Monitor screen
during share trading
in Karachi on 10 August 2011

STEPHEN SHAVER/AFP IMAGE FORUM

Economics

KEY MESSAGES

The second globalisation seems to have embarked on a process that is structural in particular because it has been based for many years on a very strong technological interconnection favouring the growing integration of the emerging nations into the 'world system'.

World economic growth, even if it slows down over the long term, will tend to reduce poverty, but there is also a risk that it could lead to the growth of inequalities between countries and within countries. This can generate tensions and carries a strong potential for social protest.

An increase in the risk of a systemic crisis, whose serious nature was demonstrated by the economic and financial crisis, should lead to a consolidation of the international regulation tools in a context where the western neo-liberal model is facing profound and sustained questioning.

In parallel with the increasing power of the emerging countries, which has accelerated in the last 10 or 15 years, the centre of gravity of the world economy is shifting towards the East and, to a lesser extent, towards the South, leading to the relative downgrading of the OECD countries. In 2040, China [1] and India should thus be the first and third economic powers, respectively, in the world. In 2050, the economies of the five main emerging countries of the world will be almost double those of the G7 economies[2]. Even so, the growth of the gross domestic product (GDP)[3] alone does not encapsulate the notion of development, which involves other components—most notably good governance, the observance of basic rights and freedoms, the fulfilment of basic needs, etc.

'Traditional' industrial players must face growing competition, particularly on the weapons markets, from new arrivals, who will rely on industrial partnerships and technology transfers.

In the absence of pooling and increased rationalisation of defence systems by the European countries, the emergence of new military powers, combined with the erosion of defence budgets in the western (and particularly European) nations, carries the risk of a strategic downgrading of Europe and fragility of the European defence industrial and technological base.

1- Forecasts concerning the Chinese GDP catching up with the American GDP in purchasing power parity vary significantly, with certain analyses predicting convergence in 2025 and others suggesting that it will occur in 2018.

1 A changing world economy

1.1 – A second wave of globalisation brought on by the catching up of the emerging countries

In the period 2010-2040, the growth of the world economy should continue at a steady rate, which will however gradually decline because of the demographic transition. The global volume of the world GDP should thus double, from 35 trillion dollars in 2005 to 89 in 2030[1].

This growth should be sustained by the absolute and relative growth of worldwide exchanges of goods and services, particularly intermediate goods[2]. This trend should be based on a growing vertical specialisation on an international scale and should be organised according to a network logic on a planetary scale, both globally and locally/regionally.

Whilst the first wave of globalisation gave rise to an acceleration of the activity of emerging countries, their entry into a catch-up phase[3], which should make them begin to favour the growth of their internal demand, will promote a second wave of globalisation. This should also be sustained by the improved productivity generated by the globalisation of the services sector, the acceleration of the spreading of technological advances, and the gradual lifting of every type of obstacle to commercial trading.

In this respect, the economic crisis was not characterised by a return to protectionism, as occurred, for example, in the 1930s, since the restrictive measures are limited to certain business sectors. Nevertheless, the coinciding of a sustained high rate of unemployment with irregular growth and the persistently increasing economic imbalances could favour an occasional resurgence of protectionist tensions.

STEP CHANGE

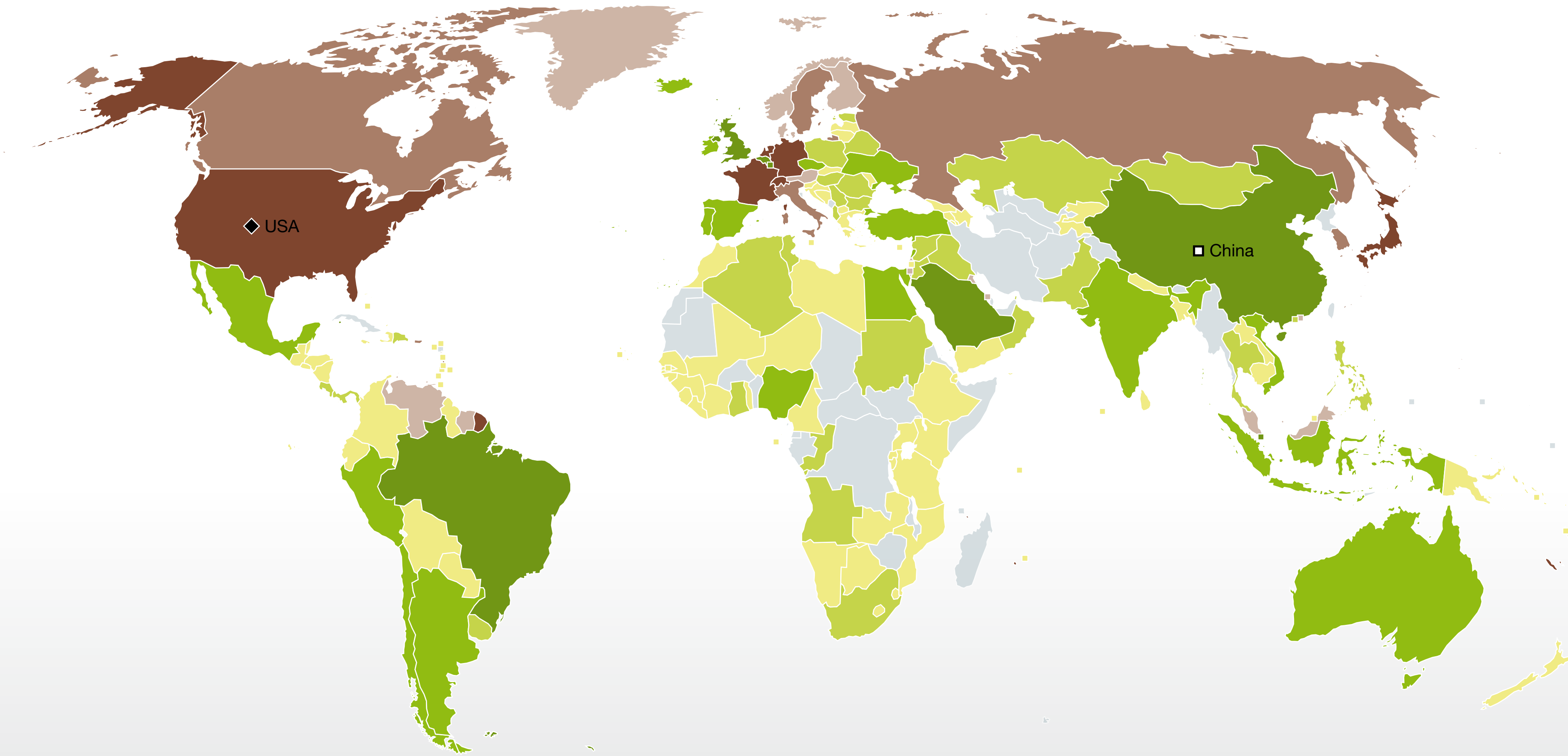
There are, however, several factors that could work against the optimistic scenario. The foremost of these is the scarcity of certain strategic resources and the changing prices of raw materials*, particularly the price of oil, which remains high; this will place strong pressure on the economic balances. A new oil crisis could occur.

* The increase in export values since 2000 is due to the spiralling cost of basic products (+11%/year), particularly energy and mineral resources (+28%/year). *World Trade Statistics*, WTO, 2009.

With the increasing power of certain developing countries, the geographical growth engines should move: From 3% in the 1980s and 6% in the 2000s, their growth should be maintained thanks to the continuous DFI flows, and the gradual rise in their internal consumption and their population. Thus, by 2040 they should represent almost 60% of world GDP and their share of world trade should be 45%, compared to 34% today (and 22% in 1980). Moreover, they should supply 65% of the manufactured goods imported by the developed countries (40% in 2010).

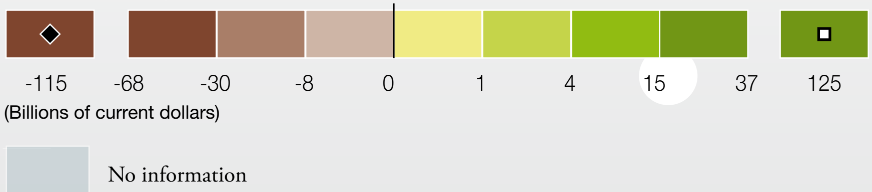
1- *The world economy in 2050: a tentative picture,* CEPII, November 2010.
2- World exports of goods and services have grown by an average of 20% over the period 2000-2008. *World trade statistics*, WTO, 2009.

3- Average growth rate of 6.4% for the first seven emerging nations, compared to only 2% for the G7 states.



Direct foreign investment, net, 2010

Deficit ← Balance → Surplus



DFI is the sum of the net assets, reinvested profits, other long-term capital, and short-term capital counted in the balance of payments. The net DFI is the net total of direct foreign investment into the declarant economy from foreign sources minus direct foreign investment made by the declarant economy in the rest of the world.

Source: World Bank, http://data.worldbank.org

Map Department of Sciences Po, 2011

By 2040, the top three economic powers in the world, in terms of purchasing power parity, should include two 'emerging' countries: China (1st) and India (3rd). The Chinese GDP could thus represent 130% of the American GDP.[1] Moreover, the total GDPs of the main emerging nations (E7) should exceed those of the G7 by 70% (whereas the G7 was 70% higher in 2007). The share of the OECD member countries should thus decline to 43% by 2030, compared to 60% in 2000[2]. This shifting of wealth is far from a transient phenomenon; it represents a structural change on a historic scale.

Most of these high-potential emerging nations will be concentrated in Asia: by 2040, nine of the twelve countries with the highest levels of economic growth will be located there.[3] The catch-up phenomenon concerns a growing number of countries and should affect a large majority of the emerging nations.

In the time frame under consideration, apart from the BRICs, about fifteen countries whose aggregate GDP has trebled since 1990 should be amongst the most dynamic emerging nations; most notably South Africa[4], Argentina, Bangladesh, Egypt, Indonesia, Iran, Malaysia, Mexico, Nigeria, the Philippines, Thailand, Turkey, Ukraine, and Vietnam[5].

In addition to their ability to attract DFI and the rising price of raw materials, the economic energy of the emerging countries should be based on the development of infrastructures and, in particular, on investment in research and development, training, education and, more generally, the spreading of knowledge—all sources of important positive external contact.

Some doubts nevertheless remain concerning the growth potential of these economies and how sustainable the growth will be. Some of these countries could face a significant slowdown: faced with the ageing and shrinkage of their active population, China and Russia should both find their growth potential greatly reduced between now and 2040 (approximately 6% for China and 1.5% for Russia). The catch-up effect also assumes that a set of external and internal factors will coincide: opening up of international markets, access to natural resources, the redistribution effects of growth for the entire population, absence of major conflict, political stability, appropriate policies and institutions, etc.

Moreover, in the shorter term (five years), these countries are faced with a risk of their economies overheating, and they must succeed in controlling their inflation, particularly in order to contain the swelling of social demands and to preserve their cost-competitiveness advantage. Finally, once they have reached a certain threshold, these countries should experience what economists call the 'leader effect', which refers to a country that has reached economic maturity and whose growth rate will mechanically decelerate.

Furthermore, the growing power of the emerging and developing countries should give rise to the strengthening of their trade relations: whereas worldwide trade nearly quadrupled between 1990 and 2008, 'South-South' exchanges increased by more than a factor of ten. Thus, in 2009, China became the top trading partner of Brazil, India, and South Africa. The current balance of its investments now exceeds 1 trillion dollars, largely distributed over all of the other emerging and developing countries. This trend should accelerate and intensify with the restructuring now in progress.

Finally, the absolute economic growth of the emerging nations will be all the more visible since many developed countries should be facing a long-term debt crisis, following the subprime mortgage crisis of 2008. Because of the scale of the recovery plans put in motion on the one hand, and weak growth on the other hand, certain states have caused long-term damage to their public finances, which were already affected by a chronic deficit. The total public debt of the G20 countries should thus reach 115% of their GDP in 2015, compared to 97% at the end of 2009[6], an unparalleled level in peacetime. This massive level of debt raises questions about the long-term sustainability of the debt.

1- *The world in 2050*, Price Waterhouse Coopers, January 2011.

2- *Perspectives on global development 2010: shifting wealth*, OECD, 2010.

3- Vietnam, India, Philippines, Bangladesh, China, Indonesia, Pakistan, Malaysia, Thailand.

4- South Africa was inducted into the BRIC forum, which thereby became BRICS (Brazil, Russia, India, China, South Africa) at the Hainan Summit in April 2011.

5- *The World Economy in 2050,* Price Waterhouse Coopers, 2008; *The next 13*, Economic Analysis Division, Crédit Agricole, March 2008; *Beyond the BRICs: a look at the Next 11, Goldman Sachs, April2007.*

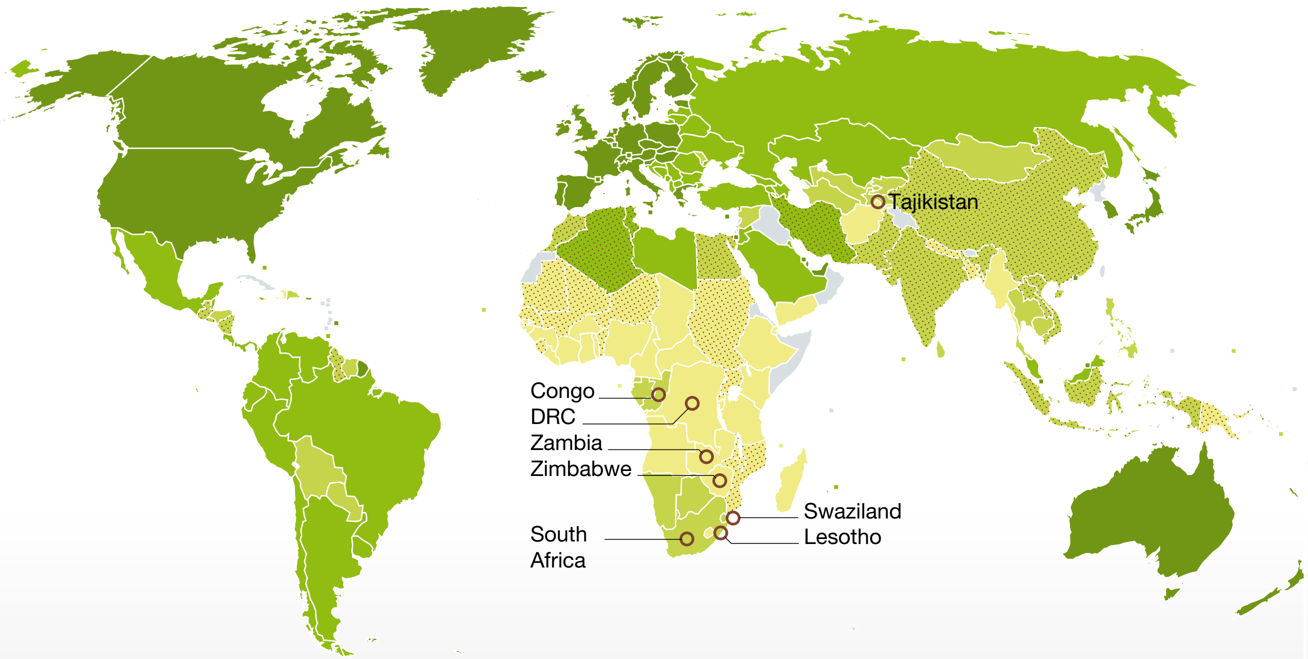
6- Compared to 3.6% for the Asian emerging nations and 2% for the Latin American countries.

If current trends were to continue, and in the absence of structural reform, particularly to anticipate the cost generated by the ageing of the population, public debt could reach barely tenable levels in 2040: 600% of GDP for Japan[1], 500% for the United Kingdom, 430% for the USA, 400% for France, the Netherlands and Greece, and 300% for Ireland, Spain, and Germany[2].

1.2 – A reduction in poverty accompanying a strong growth of inequalities

Since 1990, the number of persons living in extreme poverty on less than one dollar per day has dropped by about 500 million[3]. If this trend were to continue, this number would drop from 1.1 billion to 550 million by 2040, and the proportion of such persons in the population could fall from 46% in 1990 to 15% by 2015 in spite of population growth in the poorest regions[4]. In China, the poverty rate has thus fallen from 60% in 1990 to 16% in 2005, allowing 475 million persons to emerge from extreme poverty[5].

Meanwhile, the mean income per inhabitant should double between now and 2040, generating a 'global middle class' of 1.2 billion inhabitants, compared to 400 million today.



Human Development Index (HDI), 2010

Low — High

0.14 | 0.49 | 0.68 | 0.79 | 0.94

No information

Statistical method: quartiles

DHI from 1990 to 2010 (%)

Reduction (up to 50 % for certain countries in the period)

Strong increase (from 25% to 80% over the period)

Source: Pnud, *Report on human development 2010*, http://hdr.undp.org according to the UN Department of Economic and Social Affairs (Population Division, 2009), Barro and Lee (2010), Unesco Institute for Statistics (2010) and World Bank (2010)

Map Department of Sciences Po, 2011

1- Estimates not taking into account the cost of rebuilding following the earthquake of 11 March 2011.
2- The future of public debt: prospects and implications, Working paper n° 300, Bank for International Settlements, March 2010. The figures quoted are from the upper range of the projections.
3- *Perspectives on global development 2010: shifting wealth*, OECD, 2010.
4- *Report of the Millennium Development Objectives*, UN, 2010.
5- *Report of the Millennium Development Objectives*, UN, 2009.

Even though the transfer of wealth, which should operate on a planetary scale in favour of the emerging and developing nations, will reinforce the interdependencies between the various regions of the world, this will not necessarily constitute a guarantee that peaceful relations will develop, as illustrated by many historical precedents such as the First and Second World Wars, which opposed the main economic powers of the time in spite of the density of their trade.

This increase in global wealth should continue to be accompanied by growing inequalities on a national and international scale. Between the wealthiest 5% and the poorest 5% on the planet, the average income differential has risen from 6 to 1 in 1980 to more than 200 to 1 today, with 20% of the world's population consuming 80% of the wealth. Several factors will cause this increase in social or regional inequalities, such as the different standard of living of skilled workers compared to unskilled workers, the structure and development of international trade, and technical progress.

STEP CHANGE

In the countries with strong economic growth potential, increased inequalities or new power sharing arrangements between the traditional elite and those from the economic sphere, demanding more and more extensive free market conditions, could boost the risk of internal political instability. These 'growth crises' could maintain or aggravate societal tensions (Iran), ethnic tensions (Nigeria), or environmental tensions (Egypt, Mexico), or even lead to large-scale political crises liable to generate regional overspill or the failure of one of the emerging countries, like the crash that took place in Japan in the early 1990s*.

* At that time, Japan was hit by a serious financial crisis, initiated by the bursting of the speculation bubble. The crisis quickly spread to every aspect of the economy by a similar mechanism to the crisis that affected the USA in 2007-2008 (rise in interest rates, insolvent borrowers, credit freeze, falling property prices, etc.). The Asian crisis of 1997 subsequently accentuated the deterioration of the Japanese economy.

1.3 – Growth and environment

The future growth of the world economy could depend on the essential protection of the world's public assets, the foremost of which is our climate. Although the estimates of the potential damage caused by climate change are still subject to debate, the consequences of this phenomenon could limit economic growth, most notably because of spiralling external costs (insurance premiums, tougher regulations, etc.). With this in mind, our current growth model could evolve in the long term towards a new model that takes ecological imperatives into account and fits in with sustainable development prospects.

FOCUS

Towards the introduction of new instruments to measure growth and welfare?

Even though the indicators used to measure economic growth have always been subject to criticism, they have seen a revival in the last twenty years, with the emergence of environmental concerns, and the widening of the gap in the developed countries between measurement and perception, by individuals, of the development of activity and their standard of living. International organisations such as the UN, the OECD, and the ILO are thus carrying out studies to develop more relevant indicators to allow for sustainability, ecological footprint, and social performance in growth measurements.

In February 2008, France set up a 'Commission for the measurement of economic performance and social progress' chaired by Joseph Stiglitz, winner of the Nobel Prize for Economics. Its task is to determine the limitations of GDP as an indicator, to evaluate the problems involved in its measurement, and to think about new wealth indicators.

According to the Commission's report, published in November 2009:

- The current indicator to measure GDP should be changed so that it is not limited to an evaluation of commercial production and takes consumption, wealth, and revenues better into account;
- The non-monetary indicators used to measure 'subjective well-being' (quality of life of individuals, education, evaluation of the perception of well-being, physical and economic security, etc.) that already exist should be highlighted,
- It is necessary to develop instruments to measure sustainability, not only from an environmental standpoint, but also from a financial and/or monetary point of view.

Measurements of the attenuation of climate change could also have macroeconomic repercussions in terms of inflation (food prices), productivity, savings, and investment. This cost should vary from one country to another, according to the measures implemented and their more or less equitable nature (uniform carbon tax, distribution in proportion to the initial emissions). The World GDP could therefore lose several growth points because of these adjustment policies.

STEP CHANGE

In the event of uncontrolled warming*, and given the threshold effects, environmental constraints could place a very heavy burden on economic growth and generate unbearable costs for the poorest and most vulnerable** societies.

* *Climate change: facing the challenge by 2050*, OECD, 2008.

**Sir Nicholas Stern's report thus estimates the total cost of climate change over the next two centuries to be an average fall of at least 5% in world consumption. *Stern Review on the Economics of Climate Change*, HM Treasury, October 2006. The estimates presented in this report are the cause of some debate.

1.4 – A change in world financial governance accelerated by the growing awareness of the risk of a systemic crisis

The emancipation of the financial sector goes back to the last twenty years, when the deregulation of the markets led to the explosion of international financial transactions whose volume is currently equivalent to 70 times World GDP (compared to 25 times in 1995)[1], whilst the volume of exchange transactions represents 50 times that of the actual exchange of goods and services. Although the 'definancialisation' of the world might seem unrealistic, the need to reduce the systemic risk and regulate finance is becoming more and more certain.

The subprime mortgage crisis of 2008 highlighted the paradox of financial globalisation:

- Although it facilitates access to credit (including for developing countries), financial globalisation worsens imbalances, decouples financial profitability from the performance of the real economy, and generates forms of speculation that are likely to destabilise states;
- Moreover, it accentuates the vulnerability of states to the risk of a systemic crisis because of the transnationalisation of the banking system: the levelling of banking practices exacerbates this basic fragility related to the increase in volume and the speed of financial flows, by prohibiting compensations from one market to another, since the same rules apply almost everywhere.
- On the other hand, the diversification of types of investment and investor, and the increasing complexity of financial products make the analysis and prevention of financial risks a random proposition.
- Even the states that started the globalisation of the financial markets with the deregulation policies implemented simultaneously in the late 1970s or early 1980s are now struggling to control the financial sphere.

STEP CHANGE

Having caused the most serious world economic recession since the 1930s, the economic crisis of 2008-2009 is an economic and strategic step change likely to have major long-term repercussions, both in terms of the geopolitical restructuring it accelerated and in terms of the questioning of the dominant economic paradigms that it provoked.

The repercussions of this systemic crisis were very different on the emerging countries, where it merely slowed the activity down, and these countries very soon returned to the rate of growth they had enjoyed in the first half of the decade, compared to the developed countries, which were affected by a long-lasting recession. This difference confirmed the geo-economic shift to the East and, to a lesser extent, the South, in fact and in people's minds, as well as its consequence, the relative downgrading of the western countries, which was taking shape.

The crisis also led to a step change marked by the calling into question of the dominant growth regime and neoliberal economic order promoted by the western nations which, without being radically contested, have had some of their bases called into question (end of the Washington Consensus).

The crisis shook the general faith in market regulation and reasserted the importance of the role of states in the economy. Even though they were short-term, their massive interventions during the crisis (injection of capital, purchase of assets, nationalisations, increase in budget deficits), which made them the last-ditch saviours and placed them back at the centre of the action.

This return to greater state interventionism could be confirmed, or amplified, with the increasing power of the emerging nations, in particular the Asian ones, whose better ability to withstand the crisis consolidated not only the positions on the international stage, but also an alternative type of economic model. This model of 'state capitalism', which was often authoritarian and was promoted by several of them, except for the noteworthy cases of Brazil and India, could thus become more attractive for the developing countries and spread, to the detriment of the 'western' model.

Carried by the growing awareness of the scope of the systemic risk, and therefore the need for the major imbalances in the world to be rectified (massive surplus for some, particularly in Asia, and excessive deficits for others, particularly in the USA and Europe), the advances in world governance, which were consolidated by the setting up of new mechanisms and the return of the IMF to centre stage after it was marginalised between the 1998 and 2008 crises, should continue in the medium and long term.

1- Financial transaction tax: small is beautiful, PE 429 989, European Parliament, January 2010.

The realisation concerning the excesses of economic liberalisation and the deregulation of financial markets, and the importance of preserving financial stability, which was promoted to the rank of worldwide public property, should also fuel the trend towards strengthening regulations. The major projects concerning financial regulation launched by governments on both a national and an international scale should continue in the long term.

The activities and methods of rating agencies[1], whose role is to evaluate the solvency of countries and companies, were subject to severe criticism following the subprime mortgage crisis which resulted, in particular, from the overly optimistic rating they gave to certain financial products. Since then, measures have been taken in the USA and Europe to prevent conflicts of interest and to reinforce their responsibility, transparency, and competition. Nevertheless, their influence on the world economic system should however continue, in a context of massive indebtedness of nations.

In the medium term, however, effective regulation of finance will not be possible unless the problem of tax havens can be solved. More than 50% of international flows transit through these havens, which truly constitute a parallel banking system that allows banks and hedge funds to circumvent international regulations.

STEP CHANGE

The inadequacy of the international legal framework and transnational regulations with regard to the management of financial crises and the sharing of responsibilities between investment issuing countries and host countries could lead to another major crisis. In fact, despite the new regulations introduced following the subprime mortgage crisis (prudential standards, compartmentalisation of banking activities, etc.), the risk of a systemic crisis remains. As in that crisis, a new world economic and financial crisis could be caused by the process of contagion, the paradoxical crisis propagation phenomenon, based on making profits from financial markets to compensate for the losses made elsewhere, thus reinforcing the systemic risk whilst disconnecting the financial economy from the real economy.

The scale and durability of this dynamic in favour of heightened governance and regulation will depend on the long-term implementation of the lessons learnt from the crisis and the relative consensus that emerged from it. The variety of different situations, opposing interests and divergent economic theories could make this process erratic without, however, reversing it.

After a two-decade eclipse, the reform of the international monetary system, whose economic and financial crisis demonstrated the inability to fight against major instabilities, has also been put back on the agenda. Some minimum concrete short-term measures might be implemented, but in-depth changes, which will depend a great deal on the will of governments, seem unlikely, at least in the short and medium term.

The move towards a multipolar monetary system, in which two other currencies, the yuan and the euro, would play a key role alongside the dollar, currently predominant, would fit in with the logic of changes to the world organisation and economy. In the absence of European political unity, the eurozone should not be able to assert itself, leaving the relationship between China and the USA to dominate the world geo-economy.

Such a shift towards a multipolar monetary system could, according to the level of multilateral co-ordination in particular, both lead to compensating for certain weaknesses in the current system (e.g., the rigidity of exchange rates) and aggravating others (e.g., currency wars)[2].

Whatever the case, since it is dependent on a global consensus, this movement towards a more stable international monetary order, if not necessarily more co-operative, will be gradual and will involve in-depth reform of world governance, starting from that of the financial institutions arising from Bretton Woods (IMF, World Bank) as a continuation of the action driven by the G20.

This dynamic, moreover, converges with the commitment of the emerging nations, which want to be free from the traditional powers, within traditional multilateral bodies (WTO, IMF) or ad hoc bodies (G20). This strategy should lead them to prefer the multilateral dimension over strictly bilateral systems.

1- Three large agencies, Standard & Poors, Moody's and Fitch Rating, dominate world finance.

2- The long march towards a multipolar monetary system, *CEPII letter* No. 308, 16 February 2011.

2 Major players of the world economy

2.1 – The main economic powers

USA: First among equals

STEP CHANGE

The USA has been the world's leading economic power since the early 20th century, but by about 2020 it should be demoted to second place in terms of GDP (in PPP), behind China*.

* In terms of income per inhabitant, the differential will remain highly favourable to the USA, since Chinese income is still only 40% of the GDP per American inhabitant.

The American economy should nevertheless remain the most competitive, thanks to heavy investment in the future[1], reflected in the high proportion of high-technology industries in their industrial production, first-class higher education, and a strong tendency to promote innovation and integrate it into the production system. The American economy should also still benefit initially from the strong plasticity and the preponderance of the dollar on the international exchange market[2], particularly in the face of crises, even though this might begin to be gradually questioned, and the most highly developed and the most fluid in the world.

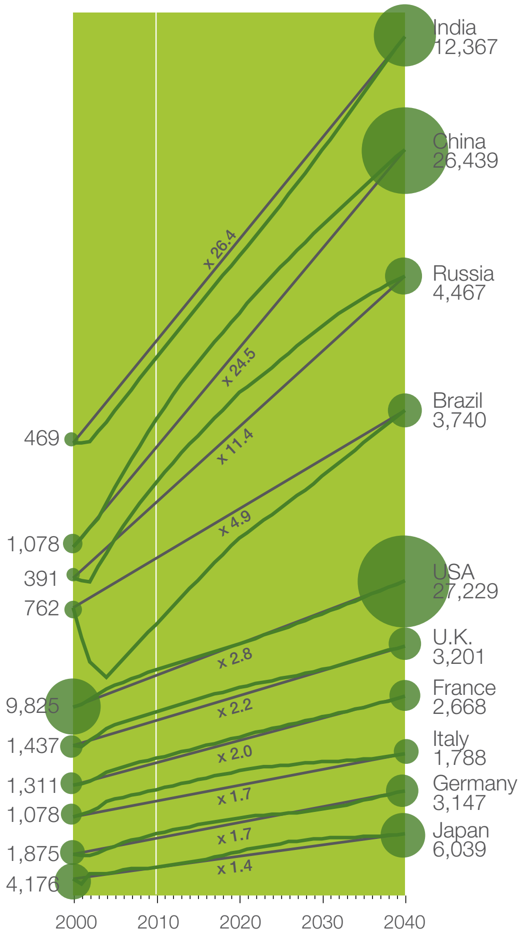
1- 2.7% of GDP devoted to research and development, which represents more than a third of world expenditure, far ahead of China (about a tenth of American expenditure).

2- 68% of world foreign exchange reserves are currently labelled in dollars, and 50% of international commercial transactions take place in that currency.

STEP CHANGE

The potential fragility of the USA will continue to depend on its vulnerability to systemic risk of a financial nature, likely to be generated by a large-scale bank default (such as the subprime mortgage crisis), and its strong dependency on world savings (China, Japan), which is necessary to finance their external deficit.* As the quintessential exchange currency, the dollar has long enjoyed a special status in the world. A loss of confidence by international investors, combined with a credible competitive monetary offer (euro, yuan) could cause the dollar to lose its status as the international currency of payment. This type of development would result in an increased cost of credit for the USA and a reduction in its growth potential. This would be made worse by the ongoing downgrading of the USA's financial rating. The downgrading of the USA's financial rating in 2011 reflects the deterioration of the general economic situation.

* The USA is the biggest importer in the world (13%). *World trade statistics*, WTO, 2009.



GDP trend, 2000-2040

(billions of dollars)

Source: 'Dreaming with BRICs: the Path to 2050', *Goldman Sachs Global Economics Paper* n° 99
http://www.2goldmansachs.com

Map Department of Sciences Po, 2011

The long-term unsustainable nature of the structural weakness of the saving rate in the USA and the level of indebtedness of households could lead to a convergence of its saving behaviour with that of the other developed regions.

STEP CHANGE

The trend reversal, combined with the impact of a relatively young and dynamic population, would make the USA the region with the highest surplus in the world from 2030 onwards.

The European Union: risk of decline

The international economic environment should become more uncertain and competitive, to the relative detriment of French and European interests. For a constant perimeter, Europe occupies a falling position in a world economy whose openness rate is rising. In the next thirty years, its unfavourable demographic profile, the insufficient progress of its global productivity and the weakness of investment for the future should make it a region of low economic growth. Thus, in the absence of measures aiming to increase European competitiveness, the gap between the EU and the USA in terms of income and work productivity should continue to widen.

By taking advantage of constantly rising exchange rates and structurally low interest rates, the European countries could nevertheless become the world's creditors. This situation would be profitable for Europe until 2040, but this benefit will diminish beyond that time, most notably because of the ongoing ageing of the population.

The progressive expansion of the EU will not be sufficient to guarantee parity with the USA: The Union should carry less and less weight on the course of globalisation. On the other hand, the continuing process of political and economic integration will affect its future economic power. Further integration, particularly in the financial sense, will allow it to take advantage of the strength of its currency.

The massive level of indebtedness raises questions about its long-term sustainability. Within the Eurozone, the difficulties encountered by certain countries (especially Greece, Ireland, Spain, Portugal, and Italy) could lead to major systemic instability if the current public finance dynamic is not brought under control. For the countries concerned, the rate of deficit and debt reduction will be a decisive factor, or even the main factor, in restoring medium-term growth.

To avoid any deterioration of financing conditions in the Eurozone, and perhaps ultimately the bankruptcy of a member state (payment default), the European countries have adopted a set of measures and mechanisms that go towards acting as a 'European economic government'[1] (the Euro Plus Pact). Such arrangements will however not be sufficient unless the European states concerned quickly adopt structural reforms, as seen in the case of Greece.

The role of non-residents in the financing of the French and European economy should continue to grow. If the EU's and particularly the Eurozone's position remains predominant, company buyouts in the North by corporations from the South, a recent phenomenon, should grow. China's management of part of the port of Piraeus since 2008 and the buying of Greek, Spanish, and Portuguese debenture following the euro crisis (late 2010/early 2011) may appear to herald a long-term dynamic that could give China growing influence on the economic strategies of the European states unless Europe reacts.

This trend should lead the nations to reinforce their function as strategists, in particular to protect the sectors considered to be top priority for the defence of national and European interests. The question of reinforcing special legislation to protect strategic interests should be raised, particularly for France and the EU.

1- The Euro Plus Pact, adopted on 25 March 2011, aims to follow on from the existing growth and stability pact. It institutes stronger control over the growth of member states' debt, creating nearly-automatic sanction mechanisms, and preserving the European Financial Stability Fund (EFSF), which is endowed with 440 billion euros.

Moreover, in a context of increased competition, the EU should consider adopting an ambitious industrial policy capable of responding to the constraints inherent in globalisation (relocations, maintaining competitiveness), which are already present but whose pressure will mount. This type of policy could involve creating European 'champions', adopting anti-dumping legislation, or instituting a principle of reciprocity in exchanges with third-party states (particularly in the environmental and social sectors).

China: towards a new growth model?

STEP CHANGE

Having reached second place in the world economic power rankings in mid-2010*, China should become the top economic power (in terms of PPP) and commercial power ** (importer/exporter) by 2020, thanks to 5.9% average growth over the whole period (fourth-highest rate in the world)***. This growth will continue to be based on the attractiveness of the Chinese economy in terms of DFI, competitive pricing, and the increasing added value of its production, as well as the growth in its internal consumption.

* This is ahead of Japan and behind the USA, even though the GDP per head of population (3,800 dollars) is very far from the figure in those countries.

** China has been the leading exporter in the world since the first half of 2010, ahead of Germany and the USA.

*** *The World in 2050. The accelerating shift of global economic power: challenges and opportunities, January 2011.*

However, the rise of Chinese economic power raises the question of its sustainability, in economic and financial terms (dependency on foreign investment, exponential consumption of energy and raw materials, generation of speculative bubbles, appreciation and convertibility of the yuan) as well as social terms (unequal distribution of income[1], worsening of disparities, increasing unemployment), environmental terms (increasing pollution, desertification, industrial under-productivity leading to significant consumption of every type of resource) and, finally, political terms (transformation of social protects into political protest). All of these factors, individually or in combination, could generate a possible reconsideration of Chinese growth. From 2015, they could be aggravated by the end of the 'demographic dividend', marking the ageing and slowing growth rate of its population[2].

1- In its latest version of *Perspectives on the global economy* published in September 2011, the IMF established that Chinese salaries have grown by almost 15% on average since the beginning of the year because of a labour shortage. The IMF also points out that this phenomenon does not only affect China, but also many Asian countries such as Vietnam (average pay rise of 8% in the first eight months of 2011) and Bangladesh (where the minimum salary has grown by 70%). Despite these increases, these countries are still extremely competitive today, but there are strong reasons to wonder whether their comparative advantages might be eroded in the long term.

2- In 2050, 42% of the active population in China will be aged over 65 (27% in India). Pensions, which accounted for only 2.1% of GDP in East Asia in 2000, will account for 7.3 to 8% of GDP by 2050.

The challenge in the next three decades will lie in the transition from essentially an export economy, fuelled by massive flow and with constant DFI, to an economy based on satisfying the needs of the population, most notably relying on credible welfare cover and more egalitarian redistribution of wealth.

STEP CHANGE

The high level of foreign exchange reserves*, linked to the strong growth of the trade surplus**, could lead to an overabundance of liquidity and cause a poor selection of investments likely to lead to economic overheating or even a speculative crash, as occurred in Japan in the early 1990s.

* China's trade surplus was fairly modest for many years, but has taken off since 2004. Its foreign exchange reserves have been the first in the world since 2006 and have now reached almost 3,180 billion dollars (January 2012).

**China has had a trade surplus since the mid-1990s, and this has grown constantly since then, reaching almost 8% in 2007. Source: *World trade statistics*, WTO, 2009.

India: Balanced growth?

Thanks to increasing diversification, consolidated positions in certain economic sectors (services should employ almost 30% of the active population by 2025[1]) and a constant DFI flow, in the last three years, India has enjoyed the second-highest annual growth of the BRICs, after China[2], thus becoming the world's 12th largest economy. This growth should remain high, thanks to the demographic structure of the country, abundant and constant flows of capital, and more balanced economic growth than that of China (more endogenous and therefore less dependent on fluctuations in foreign investment and the international situation). By 2040, India should thus overtake Japan and move up to third place amongst the world's economic powers, after China and the USA.

These positive points must not obscure a certain number of weaknesses; the main ones being profound economic and social inequalities. 35% of the population lives on less than a dollar a day, and almost two thirds of the population is still dependent on agriculture, which has a very low productivity rate. The spectacular rise of IT services should not obscure the fact that the manufacturing sector provides more than half of the foreign currency revenues. The obstacles to employment flexibility limit the development of labour-intensive industries. The gap between skilled and unskilled workers should tend to widen.

1- Boillot Jean-Joseph, *L'économie de l'Inde (The Indian Economy)*, 2009.
2- *Brazil, Russia, India, China*, Deutsche Bank, July 2009.

All in all, India's ability to ensure a growth rate equivalent or superior to 8% per year will depend on many conditions, particularly the development of basic infrastructures[3] which, given the weight of the public debt (100% of GDP), will have to depend on foreign private investment, as well as on the curbing of its strong dependence on raw materials, the satisfaction of social needs, and its ability to control the demographic growth in its poorest states.

Brazil: a positive dynamic?

Brazil has embarked on a steady growth dynamic, limited only by inflationary pressure. The demand for agricultural and mining raw materials by other emerging countries (China) is allowing it to clear unprecedented financing margins. The continuing direct investment flows from companies in the developed countries is feeding the technological upgrading of its industry. Policies aimed at reducing poverty and increasing R&D are contributing to extending the local market and raising the quality of production of goods and services. Given its reserves of farmable land and mineral and energy resources not yet exploited, Brazil will not face the need to adapt its economy until the end of the period, when the question of its energy self-sufficiency will be raised again by the depletion of its offshore oil reserves.

3- The Indian Government devotes 3% of GDP to them, compared to 10% in China.

Over the next three decades, the country should enjoy more than 5% average annual growth thanks to its wealth of human (220 million inhabitants by 2040[1]), technological, industrial, and agricultural potential. Brazil should put these advantages to work towards its global ambitions, in co-operation with the other emerging powers, with which it will contribute to the drawing up of globalisation rules. On the other hand, it will not be able to overcome the suspicion it inspires amongst its neighbours, or to present itself as a true regional pole on the global scene, unless it includes them in its main technological and security plans.

Nevertheless, these optimistic growth prospects cannot hide the fact that Brazil suffers from structural difficulties that are liable to impede its development: continued inequalities, need to pursue agricultural reform, etc.

STEP CHANGE

The standard of living of Brazilians should be less affected by a drop in world demand caused, for example, by a crisis in the Asian economies, than by the repercussions of climate change, which will place strong pressure on the agro-industrial sector.

Russia: too much oil and a lack of human resources

The 'Russian economic miracle' could have come to an end with the financial crisis of 2008. Russia recorded the biggest drop in GDP (-7.9% in 2009) of all the G20 countries, and was much more severely affected than other economies of comparable size. Overall, the forecasts, including those issued by the Russian government, look fairly pessimistic for the coming years, estimating a 3 to 4% growth rate, which is insufficient in the case of Russia.

Russia's weaknesses should persist in the medium term: weak integration into the world economy with regard to the other major emerging countries, increased dependency on resources[2], particularly energy resources<?>, creating a rent-based system that is unfavourable to innovation and industrialisation, a lack of investment in infrastructure, related in particular to the gas and oil sectors, and demographic decline, which could substantially reduce its economic growth potential, with an active population shrinking by an average of 1% per year over the entire period concerned[3]. Even so, Russia has assets (scientific and industrial expertise, guaranteed energy income, proximity of the European and Asian markets, etc.) that could trigger a positive trend if backed by better political governance.

Sub-Saharan Africa: towards integration in globalisation?

Sub-Saharan Africa should continue to benefit from growth exceeding 5% between 2010 and 2030[4], which should allow the region to treble its GDP by 2030, whilst its relative weight in the world economy should remain stable (less than 2% of world GDP).

These growth prospects, however, are subject to many uncertainties, including political instability, dependence on the prices of raw materials, low investment in infrastructure, and level of public aid to development. Moreover, poverty reduction is hindered by the sustained high rate of demographic growth, which weighs down the per capita GDP without calling its economic growth potential into question.

2.2 – The increasing weight of transnational economic players

Multinational corporations (MNCs)

The influence of multinational corporations on the international system should grow. These companies, which are financial and technological powers, already represent production capacity equivalent to approximately one quarter of world GDP. They will facilitate globalisation, from which they will benefit.

1- *World Population Prospects*, United Nations, 2009. Median values.

2- 25% of world gas reserves; 15% of world oil reserves, top gas and oil producer in the world; 'top 5' producer of nickel, gold, aluminium, uranium, etc.

3- *Perspectives on global development 2010: shifting wealth*, OECD, 2010.

4- *The world economy in 2050: a tentative picture,* CEPII, November 2010.

A vessel of the American fleet in dry dock for overhaul and technical inspection, June 2011, *Norfolk* waterfront

CHRISTOPHE DEYRES/DICOD

In parallel, the trend towards multinationalisation of companies[1] should continue with the increasing power of the emerging countries and the internationalisation of their companies, whether state-owned or not, and the ongoing quest for competitiveness. The development of DFI flows, generated by exchanges between subsidiaries[2], should thus reflect the increasing weight of these corporations.

The number of multinational corporations implementing global strategies, combining supply strategies (seeking supply sources), market strategies (production and sale on offshore markets) and rationalisation strategies (workshop subsidiaries specialising in the production of an end product or one of its components), and associating financial techniques to create a network structure on a worldwide scale, should also increase.

In this context, multinational corporations should constitute one of the main globalisation engines.

However, even though the macroeconomic consequences of the establishment of multinational corporations have been obvious for many emerging countries (technology transfer, DFI flow, expansion of export capacities, growth in productivity, rising salaries), the global strategies they implement and their growing weight, both absolute and relative, will exacerbate the competition between states in terms of the location of their activities.

Relocations carried out by multinational corporations should reinforce specialisations and alter the structure of the labour market, especially the demand, at the expense of less qualified workers (in the developed countries). This change will call for the introduction of social support policies and investment in education and training. More generally, the growing weight of the multinational corporations could lead to an increased loss of national autonomy (capitalistic, technological, etc.) for the European states in particular, including France, as a result of the corporations controlling an increasingly extensive share of the country's activity. Relocations are based on comparative advantages whose limitations have been demonstrated and which could be counteracted, for example, by the trend towards rising fuel costs and the narrowing of salary gaps.

The increasing power of MNCs, combined with the heightened pressures weighing on the budgetary room for manoeuvre in the developed countries (expenditure related to the ageing of the population and the rising cost of debt) should favour the movement, already underway, towards the privatisation of state functions. In this context, the gradual abandonment of the monopoly on legitimate violence and the commoditisation of security could take on significant proportions, both in the developed nations and in nations affected by crises, where the state is unable to ensure its own security. This trend, which has thus far been enacted on the level of states, could develop on the international scale (UN peacekeeping operations).

A persistent impact of organised crime on the economy

The effects of globalisation and the spreading of technologies should be favourable to the rise of criminal organisations conducting various types of trafficking. Drug trafficking, human trafficking (especially the carrying of illegal immigrants by criminal organisations), trade in illegal goods, and the handling of stolen goods will all continue to develop. The weight of the mafias of warlords is not likely to diminish.

Criminal activity is a strong disturbance to the economy. According to IMF estimates, between 600 and 1800 billion dollars originating from criminal transactions is laundered worldwide each year. The trend is for the sums generated by these traffics to increase, as is the growing involvement of criminal groups in economic activity.

The instability of the less advanced countries could spread to the developed economic areas via 'grey' capital and financial delinquency on a smaller or larger scale.

1- In the last twenty years, the number of multinational companies has grown from 37,000 to 70,000. During the same period, the number of their subsidiaries has grown from 170,000 to 850,000. Source: UNCTAD.

2- Inter-company trade now accounts for one third of international trade in developed countries.

3 The world defence industry

3.1 – The growing power of new players and increased competition

The worldwide arms industry (national and export markets), estimated to be worth €300 billion[1], is dominated by the American industry, whose business volume accounts for half of the sector. Many states will resort to domestic procurement when they have a defence industrial and technological base (DITB). Arms flows are thus relatively limited.

They stabilised around an average of €55 billion per annum over the last ten years, and have now started rising, with a record level of €70 billion in 2008.

In the time frame under consideration, this market should remain highly competitive, with competition between a limited number of countries[2] equipped with a high-quality industrial base. The defence industries of the USA, the UK and France, as well as Israel and Russia, Germany, and China will thus be competing to sell new equipment.

Regions	Military expenditure* (2010) - billions of euros
North America	707
Europe	376
Asia-Oceania	290
Middle East	106
Africa	28.5

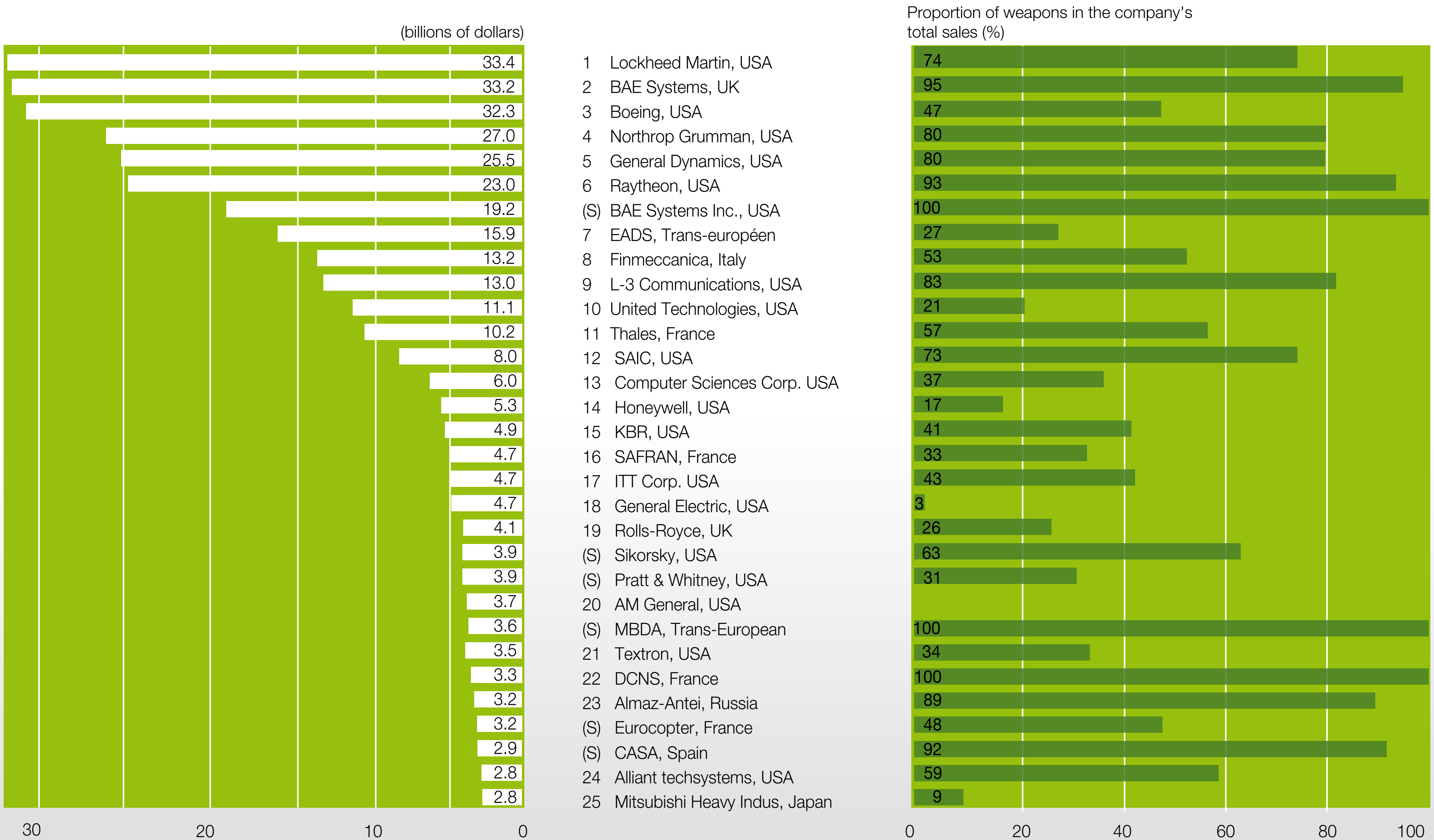
* *SIPRI Yearbook* 2011.

The 'traditional' industrial players will have to face growing competition from new arrivals on the market, initially with a limited industrial and technological investment (light armoured vehicles, for example) and, in the medium term, on new markets, including the complex systems market (e.g. drones). Emerging countries such as India, Pakistan, Turkey, and Brazil, wish to (re) constitute autonomous defence industries to ensure their strategic independence, and ultimately to look towards export markets. These countries will thus take a growing market share thanks to technology transfer and industrial partnerships of long standing with Russian or Israeli industrialists and, more recently, with western industrialists, giving them technological niches, to the detriment of the players historically present on these markets.

The effects of the world financial and economic crisis and the economic recession seem to have had little impact on world military expenditure, with the notable exception of the European countries, where spending has fallen by 2.8%. This spending thus reached the unprecedented figure of $1630 billion in 2010—an increase of nearly 50% compared to 2001. Because of the situation, certain countries such as China have slowed the growth of their expenditure, but only the European states have reduced their budgets (-2.8% in 2010). The tensions in the Middle East and in South Asia, the significant engagement of troops in the theatres of operation and the rising power of China, which is investing massively to modernise its army,

1- *SIPRI Yearbook* 2010.

2- In 2010, 15 countries accounted for 82% of the world arms trade.



Weapon sales by the main private companies, 2009

(S) denotes a branch office

Source: Stockholm International Peace Research Institute (Sipri), www.sipri.org

Map Department of Sciences Po - 2011

suggesting that this global increase should continue in the years to come. For countries such as China, India, Brazil, and Russia, military expenditure is a long-term strategic choice.

Finally, the increasing development of dual technologies, seen since the 1990s, should not disappear. Dual-purpose equipment provides an opportunity for manufacturers to diversify their activities on booming markets.

3.2 - The main military powers

USA

The USA, the country with the highest defence budget in the world, pumped $687 billion into the defence sector in 2010: 42.8% of worldwide expenditure in this sector. Although American military spending has risen by 81% since 2001, it is unlikely to continue rising at this rate in the short and medium term because of the withdrawal from Iraq and the upcoming withdrawal from Afghanistan. In fact, the economic and financial crisis has already started to slow the annual growth rate of the American budget quite significantly (the rise from 2009 to 2010 was 2.8%, compared to 7.8% between 2001 and 2009). Despite its shrinking defence budget, in 2030 the USA will remain the world's leading military power and will continue to enjoy technological superiority.

Europe

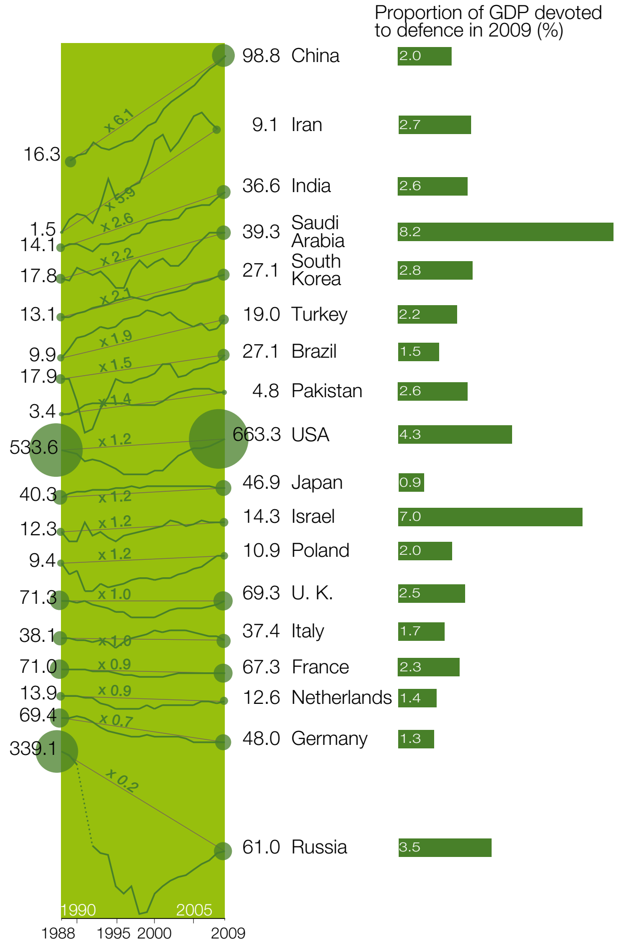
In 2010, spending in the European countries reached 376 billion dollars. These countries allocate an average of 1.67% of their GDP to defence. The equipment procurement budget was €41 billion (21% of military spending), whilst the research and technology budget was €8.4 billion: six and eight times, respectively, lower than the equivalent figures for the USA.

Although the economic and financial crisis encouraged a certain form of economic nationalism and, on the European continent, a reduction in defence spending, European weapons procurement should turn its efforts, which are still insufficiently co-ordinated and uniform, to equipment in the next decade. These weaknesses are aggravated by insufficient industrial co-ordination in view of the progress seen in the USA in the last twenty years, as well as the growing strength of new competitors.

European defence industries will have no alternative but to rationalise their efforts if they wish to maintain their position in the technological domain, consolidate their presence on export markets, and prepare for the coming changes in Defence tasks, outsourcing, and the growing integration of new technologies.

To respond to these demands, European manufacturers might be required to place an emphasis on the following five lines of development, whether alternately or simultaneously: specialising their offer, e.g. by providing global leadership on intermediate products, developing partnerships and technology transfers, which would involve ultimately transferring non-critical technologies, developing strategic partnerships and acquisitions, which would raise the question of the financial capacity to make major acquisitions, geographical redeployment, and creating clusters as they did in the USA in the early 1990s.

Tools such as the European Defence Agency (EDA) should be favoured. The Capability Development Plan could thus allow better harmonisation of future military needs and the technical solutions chosen to satisfy them, in a twenty-year time frame. The DITB Charter should ensure the growth or, at least, the maintenance in Europe of a competitive defence industry scaled according to capability requirements, service a more transparent, more fluid, and more reactive European defence equipment market.



Military spending, 1988-2009

(billions of constant 2008 dollars)

Source: Catalina Perdomo, Stockholm International Peace Research Institute (SIPRI), www.sipri.org

Map Department of Sciences Po, 2011

However, these joint advances will remain dependent on the efforts that the member states wish to, or can, put forth for their own defence capabilities and their real ambition for the EU. The emergence of a European DITB could suffer from the absence of a European acquisition policy ('Buy European Act') and the repercussions of the volume effect insofar as there are too few co-operation programmes to maintain a truly autonomous and innovative European defence programme.

STEP CHANGE

The risk of a loss of skills in the European industry cannot be ruled out if the financial resources are no longer sufficient to complete the existing programmes and launch new ones. A 'technology stall' could accentuate the tendency of certain states to place themselves under the 'supervision' of other countries.

China

China, whose budget remains opaque, apparently spent $92 billion (€65 billion), or 1.4% of GDP, on defence in 2011. This budget has been increasingly steadily by about 15% per year for about ten years. Beijing is deploying significant efforts to develop a sovereignty industry, most notably by integrating high technologies acquired from developed countries. China has recently emerged as a formidable competitor for Russia by offering products at very low prices. In the medium term, because of the rapid improvement in the performance of its equipment, China will significantly increase its worldwide market share until it becomes one of the largest exporters in the world by 2020-2025.

India

The Indian defence industry is also undergoing modernisation. Taking advantage of the dynamic nature of its economy, military expenditure is constantly increasing (+65% since 2001)[1] and reached $36 billion in 2011. To modernise its industry, India imports goods[2] (essentially from Russia, Israel, the USA and France), in order to benefit from technology transfers and allow locally-developed programmes to catch up. However, although the defence industry is experiencing significant growth, as evidenced by the signing of more than 450 contracts by the Ministry of Defence (for a total value estimated at more than $30 billion) in the last three years, the constitution of a DITB is still subject to structural constraints, suggesting that India should remain one of the world's main importers in the medium term.

Brazil

The Brazilian defence industry boasts a few successes[3] and the creation of a fabric of subcontractors for the aeronautics industry. Its development potential is most notably based on the state's choice to increase its resources and acquire advanced technologies via arms purchases, particularly from France. Development in this industrial sector must support the achieving of technological autonomy required for Brazil to emerge politically as one of the main multipolar players.

1- This argument should be applied with caution, however, because every year some of the credits are not used (for example, in 2009-2010, almost 27% of the credits allocated to new acquisitions were not used),

2- According to SIPRI, India was the world's top importer in the period 2006-2010, itself accounting for 9% of imports.

3- For example, the Super Tucano produced by Embraer. This inexpensive aeroplane (approximately 10 million dollars each) was ordered by Brazil, Chile, Colombia, Ecuador, the Dominican Republic, Guatemala, and Indonesia, for a total of 186 units.

By 2040, the Brazilian defence industry will be able to produce the major conventional equipment required for defence thanks to its industrial partnerships with Europe, of which it will be a competitor.

Russia

In a downgraded economic context, in 2010, Russia devoted 2.9% of its GDP ($36 billion) to military expenditure, and plans to increase this amount to $43 billion in 2013. The Russian defence budget has increased by 82% over the last decade[4] and it is highly unlikely that this momentum will be lost. In fact, in order to modernise and equip its armed forces, Moscow has planned a very ambitious equipment procurement programme allowing for an investment of approximately $466 billion in the period 2011-2020. The ultimate objective is to reduce the imbalance between the expenditure to maintain its forces and the expenditure for the acquisition of new weapons, military equipment and space equipment. The stated priority concerns the purchase of high-tech weapons (approximately 80% of the total amount). The obsolete nature of much of the industrial system is now inducing the Russian authorities to import foreign technologies and equipment and to arrange international co-operations to bridge the capability gaps in the segments where the domestic deficiencies are deemed to be most critical.

The restructuring of defence industries operates in the context of a strategy that aims to extract Russia from an energetic rent-based economy and to boost its role and its prestige on the international stage. The consolidation and growth of strategic and/or high added value sectors, first and foremost of which are the aeronautics, naval, nuclear, security, and defence industries constitute a medium- and long-term priority. The military-industrial complex could come to play an important role in that it constitutes one of the rare sectors to have significant technological capabilities.

4- *SIPRI Yearbook* 2011.

5- This sector contributes 25% of Russian growth.

CONSEQUENCES FOR DEFENCE

In the event that steady long-term economic growth were to prevail in Europe, the erosion of defence budgets should continue. No European country, not even either of the two main military powers, France and the UK, has the capability to sustainably bear the full weight of a defence industry that would satisfy all the needs of its forces over the entire spectrum covered by the requirements of its operational engagements.

In the period 2007-2010, France was the fourth largest weapons supplier in the world. The total amount of the orders placed by France was €24.7 billion. With its 7.1% market share, it lies behind the USA (30%), Russia (23%) and Germany (11%). However, with the emergence of new military powers and the arrival of new players on the defence markets, its position is deteriorating. In the absence of a specific policy, this trend should continue and be amplified because of the European industry's gradual loss of competitiveness and the technology transfers required for export contracts.

In any case, the development of partnerships and the consolidation of the European market with a view to securing procurement are necessary to maintain the competitiveness of the European industry in this sector. The synergetic application of the various defence budgets in Europe (particularly for R&D) would contribute to this durability. It is strategically important to guarantee autonomous access to the weapons systems required for operational use under any circumstances.

Significant industrial consolidation has occurred on a European level in recent years (particularly in the aerospace sector), accelerating the transition from regulation administered on the basis of public corporations and arsenals to governance based on a profitability approach, favouring the emergence of world-class European players. Irrespective of the protectionist tendencies that currently predominate, the general approach will be to work towards concentrating the European industries (shipbuilding, land weapons) and the gradual opening of the national markets.

Finally, with regard to these prospects, it is possible that France could also arrange industrial partnerships outside Europe, with states that are not its historic partners in this field (e.g., Russia and India).

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