-night summit meetings, and rescue packages. For crisis-hit countries at Europe's periphery, this will mean long periods of hardship, with ever growing social costs. But the Eurozone and the EU proper face difficult years ahead too, with the EU-17 having fallen into recession in 2012 and the EU-27 struggling to stick with just a little growth. The bottom line of all this is that the EU will likely remain bogged down in crisis management for years to come.

The EU as a weakened anchor of stability

Although it remains unclear where the EU will eventually be heading, some strategic repercussions of the debt crisis have become gradually manifest. If European unification has always been about both enhancing stability on the inside and defending common interests on the outside, both functions have been weakened by recent events. None of this is irreversible, and the picture becomes more nuanced on closer examination, but the overall trends are negative – and bound to stay so for a while.

Let us start with the decreasing capacity of the EU to serve as an anchor of stability among its member states. This is not to suggest that Franco-German reconciliation and the European security community, i.e., Europe's key post-war achievements that emerged on the twin basis of European integration and NATO collective defence, are about to unravel. There will be no return to conflict resolution by military means between EU countries, even if some military planners have paid more attention to such a scenario lately. Still, the nature

of the European project is changing in ways that do have negative effects on the EU and its ability to function as a stability anchor. If the debt crisis itself has not caused most of these changes, it has been a decisive accelerator, reinforcing developments to an extent that renders them strategically relevant.

Power shifts and new uncertainties
Power shifts are generally accompanied by a growing degree of uncertainty, strain, and distrust. This holds true for the global level as much as for Europe. The most notable – and most sensitive – shift of power within Europe in the course of the debt crisis concerns the rise of Germany to the position of the EU's indisputable leader. Germany's economy has witnessed a boom when many other countries have suffered. Its unemployment rate has fallen to just

above five per cent. Its role in managing the euro crisis has become so central that all eyes are set on decisions taken in Berlin. Never before in the history of European unification has there been a similar degree of pre-eminence of any single country.

Germany has not sought this leadership role. Nevertheless, as has been rightly suggested, there has been a return of the almost forgotten 'German question' as a result of the euro crisis, albeit in an economic variation. Europe's single currency was meant to resolve the century-old problem of Germany being too strong for a European balance of power but too weak for hegemony. As it turns out, the currency union has actually revived this question. Although Germany has made major financial commitments

Power shifts within Europe: Germany, France, United Kingdom

Absolute GDP in current prices in € bn
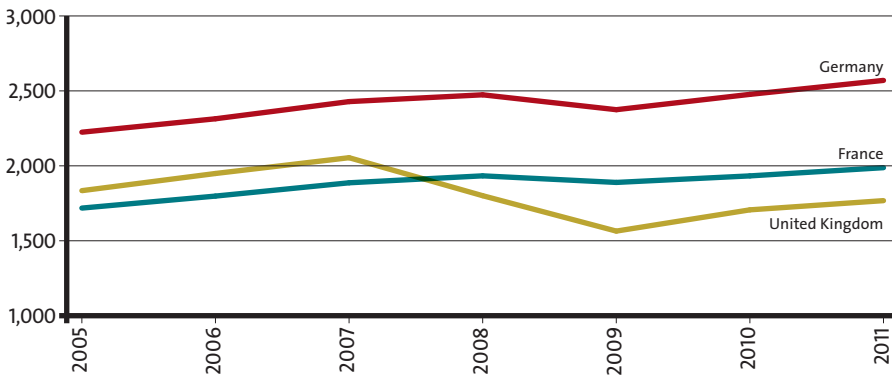
Source: Eurostat 2012

to crisis-hit countries, it has become the subject of much criticism. While there is some admiration for the German economic model, there is also a notable resurgence of the notion of the 'ugly German' who seeks to impose solutions and Germanise Europe.

The relative weakening of France and Britain vis-à-vis Germany implies that trilateral leadership, often an important prerequisite for effective EU action, will be more difficult to accomplish than ever. Furthermore, while there is still a degree of Franco-German bilateral leadership, the notion of 'Merkozy' can only thinly disguise the fact that Paris has been downgraded to junior status in relations with Berlin. But beyond changing dynamics in European great power relations, there is also a widening north-south divide in Europe that may diminish the willingness to cooperate and the ability to identify common ground. Still another fragile balance currently being undermined concerns relations between small and big states in the EU, as the former have been largely sidelined in the search for a way out of the euro crisis.

Finally, power is also shifting from EU institutions back to member states. The long-term trend of incrementally strengthening the European Commission and the European Parliament has been reversed. Jean Monnet's vision of supranationalism is on the wane, while the Gaullist concept of an intergovernmental Europe takes centre stage. Increasingly, European politics are being renationalised, with the Union method gaining ground at the expense of the Community method. Perhaps such a development was unavoidable, given what is at stake in Europe these days. But the fact that national governments are taking matters more into their own hands again suggests that defining common interests and policies will become ever more complex in the EU. It also enhances the risk of yet another shift, from a rule-based to a power-based Europe.

Fragmentation

In parallel to the 'German question', a second major issue of European geopolitics has resurfaced in the context of the debt crisis. The 'British question', i.e., the issue of Britain's relationship with Europe, was a major bone of contention during the first two decades of European unification. While it seemed settled when London joined the EC in 1973, it has in fact continued to simmer, as most British governments have pursued a policy of semi-detachment vis-à-vis Europe. The matter has now seen a full-blown comeback, with Britain's decision not to sign the fiscal treaty raising questions as to London's future role in the EU.

Although Britain had already opted out from EMU, it still signed the Maastricht Treaty. Its absence from the fiscal treaty takes British self-marginalisation in Europe one step further and may well result in London being excluded from major decisions on future economic and fiscal policy. Such an empty-chair approach could easily backfire, given that austerity-shaken, post-industrial Britain has become highly dependent on the City's financial services as the backbone of its economy. Having said that, it may actually only be the beginning of a process leading to Britain's further withdrawal and eventual exit from the EU. Recent polls suggest that Euroscepticism is reaching new heights in Britain. What is more, the present British government shows no interest in shaping politics in Europe anymore, or, for that matter, in balancing Germany.

It is ironic that Britain is moving to the sidelines in Europe just when the EU evolves in ways long advocated by London. The fact is that a Europe without Britain will leave London isolated and the EU weak, particularly on the international stage. But the resurgence of the 'British question' is only part of a bigger process of fragmentation in the EU. For one thing, the Czech Republic has not subscribed to the fiscal treaty either,

and other countries might follow suit should domestic ratification fail. An even more serious development is the widening gap between the EU-17 and the other ten members of the EU as a result of the euro crisis.

To be sure, two-speed or multi-speed solutions of European unification are not necessarily bad. They may be the best means available to ensure effectiveness despite diversity. Even models of variable geometry or concentric circles, assuming a long-term gap in integration levels, may allow EU cohesion to be preserved if managed carefully. However, there is a real danger that Europe's growing fragmentation will gradually result in two or more distinct European entities that have different priorities, interests, and perhaps even identities, though still under the common EU roof. Even more than Britain's potential detachment, such a rift is bound to weaken Europe's internal stability as well as its influence in the world.

Growing legitimacy deficits
Apart from changing power distributions and centrifugal politics, there is a series of legitimacy deficits that, exacerbated by the debt crisis, pose a growing challenge to the European project. First, for all its new powers, the European Parliament, a major source of EU legitimacy, has been

completely sidelined during the euro crisis. Even Jean-Claude Piris, a main architect of the Lisbon Treaty, has since called it a 'relative failure'. Second, the strict conditionalities attached to bail-out packages have resulted in an erosion of sovereignty and domestic accountability of crisis-hit countries, weakening the democracy credentials of the EU further.

Third, declining public support for European unification has become a major challenge for EU legitimacy. Although the single currency itself remains fairly popular, according to Eurobarometer, the number of respondents who have trust in the EU is rapidly eroding, having fallen from 57 per cent in 2007 to 34 per cent in 2011. The EU's image has taken a severe blow too, with less than a third now perceiving it in positive terms. In Southern Europe, the EU is increasingly seen as an 'austerity union' bringing hardship rather than prosperity. In the North, people complain it has become a 'transfer union'. But the problem goes beyond this. With unemployment rising, some of the EU's major projects of past decades are being questioned, such as Eastern enlargement, Schengen border policies, and the free movement of workers. Depicting the EU as a scapegoat for many misfortunes, populist parties across Europe are now embracing Euroscepticism to attract new voters beyond the anti-immigration and anti-elite crowds.

EU: Eroding public trust

Percentage of respondents who tend to trust the European Union
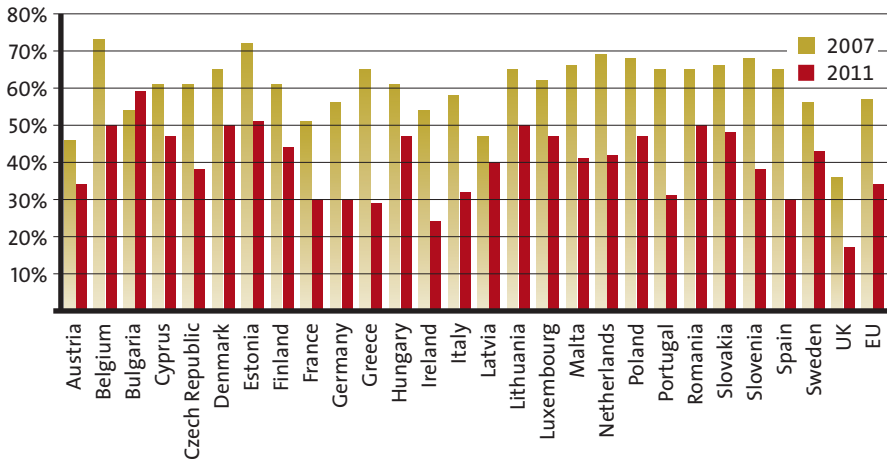
Source: Eurobarometer 2012

There is no doubt that ensuring domestic approval for EU matters by either parliaments or electorates will be a major challenge for national leaders in the years ahead. This leaves them with two unpalatable options: They can either circumvent the national level as much as possible, with the EU's legitimacy deficits growing further. Or they can seek domestic approval for their EU policies, which renders the EU politically vulnerable and may result in further fragmentation.

EU foreign policy: Lisbon undone
The debt crisis and the EU's internal weakening have major repercussions for Europe's relations with the outside world too. For one thing, these developments will accelerate Europe's long-term relative decline in terms of economic power. On average, emerging and developing economies have done much better than Europe in terms of GDP growth in the recent years of crisis. They are expected to continue to grow by more than five per cent in the coming two years. However, from a European perspective, it is not so much the further loss of economic power that is worrying as the damage recent events have done to Europe's efforts to manage this decline and preserve its global influence.

The notion of a European foreign policy has been significantly bruised by the debt crisis. This has traditionally been one of the most challenging dimensions of European unification anyway. After decades of very limited achievements in this area, the Lisbon Treaty had raised hopes that the Europeans would finally be able to act more coherently and strategically in the international arena. The new European External Action Service (EEAS) and the enhanced status and role of the High Representative were just two of several Lisbon innovations designed to give Europe's foreign policy a major boost. Yet, a positive Lisbon effect has never really materialised. As the debt crisis has made painfully clear, institutional innovations alone are not sufficient for Europe effectively to speak with one voice and safeguard common interests if the overall setting is not right.

To be sure, not all aspects of European foreign policy have been equally hit by the debt crisis. Sanctions policy, for instance, seems largely unaffected by recent events, as the EU has managed to agree on tough measures against countries such as Iran and Syria. Climate and trade policies are other examples where continuity and cohesion seem to prevail. Furthermore, there are cases where the crisis may yet have positive side-effects. For instance, austerity prerogatives may well mean less EU development

spending, but they will also be a catalyst for a more focused and differentiated EU approach in this policy field. Given that the EU currently provides aid to more than 140 countries, implementing Commission proposals to cut off payments to emerging powers such as China, India, or Brazil seems long overdue.

Overall, however, the debt crisis has taken a significant toll on 'Global Europe'. Even though talk of EU strategic retrenchment or Euro-neutralism seems off the mark, the state of European foreign policy is not good. As the conditions for effectively speaking with one voice deteriorate, the characteristics of European foreign policy are changing, with renationalisation becoming a prominent feature here too. As a consequence, negative trends that had affected Europe's role in its neighbourhood prior to the crisis are being reinforced, and the EU's global credibility is taking a further blow.

Worsening conditions, changing characteristics

If European foreign policy-making has always been a delicate affair, its conditions have worsened in three ways as a result of the debt crisis. First, CFSP and other aspects of EU external relations have received far less political attention recently, as leaders were absorbed by quasi-permanent economic crisis

management. This has proven a major handicap, as foreign policy issues often cannot be settled on the bureaucratic level alone. Second, even if it should attract more political attention again, European foreign policy will suffer from a shortage of money for years to come. With national budgets strained, this is not the time for major foreign policy spending. This is also why recent Commission proposals for a bigger EU budget, a relative increase of external action expenditure (from 5.7 to 6.8 per cent of the overall budget), and more budget autonomy for the years 2014 to 2020 look highly optimistic, to say the least. Third, the tensions and recriminations the euro crisis brought to member states will have a detrimental effect on foreign policy too. In a predominantly intergovernmental setting such as CFSP, effective joint action depends not just on common interests but also on mutual trust – which has been markedly waning lately.

Given this difficult context, it comes as little surprise that European foreign policy is being renationalised to a significant extent. Contrary to Lisbon intentions, recent dynamics have further strengthened national capitals rather than Brussels institutions when it comes to foreign policy-making. The EEAS, with more than 1,500 staff in Brussels and more than

2,000 in EU embassies, has not been able to make a major difference so far. It has failed to win the confidence of member states, 12 of which have even criticised it collectively for bureaucratic inertia and mismanagement. With EU institutions weak and intergovernmental coordination difficult, some member states are now simply turning their back on CFSP. Britain is an obvious example.

Related to the point of renationalisation, there is a widening gap between national and EU foreign policy as far as substance is concerned. In response to both the growing importance of geo-economic power in the new polycentric world and their own economic difficulties, more and more member states are moving commercial diplomacy to the centre of their foreign policy. Bilateral investment deals and economic cooperation agreements with emerging powers are what they are particularly after. The EU, by contrast, finds it difficult to adapt to such a geo-economic world. Although itself a powerful economic actor in many ways, its foreign policy continues to have a strong leaning towards the promotion of norms like democracy, the rule of law, and human rights. Such disparate priorities between Brussels and some national capitals render the definition of a cohesive European foreign policy exceedingly difficult.

The characteristics of European foreign policy are also changing in that the EU's soft power has been eroding as a result of its economic problems and political strains. Its model of governance has obviously lost some appeal for others. Similarly, EU calls for effective multilateralism do not sound very credible on the international stage these days. To be sure, the EU is still a very attractive market. Also, the political pluralism and the values of liberal democracy it represents are achievements that protesters are eagerly fighting for in many parts of the world these days. Still, Europe's power of persuasion has waned – which is a particular handicap as far as its ability to influence developments in its neighbourhood is concerned.

Neighbourhood: Negative trends reinforced

The EU's appeal to neighbouring countries has been a major basis from which to shape its regional environment in the past two decades. This has worked best in the form of enlargement, with candidate countries willing to meet economic and political conditionalities to get the benefits of EU membership. It has generally proven less effective with those many neighbours that lack a membership perspective and are instead promised a 'stake in the internal market' in exchange for domestic reform. As both these poli-

cies – enlargement and the European Neighbourhood Policy (ENP) – have been negatively affected by Europe's current crisis, the EU approach of projecting stability by fostering regional transformation will be very difficult to implement in coming years.

EU enlargement, long the most effective foreign policy tool of the EU, had lost steam prior to the debt crisis already. Enlargement fatigue in Europe became manifest after the EU expansion to the East. But it has significantly deepened lately as public perceptions of the EU have become more critical and unemployment figures are rising. What is more, some of the countries with candidate or potential candidate status seem to have second thoughts about the desirability of EU membership themselves. Above all, this holds true for Turkey, which has positioned itself as a regional power of its own and looks more to the US than to crisis-ridden Europe these days when alignment with the West seems expedient. However, there is also less appetite for EU accession in the Western Balkans, where EU euphoria is gradually being replaced by disillusionment, especially in Bosnia and Herzegovina, Macedonia, Albania, and Kosovo.

Where this leaves enlargement after Croatia's accession to the EU in 2013 is unclear. Any further widening of the EU is bound to be a long way off. The EU's influence over (potential) candidate countries is likely to shrink as long as uncertainty about enlargement prevails. There may yet be new dynamics of enlargement should any multi-speed framework of Europe materialise. But it remains uncertain whether such a framework could provide what new members want from the EU – and whether it would actually enhance stability in Europe.

As for ENP, its 'enlargement-lite' approach has failed to have a meaningful impact on Europe's southern and eastern neighbourhood from the start, as have complementary multilateral schemes such as the Mediterranean Union or the Eastern Partnership. The Arab awakening has been a painful reminder of how marginal the EU's role in many neighbouring countries still is. The revolts and revolutions that have shaken the MENA region mark the strategically most relevant development in Europe's neighbourhood since the demise of the Soviet Union (see Strategic Trends 2011). Yet, sanctions aside, these events have unfolded with the EU largely as a bystander. Forging an answer commensurate with the size of the challenge would have been a daunting task for the EU even at the best of times. Doing so at a time of its own weakness is simply beyond its reach.

Admittedly, the EU has refined the ENP as a result of the Arab awakening. Under the slogan 'more for more', it now offers enhanced incentives in terms of 'money, markets, and mobility', coupled with greater differentiation depending on how willing respective ENP members are to reform. However, the trouble is that the EU will hardly be able to deliver these incentives. In austerity-shaken Europe, there is no political will to either finance large-scale transformation packages or open up European borders for agricultural products or workers from ENP countries.

Moreover, even if the EU were in a position to give MENA countries what they wanted, the latter might still turn down European assistance if tied to too many conditions. As long as the EU is mainly trying to extend its own rules to these countries and

Europe and its neighbourhood

- ◼ European Neighbourhood Policy
- ◼ Acceding country
- ◼ Candidate countries
- ◼ Potential candidates
- ◼ Protracted conflicts
- ☐ Arab upheavals

draw them into a sense of regionalism marked by EU values, it will find it difficult to develop proper partnerships with them. In a neighbourhood marked by increasing competition between 'new' and 'old' external actors, a more strategic EU approach than ENP would be necessary for Europe to safeguard its interests. Yet, in its present state, the EU will find it very difficult to come up with anything new and bold for the MENA region.

Less Europe in the world, more China at home

Strategy may be a weak point in EU dealings with the neighbourhood. But it has traditionally been even more absent on the global level. Although the EU has set up a system of 'strategic partnerships' with BRIC and other countries such as the US, Canada, Japan, South Korea, Mexico, and South Africa, these partnerships lack both substance and focus. If the EU has shown its ability to make a difference collectively in global governance frameworks like the UN, it has performed poorly in the key business of defining common priorities in its relations with the major powers. Its global footprint has remained limited, therefore, despite ambitions to the contrary.

The current crisis in Europe may further expose the EU's weakness as a global power. But here, the net effect

will be more limited than on the regional level, as there has never been much of a policy in the first place. Member states will place increasing emphasis on bilateral relations and their own 'strategic partnerships' with emerging powers, which in turn will play them off against each other and have no reason to perceive the EU as a credible unit. Berlin, Paris, and London are what matters from outside Europe, with the first joint Sino-German cabinet meeting of summer 2011 pointing to things to come.

The one thing that does seem to change in Europe's relations with the world as a result of the debt crisis is that the latter is increasingly called to rescue the old continent. The IMF providing financial support to Greece, Ireland, and Portugal is one thing. But there is also the phenomenon of China rapidly expanding its economic presence in Europe. While Beijing has remained reluctant to purchase massive amounts of bonds from crisis-hit EU countries or contribute substantially to the European rescue fund, it has been very active in buying European companies and investing in strategic assets such as ports. Albeit from a low level, Chinese foreign direct investment in Europe is currently skyrocketing, amounting to a third of total Chinese FDI in 2011. Much more is expected to flow in coming years, as

Beijing has announced a major expansion of its FDI activities. With crisis-hit countries in Europe's south showing particular eagerness to get Chinese investment, there are concerns that China will win political leverage over them and might affect their voting behaviour when it comes to the EU's China policy. Chinese leaders themselves have made it clear that they are ready to help the Europeans deal with their crisis – provided the EU stops criticising China on issues such as currency policy.

**European defence:
From cutting to sharing?**

If foreign policy had been a sore spot of the EU even before the debt crisis broke out, the same can be said for European defence. Many armed forces in Europe have been underfunded for years, reflecting both the absence of a clear enemy and domestic reservations about the utility of force. Combined European defence spending has shrunk despite the Afghanistan war in the past decade, with almost all countries remaining well below NATO's agreed line of two per cent of GDP. Although most armed forces have been transformed to focus on crisis management rather than territorial defence, there has been a conspicuous shortage of relevant military capabilities.

The EU's Common Security and Defence Policy (CSDP) experienced some dynamic first years, marked by the

EU-26 defence expenditure 2010

Percentage of GDP
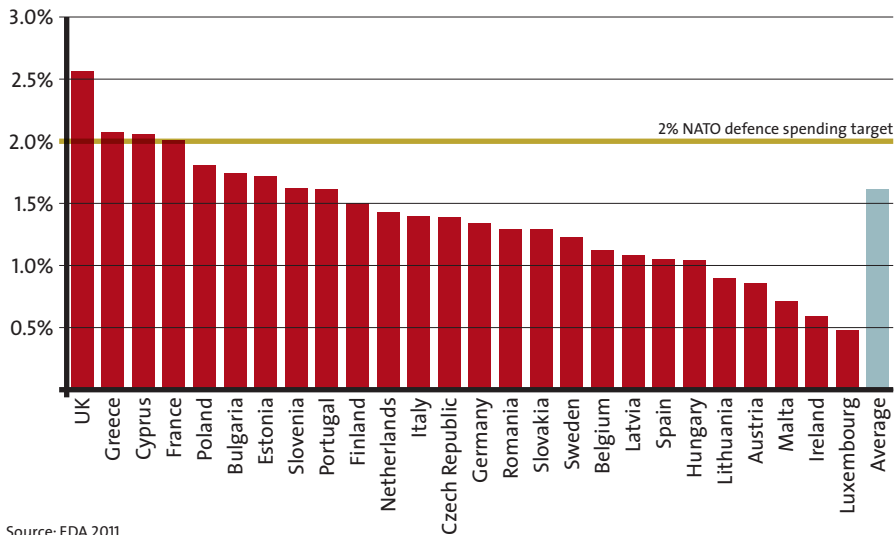
Source: EDA 2011

setting up of institutions, the forging of a security strategy, and the launch of about two dozen crisis management operations (many small and civilian in nature). But it has gradually run out of steam. Intervention fatigue has crept in, with only one new operation launched since 2009 and EU battlegroups remaining unused. The lack of strategic consensus, as reflected in the split over Libya between Germany on the one side and Britain and France on the other, has become a major liability. There is also no agreement on EU-NATO relations and the role and purpose of CSDP, with Britain vetoing an EU Operational Headquarters. As CSDP achieved rather little despite much effort in its first decade, renationalisation tendencies set in years ago.

The debt crisis may well lead to a further demilitarisation of Europe, as several analysts predict. However, contrary to the case of European foreign policy, there is a more positive scenario here too, in that the debt crisis may actually become a catalyst for more defence cooperation.

The spectre of demilitarisation

There is no doubt that the current period of austerity will result in a further decrease of Europe's overall defence spending. Already during the early stages of the crisis between 2008 and 2010, the EU-26 (Denmark has opted out from CSDP) have reduced their aggregate defence expenditure by 4 per cent. Further massive cuts have since been announced in many capitals.

EU-26: Percentage change in defence expenditure 2008–10
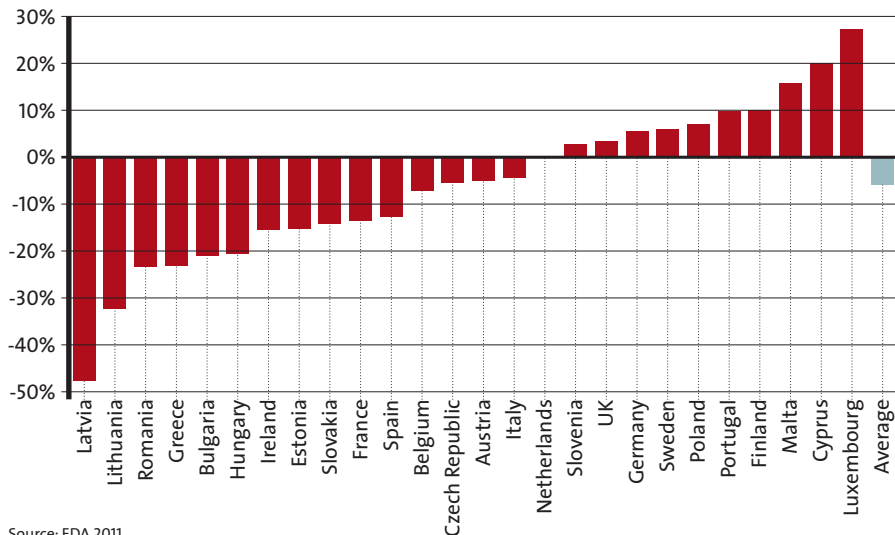
Source: EDA 2011

The combined effect of all these cuts could be severe. The shortages of personnel and capabilities in on-going missions are growing already. Further capability shortfalls will be unavoidable if states continue to reduce their national assets in an uncoordinated manner. Adjustments in the national level of ambition and the deployable capability of armed forces are bound to follow. What is more, as ever more modernisation projects are being delayed or called off, the European defence industry is increasingly compelled to turn to customers outside Europe, wooing them with technology transfers of unprecedented scale.

Under such conditions, the numerous obituaries for CSDP that are currently being drafted may well be justified. Even NATO, a much more established and institutionalised defence coop-

eration format than CSDP, faces an uncertain future. As the outgoing US Secretary of Defence Robert Gates put it during his last visit to Brussels in 2011, NATO has turned into a two-tiered alliance where the US covers three quarters of combined defence spending, while many European allies no longer have the will or means to share the burden. Gates predicted that the US body politic will hardly put up with this state of affairs much longer, warning of the 'very real possibility of collective military irrelevance' unless current negative trends are being reversed.

Hopes for remilitarisation

European defence may indeed be heading for a major crunch. However, there are two factors that offer grounds for cautious optimism that we may gradually see a turn to more

National shares of EU-26 and NATO-28 defence expenditure 2010

EU-26

NATO-28

- United Kingdom
- France
- Germany
- Italy
- Spain
- United States
- Others
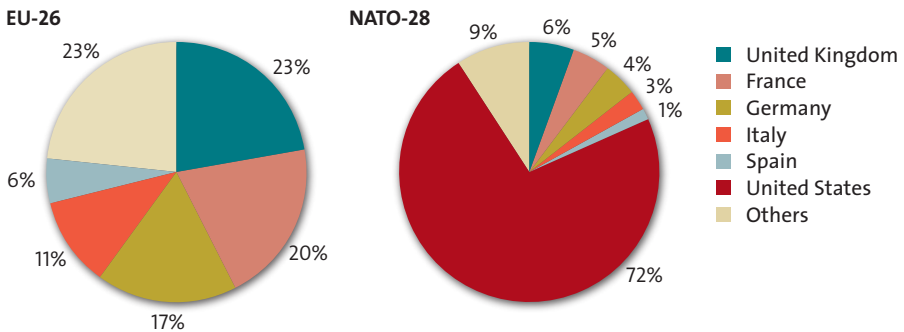
Sources: EDA 2012, NATO 2011

rationalised defence spending and more defence cooperation in the years to come. First, the coming budget pressures might be of a scale that leaves national capitals little choice but to seek cooperation to avoid a major credibility crisis. If armed forces have so far managed to muddle through despite insufficient resources, the consequences of further cuts might be much more severe. Second, changes in US defence strategy are bound to reinforce the view that the Europeans will have to do more for their security in the future, which potentially will serve as a driver of European cooperation. US defence cuts, while massive in absolute terms, are not the main trigger here, amounting to a mere eight per cent over the next decade. The real game changer, instead, is the shifting focus in US strategy from the Atlantic to the Pacific, which suggests that a strategically more autonomous Europe can no longer count on Washington to ensure stability in its neighbourhood. Libya may be a harbinger of things to come in this regard.

With concerns about the security of Europe mounting, there has been renewed interest in the old idea of 'pooling and sharing' lately. On the EU level, defence ministries have come up with an inventory of potential synergies concerning the procurement and operational use of military capabilities in the framework of the so-called Ghent Initiative. In November 2011, they agreed on a shortlist of 11 projects, committing themselves to tackling some of the key capability deficits the Libyan intervention had so painfully confirmed, including strategic enablers such as surveillance and air-to-air refuelling. Under the catchword of 'smart defence', NATO too is looking into 'pooling and sharing' again, declaring it a major topic for the Chicago summit in May 2012.

European defence: More cuts ahead (examples)

Country	Announced cuts
Austria	7.7% from 2011 to 2014
France	3.7% from the defence budget 2011–13
Germany	3.5% from 2011 to 2015
Greece	22.3% from 2011 to 2015
Ireland	15% from 2011 to 2014
Portugal	11% in 2011, additional 3.9% in 2012
United Kingdom	8% from 2011 to 2014, more cuts under discussion

Various sources

As European defence expenditure is unlikely to rise anytime soon, attempts to do more with less in the sense of jointly reducing capability shortfalls and unnecessary duplications make perfect sense. The problem is that the old obstacles that prevented 'pooling and sharing' ideas from being implemented in the past are still there. Getting serious about 'pooling and sharing' may mean less national autonomy, less money for national projects, more paperwork, and more competition for national defence industries. For all these reasons, bureaucratic resistance is certain to remain strong.

This in turn suggests that 'pooling and sharing' will only become a hallmark of European defence if there is firm political will – and mutual trust. With leaders busy to save EMU, the EU/CSDP level may include too many countries to allow for such conditions at this stage. Accordingly, proceeding with bottom-up initiatives of smaller groupings may be the only way forward for now. The Franco-British treaty on defence of 2010 has been criticised for undermining CSDP. Yet, if Europe's two leading military powers actually manage to see through all the ambitious 'pooling and sharing' initiatives outlined in the treaty, European defence can only win. The same holds true for other cooperation projects below the EU level, such as the Visegrad format (Poland, Czech Republic, Slovakia, Hungary) or Nordic Defence Cooperation. In the case of defence, fragmentation does not necessarily imply a major rift and step back in European unification, as this has never been a very Europeanised policy field. Rather, it should be seen as Europe's best second chance eventually to build up a common defence policy in the first place – and put CSDP on a more solid basis.

Eurosclerosis 2.0

There is no question that the debt crisis does pose a very real and severe challenge to European defence, just as it weakens European foreign policy and the European project at large. Its impact will be felt for years. But the bottom line is that even if the picture is not good, there is no need to paint it too bleak either. The EU has encountered many crises in past decades, and it has revealed a remarkable resilience and adaptability to overcome them.

Incidentally, the biggest previous crisis in the history of European unification bore some striking similarities to the situation in Europe today. Referred to as 'Eurosclerosis', the period from 1974 to 1983 saw EC member states struggling with decreasing growth, growing unemployment, and currency turbulences. Relative power

gains by (West) Germany, Britain's 'I want my money back' policy blockades, and diverging preferences for how to manage Europe's economic crisis after the post-war boom created an atmosphere of distrust that spurred renationalisation tendencies. Two ambitious projects of the early 1970's, i.e., the establishment of a European Union and EMU by 1980, proved impossible to implement. The third project of launching foreign-policy cooperation did get underway, but it quickly turned into a bureaucratic exercise producing few results. There was a deep sense of gloom about the European project during these years. Only with hindsight did it become clear that many parts of the complex mechanics of integration continued to function properly below the political surface, providing the basis for

a dynamic *relance européenne* in the mid-1980s.

It may just be that we are in the midst of a similar period of Eurosclerosis today. Although the scale of the current crisis is obviously bigger, and the Cold War framework that used to keep the EC member states together is long gone, the EU is bound to persist. Internal crisis management may dominate EU affairs for years to come. Grand achievements in either foreign policy or defence are unlikely to appear. But there will be another shift from survival mode to an EU relaunch one day. When this will happen is impossible to predict. Leaving the current crisis behind will require much political leadership to rebuild trust, both among member states and between the public and the EU.

Africa's sore spot: Regional conflicts across the Middle and the Horn

An Jacobs

Despite positive messages of democratisation and economic growth, sub-Saharan Africa remains afflicted by severe conflicts. The Middle and the Horn host the most widespread and intense of them. Resources and ethno-religious differences are often part of the equation, but the core problem rests with bad governance. Political elites use underlying frictions to fight regional wars, all too often fuelled by third-party resource grabs. Until regional dynamics are better understood and addressed through conflict management and trade harmonisation, Africa will continue to seriously suffer.

A soldier of the UN/African Union UNAMID peacekeeping force in Sudan, 11 January 2011

Africa has been climbing up the international policy agenda for some time now, but not fast enough. Despite the newspaper headlines across the globe heralding a new era of democratisation and economic growth, a closer look at the regional dynamics on the continent paints a very different picture. No one can deny that sub-Saharan Africa has witnessed more elections over the course of the last three decades, but these have been short-term 'ballot box' exercises rather than structural democratic practices of good governance. Elections, invariably labelled 'free and fair', have been little more than a show of pretence to guarantee a next term for those in office. In Africa, corruption continues to rule.

The same holds for economic progress. Emerging markets – busy investing in African infrastructure and resources – consider those investments increasingly vital to guarantee their own growth. But the BRICs are not building an economically and politically more solid Africa. Foreign direct investment has increased – both in volume and in geographical spread – but as a result, volatile commodity prices are becoming increasingly difficult for Africa to manage. Equity deals seeking direct control of African resources has been the BRIC response, many of which have admittedly laid the foundations for growth in telecommunications, business services, sales, and manufacturing sectors. But if Africa is to create meaningful wealth from its resources, then credible and appropriate government policies are urgently needed. Filling labour gaps, enhancing market growth, and providing a desirable investment infrastructure is not easy, and points to the core problem ahead: African resources are vast, the growth potential enormous, but neither can match the persistent political risk and regional instability sweeping across the continent.

Large parts of sub-Saharan Africa have indeed been almost unremittingly subject to conflicts, preventing an African 'take-off' anything close to what we have seen in Asia. What is worse, such conflicts have invariably grown regional tentacles, making any effective resolution to them increasingly difficult. Such a point might seem obvious, but regional thinking has not sunk in on a political level in Africa, nor with the international actors involved in conflict resolution. Until regional dynamics are better understood and better addressed, Africa is unlikely to make the kind of advancement that international headlines would have us believe. Regional problems require regional *and* international solutions if Africa is to progress.

The 'numbers' are revealing. About two-third of the world's fragile states are located in Africa, with the most deadly and most persistent conflict hub in Central and Eastern Africa. This region, stretching from Kinshasa to Djibouti and from Khartoum to Lubumbashi, hosts some of the major regional hotbeds of conflict below the Sahara. Large territories across the borders of the Democratic Republic of Congo (DRC), (South) Sudan, Somalia, and adjoining countries have seen chronic regional instability as the day-to-day trend; without major remedial action, it will be the defining feature for decades to come.

In geopolitical terms, this region is closely watched across the globe to monitor political risk for resource extraction and foreign direct investment. The Middle and the Horn share a shaken recent history, and both face a bumpy road ahead. 2011 was critical, and the outlook for 2012 does not look much better. Turbulent Congolese presidential elections have attracted international headlines in November last year. Discontent with electoral practices and outcomes now continues to endanger stability in the DRC, and with Tshisekedi's supporters seemingly unwilling to accept Kabila's second term, post-electoral developments remain unsure at this stage. South Sudan became the youngest country in the world in July 2011, and as is often the case with young age, there is a lot to learn. Independence has so far only brought more conflict in terms of demarcating borders and securing oil revenues. But internal issues have also cropped up; inter-ethnic conflict is widespread, as are battles between the brand-new government and local militias. The country currently faces violent uprisings across its territory, with the real risk of becoming a failed state less than a year after being born.

Elections in Somalia – planned for August 2012 – are another event to watch. Western support for the Transitional Federal Government (TFG) in Mogadishu hopes for a popular and legal TFG mandate to govern after the elections, but confidence remains remarkably low that this will happen. Somalia is easily the best (or indeed worst) African example of a collapsed state, particularly with different gradations of Islamist extremism thriving within and beyond its borders. It appears the Kenyan Defence Forces are better prepared for the 2012 elections than they were in 2007, a year which marked widespread violence on the streets of Nairobi. It would be a serious setback for East Africa if this situation repeated itself. But beyond trying to hold their 'electoral nerves', many of these states still have to cope

with the brutal violence of Joseph Kony's Lord's Resistance Army (LRA). Having originated in Uganda, Kony's men are now active across the DRC, the Central African Republic (CAR), and South Sudan. These are just a few examples indicating the dismal condi-tions in Central and Eastern Africa. And amongst these struggles rest per-sistent Western concerns that Chinese (and other BRIC) activities in sub-Saharan Africa have everything to do with resource grabs, and little with sustainable development.

Conflict intensity in the Middle and the Horn of Africa

Colour code:
- ■ War
- ■ Severe crisis
- ■ Crisis
- ■ Manifest conflict
- ■ Latent conflict
- ■ No conflict
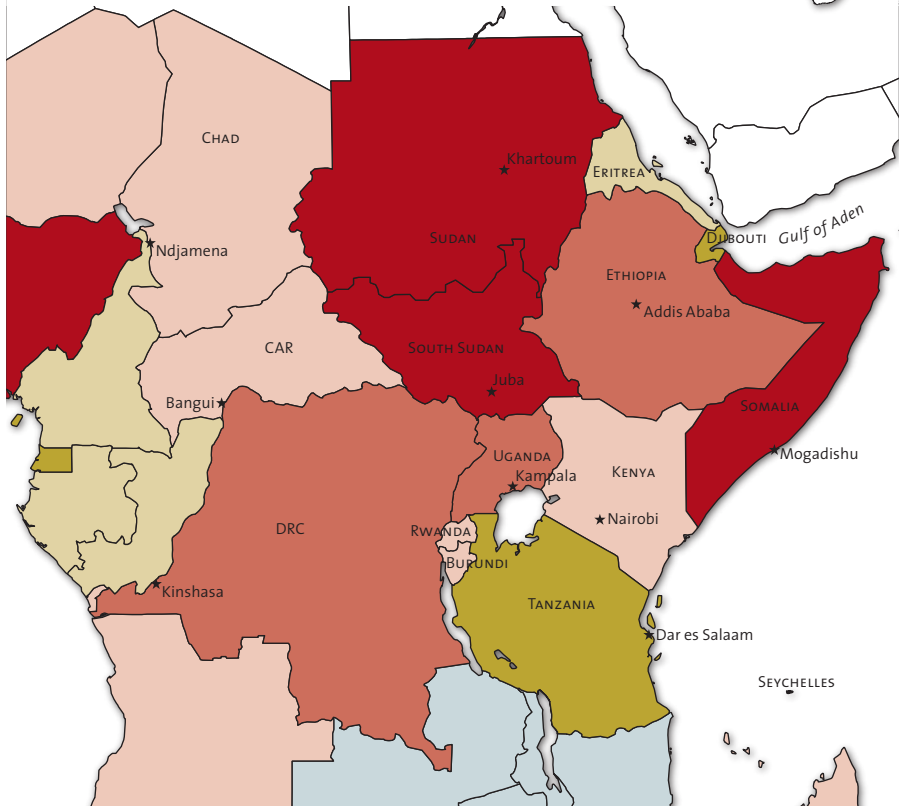
Data: HIIK Conflict Barometer 2011

Matters in theatre are, of course, much more multifaceted and perhaps even ungraspable. But too many analysts still look at conflicts around the Great Lakes with single-faceted narratives: underplaying certain aspects (resources and Chinese involvement), while overplaying others (ethnicity) and largely overlooking regional dynamics. Grouping countries into sub-regional conflict zones is intricate, with a complex web of conflicting parties overlapping on various levels and across regions. Delineating conflicts from each other and drawing clear-cut lines as to where one war zone stops and another starts is close to impossible, but that should not weaken the key point here: Major conflicts in the Middle and the Horn of Africa are largely regional and demand regional solutions.

Understanding the nature of sub-Saharan conflicts

In what follows, some of the underlying drivers of conflict are explored; natural resources, ethnic and religious clashes, and perhaps most damagingly, the role of political elites pulling the strings behind the scenes. All these factors have a regional aspect, leading us then towards a closer analysis of – often disappointing – regional and international engagements in theatre. New actors (most notably China) are changing the reality to some degree, but the key conclusion remains the same: Without fresh thinking and serious international action to deal with Africa's central and eastern hot spots, an unstable region will go from bad to worse in the years ahead.

Natural resources

'Find resources, and you'll find conflict', seems to be a general sub-Saharan rule. It should not be. Commodities do not drive conflict any more than they promote corruption and poor governance, but their monetary values do add to the human potential to do so. Is coltan really to blame for violence in North Kivu, and oil for instability in (South) Sudan? Does the cross-border presence of oil, gems, minerals, and timber catalyse or support brewing conflicts? Is there really such a thing as a resource curse, or is it just bad governance? In many cases, an abundance of natural resources might have created incentives for warfare, but while resources perhaps facilitate conflict, they never start a war independently.

Sudan is a case in point. Eighty per cent of the oil revenue from former Sudan is estimated to be on what has recently become South Sudanese soil. But then the infrastructure required to extract that oil and transport it to Port Sudan on the Red Sea – think of pipelines, export depots, and processing plants – is in North Sudanese

hands. This implies that both countries not only depend economically on oil as their key export, but also on each other to profit and turn oil into hard cash. This obviously requires cross-country collaboration – but with border disputes on-going, much is still to be settled between North and South on future oil exploitation. The precise boundary remains undefined and 'border-line' regions such as Abyei and South Kordofan remain plagued by unrest. In the midst of this violence, we find the major Asian oil companies: Oil fields in South Sudan are largely owned by the Greater Nile Petroleum Operating Company (GNPOC), a consortium of Chinese, Malaysian, Indian, and Sudanese companies.

You might think that resource wealth would provide a good incentive for better North-South cooperation, but oil not only served to enhance secessionist claims in the first place, both sides are now also taking each other hostage in economic terms. The North is demanding transit fees massively above reasonable market rates for the only export route available.

Oil in the two Sudans

— Existing pipelines
···· Potential pipelines
◼ Oil reserves
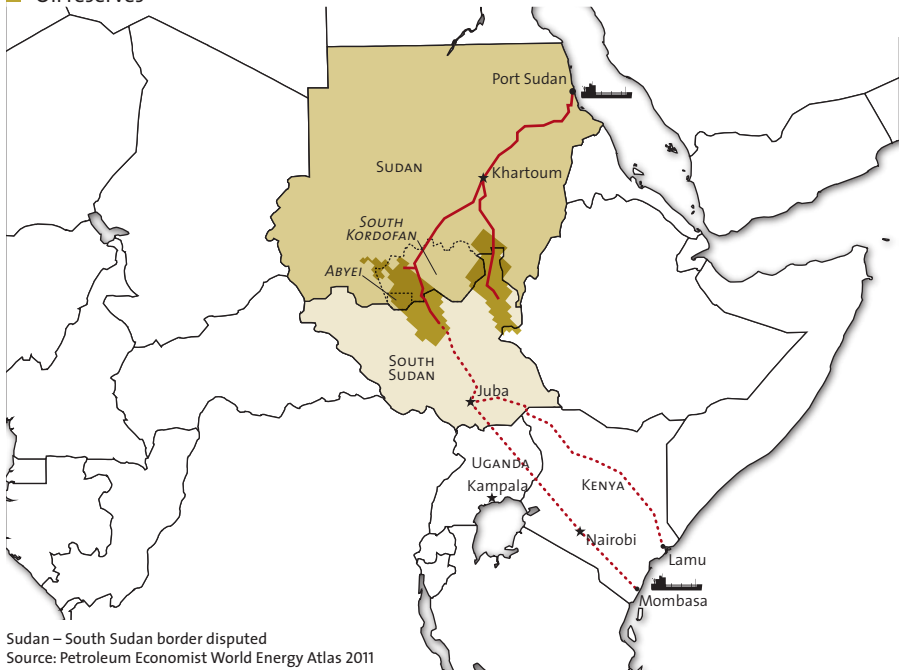
Sudan – South Sudan border disputed
Source: Petroleum Economist World Energy Atlas 2011

But the South is not passively awaiting solutions; it is exploring possibilities to build new pipelines to the Kenyan coast. Even within the so far undefined South-Sudanese borders, the unequal distribution of oil revenue has created tensions across ethnic groups that have to live with the social and environmental downsides of oil extraction, but see little of the benefits.

Meanwhile, new oil finds in Uganda will have to be managed carefully by Kampala. As other African examples have shown, even well-educated labour forces and solid administrative and economic structures can crumble when resource wealth crops up. Corruption needs to be constrained and wealth distributed more equally for Uganda to make the most of its newfound oil.

Apart from being a major incentive for corruption, resource wealth has not only been triggering war, but also directly funding it. Mineral reserves in the DRC are vast, but they have fuelled more conflicts within and beyond its territory than they have attracted FDI. Congo has about 80 per cent of the world's coltan reserves – a rare metal that is crucial for the development of electronic devices. Alas, demand for such a rare commodity has so far translated into widespread environmental degradation pushing aside

agriculture and societal development. As a result, children have been recruited not just for artisanal mining, but also as soldiers to join Mai-Mai rebel groups fighting against external coltan ownership.

Given the large coltan, copper, and timber reserves, international interest in the DRC is as high as governance standards remain low. China's logic is simple: Cheap Chinese labour, producing electronic devices with cheaply extracted African coltan, is the way to keep Western buyers happy and Chinese balance sheets healthy. As the world's largest exporter of small arms, China has not exactly shied away from providing weapons (and cash) in exchange for oil concessions and mining deals in violence-sensitive countries. This is a 'quality' it sadly shares with many Western states, though concealed in China's 'no questions asked' diplomatic approach.

Even if China's approach is questionable, 'resource curse' issues are by no means new. Again, resources do not extract themselves. They are merely enablers of conflict, underpinned by the political agendas of local actors involved. Domestic and international political institutions are vital for determining how resources are extracted and consumed. If host governments fail to ask for favourable terms and

high environmental, social, and governance standards, few international investors will voluntarily provide them. Amid these already dismal conditions, things are also becoming more complex due to the regional dynamics. In large part, this is driven by emerging market investments in extraction and shipping of natural resources. The Chinese – and to a lesser extent other BRICs – are providing critical infrastructure to get resources out of Africa and onto ships. While this serves economic interests in Beijing, regionalised resource extraction is now also intermingling and even supporting regional conflicts. Coltan extraction in the DRC, and the unrest and conflicts around it, have managed to draw in countries like Rwanda, Burundi, Uganda, Chad, and Angola. The same logic also applies to widespread communication technology in Africa; it may have helped to close a global digital gap, but it has also enabled 'bad neighbourhoods' – such as the Great Lakes region – to grow through communication links. The outcome is clear: Resources have gone regional as far as supply chains are concerned, but they have also brought considerable risk, in that conflicts have duly followed.

Ethnic and religious clashes
Rather like resources, a wealth of empirical evidence shows that ethnicity and religion are rarely the roots of conflicts, but different ethnic and religious groups are played off against each other by political leaders to win power struggles at far higher levels. Put bluntly, political leaders strategically use ethno-religious differences to shape the socio-cultural 'reality' of their territory. The best example is probably the Hutu and Tutsi distinction in Burundi and Rwanda, which only became problematic once they were administratively registered by Belgium, and later by the domestic authorities, eventually leading to genocide. In a similar example of using religious means for political ends, Mai-Mai soldiers in eastern Congo, whose spiritual beliefs include the conviction that supernatural powers make them invincible, were used by Kabila to fight Mobutu back in the days. The Mai-Mai has not stopped being a dreaded rebel group since, causing insecurity in eastern Congo.

To find a more recent example of politically 'steered' ethnic violence, wind the clock forward to the Darfur conflict, promoted by Khartoum as an 'African against Arab' issue. Likewise, the differences between the dominant Islamist Northern part of the country and the largely secular South were underscored by political elites to achieve separation. But active armed groups in South Sudan have

now turned the tables and accused the government of scheming against local tribes by refusing to acknowledge their socio-economic rights. Indeed, resulting in the displacement of thousands of people, this has led to intensified inter-ethnic warfare. Politics and power is what sits at the heart of this violence, not so-called ethnic clashes. To underscore the Sudanese case even more, Khartoum has reportedly sponsored organisations reinforcing Islamist uprisings (e.g., in Eritrea, Uganda, and Somalia) but also put its weight behind the non-Arab LRA, which underscores the political – rather than religious – nature of this.

On the face of it, Somalia presents an exception to this rule. Religion has played, and will continue to play, a key role in domestic struggles – albeit marked by Islamic fragmentation. Islamist rebel groups such as al-Shabaab and Hizbul Islam strongly oppose the TFG and Sufi groups (mistakenly seen as an Islamist sect, but really a more moderate dimension of Islam) like Ahlu Sunna wal Jama'a (ASWJ). But when it comes to Somalia, let us not forget that in the absence of nation-wide governance structures, powerful religious leaders invariably replace legitimately endorsed political elites. The country also faces serious conflicts between the autonomous Puntland region and the self-proclaimed independent Somaliland.

Ethno-religious clashes – whether politically steered or not – also have a relatively high risk of spillover and thus, regional disruption. For Somalia, this has become all the more true now that al-Shabaab has been formally endorsed by al-Qaeda. Yet, on closer inspection, the 'ethnic' argument does not hold on a regional level. The LRA originated as a self-proclaimed ethnic movement in Uganda. The rebels declared that their aim was to protect the Acholi community in the north against Museveni's centrist policies and arms. But what *might* have been true of the 1980s, has been transformed into rebels without a credible ethnic cause who merely plunder, rape, and kill, everywhere but in Uganda. They have been active in the CAR, the DRC, and South Sudan, moving effortlessly across borders, reaching further and further into the respective countries, especially the DRC.

The 'ethnic' argument does not hold on a regional level

This is problematic for the DRC, not least because it has more than enough of its own rebel groups to deal with – most of which fight the government or each other, or resort to plundering the population. The best-known

examples are the Enyele fighters in the north-western province of Equateur, the Democratic Forces for the Liberation of Rwanda (FDLR), and the Mai-Mai rebels in the eastern provinces of Kivu and Orientale. Despite the presence of MONUC and the Congolese Armed Forces (FARDC), these groups so far have proven unstoppable – endangering security not only in the DRC, but also across neighbouring countries. Yet, the common factor accounting both for the longevity and lethality of these groups in the DRC, Uganda, Somalia, and Sudan is not ethnicity or religion, but politics.

Political elites

Conflicts do not emerge solely due to the existence of natural resources or of ethno-religious fault lines. These are mere facilitators, used to conceal the cause of most conflicts: politics. 'Bad neighbourhoods' hardly ever have good leadership. The likes of Kabila and Museveni often leave little room for democracy and economic growth. Post-electoral battles have underscored the 'true' meaning of the word democracy in the Democratic Republic of Congo: retaining power at all costs. Like Kenya, where Odinga might not have a smooth electoral ride this year with secessionist claims popping up on the coastline, the DRC is definitely one to watch in 2012 for future conflict.

Somalia is even more worrying. The internationally recognised TFG is fighting al-Shabaab on its territory, but has achieved remarkably little in terms of stability since taking office. Domestic clashes and subsequent regional shockwaves would hardly come as a shock after the August elections – assuming they actually happen in the first place. The TFG's premature claim to another three years in office – not much to the liking of al-Shabaab – is bound to provoke violent reactions within and beyond the country's boundaries. On a more general level, and beyond al-Shabaab, the real problem is that Sharif's leadership has been weak and corrupt, and most importantly, endeavours to forcefully centralise a state that in essence embodies a collection of clans. Bypassing local leadership obviously does not sit well with local grassroots movements. This has turned Somalia into a fragmented 'centre versus clan' battlefield, rendering the country increasingly dysfunctional. This does not imply a state of anarchy. In fact, local clans are organised very strongly, but at a national level these distinct pieces are becoming almost impossible to pull together. Little surprise that high-return 'careers' in piracy continue to flourish in Somalia, with many regional authorities accepting money to turn a blind eye to such

activities. Piracy has hit not only the Gulf of Aden, but attacks have been registered along the Kenyan and Tanzanian coastlines, many miles out into the Indian Ocean – and on some accounts, even as far as the Seychelles.

'Conflict resolution' in Sudan will be delayed by resource questions and ethnic uprisings, but the key problem lies with political desires for pieces of territory. Omar al-Bashir is yet another example of corrupt leadership suffering from 'land lust'. Secessionist movements in South Sudan and Somaliland have demanded independence, again resulting in societal insecurity caused by political desires. But as South Sudanese independence disposed of the common (northern) enemy, the old internal fault lines become more apparent. The mosaic of ethnic communities in South Sudan, where militias are still being ideologically fed and kept alive by local leaders, now needs good governance at multiple levels. Local dynamics beyond Juba are essential to the new-born country's resource-rich soil, but the ruling Sudan People's Liberation Movement (SPLM) has established its territorial presence, and it refuses to jeopardise individual power and money for a more decentralised state structure.

The Middle and the Horn of Africa: Countries in comparison

Country	Population (million)	Real growth rate (%)	People in poverty (%)*	Corruption Perception Index**
Burundi	10,2	4.2	81	172
CAR	5,0	4.1	62.8	154
Chad	10,8	2.5	NA	168
DRC	71,7	6.5	59.2	168
Ethiopia	90,9	7.4	39	120
Kenya	41,1	5.3	19.7	154
Rwanda	11,4	7	76.8	46
Somalia	9,9	2.6	NA	182
South Sudan	8,2	NA	NA	NA
Sudan	36,8	-0.2	NA	177
Uganda	34,6	6.4	28.7	143

*   Less than US$ 1.25 per day
** Rank out of 182 countries

Sources: Transparency International, UNDP, CIA World Factbook 2011

The crucial problem is that while key facilitators of conflict in Central and Eastern Africa are increasingly regional, the political elites on all levels still work from a national basis. Self-regarding policies reflect little concern for the security situation in remote regions on their own territories, let alone for what happens beyond national borders. As noted, the LRA is not about domestic ethnic issues, but about regional politics. The Armed Forces of Uganda are probably the only army in the region capable of stopping Kony's rampage across DRC, CAR, and South Sudanese borders. But with the LRA no longer on Ugandan soil, Museveni has lost interest in providing troop contributions to help solve the matter.

Meanwhile, tensions between Chad and Sudan over supporting rebel groups across borders have eased, but only because it suited new political priorities, not because of changed interaction between different ethnic groups. In light of recent elections and South Sudanese independence, it seemed like a good idea to adhere to the Joint Border Force established in 2010. To achieve an agreement on the North-South divide, the goodwill of oil companies, local communities, and the governments involved will be vital. But so far, pipeline politics have hampered stability, harmed economic development, and halted peace talks. Add to this the endemic border disputes and a failed Comprehensive Peace Agreement, and it becomes clear that independence is by no means a fast track to a war-free neighbourhood.

The overall upshot is that conflicts in Central and Eastern Africa are complex. While a toxic mix of resources, supposed ethno-religious divisions, and weak governance, they are invariably driven by political elites with ignitable political agendas. This explosive assortment of political desires and regional volatility is at the core of Central and East Africa's problems, but it is also where some of the most crucial solutions can be found in terms of pan-African and international initiatives to stabilise the region.

The multiple responses to African conflicts

If the causes are complex, what about the solutions? Just how regional are African and international responses to conflicts in the Middle and the Horn? Getting African leaders to sit around a table together is one thing, but how actively do they really prevent conflict across their borders? Answers to these questions are critically important, not least because they highlight the regional and international voids affecting peacekeeping

and conflict resolution in the region. Getting such policies right is all the more imperative with new actors appearing on the scene, most notably China. Beijing has a big interest in natural resources, but less so in peace and security. We look at this inflammable mix below.

African institutions

Sitting around collective tables seems to be popular in Africa; cross-border peacekeeping institutions have seen nearly as rapid a rise as the number of members signed up for a seat. At least on paper, things look good. Among pan-African initiatives, the African Union, managing to delegate peace and security tasks within the contours of the AU Commission, is proclaimed to be the most important development over the past ten years. An adjoining Peace and Security Council (PSC) – based in Addis Ababa – was set up in 2004, which (in theory) is responsible for early warning and prompt responses to emerging crises. The Continental Early Warning System (CEWS) was established to gather information on crises, and to offer advice on the appropriate response.

Building a functioning peace and security architecture obviously takes time, but after ten years of AU existence, the actual outputs have been meagre. Preventing conflicts has not been part of the equation, and even where the Union has acted, it has been as feeble as it has been selective. PSC has supported military 'action' in Sudan and Somalia, but entirely ignored violence in northern Uganda and in parts of Ethiopia. A major recent challenge has been to diversify regional approaches and to clarify institutional competences to avoid overlap. The CEWS, for example, has struggled to clarify its relationships with regional early warning mechanisms such as the Intergovernmental Authority for Development's Conflict Early Warning and Response mechanism (CEWARN) for East Africa and the ECOWAS Warning and Response Network (ECOWARN) in West Africa. Whereas its task delineation and operational practices are increasingly defined through data analysis and advisory services, its link with the PSC and regional efforts remains underdeveloped and blurry.

Some evidence of sub-continental regional thinking can, however, be found in the creation of the African Standby Force, based on five regional brigades of roughly 4,300 troops. Although the Eastern Force (EASBRIG) managed to complete more military-technical adaptation than the Central Force (FOMAC), it is highly unlikely that either of them will reach agreed targets in time. More worryingly,

behind this regional discourse sits a traditional problem: The actual output of these brigades rests in the hands of a collection of political elites. 'Actions speak louder than words' seems to be an alien expression to politicians involved, with predictable operational results: a lack of continuity, problems of interoperability, absence of a common doctrine, and insufficient logistics. Too often, illusory political engagement fails to translate into actual deployment. The establishment of the so-called Panel of the Wise at first seemed a step in the right direction, but without sufficient financial resources, their mediation and reconciliation efforts remain nothing more than good intentions.

On the regional level, we can see a similar institutional story. In Central Africa, the Economic Community of Central African States (ECCAS) – with the blessing of the AU and the EU – has been given the task of dealing with peace and security in the region. With a formal architecture established, ECCAS once again looks reasonable on paper. A Peace and Security Council for Central Africa (COPAX) with regional headquarters was established. But the lack of political will and support has seriously hampered the actual functioning of the structure. Leaders have refrained from providing financial and political support to ECCAS, while preferring old-school bilateral relations. Mutual suspicion and domestic corruption do not help; most African states are keeping a closer eye on their direct neighbours rather than making serious ECCAS contributions.

The analytical point is clear: African security institutions look good on paper, but perform poorly in practice. Inadequate political (and therefore financial) support kills any organisation in the long run. Data collection has been hindered by most of the governments involved, and the sovereignty question provides an excellent excuse to guarantee the continuity of incumbent regimes. Security institutions arguably exist largely as a good rapport to ease external donors, and uphold governments in power. When peace talks do take place, political elites and leaders of armed divisions make sure they get the best seats at the negotiation table.

African security institutions look good on paper

Actions from Africa and the West
These points are not raised merely to criticise institutions, but to highlight the major challenges they face. Few can doubt that institutions have tried to become regional players, but cross-border actions remain the

exception rather than the rule due to the political constraints involved. AU initiatives to tackle the LRA never progressed beyond the operational planning stage, not least because external international support remained limited. The international dimension here is important, as it remains the larger operational presence. Pacification efforts are almost never entirely African, nor entirely external. Many African governments have been involved in UN peacemaking negotiations on a political level, just as UN operations on African soil have deployed African troops or experts. If anything, UN and other non-African operations are larger than those launched by Africans themselves. African initiatives under the AU or the Southern African Development Community (SADC) have indeed been more selective and politically driven, but the geopolitical division of labour between international and regional institutions seems obvious.

The bottom line is that the AU deploys troops to failed states where Western troops fear to go. Darfur and Somalia are telling examples. AMISOM, the African Union Mission in Somalia, is mandated to manage the security situation in the country, support peace, and assist the TFG. Its mission is to prepare conditions in Somalia for UN deployments to *one day* replace AMI-SOM. As the main troop contributor to AMISOM, Uganda has been declared a target of al-Shabaab, a declaration that has proven to be more than a mere threat. No Western government has dared to seriously cross the 'Mogadishu line' since the failure of US operations in 1993. Anti-piracy measures have remained a maritime affair, with no real consideration of 'boots on the ground'. Reducing the influence of al-Shabaab is also a hands-off political issue; the US only employs counter-terrorist measures when it believes national security interests to be at stake.

Indeed, the bulk of US engagement is actually conducted through private actors such as advisors from the Washington-based Bancroft Global Development, a private military company that is following up developments in Mogadishu. The EU also prefers watching the race from the side-lines. The EU Training Mission (EUTM) of Somali soldiers supports AMISOM and is admittedly a good effort to provide much-needed skills to Somali platoons. But the training – conducted in cooperation with the Uganda People's Defence Force (UPDF) – provides a dwarf-size solution to a giant problem. It is also based in the Bihanga training camp in Uganda, about 2,000 kilometres from Mogadishu. Unsurprisingly, there is

little control over the troops after they return to their capital, except for the wages they receive if they remain faithful to their assigned platoon. These wages are paid from American and Italian budgets, channelled through international accountants over a UN monitoring group in Kenya into the hands of the TFG. And this is only one thread of the web. Although AMISOM has strengthened the TFG to gain ground in Mogadishu, the government's overall military prospects are weakening. This gives the likes of al-Shabaab more room to manoeuvre, which allows famine to thrive in large parts of the country while keeping many humanitarian actors out.

Similar lessons should already have been learned from Darfur. The AU Mission (AMIS) completely failed to contain regional violence before giving way to a far larger and more capable hybrid AU/UN peacekeeping force, UNAMID. Unfortunately, the time gap between the suggestion for a UN force and the actual launch of the mission in 2007 provided a window of opportunity for the conflict to escalate, taking on dreadful proportions along the borders with Chad and the CAR. In South Sudan, the UN mission launched at the time of independence (UNMIS) has been preoccupied with investigating large-scale killings rather than tending to its core tasks: peace-

keeping and state-building. Whether this has been due to a lack of international political willingness or to operational delays on the side of the UN is debatable, but the end result has been widespread instability at enormous human cost.

In more general terms, the problems undermining peacekeeping missions are many, ranging from budgetary and operational deficiencies to lack of control and political will. MONUC personnel allegedly even have become involved in atrocities in the eastern DRC themselves. Despite some operational successes, this mission still lacks legitimacy with the Congolese people, not least because MONUC peacekeepers have supposedly been busy closing gold deals with Congolese, Kenyan, and Indian merchants rather than protecting Congolese civilians. An additional problem is the fact that Kinshasa plays host to a wide range of governments and international organisations, all trying to achieve different ends with different means. Indeed, conflicting actions of stakeholders in theatre have often produced nothing more than a policy mess. In the DRC, contradictions among the bilateral policies of France, the UK, and the US, and those of international organisations such the EU's ongoing CSDP missions serve as a case in point.

Given the complexity and enormity of the DRC, much of this is understandable, and other examples of where engagement has been more effective and harmonious do exist. European SSR projects in Burundi have achieved positive results, albeit at a slow pace. Various governments – mainly the Dutch, Belgian, and German – in cooperation with the European Commission have shown exceptional coherence to their approach. Putting aside French military preferences on police reform, a common strategy has been agreed whereby separate actions complement rather than contradict each other. Implementation has gone well, precisely because the generic nature of the programmes has left the main responsibility for ongoing collaboration in Burundi's hands.

The difficulty in Africa is that such success stories are very difficult to 'copy-paste' from one conflict to another, and as leading Africa scholar Paul D. Williams has pointed out, in most cases, 'African ownership will continue to be a politically correct but practically flawed idea'. Congolese ownership for example, has by no means led to similar results, and with conflict spillover prevalent in the region, small successes in a country like Burundi are endangered by what happens across its borders. Regional dynamics are subject to the sheer complexity of the problem, with armed gangs operating with different weaponries and methods across borders. That is problematic, precisely because peacekeeping efforts and mandates are inherently country-specific (or

International deployment in the Middle and the Horn of Africa

UN	**29,886**
- MONUSCO (DRC)	20,046
- UNISFA (Sudan)	3,823
- UNMISS (South Sudan)	6,017
AU	**9,849**
- AMISOM (Somalia)	9,849
Hybrid AU/UN	**24,422**
- UNAMID (Darfur)	24,422
EU	**1,051**
- EUTM (for Somalia)	130
- EU NAVFOR Somalia Atalanta	771
- EUPOL DRC	57
- EUSEC DRC	93
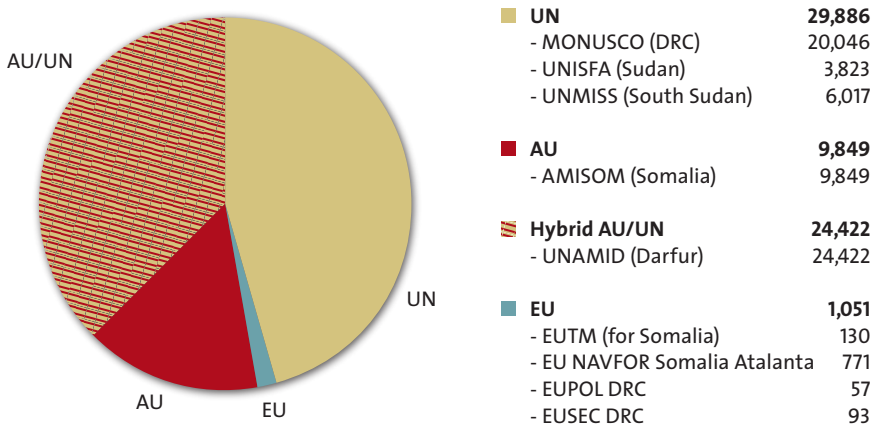
Sources: EU, UN, AU, mid-February 2012

sub-national), whereas conflicts travel across borders. The fact that the UN has recently recognised the cross-border nature of troubles in Sudan, Uganda, the DRC, and the CAR is a start, but serious regional actions should now follow for it to mean anything in theatre.

The seemingly invincible nature of the LRA provides a telling regional example. With the US-backed operation Lightning Thunder having failed to eliminate the LRA, MONUSCO (the DRC), UNMISS (South Sudan), and BINUCA (the CAR) *should* now all pool efforts and resources to chase the LRA where it is still active. As an AU mission under a UN mandate, this would provide greater legitimacy for actions, as well as putting renewed pressure on Kampala to engage forces. But even here, Congolese political concerns about resource-related intentions of the Ugandan forces on its soil have created high levels of distrust between governing elites. The results are increased secrecy, obstructed access for Ugandans to some areas, and information-sharing failures at the Joint Intelligence and Operation Centre in Dungu. This, in turn, has undermined CAR-Uganda relations to the point where the CAR and the DRC have asked the UPDF to leave. The depressing outcome is that an increasingly fractured and dysfunc-tional LRA still pursues its destructive path. Civilians across the DRC-CAR-South Sudan border continue to suffer from its violence. More international engagement and better regional cooperation could easily dispose of Kony and the LRA; until that happens, expect the violence to continue.

China's resource interests

Opposing messages of trade and resource extraction hamper international coherence even more. Although China continues to increase its troop contributions to UN peacekeeping, its trade policy is still far away from meeting international standards. Chinese resource-grabs more often than not turn a blind eye to undemocratic and corrupt political practices. Using the principle of 'non-intervention' to their advantage, the Chinese proudly declare their adaptability to the political culture of those they negotiate resource deals with. Democracy and transparent governance are not part of the script. Although Beijing cannot be accused of 'exporting conflict' to Africa, the fact that China is willing to take on far higher levels of political risk than Western counterparts shows why conflict is 'good' for Chinese business to some degree. If nothing else, it gives Chinese firms a comparative advantage when entering resource-rich conflict zones.

In that sense, Africa is becoming a level playing field to assess the limits of (profitable) conflict. The 'win-win' approach the Chinese claim to have is in fact Janus-faced: While using the positive image of South-South cooperation to assuage international (development) critics, it disproportionately benefits African elites. Resource-rich and governance-poor go hand in hand in the world of African corruption: Only a very small part of the Chinese investment actually improves the life of the average African civilian. It could even be argued that Chinese labour shipped directly to Africa has actually increased unemployment and poverty. Chinese engagement in East Congo has even pushed young locals to join the Mai-Mai rebels in search of a livelihood. China's non-interference policy might be acceptable in theory, but it has caused enormous difficulties in practice, particularly when resource wealth, weapons, and politics collide (see also Chapter 1 in this publication).

Africa's sore spot demands rapid regional remedies

What has been shown is that conflicts in Central and East Africa represent complex problems with multiple causalities and stakeholders. Resource-related and ethno-religious dynamics have in many cases facilitated regional spillover of such conflicts, but the core problem lies with bad governance and harmful politics. African responses have improved in terms of regional and pan-African responses on paper, but they have rarely (if ever) delivered effective regional solutions in practice.

Corruption, violent domestic circumstances, secret data gathering, mutual distrust, and obscure resource deals have all made effective regional coordination impossible. Even when international actors have been involved, the UN has more often than not failed to get African players to cooperate better. Although efforts have been made, Europe's mark in Africa has been weak, while the US has sent contradictory messages. For all the investments China has made in Africa, the most important one of all, 'good governance', has been lacking when it comes to natural resource management. If any of these problems are to be resolved, international and African efforts have to be far more closely aligned to facilitate regional responses to regional problems. That applies as much to the peace and security infrastructure as it does to resource extraction and transportation. It is the only way to contain – and even more crucially, prevent – future conflicts within and beyond the Middle and Horn of Africa.

Into 2012, major concerns need to be raised as to whether broader

global unrest as seen in the MENA region will affect security in the rest of Africa. Should the revolutionary wave engulf sub-Saharan Africa, we can expect to see nation-wide and regional anti-government uprisings with severe violence. A dangerous mix of multiple stakeholders, corrupt resource deals, dispersed rebel groups, and weak governance in an increasingly regionalised game is far from promising for conflict resolution. With regional conflicts more and more facilitated by modern communication and Chinese infrastructure, potential regional violence below the Sahara is likely to adopt dreadful proportions.

Unemployed miners in the DRC, militias trapped in the 'wrong Sudan', Somali men choosing the piracy path, and anti-government rebels in Kenya have more than enough domestic frustrations to be protesting against corrupt and ineffective governments. But even more worrying is that what might initially appear to be cohesive anti-government movements will likely fracture and split, adding to further unrest and instability. Uncontainable conflict could be the result, particularly as international peacekeeping capabilities grow short of cash. There are too many fires, and not enough money to put an end to current conflicts. With Western politicians transfixed with the financial crisis and Asian powers unable (or unwilling) to fill the gaps, it is unlikely that anyone will come to the Middle or the Horn's rescue if new crises break out. This means serious governance work needs to start, and it has to start now. Africa cannot wait any longer. ●

Unconventional resources: The shifting geographies and geopolitics of energy

Jonas Grätz

The emergence of unconventional oil and gas marks a break with several established trends in energy supply. Due to their geographic location, unconventional resources contribute to supply diversity rather than concentration. Their production is driven much more by economics than politics. They also reduce the import dependence of some consumers, especially the US. Owing to domestic constraints, the EU has seized the new opportunities far less than the US and China so far. But as unconventionals reinforce global markets, they work to the advantage of all consumers in energy geopolitics.

US President Barack Obama delivers remarks in Las Vegas on American energy and liquefied gas, 26 January 2012

There are some constants in the increasingly complex global energy system. There is little doubt, for example, that the Middle East will remain the world's most important oil-producing region. But there is also change in the offing. Technological improvements, in conjunction with high prices, are sparking a boost of unconventional oil and gas production. The most visible effect of this trend so far has been the reduced import dependence of the world's foremost petroleum consumer, the US. In addition, unconventional resources have enhanced the attraction of open market economies, which are otherwise being challenged on many fronts.

High oil prices may have profound negative effects for consumer economies, but they are also instrumental in pushing fossil fuel extraction towards new frontiers. Unconventional resources signify a partial victory of open market economies in an increasingly fierce geo-economic and geopolitical battle with the closed economies of the petro-states that are today's major hydrocarbon producers. While the emergence of unconventional oil is driven mostly by price, unconventional gas extraction was enabled mainly by investment in new technologies. The rise of these technologies highlights the fact that while hydrocarbons may

be ultimately finite, they are still more abundant than previously assumed. Access to energy supplies is thus not a zero-sum game, since high market prices have precipitated investment into technologies and resources that made unconventional supplies available.

Unconventional resources and technological advances change the international politics and geopolitics of energy: Together with 'conversion' alternatives for the supply of liquids, such as coal- and gas-to-liquids, unconventional resources help to feed an increasingly energy-hungry world that has not yet found sufficient alternatives to fossil fuels. What is more, they are found in other geographic regions than conventional reserves. The main political effect is that they enhance the prospects for cooperation of consumers, as they help to undermine the idea of energy supplies being materially highly constrained. In geopolitical terms, energy relations can be envisaged as an ongoing race between 'pipelines' on the one hand, and 'super tankers' on the other. The former represent rigid infrastructural links and can thus be used to segment markets and simultaneously reap geopolitical benefits. They are being advanced by land-based petro-states and embody their vision of a rigid link between supply and demand resting on

a zero-sum concept of finite resources. The latter represent the increased flexibility of world oil and gas markets in the interest of consumers. As unconventional resources break the trend of ever-increasing concentration of supply, they tilt the playing field to the advantage of 'super tankers', disadvantaging 'pipelines'.

However, as the unconventional story unfolds, new policy dilemmas are opening up. Like every industrial activity, extraction of unconventionals has negative effects on the environment. As extraction moves to new countries and regions, and as new technologies are applied, resistance may prove costly to overcome. This is especially relevant as extraction of unconventionals tends to take place in democracies, where negative effects may lead to vocal protest. As a result, domestic politics will become more important as a variable determining the prospects of unconventional supply. Dilemmatic choices will have to be made between reaping the economic and geopolitical benefits of unconventional resources and their effects on the environment and climate change.

This chapter analyses the impact of unconventional resources on global energy supply and the related geopolitical consequences. It will first look at the supply situation and the risks arising from new externalities. It will subsequently examine how the energy market's three main consumers, China, the US, and the EU, are affected by the emergent trend and how each of them is dealing with it. By way of conclusion, the chapter will discuss what the interplay of these actors' strategies implies for geopolitics, global markets, and issues related to the environment and climate change.

The changing landscape of oil and gas supply

Even though the oil price raced to new records during the last decade, oil demand grew by an average of 1.4 per cent annually. Demand growth came primarily from emerging markets in Asia. It signalled to OPEC producers that high price levels could be maintained, as national economies and oil demand grew rapidly in spite of the price. As a result, 2011 was the best year ever for OPEC in terms of revenue, despite (or because of) political tensions in Libya and over Iran.

Investment constraints imposed by governments are a main cause for high prices. Whereas proven oil reserves are currently sufficient to provide the world's needs for more than 40 years, access to investment opportunities is constrained by many net exporting oil producers. The main problem is that the national oil companies

(NOCs) of petro-states hold some 88 per cent of conventional reserves and often do not have the incentives and financial means for sufficient investment. In addition, in many places where investment by traditional international oil companies is possible, the rise of 'resource nationalism' encouraged by rising prices has substantially increased investment risk, as investors face high and volatile taxes and have reasons to fear renegotiation of their contracts and expropriation. Political instability has added further trouble to the investment problem.

Unconventional resources change this picture, as they are available in non-OPEC, open market economies. In essence, they constitute a new frontier of fossil fuel extraction. Oil and gas resources are classified as unconventional if they cannot be produced with the current standard technique of drilling a hole to an underground reservoir in order to release flows of oil or gas. Instead, they may be located

at or near the earth's surface as extra-heavy oil with very high viscosity, or trapped inside rock formations, as in the case of shale gas. Whereas unconventional oil only changes the supply picture, unconventional gas, in line with technological improvements in transportation, is actively transforming gas markets around the world.

Unconventional oil: Propping up and diversifying supply

Unconventional oils like natural bitumen or oil shale have been around for a long time. In many places, they have been extracted and used on a relatively large scale since the 19th century, before drilling technologies to extract oil from deeper subsoil reservoirs had been sufficiently developed. But eventually, when cheap conventional oil arrived, extraction was discontinued in most places because energy costs made unconventional oil extraction unprofitable. Today, oil prices are several times higher than the cost of extracting conventional oil, rendering

Unconventional resources: Geography, geology, technology

Oil sands / natural bitumen / extra-heavy oil	Main resources in Canada (oil sands), Venezuela (extra-heavy oil), Kazakhstan, Russia (oil sands), and the UK (extra-heavy oil, offshore).
	Located at or near surface; basically crude oil that has oxidised in contact with air and where fluid components have evaporated.
	a) Strip mining, steam and hot water treatment to remove bitumen from minerals. Water removal and upgrading of heavy oil mainly using refining technologies. b) Deeper layers: Drilling of injection and recovery wells, steam injection to make bitumen flow. Upgrading as in a).

Oil shale / kerogen oil	Biggest known resources in the US, China, Russia, Congo, Brazil, Italy, Morocco, Jordan, Australia, Estonia, and Canada. Currently, the main producers are Estonia and China. Production in the US under development.
	Located in various shallower depths, also at sea. Hard sedimentary rocks containing organic matter. May contain many valuable minerals. Also mined as a source of cement.
	Strip, open pit, or underground mining; other recovery technologies under development. Oil and gas have to be obtained from rock by pyrolysis at high temperatures (ca. 500° C), but mostly no upgrading needed. Alternative conversion process under development that does not require mining.
Light tight oil	New technology; resource estimates exist only in the US. Further substantial resources are expected to exist in France. Production currently in the US only.
	Located in porous shale formations at depths between 2 and 3km. Light crude oil that can be refined directly.
	Vertical-horizontal drilling and fracturing of the source rock with help of water (or brine) and chemical and mineral additives to keep rock open. Created fissures make the oil flow. Fracturing wells are used to recover the oil.
Shale gas	Spread all over the world, but significant resources in China, the US, Mexico, Argentina, South Africa, Australia, Canada, Libya, Algeria, Brazil, Poland, and France. Production currently in the US and Canada only. Drilling in Poland, Ukraine, and China.
	Located in porous shale formations at depths between 0.5 and 3km. Methane content varies, but the gas can be used without major processing in most cases.
	Same as for light tight oil. Production often yields natural gas liquids as by-products (propane, butane, ethane), which are highly valuable hydrocarbons.
Tight gas	Substantial reserves in the Americas and in Asia. Production for over 40 years in North America, also in Western Europe.
	Same as shale gas, but trapped in impermeable, hard rock.
	As shale gas, but further acidising of the rock needed to dissolve parts of it. Production technologies for tight sands established, not yet fully developed for some other mineral formations.
Coalbed methane / coal seam gas	Big reserves in Eastern Europe, the US, China, Australia – basically, wherever hard coal is produced. Contributes about 10 per cent of US natural gas production.
	Methane that has been adsorbed to coal in underground deposits, lining the inside of pores within the coal. It is a security risk for coal mining.
	Drilling into coal seams and pumping out water to depressurise the coal seam will result in the gas flowing out.
Gas hydrates	Arctic regions, deepwater offshore.
	Ice-like solids formed from water and natural gas in northern regions or deepwater offshore sediments.
	No industrial process currently available. Experimental stage.

unconventional oil production profitable once more. This is supported by substantially improved technologies and cheap natural gas as an energy source for extraction. The long history of natural bitumen and shallow oil shale indicates that it is often technologically easier and less risky to extract than conventional oil. Conversely, the extraction of light tight oil and deeper shale oil formations rests on recent improvements in extraction technology and does not play a significant role yet.

The International Energy Agency estimates potentially recoverable unconventional oil resources to be about 1.5 times larger than remaining conventional proven reserves. In terms of proven reserves, two of the world's top-three oil reserve holders owe their position to unconventional oil. Canada's proven reserves of oil sands turned the country into the world's third-biggest holder of oil reserves. However, traditional petro-states also have a significant share – Venezuelan extra-heavy oil renders the country the second-largest reserve holder. The large and rapid increase in reserves underlines that exploration for oil sands and extra-heavy oil is far easier than for conventional oil, enabling rapid reserve additions, while largely excluding 'surprise' downward or upward revision of reserves. The technological risks associated with extraction are also much

less than, for example, those involved in the case of deep-water drilling or even conventional drilling, since mining takes place at the surface and the respective technologies are well established in North America.

In the near term, non-OPEC supply will benefit most from unconventional oil. In 2010, unconventional oil, mostly from Canada, already contributed to over 3 per cent of global oil supply. Canadian production could be ramped up quickly, if current bottlenecks in transport capacity are removed. Due to the bottlenecks, Canadian oil currently trades at a heavy discount against benchmark crude prices. If the bottlenecks were removed, Canadian oil sands would still be profitable, even if the oil price declined by 40 per cent. Venezuelan extra-heavy oil, meanwhile, is haunted by the same problems as conventional supply: Most Western firms have been barred by Caracas from investing, leaving the spoils to Chinese, Russian, and Indian oil companies with poorer technological capabilities. In addition, Venezuela's fiscal regime is very volatile and prohibitive, slowing the progress of extraction.

As a result, unconventional oil production is set to start off mainly in North America. Its production takes the edge off the current trend towards
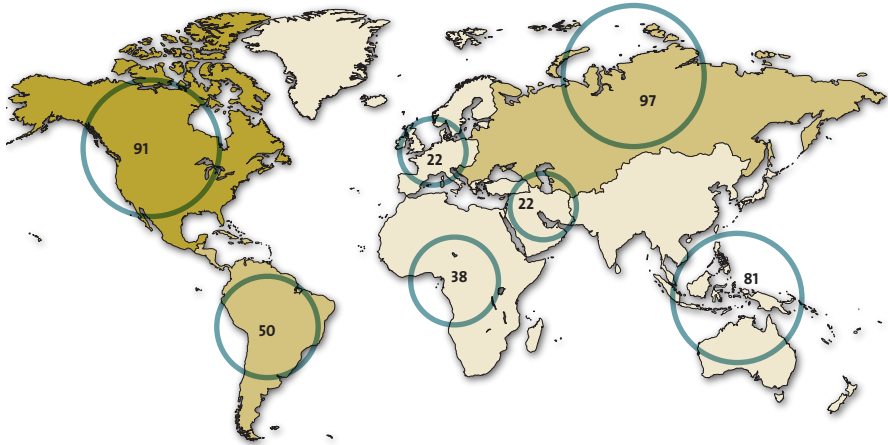
Oil and gas resources

Conventional
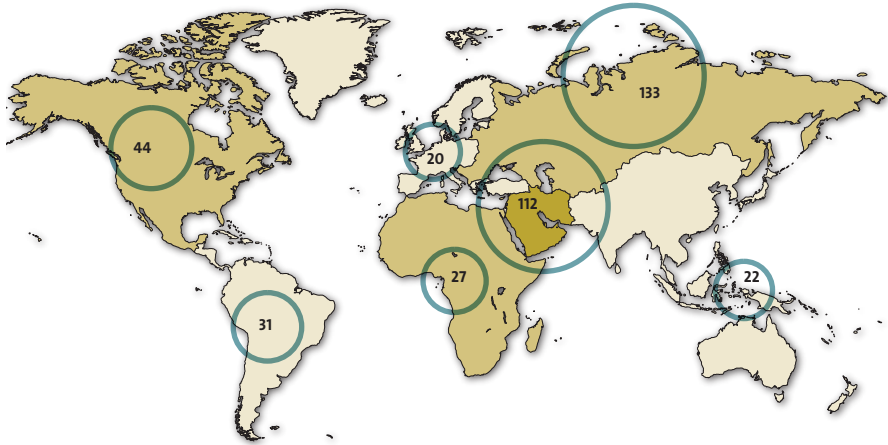
Unconventional

Oil potentially recoverable

◻ < 200 bn barrel
◻ 200 – 1000 bn barrel
◼ > 1000 bn barrel

◯ Gas potentially recoverable
in trillion cubic meters

Source: IEA World Energy Outlook 2011

dependence on a restricted set of suppliers and reduces the petro-power of major supplier states. The relatively improved market position of Western consumers may be used in novel strategies to accommodate new consumers while furthering the own geopolitical standing and reinforcing market openness.

The shale gas revolution

In comparison to the relatively tight oil market, the situation had been more relaxed in the case of natural gas even before unconventional supplies arrived. Known conventional reserves of gas are very large, lasting for more than 50 years at current production. Technically recoverable shale gas resources are estimated to be of a similar

magnitude. If coalbed methane and tight gas are added, the figure doubles again.

Essentially, there were two main problems with natural gas: concentration of reserves and the high costs of gas transportation. Conventional reserves are concentrated in very few big petro-states such as Russia, Iran, and Qatar. In line with high transportation costs, this made organising a world market difficult and led to the development of three main regional markets – the US, East Asian, and European markets. Pipelines were the most important means of transport; only the East Asian market relied on shipped gas to a great extent. Prices vary substantially between these

Projected liquids production (oil and biofuels)

| 2010 | 2020 | 2035 |

5%
95%

8%
92%

12%
88%

Conventional

Unconventional
Canadian oil sands
Venezuelan extra-heavy oil
Biofuels
Non-OECD coal-to-liquids
Other
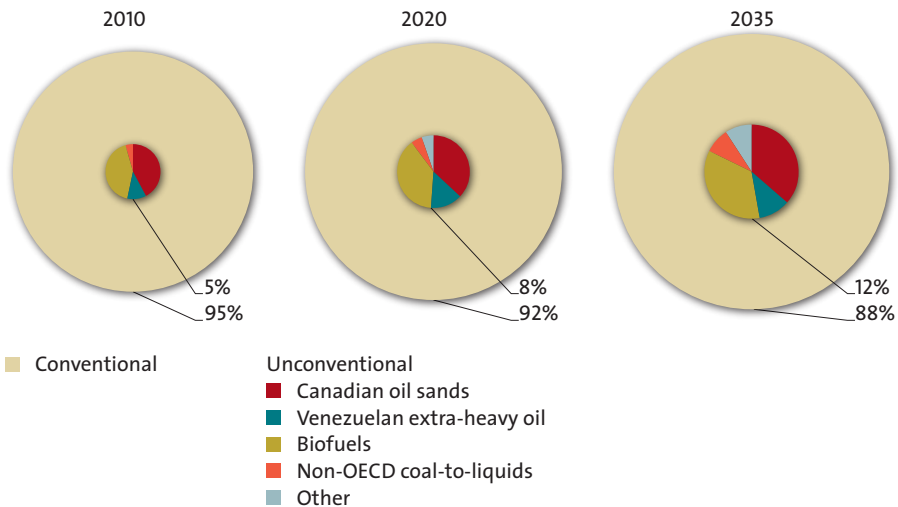
Source: US Energy Information Administration IEO 2011

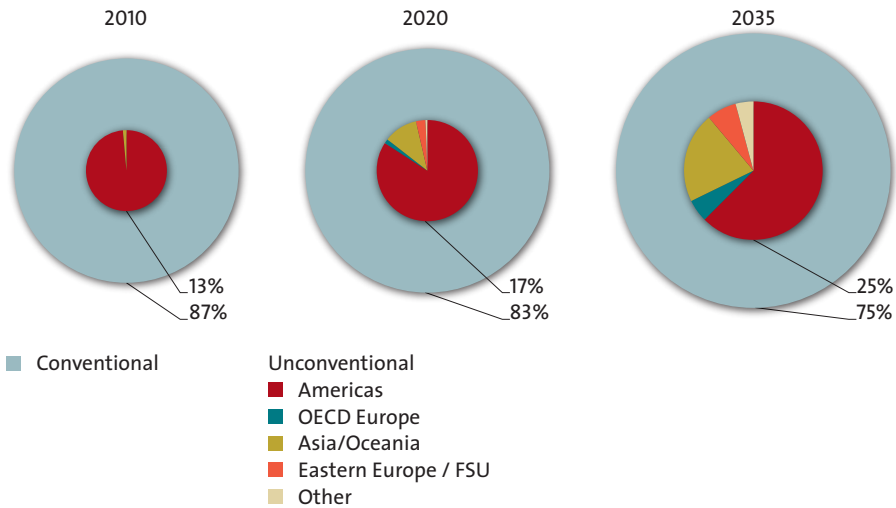markets, with the US paying less than a quarter of what the East Asian economies pay and a third of prices in the EU. The absence of a world market increases the market power of land-based petro-states that are striving to construct rigid producer-consumer relationships in order to extract higher prices and enhance their geopolitical clout.

Meanwhile, technological improvements were the key to resolving both problems. New technologies made unconventional resources accessible and led to a significant reduction in transport costs. In the US, technologies were developed to produce natural gas from the bedrock (shale gas), which is more evenly distributed across the world. At the same time, the cost of transporting 'deep-freezed' liquefied natural gas (LNG) in tankers rather than by rigid pipelines declined substantially due to technological improvements as well, aiding the emergence of a true global gas market. LNG production grew by 8 per cent annually during the last decade, and is set to grow yet faster until 2020. Thus, not only is more gas being extracted from unconventional sources, but it can also be transported far more easily, leading to a reinforcement of energy markets over top-down supply-demand relationships.

The main caveat, currently, is that the exact amount of shale gas reserves is still unknown in many places and

Projected gas production

2010   2020   2035

13%
87%

17%
83%

25%
75%

■ Conventional

Unconventional
■ Americas
■ OECD Europe
■ Asia/Oceania
■ Eastern Europe / FSU
■ Other

Source: US Energy Information Administration IEO 2011

only estimates exist, as the associated exploration risk is higher than in the case of unconventional oil. That said, there are many other sources of natural gas, such as tight gas and coalbed methane, and potentially also gas hydrates. The bottom line is that even with possible downward corrections in recoverable shale gas resources, the unconventional resource base would still be huge.

New policy dilemmas in the making

For all the merits of accessing unconventional resources, both their physical properties and their location also create new policy dilemmas. On the one side, there are positive effects such as higher economic growth, macroeconomic performance, and possible geopolitical advantages. On the other side, there are concerns about the extraction of unconventional resources because of environmental and climate change considerations.

Concerns of local environmental degradation have been voiced against the mining of Canadian oil sands, which has destroyed large areas of woodland that have to be reforested after mining. In the case of shale gas and light tight oil, natural gas or liquids have to be freed from the mother rock. To accomplish this, the shale rocks are fractured in a 'fracking' process, in which the shale is broken up by a mixture of water, sand, and a small amount of chemicals. The resulting fissures then allow the hydrocarbons to escape. The concerns are that pollutants diffuse into the groundwater, and that wastewater disposal is not safe. Other concerns relate to transportation safety in the case of oil transport via pipelines and tankers. While these are not new issues, unconventional projects often require new routes to markets, which makes them vulnerable to local opposition. High water usage has also been used as an argument against both oil sands and shale gas extraction, but technologies have been developed to use wastewater and even the reject brine of water desalination plants in fracking, substantially reducing the amount of required freshwater.

As for concerns over climate change, they are not so much advanced against the production of unconventional gas, as this is the cleanest of fossil fuels. Rather, they have been voiced against the development of unconventional oil, which usually requires more energy than conventional oil production. This may result in higher CO_2 emissions of the fuel on a 'well-to-wheel' basis, if no CO_2-neutral energy source is used for their extraction. In the absence of a global CO_2 price or any global framework for reducing greenhouse gas emissions, some consumer governments may choose to ban such

energy resources from their markets. This action will fall short of stopping the unconventional push, however. With an international oil market and no global accord on climate change, there will always be a buyer for unconventional crude. Producer governments have made it clear for their part that climate change concerns should not compromise their status as producers.

This indicates that the handling of these policy dilemmas is largely a question of the country's economic position in the global energy markets and its political system. Whereas the first factor results in various degrees of preference towards the development of unconventional resources, the latter may moderate the costs of overcoming local or nation-wide opposition. It will thus be a matter of domestic politics how these dilemmas are handled.

Divergent positions, divergent responses: The main consumers

The policy choices of the main consumers will have a decisive impact on the utilisation of the options and opportunities opened up by unconventionals. The policy dilemmas outlined above serve as a reminder that unconventional resources are unlikely to be embraced without compunction by all players. Also, petro-states will not like the prospect of unconventional resources gaining a greater market share.

Therefore, it will be crucial how the states and economic blocs manage the economic and geopolitical opportunities as well as the environmental, social, and climate change risks of unconventional resources. This section serves to highlight the different needs of the three main players – China, the US, and the EU – and how they deal with the set of policy options opened up by unconventional resources.

China: New reasons to trust the market

China is determined to reap the benefits from unconventional resources, as its rapid economic growth will make the world's largest energy and second-largest oil consumer even more dependent on oil and gas. Unconventional resources will decelerate the growing import dependence of the country and will reduce the impetus for military spending related to energy security. By diversifying its suppliers, Beijing will have more incentives to embrace open global markets rather than establish rigid relationships with petro-states.

Unconventional resources are a welcome addition to China's energy equation. In particular, China possesses significant shale gas reserves, which may alleviate the need for imports and could give natural gas a larger role in energy supply. China

used to be self-sufficient for almost 90 per cent of its energy needs, but its exposure to world energy markets is set to grow rapidly. In particular, rising living standards and corresponding transport needs are causing oil to gain ground against coal as China's prime energy source. Oil consumption already doubled during the 2000s, with China importing more than half of its needs. While the other, more developed players have the option of using demand-side policies to moderate import dependence, China's low current per-capita consumption level leaves no room for policies clamping down on individual consumption. Also, for the government, economic development is clearly more important than mitigating climate change or even environmental protection, as job creation is Beijing's key to quell social unrest that could loosen the Communist Party's hold on power.

Energy consumption profiles: China, US, EU compared
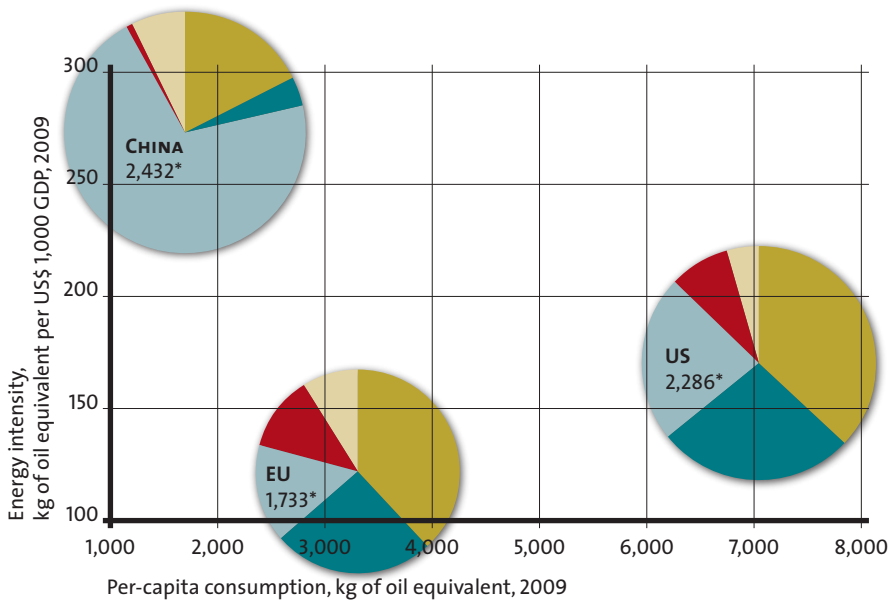
* Primary energy consumption, million ton of oil equivalent, 2010
Share of:

- Oil
- Gas
- Coal
- Nuclear
- Renewables/hydro

Sources: World Bank WDI, BP Statistical Review of World Energy 2011

The impact of unconventional resources has been felt clearly in the strategy of China's national oil companies. Originally, China's three NOCs (Sinopec, CNPC, and CNOOC) went on a conventional oil reserve acquisition spree in Africa, Central Asia, and Latin America. They were encouraged by the state's mercantilist 'going abroad' policy and have been backed by state diplomacy, which has brokered package deals that often tie future oil supply to arms sales or huge loans. This strategy was essentially aimed at cementing exclusive relationships with petro-states, which is most visible in the pipelines securing land-based oil supplies from Russia and Kazakhstan, and in the huge loan-for-oil deals with Venezuela. But as unconventional resources took off in North America, a new dimension of the 'going abroad' policy emerged: Chinese companies would now invest in firms developing unconventional resources in open market economies such as the US and Canada. Here, the goal of forming networks with industry peers and obtaining new technical capabilities came to the forefront: China does not necessarily want to turn a direct profit from these acquisitions, but seeks to acquire the technology for shale gas development. This may enable China to develop its own ample shale gas resources without having to open up substantially to Western oil and gas producers. Chinese investments into Canada's unconventional oil sands have an even greater dimension. Here, Chinese companies invested more than US$ 16 billion in 2010 and 2011 alone, while Beijing has been pressing Ottawa for the rapid construction of a new pipeline to the Pacific.

Geopolitically, the advent of unconventional oil helps China to diversify suppliers and supply routes, enhancing the country's stakes in a global oil market. So far, just under 40 per cent of Chinese oil imports have been sourced from the Middle East, passing through the Strait of Hormuz, and about three quarters of imports have to pass through the Strait of Malacca. This has been an argument in favour of those forces inside China making the case for the build-up of naval capabilities. China's rapid boosting of such capabilities, meanwhile, has caused alarm bells to ring across Southeast Asia and India and has sparked fears about a regional naval arms race (see Chapter 1 in this publication). When considering China's high dependence on these main choke points and the far-ranging geopolitical ambitions of another possible supplier, the Russian petro-state in the north, Beijing's interest in Canadian oil sands makes perfect sense geopolitically. Canada can export directly from its Pacific coast to the East China Sea – an option that

none of the other major oil exporters has. The currently proposed pipeline to the Pacific has a capacity of more than 10 per cent of Chinese import demand. Diversification into Canadian oil sands with a pipeline connection to the Pacific will thus somewhat cushion the increasing salience of Middle Eastern exporters and choke points. Justifying the creation of a capable blue-water navy with oil supply security may become more difficult as a result.

Meanwhile, both the 'shale gas revolution' in the US and significant prospects for an indigenous shale gas industry have also strengthened Beijing's hand when dealing with Moscow over gas supplies. Whereas an agreement between China and Russia seemed imminent throughout the 2000s, the two sides are now as far away as ever on price. In view of a buyers' LNG market and its recent acquisition of shale gas technology, China can relax and keep negotiating for a better deal with Moscow. The prospect of cheap LNG coming from a variety of sources in Australia, the Middle East, and North America is significantly reducing the attractiveness of a Russian pipeline-reinforced bear-hug for China. As a result, Moscow's formula combining geo-economics and geopolitical clout in the form of rigid relationships backed up with pipeline infrastructure is losing attraction not only

in China, but also in Europe, where Russia has tried to evoke the chimera of increased competition from Asia to market its model.

Environmental or local pollution concerns do not stand in the way of shale gas development in China. The environmental concerns voiced towards shale gas are minor compared with the pressing problem of local pollution from coal. Natural gas will thus be seen as a relief, especially in the industrialised east. With restrictions on the freedom of association and the press, local resistance to unconventional extraction projects will not arise as easily as in the US or Europe. By the same token, land ownership will not constitute a significant obstacle, as the government can easily expropriate land for development purposes.

Likewise, climate change concerns will not reduce the prospects of unconventional oil in China. The higher lifecycle CO_2 emissions of unconventional fuels are not an obstacle for the world's biggest emitter of CO_2. China is unlikely to take on binding emission targets, which would hamper economic development and might be very difficult to implement. Instead, Chinese leaders have announced a voluntary plan to reduce the CO_2 *intensity* of production by 40 to 45 per cent in comparison to the 2005 level.

While investments into renewables are impressive, the track record for energy efficiency has not been encouraging, as China fell short of meeting its previous targets to reduce energy intensity.

Beijing's mercantilist strategy is geared towards preparing fallback options for the case of a breakdown of the oil market. At the same time, China is exploiting the advantages of the global market that is instrumental in rapidly sourcing energy flows and new technologies. The problem in this regard is that government-to-government deals with petro-states, the moves to strengthen naval capability, and China's programme to build a large state-owned tanker fleet all make a market breakdown more likely. The direct fusion of state and economic power is very flexible, but it serves to undermine market confidence. The advent of unconventional resources may enlarge the Chinese stakes in a global and open, and not just regional, oil and gas market, thereby limiting the importance of rigid and fragmented relationships with a few suppliers. It also reduces both the likelihood that China will enter into a broad alliance with Russia and the salience of Iranian oil supplies to China.

The US: Gaining leverage

North America is the birthplace of the unconventional revolution. In particular, US producers currently have a monopoly on the technology for shale gas extraction, whereas Canadian firms lead in oil sands. The technology to extract kerogen oil without mining is also being developed in the US. This is the result of a nation with a traditionally strong domestic petroleum industry with many small competing producers and a stable regulatory framework geared mainly towards making new supplies available rather than constraining demand. The US has also been quick to convert its new advantages into geopolitical clout.

In line with the advent of unconventional resources, the role of the US in global energy markets is changing rapidly. Traditionally, it has been the largest oil consumer and second-largest importer, while its hunger for oil per capita has been the world's highest. Since the mid-1980s, a trend of ever-increasing dependence on imports seemed to continue unabated, rising to a level above half of oil consumption in the 2000s. But recently, the trend of increasing imports has been reversed, with oil imports accounting for only 45 per cent of consumption in 2011. Natural gas imports declined as well, counter to the trend that had been anticipated during the 2000s, accounting for only 12 per cent of demand. While oil demand reduc-

tion helped in bringing about this favourable picture, increased production of light tight oil, shale and tight gas, as well as natural gas liquids from shale was key. Further contributions were made by the US's sizable, but subsidised, biofuels industry. Due to the advent of unconventional resources, the US will become even less dependent on oil imports and is likely to become a net exporter of natural gas. Future overall energy import dependence is set to further diminish from a currently low level of 22 per cent.

Enabled by the availability of oil sands in nearby Canada, the oil import picture has changed a lot, too. In line with growing demand from Asia, the US reduced its take on Middle Eastern oil. As of 2011, more than 85 per cent of the oil that was transported through the world's main choke point, the Strait of Hormuz, was bound for China, India, and other Asian nations, whereas the US sourced its oil mainly from North America and North Africa. Nowadays, Canada is the biggest foreign supplier of the US, followed by Saudi Arabia and Nigeria.

The current trend of decreasing US reliance on imports has been seen as favouring those forces inside the US pushing for 'energy independence'. In 'grand strategy' terms, this lines up with isolationist stances and with those

favouring a strategy of 'offshore balancing' in times of declining US power or even a US retreat from the Middle East. In the 1950s, the US took over from Great Britain the role of the leading naval power, guaranteeing the stability of free markets and thus also of the functioning of the global oil market. This was mainly achieved by protecting sea lanes, but also by intervening in the balances of power in the Middle East in order to prevent a regional hegemon from emerging. This was vital for the functioning of the oil market, as several competing sellers are needed for a market to work. But the primary concern was with upholding international stability under conditions of bipolarity. Today, the US has the possibility of sourcing all of its oil imports from its own hemisphere, but Washington's dependence on a few suppliers would then be far greater than in a liquid global market. Also, the US will have to remain an important oil importer due to the sheer size of its market. Furthermore, even if the US could source all oil from its own hemisphere in the future, a complete redefinition of its global role is likely to be off the cards. After all, energy is but one factor shaping US strategy, and usually not the primary one.

Unsurprisingly, recent decisions indicate that Washington will not strive

Energy imports: China, US, EU compared
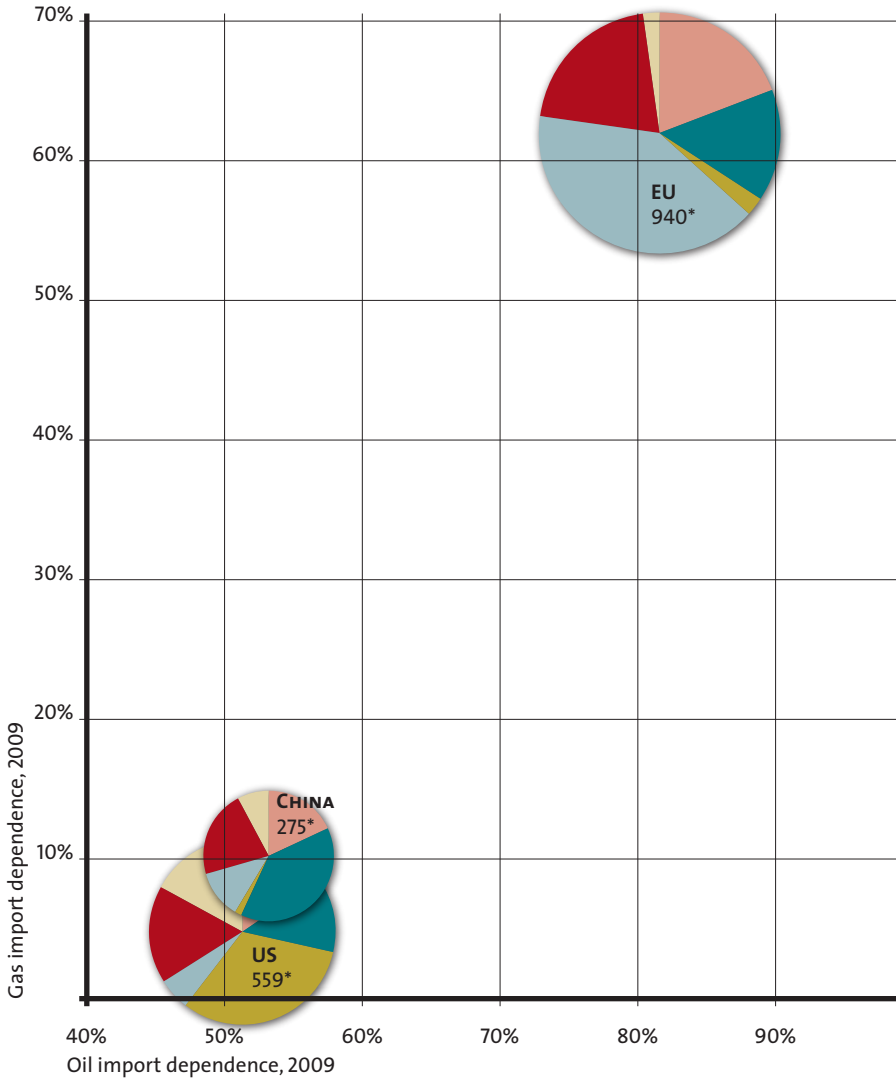
* Total net energy imports, million ton of oil equivalent, 2009
Share of oil/gas imports from:

- Middle East
- Africa
- North America
- Latin America
- Former Soviet Union
- Other

Sources: IEA World Energy Statistics, BP Statistical Review of World Energy 2011, own calculations

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for energy independence, but rather seeks to limit the Chinese drive for influence in the Middle East and a closer China-Russia alignment with the help of its new geopolitical tools, while at the same time enlarging Chinese stakes in the world oil market. This is signified by US President Barack Obama's refusal of a new pipeline link to Canadian oil sands, which pushed Canada towards developing supply relations with China. *Ceteris paribus,* this will increase US oil import needs from abroad and is thus not in the interest of isolationists. As has been highlighted above, it will both allay the Chinese drive in the Middle East and the likelihood of further pipeline links with Russia. It also strengthens the Chinese interest in the stability of the global oil market. This reduces the risks of a regionalisation of oil markets and of the Middle East increasingly becoming Chinese turf. Likewise, Chinese acquisitions of US shale gas developers did not lead to any political backlash, contrary to what had been the case with CNOOC's bid for Unocal in 2005. This signals Washington's support for globalising the 'shale gas revolution', again acting as a countermeasure to Russian energy power on the Eurasian landmass.

In general, these moves signal Washington's newfound confidence in the positive-sum character of the global oil market, with market openness rather than the availability of resources being the decisive variable for supply security. The US has an interest in making the world energy market work for all consumers, if only to limit the attraction of the 'pipelineisation' of supplier-consumer relationships advocated by Moscow. At the same time, Washington reconfirmed its military commitment to the Asia-Pacific region, and specifically to the freedom of navigation in the disputed South China Sea. While not primarily driven by energy considerations, this move also implies that Washington wants to keep its active role in organising the global oil market and at the same time seeks to socialise China as a major new participant. This is not about containing Chinese hunger for energy resources, but rather about riding the wave and directing Beijing's attention to the places that Washington deems acceptable. Thus, while Obama's decision to reject the new pipeline link to Canadian oil sands is seen as triggered by environmentalists, it may also be a geopolitically wise strategy.

But environmentalism also poses some real threats to a strategy fuelled by unconventional supplies. Environmental groups in the US are in full swing against fracking, which could yet cloud the future outlook of shale

and tight gas, as well as light tight oil production. Also, climate activists are campaigning against Canadian oil sands and kerogen oil production in the US due to its higher energy consumption. While the impact on Canadian production has so far been benign, the proposed 'Chinese' pipeline that could pump oil from Canadian oil sands to the Pacific is also being delayed due to resistance of local communities and looming pollution concerns connected to the resulting tanker traffic. There are also some exploration and technical risks involved regarding the long-term outlook of shale and tight gas, as well as light tight oil, as estimates may be revised in line with additional data. Thus, the technically recoverable shale gas resources of the US have been recently corrected downwards. This risk does not pertain to oil sands and shale oil resources that are at or near the surface.

These developments serve to highlight the heightened relevance of domestic politics for the trajectory of energy geopolitics in the 21st century. If the US should be unable to develop its unconventional resources further, and if Canadian export strategies are not forthcoming, its import needs may grow rapidly, putting the global market back into a zero-sum mentality of rivalry between consumers and further depressing the US trade balance.

But such a development is relatively unlikely due to future technological improvements and the positive effects on domestic employment and the macro-economy that are costly to sacrifice for political leaders.

Regardless of the outlook for unconventional supplies, the US has ample opportunity to improve its energy balance further by reducing demand. Indeed, the potential for enhancing energy efficiency in the US is still large, especially in transport, due to the gas-guzzling character of its vehicle fleet. Also, households consume too much, as energy savings are not encouraged. The fragmented and supply-oriented nature of US energy policy clearly does not help in this regard. But whereas authorities in China and other Asian powers cannot curtail consumption growth politically, the US has ample political space and also macroeconomic need to do so. Support for demand-side policies can be garnered in Democratic as well as Republican constituencies: What is seen as climate protection on one side may be framed as measures for added security and geopolitical benefits for the other. So, there is much potential in the US for action on the demand side, which will yield further benefits. But in order to reap this potential, Congress and the White House would have to put an end to depart-

mental infighting and put in place a more powerful and centralised energy administration.

The EU: Missing opportunities

Europe has not been blessed with conventional or unconventional resources. But it enjoys the benefits of unconventionals, first and foremost with regard to natural gas, where it rides the wave of a global gas glut. In general, the world's largest energy importer will take advantage of unconventional resources mostly mediated through markets. As the EU members lack the military capabilities to uphold global oil and gas markets, they are extraordinarily dependent on US willingness and capability to do so. An alternative path for some countries has been to enter into a rigid relationship with Moscow, which has taken a geopolitical toll. The EU is also slow in recognising the changing supply situation, let alone in reaping possible geopolitical advantages from it.

While the respective positions of other consumers change directly as a result of unconventional resources, the EU's vulnerabilities are unlikely to change significantly due to both a relative scarcity of resources and unclear policy preferences. Scarcity of domestic resources is blatant, resulting in domestic production of only 45 per cent of its primary energy supply.

To make matters worse, external supplies are highly concentrated, with Russia being the main supplier of oil, gas, and coal. For natural gas, some countries are fully dependent on Russia, a structural legacy of Soviet dominance. To date, the development of unconventional resources has affected the EU only insofar as it enlarged the supply base of the global LNG market and reduced the propensity of China to strike a deal with Russia, checking Russia's petro-power in Europe.

As the EU's mismatch between domestic production and demand poses huge challenges for future European energy supply, the EU lacks the politico-administrative capability to implement a coherent strategy to address those problems. The main difficulty is the divergence of preferences between member states: Some consider energy supply security to be most vital, whereas others prioritise environmental goals. For example, whereas Germany and the UK usually push for decarbonisation and the associated policies to promote renewables, Poland prioritises security of supply and economic competitiveness. Those who regard environmental protection as the main issue are also divided – for some, the highest goal is 'decarbonisation' of the economy, while for others it is 'denuclearisation' of electricity

supply or the protection against localised environmental risks stemming from new technologies. While the EU has adopted ambitious goals concerning diversification of suppliers, reduction of demand, and decarbonisation, it is not really moving in any of these directions, as the EU lacks authority while the efforts of individual member states often cancel each other out.

Differing policy preferences and popular resistance lead to a bleak outlook for the production of unconventional resources in the EU as well. Whereas large shale gas reserves are expected to exist in Poland, the UK, France, and Bulgaria, the latter two countries banned the fracking technology due to popular resistance highlighting the risks of water pollution. Germany has taken a lukewarm attitude, whereas climate change activists in the UK are campaigning against the CO_2 footprint of shale gas. Poland, where authorities and the public are eager to reap the possible economic benefits of this prospective resource, remains the only bright spot in the EU in this regard. Even so, the prospects of shale gas in the EU are still unknown due to a lack of experience with European shales, which show different characteristics from those in the US.

Germany's decision to exit nuclear power sent shock waves through the EU energy market

Instead of focusing on the production of unconventional hydrocarbons, the EU and some member states have advocated that the continent should become a leader in climate change mitigation and the 'decarbonisation' of the economy. They argue that as the EU would be the leader in developing 'green' energy technologies, it would simultaneously solve climate change issues, lower import dependence, and guarantee long-term economic competitiveness by bearing additional transformation costs today. But this strategy has met with some setbacks, such as the rapid technological catch-up of China, casting doubt on the theory of the EU as a forerunner. Also, import dependence is not receding, while energy prices rise.

On the other hand, 'decarbonisation' has hit a serious roadblock with Germany's rash decision to exit nuclear power, which will require more coal- and gas-fired power plants at least in the short to mid-term and drive German import dependence, CO_2 emissions, as well as EU electricity and carbon prices upward. This unilateral decision of the EU's biggest country sent shock waves through the whole EU energy market. It symbolises the EU's fragmentation, as it remains

largely disconnected from the policies agreed upon at the EU level. The result of this fragmentation is that the EU permanently punches below weight in energy markets. The self-blocking policies put Europe into a weak position vis-à-vis suppliers and competitors.

Demand-side policies are the only area where policy preferences converge, as it is obvious that less energy demand will translate to lower vulnerability towards suppliers. There is also a long tradition of promoting energy savings in many EU member states, which dates back to the oil shocks of the 1970s. The EU has long been more energy efficient than the US. But yet again, ambitious goals to increase housing and transport efficiency meet with resistance even in rich member states such as Germany, as capital cost is a problem and the state has limited financial resources in times of austerity (see Chapter 2 in this publication).

In general, the EU muddles through on the global energy market, becoming a beneficiary of the shale gas revolution in the US in an indirect way. It also relies on the US to do the heavy lifting in the world oil market. Because of its internal cleavages, it leaves many opportunities untouched. The tools of the EU to forge 'energy partnerships' with producers to its benefits are limited, as the fragmented EU has

not much to give in return. Its only asset, the large market, which could be leveraged against gas exporters such as Russia, is beset with national divisions, which greatly reduces its potential strategic value. Member states have been the main players, each of them pursuing their own policies towards suppliers. As a result, the EU's future energy security depends on outside powers upholding the global market, and on the question of whether member states will develop a more coherent common energy policy, including the necessary tools to deal with their main suppliers.

**Global consequences:
Reinforced markets**

As the above survey of the main consumers has revealed, unconventional resources do not have a uniform impact on each of the players, but they do open avenues that can be exploited to their geopolitical advantage. Some players, such as the EU, lack the administrative capacity and unity to reap these advantages. Others, such as China and the US, are quick to embrace the geopolitical opportunities out of their material needs and global strategic posture. Meanwhile, all consumers profit from the additional supplies and the lower concentration of energy resources, as the salience of global markets increases over rigid supplier-consumer

relationships. As rivalry between consumers is reduced, petro-states find it more difficult to play them off against each other. Reduced rivalry also has a de-escalating influence on relationships between consumers, as has been evident in the case of China-US energy relations. On a general level, 'super tankers' relying on naval power are empowered against 'pipelines' relying on land-based power.

The market is emboldened by the generally increased complexity of the players involved in the energy game. Drawing on geopolitical and geo-economic characteristics and corresponding divergences in interest, five groups can be distinguished: First, there are the land-based petro-states such as Russia, Kazakhstan, and potentially also Iran that have an interest in fragmenting the market with help of pipelines and preventing worldwide marketisation. This enables them to reap both political and economic benefits. They stand to lose out the most from the advent of unconventional resources, while all other groups tend to profit. The second group is made up of 'traditional', sea-based petro-states such as the majority of OPEC states. They have an interest in an open world market, as it enables them to sell to a wide range of consumers and leverage their pricing power. They may use supply cuts only as a tempo-

rary measure to extract political concessions, but are generally interested in a functioning market. Third, there are 'new' exporters, e.g., Canada, Australia, and possibly also the US, with a diversified and open economy that have been empowered by virtue of unconventional resources. They support market relationships, which enable them to export their products to a wide range of consumers. At the same time, they are not likely to engage in supply cuts, as their economies are greatly integrated into the world economy.

Fourth and fifth, on the side of consumers, there are old 'Western' consumers such as the EU and Japan, and new Asian consumers such as China and India. While the former have a long history of profiting from a global market, the latter are newcomers and display an ambivalent relationship towards it. While relying on its benefits, they also develop fallback strategies for market breakdown. Here, unconventional resources act as a reinforcement of the market and provide the pro-market forces with additional arguments to persuade newcomers of its benefits.

For a global accord on climate change, meanwhile, unconventional resources are not a positive development. They render it more difficult to agree on a

climate change mitigation framework, since they add more producer states to the equation that have no interest in signing up. Also, the option of exploiting new resources gives a new lease on life to the fossil fuel age, which some expected soon to come to an end. But a global accord was not on the cards anyway, as it goes beyond what many governments could implement domestically. This leaves cost-effective bottom-up emission reductions that ideally serve several policy goals simultaneously as a possible way out. At the same time, adaptation measures should be given more attention. These steps would be a far better solution than imposing 'climate tariffs' on imported goods and engaging in resulting trade wars, putting at risk the world trade system's integrity. Indeed, unconventional resources should be grasped as a tool to reinforce the market, and not to undermine it. ●

The militarisation of cyber security as a source of global tension

Myriam Dunn Cavelty

Cyber security is seen as one of the most pressing national security issues of our time. Due to sophisticated and highly publicised cyber attacks such as Stuxnet, it is increasingly framed as a strategic issue. The diffuse nature of the threat, coupled with a heightened sense of vulnerability, has brought about a growing militarisation of cyber security. This has resulted in too much attention on the low probability of a large scale cyber attack, a focus on the wrong policy solutions, and a detrimental atmosphere of insecurity and tension in the international system. Though cyber operations will be a significant component of future conflicts, the role of the military in cyber security will be limited and needs to be carefully defined.

Emblem of the United States Cyber Command, an armed forces command that became fully operational in 2011 and is subordinate to the United States Strategic Command

OVER THE LAST FEW YEARS, CYBER SECURITY HAS BEEN CATAPULTED FROM THE CONFINED REALM OF TECHNICAL EXPERTS INTO THE POLITICAL LIMELIGHT. The discovery of the industry-sabotaging Stuxnet computer worm, numerous tales of (Chinese) cyber espionage, the growing sophistication of cyber criminals, and the well-publicised activities of hacker collectives have combined to give the impression that cyber attacks are becoming more frequent, more organised, more costly, and altogether more dangerous. As a result, a growing number of countries consider cyber security to be one of the top security issues of the future.

This is just the latest 'surge' of attention in the three- to four-decade-long history of cyber issues. The importance attached to cyber security in politics grew steadily in response to a continual parade of incidents such as computer viruses, data theft, and other penetrations of networked computer systems, which, combined with heightening media attention, created the feeling that the level of cyber insecurity was on the rise. As a result, the debate spread in two directions: upwards, from the expert level to executive decision-makers and politicians; and horizontally, advancing from mainly being an issue of relevance to the US to the top of the threat list of more and more countries.

The debate on 'cyber security' originated in the US in the 1970s, built momentum in the late 1980s, and spread to other countries in the late 1990s. Early on, US policy-makers politicised the issue. They presented cyber security as a matter that requires the attention of state actors because it cannot be solved by market forces. As concern increased, they securitised the issue: They represented it as a challenge requiring the urgent attention of the national security apparatus. In 2010, against the background of the Stuxnet incident, the tone and intensity of the debate changed even further: The latest trend is to frame cyber security as a strategic-military issue and to focus on countermeasures such as cyber offence and defence, or cyber deterrence.

Though this trend can easily be understood when considering the political (and psychological) effects of Stuxnet, it nonetheless invokes images of a supposed adversary even though there is no identifiable enemy, is too strongly focused on national security measures instead of economic and business solutions, and wrongly suggests that states can establish control over cyberspace. Not only does this create an unnecessary atmosphere of insecurity and tension in the international system, it is also based on a severe misperception of the nature and level of cyber risk and on the feasibility of different protection

measures. While it is undisputed that the cyber dimension will play a substantial role in future conflicts of all grades and shades, threat-representations must remain well informed and well balanced at all times in order to rule out policy reactions with excessively high costs and uncertain benefits.

This chapter first describes the core elements of the cyber security debate that emerged over the past decades. These elements provide the stage and scenery for the more recent trend of increasing militarisation of cyber security. Five factors responsible for this trend are described in section two. The effects of the discovery of Stuxnet as the culmination point of the cyber threat story are the focus of section three: Though the actual (physical) damage of Stuxnet remains limited, it had very real and irreversible political effects. The fourth section critically assesses the assumptions underlying the trend of militarisation and their negative effects. The chapter concludes by arguing that military countermeasures will not be able to play a significant role in cyber security due to the nature of the information environment and the nature of the threat. Finally, it sketches the specific, though limited role that military apparatuses can and should play in reducing the overall level of cyber insecurity nationally and internationally.

The backdrop of the cyber security debate

The combination of telecommunications with computers in the late 1970s and the 1980s – the basis of the current information revolution – marks the beginning of the cyber threat debate. The launch and subsequent spread of the personal computer created a rise in tech-savvy individuals, some of whom started to use the novel networked environment for various sorts of misdeeds. In the 1990s, the information domain became a force-multiplier by combining the risks to cyberspace (widespread vulnerabilities in the information infrastructure) with the possibility of risks through cyberspace (actors exploiting these vulnerabilities). The two core elements of the cyber security debate that provide the stable backdrop for the current trend of militarisation emerged: A main focus on highly vulnerable critical infrastructures as 'referent object' (that which is seen in need of protection) and the threat representation based on the inherent insecurity of the information infrastructure and the way it could be manipulated by technologically skilful individuals.

From government networks to critical infrastructures

Initially, the overarching concern of the US was with the classified information residing in government

information systems. As computer networks grew and spread into more and more aspects of everyday life, this focus changed. A link was established in the strategic community between cyber threats and so-called 'critical infrastructures', which is the name given to assets whose incapacitation or destruction could have a debilitating impact on the national security and/ or economic and social welfare of the entire nation.

This threat perception was influenced by the larger strategic context that emerged for the US after the Cold War. It was characterised by more dynamic geostrategic conditions, more numerous areas and issues of concern, and smaller, more agile, and more diverse adversaries. As a result of the difficulties to locate and identify enemies, the focus of security policies partly shifted away from actors, capabilities, and motivations to general vulnerabilities of the entire society. In addition, the influence of globalisation on the complex interdependence of societies around the world and their growing technological sophistication led to a focus on security problems of a transnational and/or technological nature. The combination of vulnerabilities, technology, and transnational issues brought critical infrastructures to centre stage, particularly because they were becoming increasingly dependent on

the smooth functioning of all sorts of computer-related applications, such as software-based control systems.

The basic nature of the cyber threat
The networked information environment – or cyberspace – is pervasively insecure, because it was never built with security in mind. The dynamic globalisation of information services in connection with technological innovation led to a steady increase of connectivity and complexity. The more complex an IT system is, the more problems it contains and the harder it is to control or manage its security. The commercialisation of the Internet led to an even further security deficit, as there are significant market-driven obstacles to IT security.

These increasingly complex and global information networks seemed to make it much easier to attack the US asymmetrically: Potentially devastating attacks now only required a computer with an Internet connection and a handful of 'hackers', members of a distinct social group (or subculture) who are particularly skilled programmers or technical experts. In the borderless environment of cyberspace, hackers can exploit computer insecurities in various ways. In particular, digitally stored information can be delayed, disrupted, corrupted, destroyed, stolen, or modified.

Intruders can also leave 'backdoors' to come back at a later time, or use the hijacked machine for attacks on other machines. Though most individuals would be expected to lack the motivation to cause violence or severe economic or social harm, large sums of money might sway them to place their specialised knowledge at the disposal of actors with hostile intent like terrorists or foreign states. In addition, attackers have little to fear in terms of retribution. Sophisticated cyber attacks cannot be attributed to a particular perpetrator, particularly not within a short timespan. The main reasons are the often hidden nature of exploits and the general architecture of cyberspace, which allows online identities to be hidden.

Five developments that speed up militarisation

The basics as described above provided a stable setting for the cyber security debate at least since the mid-1990s, if not before. Five developments as described below have solidified the impression that cyber disturbances are increasingly dangerous and fall under the purview of national security. The discovery of Stuxnet is the culmination point in this evolution. It has brought about a qualitative and irreversible change in how the issue is handled politically: Its discovery has catapulted the cyber issue from the expert level to the diplomatic and foreign policy realm.

First, computer security professionals are increasingly concerned with the rising level of professionalisation coupled with the obvious criminal (or even strategic) intent behind attacks. Tech-savvy individuals (often juveniles) aiming to create mischief or personally enrich themselves shaped the early history of computer-related crime. Today, professionals dominate the field. Actors in the 'cyber crime black market' are highly organised in terms of their strategic and operational vision, logistics, and deployment. Like many legitimate companies, they operate across the globe. As a consequence, the nature of malware has changed. Advanced malware is targeted: A hacker picks a victim, examines the defences, and then designs specific malware to get around them. The most prominent example for this kind of malware is Stuxnet (see below).

Second, the main cyber 'enemy' in the form of a state has been singled-out: There is an increase in allegations that China is responsible for cyber espionage in the form of high-level penetrations of government and business computer systems, in Europe, North America, and Asia. Because Chinese authorities have stated repeatedly that they consider cyberspace a strategic

Timeline: Major known cyber incidents
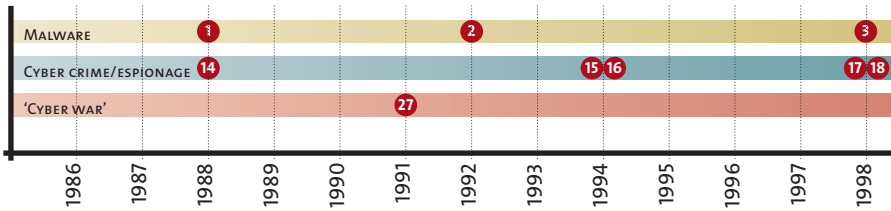
Malware

1   **Morris Worm:** Slowed down machines in the Cyber ARPANET until they became unusable. Huge impact on the general awareness of insecurity.

2   **Michelangelo:** Overwrote the first hundred sectors of the hard disk with nulls. Caused first digital mass hysteria.

3   **Back Orifice:** Tool for remote system administration (Trojan horse).

4   **Melissa:** Shut down Internet mail, clogged systems with infected e-mails.

5   **I Love You:** Overwrote files with copy of itself, sent itself to the first fifty people in the Windows Address Book.

6   **Code Red:** Defaced websites, used machines for DDoS-attacks.

7   **Nimda:** Allowed external control over infected computers.

8   **Blaster:** DDos-attacks against 'windowsupdate.com'. System crash as a side effect. Was suspected to have caused black-out in US (could not be confirmed).

9   **Slammer:** DDoS-attacks, slowed down Internet traffic worldwide.

10   **Sasser:** Internet traffic slow down, system crash.

11   **Conficker:** Forms botnets.

12   **Stuxnet:** Spies on and subverts industrial systems (see also incident 35).

13   **Duqu:** Looks for information useful in attacking industrial control systems. Code almost identical to Stuxnet (copy-cat software).

Cyber crime/espionage

14   **Hanover Hackers (Cuckoo's Egg):** Break-ins into high-profile computer systems in the US.

15   **Rome Lab incident:** Break-ins into high-profile computer systems in the US.

16   **Citibank incident:** US$ 10 m siphoned from Citibank and transferred the money to bank accounts around the world.

17   **Solar Sunrise:** Series of attacks on DoD computer networks.

18   **Moonlight Maze:** Pattern of probing of high-profile computer systems.

19   **Titan Rain:** Access to high-profile computer systems in the US.

20   **Zeus Botnet:** Trojan horse 'Zeus', controlled millions of machines in 196 countries.
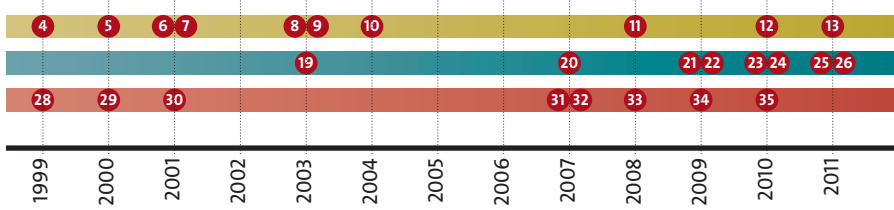
21 **GhostNet:** Cyber-spying operation, infiltration of high-value political, economic, and media locations in 103 countries.

22 **Operation Aurora:** Attacks against Google and other companies to gain access to and potentially modify source code repositories at these high-tech, security, and defence contractor companies.

23 **Wikileaks Cablegate:** 251,287 leaked confidential diplomatic cables from 274 US embassies around the world, dated from 28 December 1966 to 28 February 2010.

24 **Operations Payback and Avenge Assange:** Coordinated, decentralised attacks on opponents of Internet piracy and companies with perceived anti-WikiLeaks behaviour.

25 **Sony and other attacks:** Highly publicised hacktivist operations.

26 **Theft of CO_2-Emmission Papers:** Theft of 475,000 carbon dioxide emissions allowances worth € 6.9 m, or US$ 9.3 m.

MAIN INCIDENTS DUBBED AS 'CYBER WAR'

27 **Dutch hacker incident:** Intrusions into Pentagon computers during Gulf War. Access to unclassified, sensitive information.

28 **Operation 'Allied Force':** 'The first Internet War'. Sustained use of the full-spectrum of information warfare components in combat. Numerous hacktivism incidents.

29 **'Cyber-Intifada':** Email flooding and Denial-of-Service (DoS) attacks against government and partisan websites during the second Intifada.

30 **'Cyber World-War I':** Defacement of Chinese and US websites and waves of DDoS-attacks after US reconnaissance and surveillance plane was forced to land on Chinese territory.

31 **Iraq:** Cyber-attack on cell phones, computers, and other communication devices that terrorists were using to plan and carry out roadside bombs.

32 **Estonia DDoS-attacks:** DDoS-attacks against web sites of the Estonian parliament, banks, ministries, newspapers, and broadcasters.

33 **Georgia DDoS-attacks:** DDoS-attacks against numerous Georgian websites.

34 **GhostNet infiltrations:** GhostNet related infiltrations of computers belonging to Tibetan exile groups.

35 **Stuxnet:** Computer worm that might have been deliberately released to slow down Iranian nuclear program.

domain and that they hope that mastering it will equalise the existing military imbalance between China and the US more quickly (see Chapter 1 in this publication), many US officials readily accuse the Chinese government of perpetrating deliberate and targeted attacks or intelligence-gathering operations. However, because of the attribution problem, these allegations almost exclusively rely on anecdotal and circumstantial evidence. Not only can attackers hide, it is also impossible to know an attacker's motivation or to know a person's affiliation or sponsorship, even if the individuals were known. Therefore, attacks and exploits that seemingly benefit states might well be the work of third-party actors operating under a variety of motivations. At the same time, the attribution challenge also conveniently allows state actors to distance themselves officially from attacks.

Third, there has been an increase in 'hacktivism' – a portmanteau word that combines 'hacking' and 'activism'. WikiLeaks, for example, has added yet another twist to the cyber debate. Acting under the hacker maxim that 'all information should be free', this type of activism deliberately challenges the self-proclaimed power of states to keep information considered vital for national security secret. Hacker collectives such as Anonymous or LulzSec

engage in related activities of a multifaceted nature. They creatively play with anonymity in an age obsessed with control and surveillance and humiliate high-visibility targets by so-called DDoS attacks, which saturate the target machine with external communications requests so that it cannot respond to legitimate traffic, or by break-ins and release of sensitive information. These events are perceived as pressing cyber security issues in government because data is stolen in digital form and/or made available to the whole world through multiple Internet sites. In addition, media attention has been and will likely remain great; the reputational damage has been high. The more obsessed governments become with cyber security, the more embarrassing it is when they become the public target of break-ins.

Fourth, the term 'cyber war' is used more and more frequently in the media but also in policy circles. Originally, the term was coined together with its twin concept 'netwar' in the early 1990s to signify a set of new operational techniques and a new mode of warfare in the information age. Both have since become part of official (US) military information operations doctrine in modified form. But 'cyber war' also leads a colourful life outside the military discourse: The popular

usage of the word has come to refer to basically any phenomenon involving a deliberate disruptive or destructive use of computers, which has prompted US President Barack Obama's cyber security czar Howard Schmidt to repeatedly call it a 'terrible metaphor'. For example, the media proclaimed the first cyber World War in 2001. The cause was an incident in which a US reconnaissance and surveillance plane was forced to land on Chinese territory after a mid-air collision with a Chinese jet fighter. Soon after, defacements of Chinese and US websites and waves of DDoS attacks began. Individuals from many other nations joined in on both sides. The US government and military stated that they had sharply stepped up network security. Other sources reported that the Navy was at INFOCON ALPHA, a cyber version of real-world military Defense Readiness Level (DEFCON). Beyond the hype factor, the true effect of these online activities is close to zero.

Another, even more prominent example is the case of the Estonian 'cyber war'. When the Estonian authorities removed a bronze statue of a World War II-era Soviet soldier from a park, a three-plus-week wave of DDoS attacks started. It downed various websites, among them the websites of the Estonian parliament, banks, ministries, newspapers, and broadcasters.

Even though it was not possible to provide sufficient evidence for who was behind the attacks, various officials readily and publicly blamed the Russian government. Also, despite the fact that the attacks had no truly serious consequences for Estonia other than (minor) economic losses, some officials even openly toyed with the idea of a counter-attack in the spirit of Article 5 of the North Atlantic Treaty, which states that 'an armed attack' against one or more NATO countries 'shall be considered an attack against them all'. The Estonian example is one of the cases most often referred to in government circles to prove that there is a need for action and the age of 'cyber war' has begun. Similar claims were made in the confrontation between Russia and Georgia of 2008.

Fifth, the discovery of the computer worm Stuxnet in 2010 changed the overall tone and intensity of the debate even further. Stuxnet is a very complex programme. It is likely that writing it took a substantial amount of time, advanced-level programming skills, and insider knowledge of industrial processes. Therefore, Stuxnet is probably the most expensive malware ever found. In addition, it behaves differently from the normal criminal-type malware: It does not steal information and it does not

herd infected computers into so-called botnets from which to launch further attacks. Rather, it looks for a very specific target: Stuxnet was written to attack Siemens' *Supervisory Control And Data Acquisition* (SCADA) systems that are used to control and monitor industrial processes. In August 2010, the security company Symantec noted that 60 per cent of the infected computers worldwide were in Iran. It was also reported that the Iranian nuclear programme had been delayed as some centrifuges had been damaged.

The picture that emerges from the pieces of the puzzle seems to suggest that only one or several nation states – the *cui bono* ('to whose benefit') logic pointing either to the US or Israel – would have the capability and interest to produce and release Stuxnet in order to sabotage the Iranian nuclear programme. However, the one big problem with the Stuxnet story is, once again, that it is entirely based on speculation: The evidence for Stuxnet being a government-sponsored cyber weapon directed at Iran, though convincing and plausible, is entirely circumstantial. Due to the attribution problem, it is impossible to know who gave the order, who actually programmed Stuxnet, and the real intent behind it. Rather than making the problem less serious, however, this fact is at the heart of current fears. The cyber domain has

emerged as a realm in which states see their control and power challenged from all sides, but in which they are forced to position themselves as forcefully as possible, too.

Unravelling the Stuxnet effect

Whatever the 'truth' may be: The Stuxnet incident is a manifestation of longstanding fears. It is a targeted attack affecting the control system of a super-critical infrastructure, invisible and untraceable until it hits. Since so little about the worm is known for certain, however, the actual effects in form of damage are impossible to uncover, as is shown in the first subsection below. Other effects, though also partially speculative, have manifested themselves more clearly. One of these fears, covered in the second subsection, is the fear of proliferation and copycat attacks. Another more salient one is psychological and has real political consequences: Many security experts and decision-makers do believe that one or several state actors created the computer worm. For those people, the digital first strike has been delivered, and this marks the beginning of the unchecked use of cyber weapons in military-like aggressions. Cyber security now clearly comes under the purview of diplomats, foreign policy analysts, the intelligence community, and the military. These reactions and their severe consequences

for international relations and security are the focus of the third subsection.

Damage/cost

Putting a number to the cost of any specific malware is a very tricky thing. Attempts to collect significant data or combine them into statistics have failed due to insurmountable difficulties in establishing what to measure and how to measure it. Numbers that are floating around are usually more or less educated 'guesstimates', calculated by somehow adding downtime of machines and the cost for making them malware-free. The same problem applies to Stuxnet. Shortly after the worm was discovered, Symantec estimated that between 15,000 and 20,000 systems were infected. These numbers increased the longer the worm was known. Siemens on the other hand reported that the worm had infected 15 plants with their SCADA software installed, both in and out of Iran. In the end, Symantec set both the damage and the distribution level of the malware to medium.

In the mainstream representation of the Stuxnet story, the Bushehr nuclear plant is the intended target of the attack. Indeed, the operational start of Bushehr was delayed by several months: Iranian officials blamed the hot weather and later a leak for it. Officially, Tehran at first denied the worm infected critical systems at the Bushehr plant, but later said that Stuxnet had affected a limited number of centrifuges. There also seemed to have been some problems at Natanz: A decline in the number of operating centrifuges from mid-2009 to mid-2010 may have been due to the Stuxnet attack, some experts speculate. All in all, knowing the extent of the effect Stuxnet had on the Iranian nuclear programme is impossible; it seems plausible, however, that is has delayed it, though only for a short amount of time. The psychological effect on the Iranian government, though also not easily fathomable, is likely to have been very high.

> Stuxnet is a manifestation of longstanding fears

Proliferation effect

The discovery of Stuxnet and subsequent rumours that its source code was for sale led some experts to fear a rapid proliferation of this type of programming and many so-called piggyback attacks. This would make SCADA systems – computer systems that monitor and control industrial, infrastructure, or facility-based processes – the target of choice in the near to mid-term future for all types of hacks, with potentially grave consequences, also due to unintended side effects. Other analysts have described these fears as groundless, because even if somebody had acquired the source code, they would have to be just as

capable as the initial programmers for the variant to be as successful. Once a piece of malware has been discovered, even if it is a sophisticated specimen, merely copying it will be of little use if the computer vulnerability it exploited has been patched in the meantime.

So far, no proliferation effect has materialised; however, in September 2011, another worm (Duqu) was discovered that is reportedly very similar to Stuxnet, and was probably written by the same authors. It mainly looks for information that could be useful in attacking industrial control systems and does not sabotage any parts of the infrastructure.

Political and psychological effect

The greatest effect the worm has had is clearly psychological: It has left many state officials deeply frightened. This fear has political consequences. First, on the national level, governments are currently releasing or updating cyber security strategies and are setting up new organisational units for cyber defence. Second, internationally, increased attention is being devoted to the strategic-military aspects of the problem. The focus is on attacks that could cause catastrophic incidents involving critical infrastructures. More and more states report that they have opened 'cyber-commands', which are military units for cyber war activities.

Though consolidated numbers are hard to come by, the amount of money spent on defence-related aspects of cyber security seems to be rising steadily. The new cyber military-industrial complex that has emerged is estimated to deliver returns of US$ 80 to 150 billion a year, and big defence companies like Boeing and Northrop Grumman are repositioning themselves to service the cyber security market. In addition, some states, particularly those not allied with the US, have ramped up their rhetoric. For example, Iranian officials have gone on the record as condoning hackers who work in the state's interest. As a result, the first signs of a cyber security dilemma are discernible: Although most states still predominantly focus on cyber defence issues, measures taken by some nations are seen by others as covert signs of aggression. That leads to more insecurity for everyone – specifically because it is impossible to assess another state's cyber capabilities.

Flawed assumptions and detrimental effects

The militarisation of cyber security is first and foremost based on the belief in a massive threat of a large-scale cyber attack. There are two aspects to this perception: In the first subsection, it is shown how and why the past and current level of the threat is overrated. The second subsection places the

future likelihood of cyber war into perspective. It shows that now and in the future, the probability of a large-scale attack is very low. The third subsection looks at an additional reason for how widespread the fear of cyber war has become: Most countries simply follow the threat perception and reasoning of the US, even though the strategic context and disparity in power positions warrant a different threat assessment. The fourth subsection finally criticises the widespread use of vocabulary that is full of military analogies. Such vocabulary insinuates a reality governed by the traditional logic of offense and defence – a reality that does not exist. Even worse, it is decoupled from the reality of the threat and the possibility for meaningful countermeasures and is complicit in solidifying the militarisation of cyber security.

An overrated threat

There is no denying that different political, economic, and military conflicts have had cyber(ed) components for a number of years now. Furthermore, criminal and espionage activities involving the use of computers happen every day. It is a fact that cyber incidents are continually causing minor and only occasionally major inconveniences: These may be in the form of lost intellectual property or other proprietary data, maintenance and repair, lost revenue, and increased security costs. Beyond the direct impact, badly handled cyber attacks have also damaged corporate (and government) reputations and have, theoretically at least, the potential to reduce public confidence in the security of Internet transactions and e-commerce if they become more frequent.

However, in the entire history of computer networks, there are no examples of cyber attacks that resulted in actual physical violence against persons (nobody has ever died from a cyber incident), and only very few had a substantial effect on property (Stuxnet being the most prominent). So far, cyber attacks have not caused serious long-term disruptions. They are risks that can be dealt with by individual entities using standard information security measures, and their overall costs remain low in comparison to other risk categories such as financial risks.

These facts tend to be almost completely disregarded in policy circles. There are several reasons why the threat is overrated. First, as combating cyber threats has become a highly politicised issue, official statements about the level of threat must also be seen in the context of competition for resources and influence between various bureaucratic entities. This is usually done by stating an urgent need

for action and describing the overall threat as big and rising.

Second, psychological research has shown that risk perception, including the perception of experts, is highly dependent on intuition and emotions. Cyber risks, especially in their more extreme form, fit the risk profile of so-called 'dread risks', which are perceived as catastrophic, fatal, unknown, and basically uncontrollable. There is a propensity to be disproportionally afraid of these risks despite their low probability, which translates into pressure for regulatory action of all sorts and the willingness to bear high costs of uncertain benefit.

Types of cyber conflict
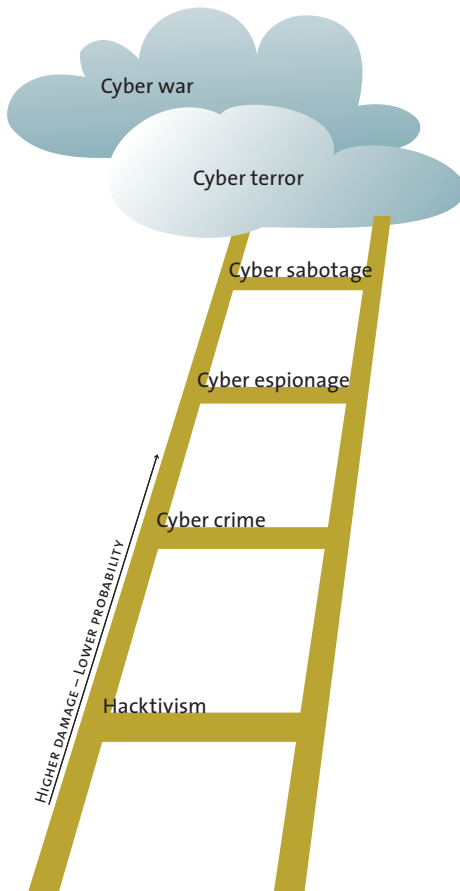
Cyber war: The use of computers to disrupt the activities of an enemy country, especially deliberate attacks on communication systems. The term is also used loosely for cyber incidents of a political nature.

Cyber terror: Unlawful attacks against computers, networks, and the information stored therein, to intimidate or coerce a government or its people in furtherance of political or social objectives. Such an attack should result in violence against persons or property, or at least cause enough harm to generate the requisite fear level to be considered 'cyber terrorism'. The term is also used loosely for cyber incidents of a political nature.

Cyber sabotage: The deliberate disturbance of an economic or military process for achieving a particular (often political) goal with cyber means.

Cyber espionage: The unauthorised probing to test a target computer's configuration or evaluate its system defenses, or the unauthorised viewing and copying of data files.

Cyber crime: A criminal activity done using computers and the Internet.

Hacktivism: The combination of hacking and activism, including operations that use hacking techniques against a target's Internet site with the intention of disrupting normal operations.

Cyber war

Cyber terror

Cyber sabotage

Cyber espionage

Cyber crime

Hacktivism

HIGHER DAMAGE – LOWER PROBABILITY

Third, the media distorts the threat perception even further. There is no hard data for the assumption that the level of cyber risks is actually rising – beyond the perception of impact and fear. Some IT security companies have recently warned against overemphasising sophisticated attacks just because we hear more about them. In 2010, only about 3 per cent of all incidents were considered so sophisticated that they were impossible to stop. The vast majority of attackers go after low-hanging fruit, which are small to medium sized enterprises with bad defences. These types of incidents tend to remain under the radar of the media and even law enforcement.

Cyber war remains unlikely
Since the potentially devastating effects of cyber attacks are so scary, the temptation is very high not only to think about worst-case scenarios, but also to give them a lot of (often too much) weight despite their very low probability. However, most experts agree that strategic cyber war remains highly unlikely in the foreseeable future, mainly due to the uncertain results such a war would bring, the lack of motivation on the part of the possible combatants, and their shared inability to defend against counterattacks. Indeed, it is hard to see how cyber attacks could ever become truly

effective for military purposes: It is exceptionally difficult to take down multiple, specific targets and keep them down over time. The key difficulty is proper reconnaissance and targeting, as well as the need to deal with a variety of diverse systems and be ready for countermoves from your adversary.

Furthermore, nobody can be truly interested in allowing the unfettered proliferation and use of cyber war tools, least of all the countries with the offensive lead in this domain. Quite to the contrary, strong arguments can be made that the world's big powers have an overall strategic interest in developing and accepting internationally agreed norms on cyber war, and in creating agreements that might pertain to the development, distribution, and deployment of cyber weapons or to their use (though the effectiveness of such norms must remain doubtful). The most obvious reason is that the countries that are currently openly discussing the use of cyber war tools are precisely the ones that are the most vulnerable to cyber warfare attacks due to their high dependency on information infrastructure. The features of the emerging information environment make it extremely unlikely that any but the most limited and tactically oriented instances

of computer attacks could be contained. More likely, computer attacks could 'blow back' through the interdependencies that are such an essential feature of the environment. Even relatively harmless viruses and worms would cause considerable random disruption to businesses, governments, and consumers. This risk would most likely weigh much heavier than the uncertain benefits to be gained from cyber war activities.

Certainly, thinking about (and planning for) worst-case scenarios is a legitimate task of the national security apparatus. Also, it seems almost inevitable that until cyber war is proven to be ineffective or forbidden, states and non-state actors who have the ability to develop cyber weapons will try to do so, because they appear cost-effective, more stealthy, and less risky than other forms of armed conflict. However, cyber war should not receive too much attention at the expense of more plausible and possible cyber problems. Using too many resources for high-impact, low-probability events – and therefore having less resources for the low to middle impact and high probability events – does not make sense, neither politically, nor strategically and certainly not when applying a cost-benefit logic.

Cyber crime and cyber espionage will remain the biggest cyber risks

Europe is not the US

The cyber security discourse is American in origin and American in the making: At all times, the US government shaped both the threat perception and the envisaged countermeasures. Interestingly enough, there are almost no variations to be found in other countries' cyber threat discussions – even though the strategic contexts differ fundamentally. Many of the assumptions at the heart of the cyber security debate are shaped by the fears of a military and political superpower. The US eyes the cyber capabilities of its traditional rivals, the rising power of China and the declining power of Russia, with particular suspicion. This follows a conventional strategic logic: The main question is whether the cyber dimension could suddenly tip the scales of power against the US or have a negative effect on its ability to project power anywhere and anytime. In addition, due to its exposure in world politics and its military engagements, the US is a prime target for asymmetric attack.

The surely correct assumption that modern societies and their armed forces depend on the smooth functioning of information and communication technology does not automatically mean that this dependence will be

exploited – particularly not for the majority of states in Europe. The existence of the cyber realm seems to lead people to assume that because they have vulnerabilities, they will be exploited. But in security and defence matters, careful threat assessments need to be made. Such assessments require that the following question be carefully deliberated: 'Who has an interest in attacking us and the capability to do so, and why would they?' For many democratic states, particularly in Europe, the risk of outright war has moved far to the background and the tasks of their armies have been adapted to this. Fears of asymmetric attacks also rank low. The same logic applies to the cyber domain. The risk of a warlike cyber attack of severe proportions is minimal; there is no plausible scenario for it. Cyber crime and cyber espionage, both political and economic, are a different story: They are here now and will remain the biggest cyber risks in the future.

The limits of analogies

Even if the cyber threat were to be considered very high, the current trend conjures up wrong images. Analogies are very useful for relating non-familiar concepts or complex ideas with more simple and familiar ones. But when taken too far, or even taken for real, they begin to have detrimental effects. Military terms like 'cyber weapons', 'cyber capabilities', 'cyber

offence', 'cyber defence', and 'cyber deterrence' suggest that cyberspace can and should be handled as an operational domain of warfare like land, sea, air, and outer space (cyberspace has in fact been officially recognised as a new domain in US military doctrine). Again, this assumption clashes with the reality of the threat and the possibilities for countermeasures.

First, calling offensive measures cyber weapons does not change the fact that hacker tools are not really like physical weapons. They are opportunistic and aimed at outsmarting the technical defences. As a result, their effect is usually not controllable in a military sense – they might deliver something useful or they might not. Also, even though code can be copied, the knowledge and preparation behind it cannot be easily proliferated. Each new weapon needs to be tailored to the system it is supposed to attack. Cyber weapons cannot be kept in a 'silo' for a long time, because at any time, the vulnerability in the system that it is targeted at could be patched and the weapon would be rendered useless.

Second, thinking in terms of attacks and defence creates a wrong image of immediacy of cause and effect. However, high-level cyber attacks against infrastructure targets will likely be the culmination of long-term, subtle,

systematic intrusions. The preparatory phase could take place over several years. When – or rather if – an intrusion is detected, it is often impossible to determine whether it was an act of vandalism, computer crime, terrorism, foreign intelligence activity, or some form of strategic military attack. The only way to determine the source, nature, and scope of the incident is to investigate it. This again might take years, with highly uncertain results. The military notion of striking back is therefore useless in most cases.

Third, deterrence works if one party is able to successfully convey to another that it is both capable and willing to use a set of available (often military) instruments against the other side if the latter steps over the line. This requires an opponent that is clearly identifiable as an attacker and has to fear retaliation – which is not the case in cyber security because of the attribution problem. Attribution of blame on the basis of the *cui bono* logic is not sufficient proof for political action. Therefore, deterrence and retribution do not work in cyberspace and will not, unless its rules are changed in substantial ways, with highly uncertain benefits. Much of what is said in China and in the US about

Types of cyber malware and attack modes

Malware: A collective term for all types of malicious code and software

Exploit	Taking advantage of computer vulnerability to cause unintended or unanticipated behaviour. This includes gaining control of a computer system.
Virus/worm	Computer programmes that replicate functional copies of themselves with varying effects ranging from mere annoyance and inconvenience to compromise of the confidentiality or integrity of information. Viruses need to attach themselves to an existing program, worms do not.
Spyware	Malware that collects information about users without their knowledge.
Trojan horse	Malicious program that acts in an automatic manner. Trojan horses can make copies of themselves, steal information, or harm their host computer systems, or allow a hacker remote access to a target computer system.
DDoS-attack	Attempt to make a computer or network resource unavailable to its intended users, mostly by saturating the target machine with external communications requests so that it cannot respond to legitimate traffic, or responds so slowly as to be rendered effectively unavailable.
Advanced persistent threats	A cyber-attack category, which connotes an attack with a high degree of sophistication and stealthiness over a prolonged duration of time. The attack objectives typically extend beyond immediate financial gain.
Botnets (or bots)	A collection of compromised computers connected to the Internet. They run hidden and can be exploited for further use by the person controlling them remotely.

their own and the other's cyber capabilities is (old) deterrence rhetoric – and must be understood as such. The White House's new International Strategy for Cyberspace of 2011 states that the US reserves the right to retaliate to hostile acts in cyberspace with military force. This 'hack us and we might bomb you' statement is an old-fashioned declaratory policy that preserves the option of asymmetrical response as a means of deterrence, even though both sides actually know that following up on it is next to impossible.

Fourth, cyberspace is only in parts controlled or controllable by state actors. At least in the case of democracies, power in this domain is in the hands of private actors, especially the business sector. Much of the expertise and many of the resources required for taking better protective measures are located outside governments. The military – or any other state entity for that matter – does not own critical (information) infrastructures and has no direct access to them. Protecting them as a military mandate is impossible, and conceiving of cyberspace as an occupation zone is an illusion. Militaries cannot defend the cyberspace of their country – it is not a space where troops and tanks can be deployed, because the logic of national boundaries does not apply.

The role of the military in cyber security

Future conflicts between nations will most certainly have a cyberspace component, but this will just be an accompanying element of the battle. Regardless of how high we judge the risk of a large-scale cyber attack, military-type countermeasures will not be able to play a substantial role in cyber security because of the nature of the attacker and the nature of the attacked. Investing too much time talking about them or spending increasing amounts of money on them will not make cyberspace more secure – quite the contrary. These findings are not particularly new: Most experts had come to the same conclusion in the late 1990s, when the debate was not yet as securitised. At the time, the issue was discussed under the heading of critical infrastructure protection rather than cyber security, but the basic premises were the same. The role for the military as conceptualised then hardly differs from the role the military should take on today.

Undoubtedly, attacks on information technology, manipulation of information, or espionage can have serious effects on the present and/or future of defensive or offensive effectiveness of one's own armed forces. First and foremost, militaries should therefore focus on the protection and resilience

of their information infrastructure and networks, particularly the critical parts of it, at all times. All the successful attacks on military and military-affiliated networks over the last few years are less a sign of impending cyber-doom than a sign of low information security prowess in the military. In case the unfortunate label 'cyber defence' should stick, it will be crucial to make sure that everybody – including top-level decision-makers – understand that cyber defence is not much more than a fancy word for standard information assurance and risk management practices. Furthermore, information assurance is not provided by obscure 'cyber commands', but by computer security specialists, whether they wear uniforms or not.

The cyber dimension is also relevant in military operations insofar as an adversary's critical infrastructure is deemed to be a major centre of gravity, i.e., a source of strength and power that needs to be weakened in order to prevail. However, intelligence-gathering by means of cyber espionage must be treated with utmost care: In an atmosphere fraught with tension, such activities, even if or especially because they are non-attributable, will be read as signs of aggression and will add further twists to the spiral of insecurity, with detrimental effects for everybody. The implication of this is that military staff involved in operative and military strategic planning and the intelligence community will have to be aware of cyber issues too. However, in the future, decisive strikes against critical (information) infrastructure will most likely still consist of kinetic attacks or traditional forms of sabotage rather than the intrusion of computer systems.

Recent national strategies for cyber security

United States	Department of Defense, 'Strategy for Operating in Cyberspace' (2011)
	The White House, 'International Strategy for Cyberspace: Prosperity, Security, and Openness in a Networked World' (2011)
	Department of Homeland Security, 'Blueprint for a Secure Cyber Future: The Cybersecurity Strategy for the Homeland Security Enterprise' (2011)
UK	'The UK Cyber Security Strategy: Protecting and Promoting the UK in a Digital World' (2011)
France	Premier ministre, 'Défense et sécurité des systèmes d'information: Stratégie de la France' (2011)
Germany	Federal Ministry of the Interior, 'Cyber Security Strategy for Germany' (2011)
The Netherlands	'The National Cyber Security Strategy (NCSS): Success through cooperation' (2011)
India	Department of Information Technology, 'Cyber Security Strategy' (2011)

As for the things the military should not do when it comes to the realm of cyberspace, two major points come to mind. First, particularly as long as the ability to withstand cyber intrusions of military networks or civilian networks remains low, it is unwise to declare the development or possession of offensive measures. It does not have a credible deterring effect, the actual use would bring unclear benefits and high risks, and again, it adds to the cyber security dilemma.

Second, the military cannot take on a substantial role in ensuring the cyber security of a whole country. Due to privatisation and deregulation of many parts of the public sector in most of the developed world, between 85 and 95 per cent of the critical infrastructure are owned and operated by the private sector. Given that overly intrusive market interventions are not deemed a valid option, states have but one option: to try to get the private sector to help in the task of protecting these assets. What emerged from this in the late 1990s already was a focus on critical infrastructure protection, with one particularly strong pillar: public-private partnerships. A large number of them were (and still are) geared towards facilitating information exchange between companies themselves, but also between companies and government entities, which

are usually *not* part of the military or intelligence establishment. This is complemented by measures taken to ensure that the damage potential of a successful attack is constantly decreasing, for example by augmenting the resilience of information networks and critical infrastructures.

In conclusion, governments and military actors should acknowledge that their role in cyber security can only be a limited one, even if they consider cyber threats to be a major national security threat. Cyber security is and will remain a shared responsibility between public and private actors. Governments should maintain their role in protecting critical infrastructure where necessary while determining how best to encourage market forces to improve the security and resilience of company-owned networks. Threat-representation must remain well informed and well balanced in order to prevent overreactions. Despite the increasing attention cyber security is getting in security politics, computer network vulnerabilities are mainly a business and espionage problem. Further militarising cyberspace based on the fear of other states' cyber capabilities or trying to solve the attribution problem will have detrimental effects on the way humankind uses the Internet; and the overall cost of these measures will most likely outweigh

the benefits. What is most needed in the current debate is a move away from fear-based doomsday thinking and a move towards more level-headed threat assessments that take into account the strategic context. ●

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