G20

SÃO PAULO, BRAZIL **NOVEMBER 2008**

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GROWTH, INNOVATION, INCLUSION: **THE G20 AT TEN**

Limiting the economic fallout

Paola Subacchi

The G20 takes centre stage

Extraordinary meeting in Washington DC, 11 October

A process of stabilisation

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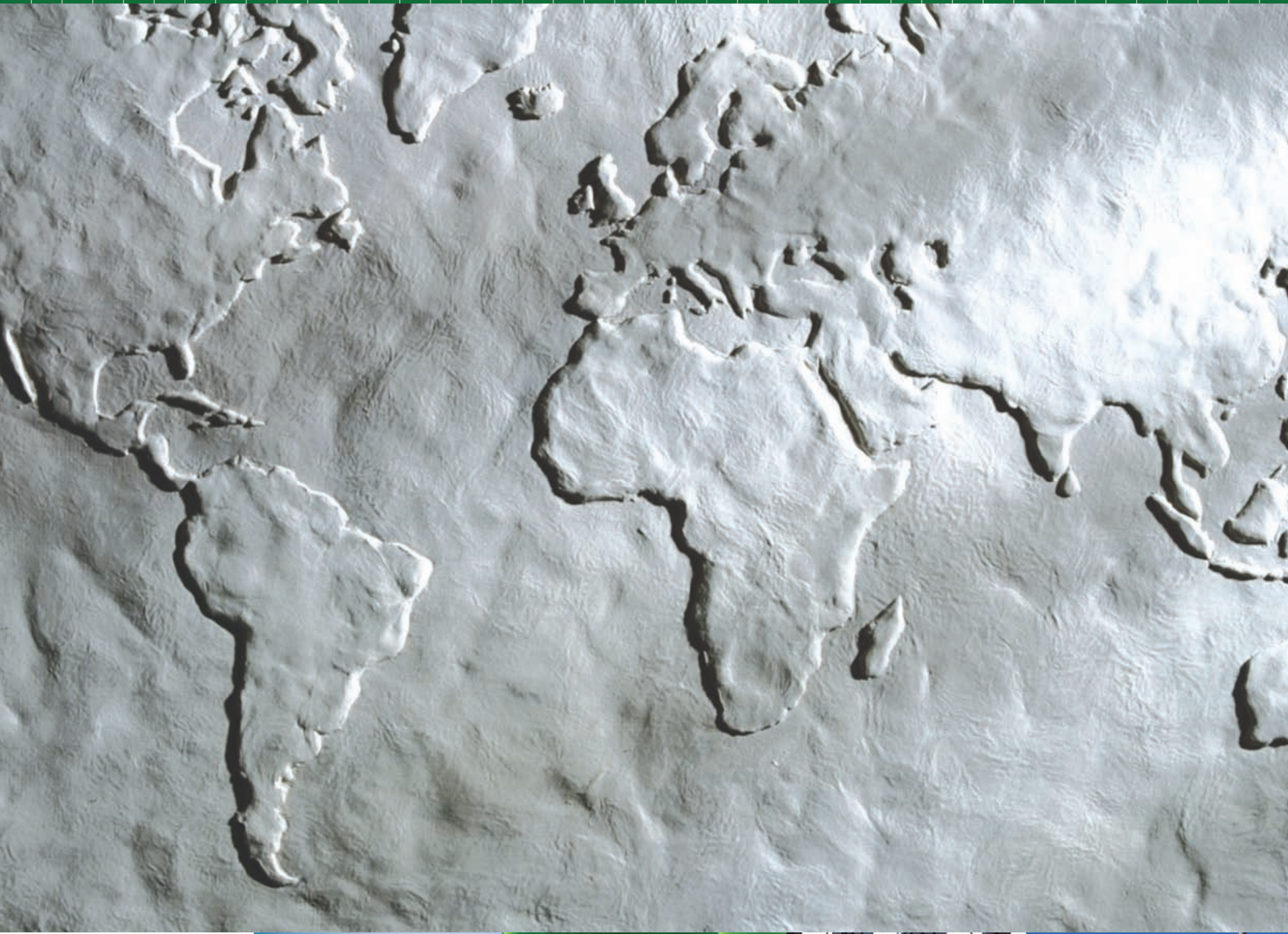

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Welcome

Brazil is honoured to chair the G20 in 2008 and to welcome all members to the debates it will host on the major financial and economic issues facing the international community

By Luiz Inácio Lula da Silva, president of Brazil

We are living in times of changing paradigms and unexpected threats. The prolonged expansion that the international economy has enjoyed over recent years – thanks to low interest rates and reduced risk aversion – has given way to financial turmoil and uncertainty in the wake of the market upheavals in the United States.

Brazil has never been better placed to absorb these shockwaves. Since January 2006 our vulnerability has fallen sharply. Our foreign currency reserves exceed $205 billion. The country has become a net international creditor. The economy's enhanced competitiveness and its diversified export base explain our growing share of international trade and attraction for foreign domestic investment. Domestic inflation has been reined in and public deficits are under control. No wonder Brazil has finally been granted its long overdue investment-grade status.

Previously, emerging economies were both the origin and victims of international financial crises. They are now a source of global stability and growth, helping to balance falling output in the industrialised nations. Brazil's gross domestic product grew 5.4 per cent in 2007 and has grown 6 per cent over the last four quarters. The Programme for Accelerated Growth, which provides for increased public and private investment, especially in infrastructure, is a guarantee that this pace is sustainable. As a result, two million new jobs have been created over the last 12 months, and social and regional disparities have diminished. Brazil's Gini index of income inequality now stands at 0.505 – its lowest recorded level. Macroeconomic stability, job creation, rising incomes and an expanding consumer market are the ingredients of this virtuous cycle of long-term growth.

These achievements in Brazil and elsewhere in the developing world have lifted millions out of poverty and opened the doors to prosperity for countless others. In the face of the unfolding financial turmoil, it behoves international institutions to act swiftly and decisively to help preserve these historic gains.

More broadly, the Bretton Woods institutions require a major overhaul in order to respond meaningfully to the profound transformations underway in the global economy. New engines of growth and technological innovation among emerging economies now play an increasingly prominent role in worldwide financial flows and investments. The International Monetary Fund and the World Bank must adapt to these new realities or risk redundancy. Brazil sets great store on multilateral action. Therefore, it is actively engaged in discussions on how best to infuse both organisations with renewed legitimacy and efficiency.

The present financial upheavals are part of a wider set of globalising trends that are fundamentally reshaping our world. The challenges we face on the environment, climate change, energy security, poverty reduction, trade – as well as on financial issues – can no longer be addressed without engaging major emerging economies.

The creation and strengthening of diverse and representative forums such as the G20 constitute an essential step in moulding an international decision-making system that responds to present-day needs and expectations. There is thus a silver lining to the dark clouds on the global economic and financial horizon. We have before us an opportunity to refashion international institutions in a manner that ensures that all countries are on board, as we seek to rise to the global challenges of the 21st century. ◆

Brazil takes the chair

Brazil's presidency is committed to achieving a greater impact on the global economy

By Guido Mantega, minister of finance, Brazil

Brazil has taken up the chair of the G20 during a period of significant change in the world. On the one hand, new economic players and new centres of dynamism are emerging; on the other, we are seeing a correction of global imbalances originating in advanced economies. In the Brazilian context, our presidency takes place as the economic stabilisation cycle launched in the 1990s is being consolidated, enabling the country to restart a vigorous and sustained cycle of economic growth.

The G20 was created in 1999 to discuss key issues related to international economic stability. At the time, emerging economies were undergoing severe financial difficulties. After a long period of world economic growth and low inflation, last year's G20 discussions were already pointing to a worsening of global economic imbalances. The expected reversal of fortune of the international economy took the form of two shocks: the crisis in the real-estate market in the United States, with severe financial consequences, and inflationary pressures driven by high commodity prices. The worsening of the financial crisis is now casting doubts on the short-term global economic prospects.

What has changed in the world since the crises of the late 1990s? Even though today's crisis also has financial origins, its transmission mechanisms and dynamics are different. In the late 1990s the crises hit emerging markets and took the form of abrupt capital outflows, with increasing loss of confidence, risk aversion and international contagion. The quick and excessive responses by private financial agents were based on the perception that the macroeconomic fundamentals of these countries were unsustainable.

The current financial turmoil, in contrast, is the result of turbulence at the centre of the global economy. This is a strikingly new development. One important question is the extent to which the institutions of advanced economies will be able to respond adequately to the dynamics of globalised financial capital. The excessive liberty granted to private financial players, the growing complexity of financial markets in a context of insufficient regulation, and overly indulgent supervision, are certainly key elements to take into account when considering the causes of the market disruptions underway. The financial turmoil has an impact on the real economy and puts at risk the fundamentals of national and international economic growth.

> “The G20 will be put to the test in this new global environment”

In the last decade, emerging economies were normally regarded with suspicion and doubt. Today, they are active investors and important suppliers of credit, as well as global traders with enviable economic dynamism. Emerging economies are therefore regarded as a buffer against the further spread of the current crisis. They are playing a key role in mitigating the risks of an excessive economic downturn in developed

Brazil's President Lula da Silva with workers of the state oil company, Petrobras

countries. The players are different, their roles have changed, but some topics are still at the top of the agenda: the adaptation of institutions and the merits of national economic policies, as well as international economic governance. In this context, the G20 has a fundamental role to play, and its effectiveness will be put to the test in this new global environment.

Brazil today is very different from the country it was during the late 1990s. Success in tackling inflation and the resulting macroeconomic stability have enabled us to launch an economic development agenda with a particular focus on income distribution and social inclusion. We are seeing the culmination of at least a decade of internal reforms, many of them harsh, which have made Brazil more resistant to external economic shocks.

The economic model successfully applied by the government of President Lula has three main pillars:

> "We are seeing the culmination of a decade of internal reforms"

1) sustainable growth, which is underpinned by increased investment – especially in infrastructure – real productive capacity, education and innovation, and thus does not generate inflation, debt or multiple deficits, as in the past; 2) the creation of a new market of consumers, fostered by job creation, income distribution, greater access to credit, and a fall in poverty and income disparities. This policy includes the use of conditional cash transfer programmes such as the Bolsa Família; and 3) the increased participation of Brazil in international markets, through the diversification of our exports and trade partners and higher levels of foreign direct investment to stimulate aggregate supply, as well as growing Brazilian investment abroad.

The results have been very positive. We have increased our average growth from 1.6 per cent (1998–2003) to 4.5 per cent (2004–2007). Brazil's international reserves (under the liquidity concept) in January 2003 were $23.3 billion, while today they exceed $205 billion. Public sector consolidated debt dropped from 55.04 per cent of gross domestic product in July 2002 to 40.59 per cent in July 2008. By 2010 we expect to achieve a nominal surplus. This year, after a long period of falling inflation, Brazil has been the only country among those with inflation targeting that has kept inflation inside the target band. In 1999, Brazilian foreign trade (imports plus exports) amounted to $97.2 billion. From January 2008 until August 2008 this figure increased to $244.7 billion. We have created, between January 2003 and August 2008, 8 million formal jobs – 1.8 million alone in the first eight months of 2008. Unemployment has dropped in the metropolitan regions from 13 per cent in August 2003 to 7.6 per cent in August 2007. The poverty rate, in turn, fell from 44.9 per cent in 1990 to 28 per cent in 2007, while last year's figures point out that a new middle class in Brazil represents more than 51 per cent of the total population.

For most of Brazilian history, the country struggled to cope with financial problems. More recently, Brazil overcame the foreign debt crisis, the long-lasting inflationary imbalances and faced three foreign financial crises (1999, 2001 and 2002). In recent years, we successfully stabilised our economy and reduced its foreign vulnerability. Recently, during the current financial turbulence, the international financial community recognised this new reality. Brazil was finally granted investment-grade status by two of the most important rating agencies.

We are seeing a new period in the economic history of Brazil, in which our country is increasingly called upon to participate in international decision making. We are prepared to take part in all relevant forums at the highest level, and contribute to discussions on the global financial agenda. For the G20 we are making an effort to raise its effectiveness and also the impact of its deliberations in global decisions on economic and financial governance. The G20 can count on Brazil's commitment to achieve this objective. Our fellow G20 members can be certain that we will continue to be engaged in working for the establishment of a more balanced, equal and fair economic order, focused on growth and, above all, on the improvement of living standards, especially for the poorest. ◆

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The G20 takes centre stage

At an emergency meeting, finance ministers and central bank governers addressed the immediate concern of the global financial crisis

By John Kirton, director, G20 Research Group

In 1999, the Asian-turned-global financial crisis catalysed the creation of the G20 finance ministers' and central bankers' forum to provide stability to a rapidly globalising world.

Almost a decade later, in 2008, the American-turned-global financial crisis made a strengthened G20 a crisis manager for a truly globalised world. The decisive move came on Saturday 11 October 2008 at the International Monetary Fund (IMF) in Washington DC, when Brazilian finance minister Guido Mantega hosted the first-ever emergency meeting of the G20 forum.

The first cause of this extraordinary gathering was the cascading financial crisis that had begun with the US subprime mortgage problem in the summer of 2007 and, a year later, had proliferated into failing financial institutions, frozen credit markets and economic recession in the leading economies of the world. Proving inadequate to cope with the crisis were the unilateral measures of the United States, with its $700 billion rescue package approved by Congress, and even the concerted efforts of the G7 and its partners with their co-ordinated interest-rate reduction on 8 October. As stock markets took historic plunges and were closed in several countries in the week ending 10 October, the world needed a clear, comprehensive, co-ordinated response with a speed and on a scale never seen before.

> The world needed a comprehensive, co-ordinated response on a scale never before seen

The G7 finance ministers offered their bold five-point programme on 10 October, following their meeting at the US Treasury that afternoon. But far more than in 1999, the world needed more than the political will and formidable power of these seven leaders of old. Now caught up in the crisis within the G7 were rapidly emerging economies such as Russia, Indonesia and Brazil. More importantly, such G20 partners had the resources to convince panicking market players that the necessary liquidity and capital would come. Asian countries controlled $4 trillion in exchange reserves, with G20 member China holding more than twice as much as G7 member Japan. From the Middle East, oil- and reserve-rich Saudi Arabia similarly stood as a producer of financial security for a crisis-afflicted G7. More broadly, the IMF forecast that the G7 economies would

Left to right: US Federal Reserve chair Ben Bernanke, US President George W Bush, US Treasury secretary Henry Paulson and Brazil's finance minister Guido Mantega take part in a G20 session at the IMF, 11 October 2008, in Washington DC

grow by only 0.14 per cent in 2009, while the emerging economies would expand by 6 per cent.

US President George W Bush paid a surprise visit to IMF headquarters to participate in the G20 meeting. Acknowledging that the problem had been born in the US, Bush said he had come because the crisis had spread globally and was so serious that he planned to expand the discussions to solve the crisis beyond the G7 to the G20. As the president recognised, whether the G20 would back, with one voice, the programme produced by the G7 alone was critically important if the global crisis was to be contained.

This the G20 did. Its communiqué issued on the evening of Saturday 11 October boldly declared the G20's resolve "to deepen co-operation to improve the regulation, supervision and the overall functioning of the world's financial markets" and to collaborate on "macroeconomic policy, liquidity provision, strengthening financial institutions and protecting retail depositors". The G20 members further committed to "using all the economic and financial tools to assure the stability and well functioning of financial markets" and to avoid harm

> "The G20 recorded that it was willing to play its full part in the common cause"

to other countries and to the stability of the system. They pledged to remain in close contact through to their meeting in São Paolo in November.

With these words, the G20 gave its full support to the actions the G7 had announced in its communiqué the evening before. In doing so, the G20 recorded its recognition of the new reality that it was equally responsible for systemic stability, equally harmed by its absence and willing to play its full part in the common cause. The G20's first-decade dialogue had aimed at consensus over longer-term reforms. It now advanced to a common commitment to act immediately to save the global financial system itself.

While the G20's first extraordinary meeting had taken place in Washington, it was symbolic that it was chaired by Brazil, held at the IMF and attended by Bush. The first element showed that capability and leadership were passing to a new generation of emerging powers beyond the G7 of old. The second and third suggested a return to multilateralism, reflecting the new, broader balance of power in a now tightly wired world. But under the new leadership of Brazil, with its emerging economy partners, it would be a new multilateralism to generate a much-changed global financial architecture for the new age.

With the ongoing need to combat the current crisis, to create the new global governance architecture and to strengthen the G20 to perform both tasks, the world will watch with even greater interest the next G20 meeting Brazil will host, in São Paolo on 8–9 November. ◆

Planning for the future

Under Brazil's leadership, the G20 is tasked with addressing the challenges of the current economic crisis

By John Kirton, director, G20 Research Group

On 8–9 November 2008, the G20 finance ministers and central bank governors will assemble in São Paulo, Brazil, for the most important meeting of this central forum for global economic governance since its start in 1999.

The G20 combines, as equals, the established G8 powers of the United States, Japan, Germany, Britain, France, Italy, Canada, Russia and the European Union; the rapidly emerging economies of China, India, Brazil, Mexico and South Africa; the other systemically significant countries of Argentina, Australia, Indonesia, Saudi Arabia, South Korea and Turkey; and the International Monetary Fund (IMF) and the World Bank. This unique group, representing much of the world's population, territory, economy, finance and trade, brings great diversity in regional perspective, level of development, economic structure, political system, language and religion to its search for consensus on how to guide today's troubled world.

This year, the G20 is hosted for the first time by Brazil, whose booming economy, finances and credit ratings, as well as vast forests, fresh water, food, biofuels, minerals, oil and gas, make it a major power and an attractive destination and source for investors around the world. Brazil's meeting is the tenth meeting of this club, created by Canada's Paul Martin, America's Lawrence Summers and their fellow farsighted finance ministers, in response to the devastating Asian-turned-global financial crisis from 1997 to 1999. The official history, *The Group of Twenty: A History* (www.g20.org), describes well how the G20 has helped foster agreement on several key issues, most recently the reform of the IMF and the World Bank to give better "voice and vote" to the rising powers that matter more today.

Brazil's G20 can make a critical contribution to governing the global economy at this challenging, crisis-ridden time. Taking as its theme: 'Fostering Growth, Innovation and Social Inclusion' the meeting will focus first on global economic prospects and risks to domestic policies. These include slowing growth, rising inflation, high and volatile commodity prices, the credit crisis, plummeting housing markets, and exchange rate volatility and misalignment.

A second challenge is global credit market disruptions and their impact on financial sector competition. The global financial contagion that created the G20 and its core concern with financial stability has now returned. The credit crisis ignited by the US subprime mortgage problem in the summer of 2007 has now gone global rather than gone away: G20 governors will examine what is new about its causes and transmission mechanisms, what regulatory and supervisory responses are required, and what the respective responsibilities of governments, business and other actors are, at the national and international levels. All parts of the financial industry, including its workers and its customers, will be affected by what the G20 concludes.

The current credit contraction is shrinking competition among not only commercial banks, but also investment banks, insurance companies and other vital components, right down to those that give mortgages to families to buy or keep their homes. With governments in the US, Britain and elsewhere becoming the lenders and owners of last resort, concern grows about the competitive implications for consumers and the fiscal burden for the governments themselves.

This concern embraces sovereign wealth funds (SWF) from oil- and export-rich countries, now rushing in to provide capital and acquire ownership in many struggling firms. If foreign SWFs are needed to increase liquidity, capital and competition in national markets, what regulatory and supervisory policies will encourage best practices on their part? Can SWFs provide the investment

São Paulo, Brazil, host city of the 2008 G20 meeting

that developing countries need but are now less able to attract from indebted mature economies, their own investors or their own tax revenues?

A third issue is clean energy, global markets and climate change. Clean energy is essential for all economies to sustain their economic and social development, and cope with the compounding challenge of climate change. Brazil is well positioned to lead G20 discussions on how alternative and renewable energy can contribute to a cleaner future and the role of markets, government regulation and subsidies.

> "Brazil's G20 can make a critical contribution to governing the global economy"

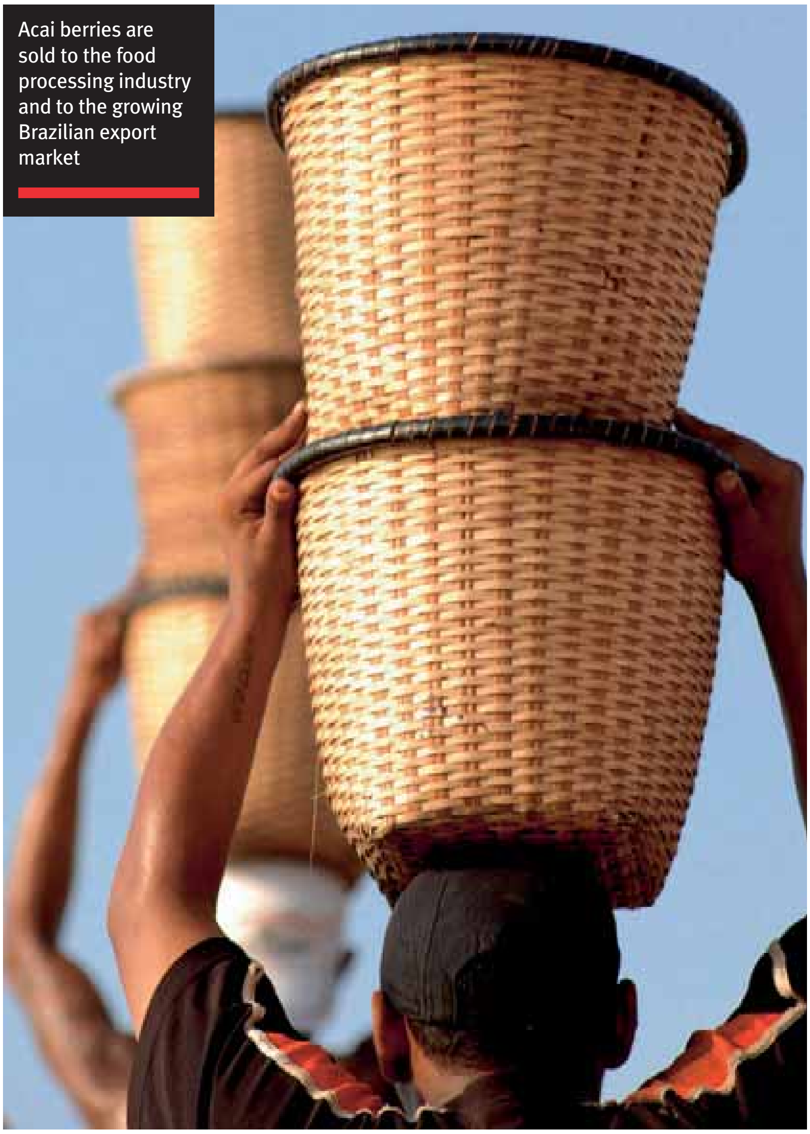
Climate change will be considered in light of the work of the G20's study group chaired by Britain, the G20's host in 2009. It will focus on the financial aspects of climate change for governments and for private sector players. Biofuels are due for special attention regarding their heavy government subsidies and strains on affordable food and the environment. With food crises sweeping several countries, Brazilian President Luiz Inácio Lula da Silva's global leadership on food security will inspire the discussions here.

These issues affect G20 members' fiscal policies and their ability to stimulate economic growth, encourage public sector spending efficiency, foster social inclusion and afford strong social programmes for education and health. In Africa, the links between fiscal policy, social inclusion and infectious disease are direct and deadly indeed.

All these issues relate to the Bretton Woods institutions, where the G20 will consider the second stage of reform and the very mission and mandate of these bodies in today's world. Also under scrutiny is the World Trade Organization (WTO) and its long-overdue Doha negotiations, where Brazil is a leader and the G20 finance ministers play a key role. They are also key in aid-for-trade and in trade and project finance – the micro-level foundations for sustainable global growth and development that are now affected by the credit crisis, the commodity boom and volatility, the need for clean water and energy, and changes at the IMF and the World Bank.

The G20 will also consider enhancing its own role in addressing global economic and financial risks, strengthening the stability and effectiveness of domestic finance sectors and improving stewardship of the global financial architecture in the public and private sectors.

Coming to consensus and actionable conclusions on such a comprehensive, complex agenda constitutes one of the greatest challenges the G20 has ever faced. But its past success suggests that under Brazil's leadership, the G20 is up to the task. ◆



Brazil and the G20: leading the way

With a broadened scope and agenda, the G20 can help its members achieve consensus

By Denise Gregory, executive director, and Mariana Luz, academic co-ordinator, Brazilian Centre for International Relations (CEBRI)

Amid international crises in the late 1990s, especially in developing countries, the G7 – led by Canada – proposed a new forum to gather their ministers of economy and finance informally with their counterparts in the 13 more important states. The result was the G20. The first meeting took place in Berlin in December 1999, with the aim of establishing a dialogue on economic growth and stability. Unlike most other international forums, the G20 has no permanent staff or headquarters. Its annual presidency, and all related responsibilities (including the nomination of a provisional secretariat), rotate among its members.

The G20 represents 90 per cent of the world's economy, two-thirds of the global population and a broad geographic distribution. Hence, co-ordination can be very effective in strengthening the international financial architecture and fostering economic growth.

Considering that the G20 was created in reaction to the global financial crisis of the late 1990s, Brazil entered the group in a very weak position. From the beginning of 1999 until the end of 2001, Brazil faced financial turbulence that caused monetary devaluation and resulted in a currency crisis. Nevertheless, the Brazilian situation was not as dramatic as that which occurred in Asia during the same period, since Brazil managed to maintain an invulnerable financial system, guaranteeing the minimum stability necessary to avoid a collapse of its markets.

Since 2002, Brazil has tried to preserve a pathway of adjustments, which include inflation targeting, export promotion, reserve accumulation and a permanent tax policy. These have stabilised its financial records and promoted Brazil's integration into the global economy. Brazil has now reached investment-grade status; its primary fiscal surplus has remained above 4 per cent of gross domestic product; exchange reserves stand at $200 billion and equal the total foreign debt; and foreign direct investment in 2007 almost doubled. The country is experiencing an export boom, growing at almost 17 per cent on average annually. Brazilian firms – mainly private – are quickly internationalising their activities and investments, investing $27 billion abroad in 2006. For the first time, Brazil is a net exporter of capital. Brazil's current growth process combines favourable international engagement with commodities cycles.

Brazil has been an active member of the G20 since its foundation and this year holds the chair. The annual meetings are organised by a committee composed of the previous chair (South Africa, 2007), the current one (Brazil, 2008) and the next one (United Kingdom, 2009). This troika has organised six events for 2008: three technical workshops, two meetings of deputy finance ministers and central bank governors, and the final meeting with the ministers and governors themselves.

Although the G20 focuses on financial and monetary issues, in 2004 it produced the G20 Accord for Sustained Growth, which committed members to responsible fiscal governance and transparent, internationally adopted standards to avoid abuse of the financial system, tax evasion, money laundering and terrorist financing. This thematic shift broadened the G20's scope to include issues such as co-operation policies, reform of the international financial institutions and global markets. The agenda for this year addresses competition in the international financial system, clean energy and biofuels, economic development, growth and social policy, fiscal policy to stimulate economic growth, reform of the Bretton Woods institutions and risks to domestic policies.

The G20's role has evolved over the past decade. But there remains a problem of vocation. It seems to be searching for a new purpose now that the old international economic crises have been controlled – partly due to a favourable international climate of credit abundance and economic growth. Furthermore, the increasing role of emerging countries in global governance has diminished the G20's central focus, moving the group toward the structural matters of macroeconomics and economic policy.

It is a different world today. The financial crisis of the 1990s became a milestone in globalisation and financial diversification. Some emerging countries are now more prominent in international economic affairs.

> For the first time, Brazil is a net exporter of capital

A technician tests the diesel in an oil tank at the Ecodiesel factory in Brazil

Emerging countries have traditionally received aid from the international community, but today's circumstances represent a striking role reversal. Countries such as Brazil, Chile, China, India and Russia will soon have established themselves as permanent sources of financial aid. Their currencies affect international financial flows; some have created sovereign wealth funds. The most dramatic symbol is the explosive growth of China's reserves, accounting today for 25 per cent of international reserves. Sovereign wealth funds have jumped from $500 billion to more than $3 trillion.

Not only have markets changed but emerging countries are also capable of offering loans without demanding the same conditions required by advanced countries. This is a positive development that brings new players into the game. But it can also generate conflict with those who used to control the process.

The main challenge now is to define adequate and representative institutional arrangements to deal with these new global concerns. Among the many possible options, one is to transform the G20 into a high-level forum with heads of state and government in a format similar to the G8. With a broadened scope and agenda, such a group could achieve consensus and guide members' positions in multilateral organisations.

Brazil considers the G20 to be a privileged and institutionalised channel for exchanging experiences with key players and creating consensus and proposals, although the G20 is criticised for becoming a forum that suits the interests of only the bigger players. But issues such as climate change and development should be discussed by the more appropriate and representative organisations of the United Nations system. Furthermore, Brazil demands more effective G20 decisions and recommendations.

> The G20's role has evolved but there remains a problem of vocation

Brazil believes the G20 should remain a financial forum that deals with the ongoing international financial imbalances and the necessary adjustments to correct them. Brazil took the initiative of including in the agenda the theme of financial mechanisms to make social policies feasible.

The consensus is that this year represents a turning point for the G20: either it will continue at a low temperature and tempo, or it will adapt to the new times and consolidate into a representative group with a proactive agenda and real finance action.

Confident, however, that the G20 will indeed evolve as such a forum, Brazil should adapt its own governmental and bureaucratic structures, both domestic and external, accordingly. ◆

Time for the G20 to take the mantle from the G8

The G7 finance ministers took the initiative in 1999. It is time their leaders followed suit

By The Right Honourable Paul Martin, former prime minister of Canada

As the Second World War neared its end, an extraordinary group of world leaders, heavily influenced by the demise of the League of Nations in the late 1930s, brought forth the idea that gave birth to the United Nations and the creation of the Bretton Woods institutions: the International Monetary Fund (IMF), the World Bank and the multilateral development banks.

In the 1970s, recognising that the world required a smaller steering committee composed of the globe's most powerful economies, the G7 Summit came into being and was later expanded at the leaders' level to the G8. This was part of the continuing evolution of the architecture required to sustain post-war globalisation – as was the creation some 25 years later of the G20 finance ministers, central bank governors and their deputies.

The G20 meetings are now a fixture on the global governance landscape. They came into being as a result of the series of financial shocks that occurred in the latter half of the 1990s: the Asian financial crisis, the Russian default, the Brazilian devaluation and, with these, the fear of a global meltdown as contagion spread from economy to economy, from continent to continent.

The causes of these shocks were, in many cases, a lack of financial transparency by governments and inadequate regulation of financial institutions. As a result, the G7 finance ministers, of whom I was one, sought to convince the emerging economies to adopt the framework of financial rules and regulations that existed within the G7 countries themselves. We did not succeed. This was not because the emerging economies disagreed. The problem was that they simply ignored us.

They did so for two reasons. First, they felt we talked a better game than we played. Second, and most important, they were not at the table at the time we came up with our solutions. Their criticisms were dead on. Thus, belatedly, realising that the world's financial system had attained a degree of seamlessness that

> "I believe that most objective observers would say that the G20 has made an important contribution to the constant challenge of global economic governance"

John Maynard Keynes (centre) attends the United Nations International Monetary and Financial Conference at the Mount Washington Hotel in New Hampshire, 1 July 1944

could not be ignored, we came to the conclusion that the emerging economies had to be at the table with us on an ongoing basis, if we were to deal with today's financial crises and to prevent tomorrow's.

The precedent was a series of three meetings of officials from 22 countries, held at the initiative of the United States and known as the Willard Group. These meetings were very successful. Because of this, I approached Larry Summers, the US Treasury secretary, and proposed the creation of the G20. He agreed. We sat down and worked out a proposed membership list. It was then that we brought our fellow G7 ministers onside with the concept. Following that, I approached the non-G8 countries about joining in.

Canada was made the initial chair. The first meeting was held in Berlin, the next two in Montreal and Ottawa. I then stepped down and proposed that the chair alternate annually between the G8 and non-G8 countries. The rest is history, a history now to be chronicled by the newly-formed G20 Research Group at the University of Toronto. While I am not impartial, I believe that at this, its tenth meeting, most objective observers would say that the G20 has made an important contribution to the constant challenge of global economic governance.

The second meeting in Canada is but one example of this. Following September 11, 2001, it was virtually impossible to hold an international ministerial meeting for security reasons. While this may have been understandable for the first few weeks after the tragedy, as time went on the paralysis this engendered risked giving the terrorists a victory.

After much pressure we succeeded in convening a G20 meeting in Ottawa, which was considered one of

> Today's global concerns require a level of international co-ordination fundamentally different from any period of history

the world's safest venues. This was the first international meeting of any kind held after September 11, essentially opening the door for the others to meet. Moreover, it dealt with an issue that demonstrated clearly the need for the wider grouping of finance ministers. At this meeting the structure was arrived at for tracing terrorist financing. I can assure you this G20 decision would not have been possible at a G7 meeting because of narrowness of the latter's representation.

Against this background, when I became prime minister in 2004, I proposed an L20 or a G20 at the leaders' level. The first question was why is this necessary? The answer was simply that the world had changed. When the G7/8 was formed in the 1970s, its members were the world's most powerful economies, and the problems they sought to address were within their purview. They genuinely saw themselves as a global steering committee. Indeed, for much of their history, they had the capacity to be just that. Not any more. The world that flowed from a recovering Europe and Japan in the 1950s and 1960s no longer exists; nor does the unipolar world that followed the demise of the Soviet Union in the 1990s. Clearly, China and India are making their mark.

However, it is not only the rise of China and India as major powers that challenges the G8. It is also the nature of the problems we face – global terrorism, nuclear proliferation, endemic poverty, the situation in Darfur, energy security, climate change, the threat

of global pandemics, the travails of the Doha round of trade negotiations, to name only a few. These are all issues that surpass the capacity of the G8 to deal with them.

The simple fact is that today's global concerns require a level of international co-ordination that is fundamentally different from any earlier period of history. And while successful international global institutions are essential if the world is to work, national governments are the masters of those institutions – not the other way around. Thus, the system of global governance must build on national governments as the ultimate source of authority. When one looks at the number of critical issues that are gridlocked today because of the differences in starting points among key players, it becomes clear that those players, those countries, must themselves come to the table, accept their responsibilities and deal with their differences. And what would the L20 be? It would be exactly that. It would be national governments accepting their responsibilities and acting at the highest level: chancellors, presidents and prime ministers.

The village of Tama in Darfur burns after being attacked by Arab Nomads, 2005

The second question is what should the size of its membership be, and who should be its participants? I suggested the size be in the range of 15 to 20 countries. This is not an arbitrary estimate. At the upper end, the limit is established by the number of people who can reasonably engage in give and take around a table. The problem is that too many of today's international meetings are not designed to facilitate informal debate – they are designed to accommodate staged, low-risk interventions, pre-cooked well in advance. Thus, what the L15–20 must do, and what most international meetings cannot do, is to allow leaders to break free from the briefing book syndrome, allowing them to think outside the box. Officials can bridge gaps, but only leaders can jump gaps. Only leaders can take the leap of faith – the kinds of risks, the breaking of precedent – that can lead to real progress. Only leaders can exercise the kinds of peer pressure on one another that will lead to 'yes'.

> "The world that flowed from a recovering Europe and Japan in the 1950s and 1960s no longer exists"

The smaller number – a minimum of 15 countries – is governed by the following criteria: first, the countries chosen must include the G8 and other leading economies; second, the countries must possess a requisite social and political stability; and, finally, if any consensus is to hold in the rest of the world, the major regional powers, regardless of economic ranking, must make the cut. For all these reasons, clearly what has become known as the Outreach Five (China, India, Brazil, Mexico and South Africa) and at least one Muslim nation must be included or the whole exercise becomes a nullity. This brings us to 14. Where we go from there makes the issue even more interesting. But whatever the debate over final membership, in the end the final decision will, of necessity, be arbitrary and must not be allowed to hold up the need for reform.

The next question is whither the G8? Should it fade away by simply expanding its membership, or should a new parallel organisation be created? On this, I am agnostic. Clearly, expansion makes the most sense. However, if there are members of the G8 who are adamant that they would not accept it or major non-G8 powers that refuse to join the G8, then clearly a new parallel organisation is preferable to an increasingly ineffectual G8.

The reason for this is quite simple. The G8 is no longer capable of breaking global logjams. Too many issues have been left hanging for too long and too many of the world's key players are not at the table.

Another option for the G8 that has been put forward is the so-called 'outreach alternative'. This arises out of the precedent established at recent summits, where selected countries were invited to participate in part, but not all, of a G8 summit (usually a lunch).

I don't believe this works. Inviting leaders only for part of a meeting or, as others have suggested, on a rotating basis, may work in other forums or it may make for a good show. But it clearly will not work when countries are stymied and global action is paralysed. What is needed for successful international dialogue is time for discussion and the kind of familiarity that only comes from people who have met often as a group, who know they will continue to meet in the future and who know the dynamics of the room.

There is another reason why the outreach option does not work. Inviting major powers to a meeting and treating them like second-class citizens is simply wrong-headed.

I attended the US summit at Sea Island, Georgia, and the UK summit at Gleneagles as prime minister. At both meetings, Canada questioned the advisability of inviting major powers for only part of a summit, in effect telling them to 'cool their heels' outside the meeting room while waiting to be called in. But, unfortunately, the same procedure was followed at the summits at Heiligendamm in Germany in 2007 and Hokkaido in Japan in 2008. The reaction was entirely predictable.

Let me simply quote from the statement of India's prime minister following the Heiligendamm Summit:

I came to take part in the meeting of the G8 countries and the five outreach countries, Brazil, Mexico, China, South Africa and India. We were not active participants. In fact, the G8 communiqué was issued even before our meeting. We have come here not as petitioners but as partners in an equitable, just and fair management of the global comity of nations, which we accept as a reality of the globalised world. I hope that next year's meeting, if we are invited, will be in a form in which we have a chance to interact with the G8 nations before they interact among themselves. This is a new reality. There can be no meaningful management of the global issues in which India, China and other emerging countries like Brazil, South Africa and Mexico, are not involved.

UK Prime Minister Gordon Brown speaks with French President Nicolas Sarkozy in an informal moment at the 2008 G8 Summit in Hokkaido

The fourth question is, what is the chance of an L20 or an L of some number greater than eight occurring? The answer is, I believe, very good. What gives me confidence is that when I was prime minister, in a series of one-on-one meetings, I raised the idea of a parallel grouping with all the G8 leaders and the vast majority of the other G20 leaders. The response among the G20 countries was unanimously positive; indeed, China showed an interest in co-hosting the first meeting with Canada. Of the G8 countries, only the United States and Japan were hesitant. But Japan did agree to a first meeting to test the concept.

With that as background, it is interesting that French President Nicolas Sarkozy, since supported by British Prime Minister Gordon Brown, has suggested that the G8 should be expanded permanently. Clearly, the idea is gaining ground.

> An enlarged leaders' meeting in one form or another is inevitable

I believe an enlarged leaders' meeting in one form or another is inevitable. The thought that the G8 without the world's regional powers can continue to deal in splendid isolation from the world's reality is simply too absurd to be credible.

There is one other proposal that has been put forward that also indicates that change is in the wind. That is the idea of a concert or league of democracies, that is, countries that share a common concept of democracy. There certainly should be no problem with countries of any persuasion or region meeting together. Indeed, the global agenda would be bereft without such encounters. That said, this is not an alternative to the global steering committee the world needs. One cannot

German Chancellor Angela Merkel, US President George W Bush and Japanese Prime Minister Yasuo Fukuda plant the memorial tree at the 2008 G8 Summit in Hokkaido

resolve gridlocked issues unless the world's global and regional powers, irrespective of their differences, are at one table – indeed, it is because those differences have not been bridged that gridlock occurs and it is impossible to build a bridge unless both ends meet.

In summary then, let me conclude with two points. First, despite the fears of those who worry about international conspiracy, global governance does not mean global government – quite the opposite. In fact, global governance is the reaffirmation of national sovereignty in that it puts in place the institutions that enable national governments to solve problems that surpass national borders.

However, as important as international institutions are, the final responsibility of global governance cannot be delegated to them. It must be exercised by national governments that are accountable to their respective populations. In turn, the multiplicity of the world's governments requires from among themselves a steering committee that can provide a consensus that the rest of the world can either accept or reject, but that at least provides a strong sense of direction. This was how the G8 worked at its best. However, it is now up to its leaders to recognise that it is no longer sufficiently representative to provide the consensus such global direction requires.

The issue of representativeness is crucial. The G8 is a self-selected group of countries. The L15–20 would be no different. That is the way it has to be. The interminable debate over the membership of the United Nations Security Council is proof of this. Thus representativeness will be key to the L20's legitimacy. This, in turn, is directly related to two inescapable factors: the economic and strategic clout of its member countries; and the cleavage between North and South. This begins not with the arid projections of economists, but with the assessment of a political leader's immediate priorities – priorities that in the case of the North and the South are rooted in the very different needs of their respective populations, and which must be represented at the table if globalisation is to be made to work. Time is running out.

> "The creation of the structures that will govern the world of the 21st century has been delayed too long"

If the G8 is to continue to play an important role, it must be reformed. If it is not, the danger obviously lies in that the luncheon invitees – the Outreach Five – tired of waiting in the corridor, will give increasing substance to the G5, and the G8 will not only have become the architect of its own decreasing relevance, but global co-operation will have lost out once again to global competition. The international system will fall even further behind the ever-evolving reality of the global landscape.

The unipolar world no longer exists. There is only a very short period of time ahead to put in place the kind of forum that will allow power to be shared among the largest economies of the 21st century. Unless reform in the way of a new grouping takes place, I do not believe that China and India, to name only two countries sitting out in the corridor, will wait to be asked to join in. They will create new groupings. In fact, they already have.

In short, the creation of the structures that will govern the world of the 21st century has been delayed too long. We have less than a decade to create the components of a new multilateralism. The longer we wait, the more set in their ways others will become and the more difficult and elusive sound global governance will become. The time to share power is when you have it to share, not when others are in a position to wrest it from your grip. ◆

The birth of the G20

The inclusion of emerging markets has been the G20's strength. It can build on that in the future

By Lawrence Summers, former US Treasury secretary

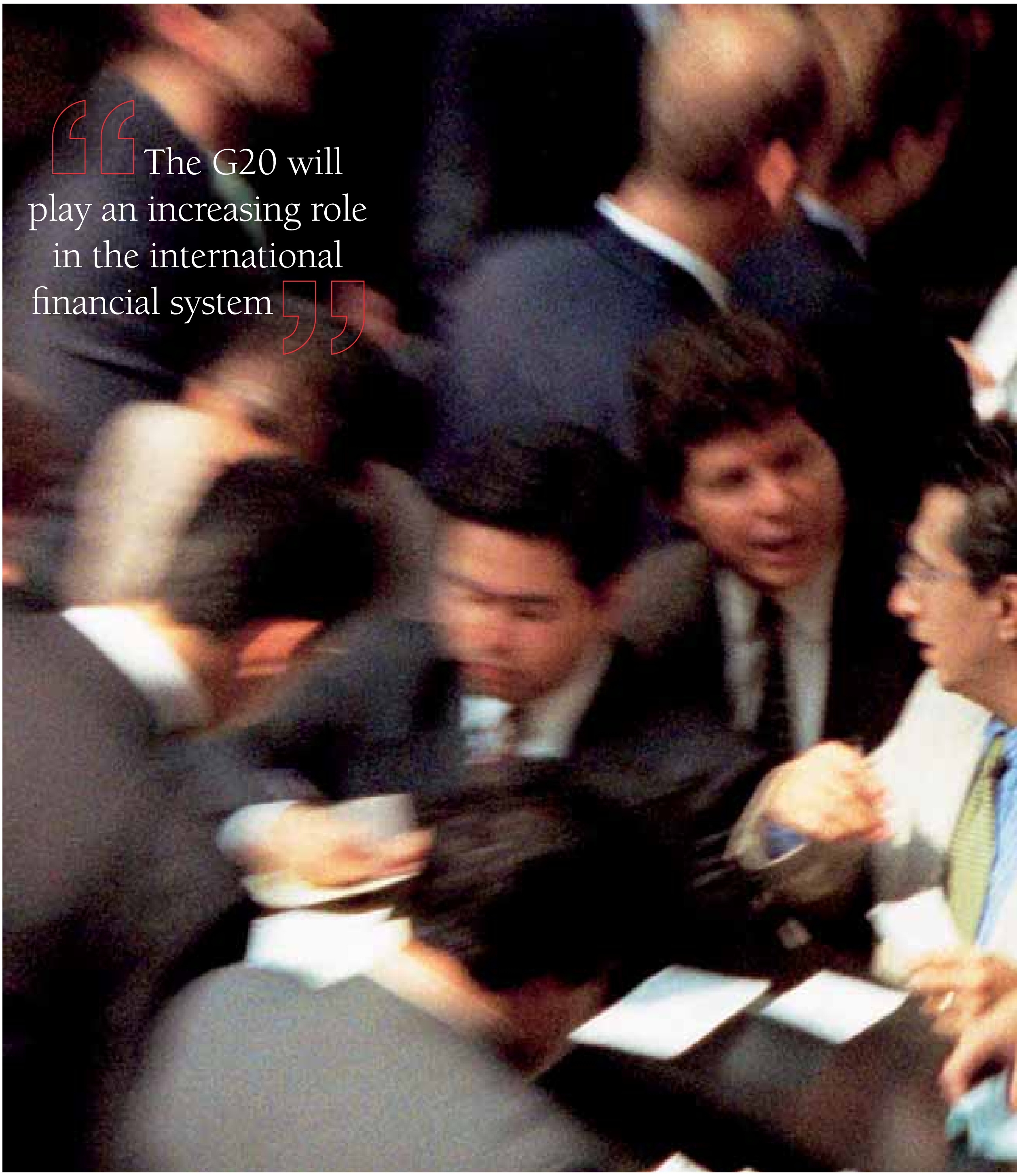
I learned many things during my years at Treasury that I have not had to think about as a professor of economics. One of the most valuable was the importance of process to satisfactory outcomes in the formulation of international economic policy. On one level, process is the right way to resolve conflict – as Churchill said, better jaw-jaw than war-war. On another level, the nature of the decision-making process profoundly affects outcomes, for at any point in time, one can affect decisions on only a few issues. But the processes that one helps to put in place shape the decisions that will be made for a very long time after that. That is why I look back with great pride on the work I did supporting Paul Martin in the establishment of the G20.

An important theme of President Bill Clinton's administration, from its inception, was the growing role of emerging markets. We did not then call them BRICs (Brazil, Russia, India and China). But we were starting to recognise their importance. At Treasury, we established an economic dialogue with China. The Commerce Department focused on big emerging markets and, of course, the whole administration was preoccupied with the challenge of integrating the countries of Central Europe and the former Soviet Union into the global economy. The North American Free Trade Agreement, connecting the United States, Mexico and Canada, was one of the administration's most important early accomplishments.

The first recollection I have of the thought process that led to strong US support for the G20 came on what may have been the most dramatic night that I spent at the Treasury. In early January 2005, Secretary Robert Rubin and I presented to President Clinton our recommendation for a large-scale bailout of Mexico. After a momentous meeting, at which the president committed himself to what would be the largest US international assistance programme since the Marshall Plan, I was asked to remain in the Oval Office to provide support as the president called the Congressional leaders. Between calls, the president

President Bill Clinton with former presidents Gerald Ford, Jimmy Carter and George H Bush at the signing ceremony of NAFTA in 1993

The 2005 bailout of the Mexican economy was the largest US international assistance programme since the Marshall Plan



"The G20 will play an increasing role in the international financial system"

"The patient diplomacy of Martin recognised that there was no perfection in a flawed world"

mused that the US was able to provide support because we shared a 2,000-mile border with Mexico, but what would happen if it were some different country? We briefly discussed the strengths and weaknesses of the International Monetary Fund (IMF) as a vehicle for providing support. We concluded that a more political body was required to craft an architecture for responding to such crises.

Fast forward five years. The Mexican peso crisis had been resolved. The New Arrangement to Borrow had been formed with emerging market contributors. The various financial groups with a broader range of stakeholders in the global financial system had met – the finance ministers of the Asia Pacific Economic Co-operation forum, the Latin American finance ministers, as well as a G22 and a G33. It was Paul Martin and the Canadian government's conviction that these all needed to be regularised and made less *ad hoc*. Of course, there would be difficult issues of inclusion and exclusion. Yes, there was the complicated question of the IMF and what had been called for 25 years its Interim Committee. The patient diplomacy of Martin and his colleagues recognised that there was no perfection in a flawed world. But they worked very hard to establish an enduring grouping of finance ministers and central bank governors that could assure political-level discussion of international problems, with an agenda set by political leaders rather than any particular international organisation.

How prescient Paul Martin and the Canadians were. None of us knew in 1999 just how rapidly those emerging markets would rise. We certainly had no idea

> Unlike the G7, the G20 has not been reinforced by regular meetings at the level of head of state

of the way their reserves would mushroom, nor could we foresee the kind of financial instability that the world faces now. While the G20 meeting that I attended felt novel, the G20 is now an established and important part of official calendars and the international architecture.

It has come a long way in a decade. Certainly, policy and co-operation have not been all that we might have wanted them to be in recent years. And there are certainly those who seek to hold on to their power by focusing their attention on smaller groupings of countries. Unlike the G7, the G20 has not been reinforced by regular meetings at the level of head of state. Inevitably change is evolutionary, but I expect the G20 will play an increasing role in the international financial system. As the current financial crisis in the United States and Europe has impacts that spread to emerging markets, I suspect the G20 will come into its own. It is already the case – but will be even more so – that co-operation has been better and policy has been wiser because of the existence of the G20. ◆

Fundamental principles for global financial governance

The boldness of the first G20 statement seems prescient in light of current economic concerns – and its warnings were clear

By Christian Sautter, former finance minister, Republic of France

When I attended the inaugural G20 meeting in Berlin in 1999, I had the feeling of being part of an important event. I was representing France as minister of the economy, finance and industry. Our host was a friend, Hans Eichel, my German counterpart, who effectively and discreetly turned his country's finances around. I also recall the energy of Paul Martin, our Canadian colleague, who put together this groundbreaking meeting.

Who were we, gathered on the evening of 15 December 1999, beneath the glass ceiling of the Bundestag? We were 20 countries from the world's five continents. The United States and Canada – members of the G7 – and Mexico, Brazil and Argentina; Japan – a member of the G7 – as well as China, India, South Korea and Indonesia. And further away, Australia. Europeans, of course: the members of the G7, Germany, France, Italy, the United Kingdom, as well as Turkey and Russia. Even Africa, which is often mentioned but rarely listened to, was represented by South Africa. Saudi Arabia was also there. The European Union rounded out the table at 20. The International Monetary Fund (IMF) and the World Bank had a discreet place.

> "This first meeting carried a lot of weight, resulting in collective conclusions for the common good"

Each country had sent its minister of finance and central bank governor. We could thus discuss the world's key economic and financial issues at length. No less than 90 per cent of the world's wealth, 80 per cent of global trade and two-thirds of the population were represented at the table. This first meeting carried a lot of weight. Its size, smaller than any meeting of the United Nations General Assembly (UNGA) or the World Trade Organization (WTO), made real debate possible, resulting in collective conclusions for the common good of this planet's inhabitants, whether rich or poor.

On rereading the statement published nine years ago, we can only praise the great boldness, a stark contrast to the conventional dreariness of G7 communiqués. It states the goal of co-operation in order to "achieve stable and sustainable world economic growth that benefits all". In these days of extreme market volatility, the words "stable" and "sustainable" are but a dream. And would "that benefits all" have been written if India, South Africa, Brazil and China had been absent? Twenty countries, and not the smallest, agreed to write that co-operation was necessary to achieve this goal; in other words, simply trusting in the invisible hand of the market would not be enough to achieve, if not the best of both worlds, at least a better, stable, sustainable and fair world.

In one paragraph, the word "vulnerability" appears three times. It has a particular meaning this autumn of 2008, as the near-bankruptcy of top-level US financial institutions makes headlines. The vulnerability of the world financial system was already an issue in 1999. We were emerging from the Asian and Russian financial crises, caused by typhoons of short-term speculative capital passing over ill-managed economies, using this precarious resource for long-term investments. After the first scare, the funds fled, causing a chain reaction of bankruptcies. Has this speculative capital settled down since? The headlines prove otherwise.

Another sentence emphasised that "unsustainable exchange-rate regimes are a critical source of vulnerability". At the time, the issue was inflexible rates in troubled economies or abusive pegging of fragile currencies against the US dollar. Today, considering the colossal American foreign trade deficit and Chinese surplus, questions abound on the currency parity that binds them.

German finance minister Hans Eichel welcomes US Treasury secretary Lawrence Summers to the inaugural meeting of the G20 in Berlin in 1999

Finally, the ministers and governors "exchanged views on the role of the international community in helping to reduce vulnerability to crises". This important sentence acknowledges that, contrary to the sermons of the defenders of economic liberalism, crises are inevitable and, if they cannot be averted, all we can do is mitigate their impact through intelligent co-operation.

One passage was prescient when read in light of current events: "They welcomed the important work that has been done… toward the establishment of international codes and standards in key areas, including transparency, data dissemination and financial sector policy. They agreed that the more widespread implementation of such codes and standards would contribute to more prosperous domestic economies and a more stable international financial system." Given that the financial crisis of the summer of 2007 was made worse because bankers and authorities were unaware of each other's exposure to the rotten subprime securities (although well noted by the relevant agencies), the absence of progress in this area is obvious.

Also significant was the encouraging statement for future negotiations toward "multilateral liberalisation of trade in goods and services that would bring broad-based benefits to the global economy". A decade later, G20 members India and China have agreed to block the WTO negotiations in order to maintain complete control over their food imports. This most certainly pleased the United States and Europe, which outrageously subsidise their major agricultural holdings and, in the event of an agreement, would have considerably reduced their direct or indirect support of exports. It is not known what South Africa, representing the African continent, thought of this selfishness.

The G20 made good progress before meeting again in Berlin in November 2004. It was at that sixth meeting that the G20 Accord for Sustained Growth was reached. According to public opinion, sustainable development means leaving our grandchildren with a world that is liveable, in which natural resources are used sparingly, where the air is breathable and where the climate is not overly disturbed. However, the G20's main concern was not ecological but financial. It spoke of what it knew and of its constant concern: the stability of global finance.

> "The G20 made good progress before meeting again in Berlin in November 2004"

The G20 was pleased that the forecast was a good one; the financial sky was somewhat blue in 2004. Today, the clouds are gathering. But it was concerned because "downside risks [had] increased due to oil price volatility, persisting external imbalances and geo-political concerns". And it highlighted "the importance of medium-term fiscal consolidation in the United States, continued structural reforms to boost growth in Europe and Japan, and, in emerging Asia, steps towards greater exchange rate flexibility, supported by continued financial sector reform".

This complex sentence is doubly bold. First, it suggests that the United States needs to put its public finances in order. The IMF long ago gave up trying to lecture the main source of the world's financial woes: the United States. The IMF has no trouble penalising Asian or Latin American countries and preaching austerity to African countries. But when it needs to confront its principal shareholder, it blushes like a schoolgirl.

The second bold statement tells China that it is perhaps not normal to accumulate massive trade surpluses while experiencing 10 per cent growth a year. Japan itself, during the high-growth 1950s and 1960s, periodically bowed to outside pressure: exports, albeit dynamic, were not enough to cover imports, which were even more dynamic. That lasted until the yen became obviously undervalued against the dollar in the late 1960s and until surpluses began to accumulate, without ever reaching the dizzying figures in China today. Between 1971 and 1973, yen-dollar parity was quickly corrected. In 2004, the G20 had the nerve to ask the yuan-dollar parity question and also to mention the fragility of China's financial system.

In the same 2004 communiqué, the G20 reiterated its appeal for financial transparency and added the interesting idea of exchanging information in order to improve taxation, following the Organisation for Economic Co-operation and Development, which was fighting tax havens at that time. Two out of three American companies paid no federal taxes between 1998 and 2005, according to a study conducted by the US Congress, using every possible tax evasion trick offered by tax havens and by manipulating the prices of the international transactions of multinational firms.

The G20 also drew attention to money laundering and terrorism financing. More information is needed on tax havens. The difficulty lies in the fact that terrorist organisations often work in the same way as honest companies, whose competitiveness ought not be reduced.

Despite all the G20's praiseworthy achievements, virtuous and general recommendations are not enough. Each member needs a work programme. For example, as the 2004 G20 Reform Agenda sets out: "The United States is determined to reduce its public budget deficit, to continue reforming health insurance and the pension system and to raise private savings." As for France, it "will continue labour and product market reforms and restore fiscal sustainability by implementing recent pension and healthcare reforms and further public expenditure restraint".

Thus, the G20 shows lucidity by emphasising the risks of inaction both nationally and globally. In light of the current financial crisis unfolding before our eyes, it is impossible to claim ignorance. The G20, the voice of the globalisation of good will, warned us clearly. Everyone knew they had to make an effort for reform and discipline, especially the United States, which is at the heart of the world's capitalist system.

Courage requires lucidity, but unfortunately it is not enough. Whether the reason was ideology, short-sightedness or lobby group pressure, the US authorities did not put their financial house in order. We are all paying the price today. This pneumonia of world finance could have been prevented and curing it will take time and suffering. Let us hope that 'Dr G20' will continue its group therapy. The worst risk would be for each to seek a cure alone and take unilateral measures. It was the 'save yourself' attitude that transformed the 1929 financial crisis into a major economic and social crisis. The excellent co-operation among G20 central banks prevents us from being completely pessimistic in this time of financial panic. ◆

Imported cooking oil on sale in Xiangfan: G20 members India and China have agreed to block the WTO negotiations to maintain complete control over their food imports

From Bretton Woods to the G20

The stability of the global financial architecture depends on the co-ordination of all the world's economies. But the G20 has failed to facilitate this

By Giuliano Amato, former finance minister and former prime minister of Italy

Fifty years ago, the German philosopher Herbert Marcuse proclaimed that the time of utopias was over, for humanity had acquired the knowledge and the means to achieve its most utopian goal, namely feeding all human beings on Earth. Marcuse was right in principle, but not in reality. Actually, we had the knowledge and the means, but our defective multinational institutions, our unequal sovereignties, our diverging interests, our market rules, our trade rules and practices – in other words – our overall organisation did not allow that not-unimaginable utopia to come true.

Since then, the need for better global governance has become an increasingly crucial issue. Several improvements have been proposed – and some of them have been adopted. But they appear to be difficult and only limited steps along the demanding route marked by the trends and events taking place in the meantime. The relatively higher weight of a remarkable group of emerging economies has reduced the hegemonic role of the United States and Europe in the world. The repeated turbulence, mostly in the financial sector, has more than once deeply damaged industries, jobs and households in both the new and the old economies. The outgrowth of wide-ranging issues such as energy and climate change urgently calls for worldwide action.

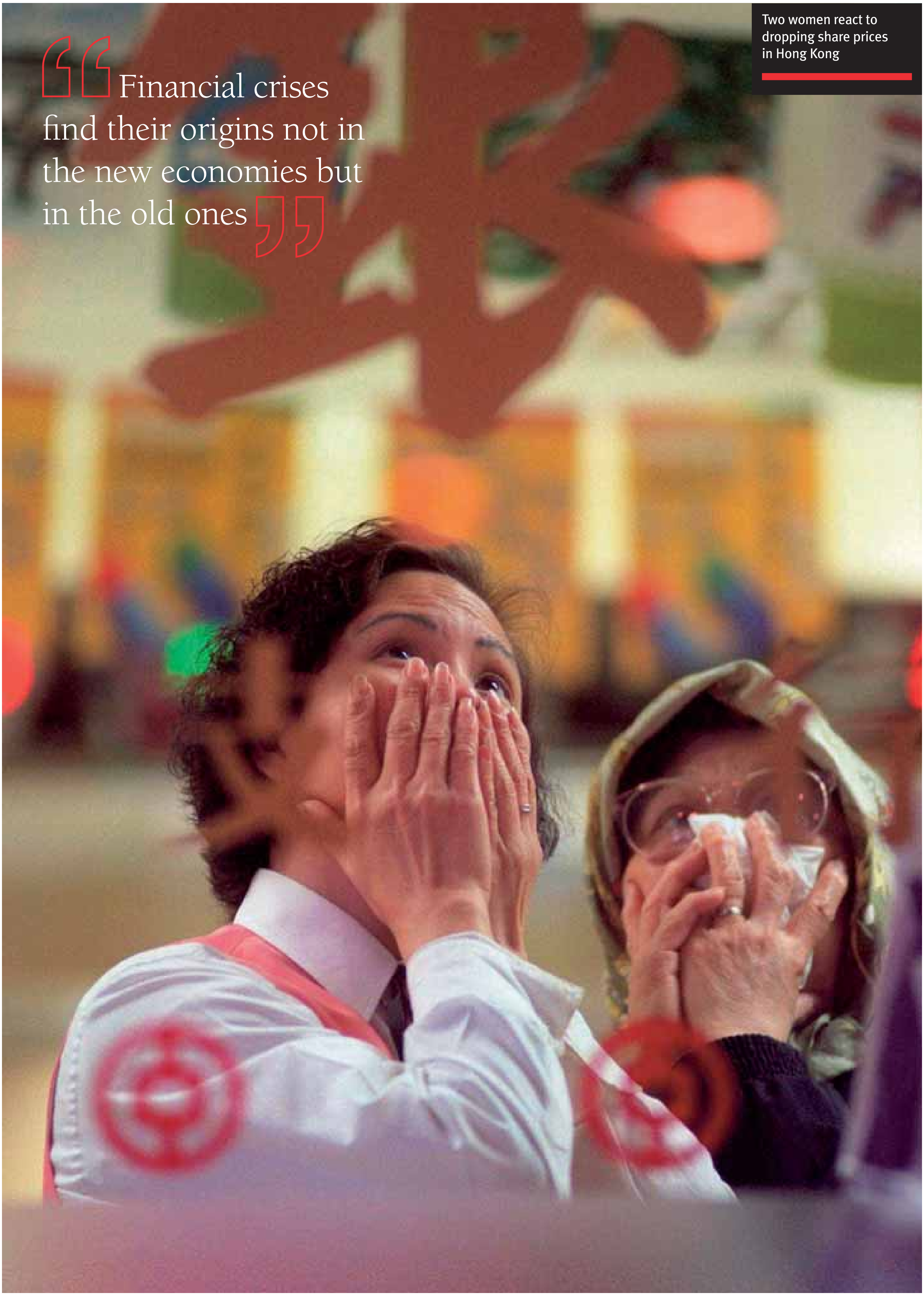
> A remarkable group of emerging economies has reduced the hegemonic role of the US and Europe

The G20 is just one of these limited steps. It has not changed the world, but it has been a useful step. It will be even more useful if its members are bolder than they have been thus far. When the G20 had its birth, in December 1999, the G7/8 members were already aware of the growing uncertainty both of their legitimacy and of the effectiveness of their actions. That group (which initially was a G5, with France, Germany, Japan, the United Kingdom and the United States) had been conceived with the purpose of counteracting the waves of monetary instability that followed the breakdown of the Bretton Woods agreements in 1971. Its initial members were qualified for the job, not just by their respective wealth, but mostly because their co-ordinated interventions in the monetary market could effectively achieve the goal of greater stability. In the course of time, the agenda has been widened to other economic issues, in relation to which recognising an exclusive legitimacy for the G7/8 was not an easy task. Moreover, stability has come to depend on variables that equally involve other countries.

Therefore, the G7/8 remained, but its own members decided it had to be accompanied by a wider group, the G20, including other countries by which the interests and expectations of the continents of the world could be more directly represented. The G20 was established as a forum of dialogue to promote co-operation and to broaden the discussions on key economic and fiscal issues "among systematically significant economies" (as its first statement reported). By these words we understand that the initial legitimacy of the G7/8 was somehow extended to the other members of the new group. This explains the satisfaction of the newcomers that was tangible during our first meeting in Berlin. It does not explain the overall performance of the G20 throughout the years, which has certainly been below the expectations of that time.

No-one ever expected the G20 to reach the same standing and to exercise the same influence as the smaller and more settled G7/8 group. But when it was created, we were all still affected by the far-reaching effects of the Asian financial crisis of the late 1990s, during which, as Joseph Stiglitz repeatedly wrote in the following years, the International Monetary Fund (IMF) found $160 billion to save the banks at risk, but not even $1 billion for those who were losing their jobs. Saving banks certainly helps financial stability more than helping the unemployed does. But there was something unacceptably wrong in such an imbalance, and this was one of the main reasons behind the request for a deep reform of the Bretton Woods institutions.

Born in this context, the G20 undoubtedly had the genetic mission to promote the reform of what we called the international financial architecture, in search of monetary and financial stability and more balanced attention to the victims of instability. It has worked on it: it has produced documents. But it has not performed the task of promoting and gathering the necessary consensus on the needed innovations both of the IMF and of the World Bank. I cannot forget that the G20 was established "in the framework of the Bretton Woods system" (as we wrote at that first meeting). In this framework, accomplishing that task would have been desirable, to say the least.



> Financial crises find their origins not in the new economies but in the old ones

Two women react to dropping share prices in Hong Kong

Above An Indonesian man scrambles to buy food coupons, Yogyakarta, Java

Why has it not happened while new financial crises have taken place, new 'global tigers' have entered the scene, and managing financial instability remains an unsolved issue? Solving this issue means introducing changes that are not at all easy and that go far beyond the longstanding demand (in part already answered) of a vote rebalancing inside the Bretton Woods institutions. At a time when, first, the United States has become the main debtor of the international community and is no longer its main creditor and, second, financial crises find their origins not in the new economies, but in the old ones, the missions of vigilance must change their targets.

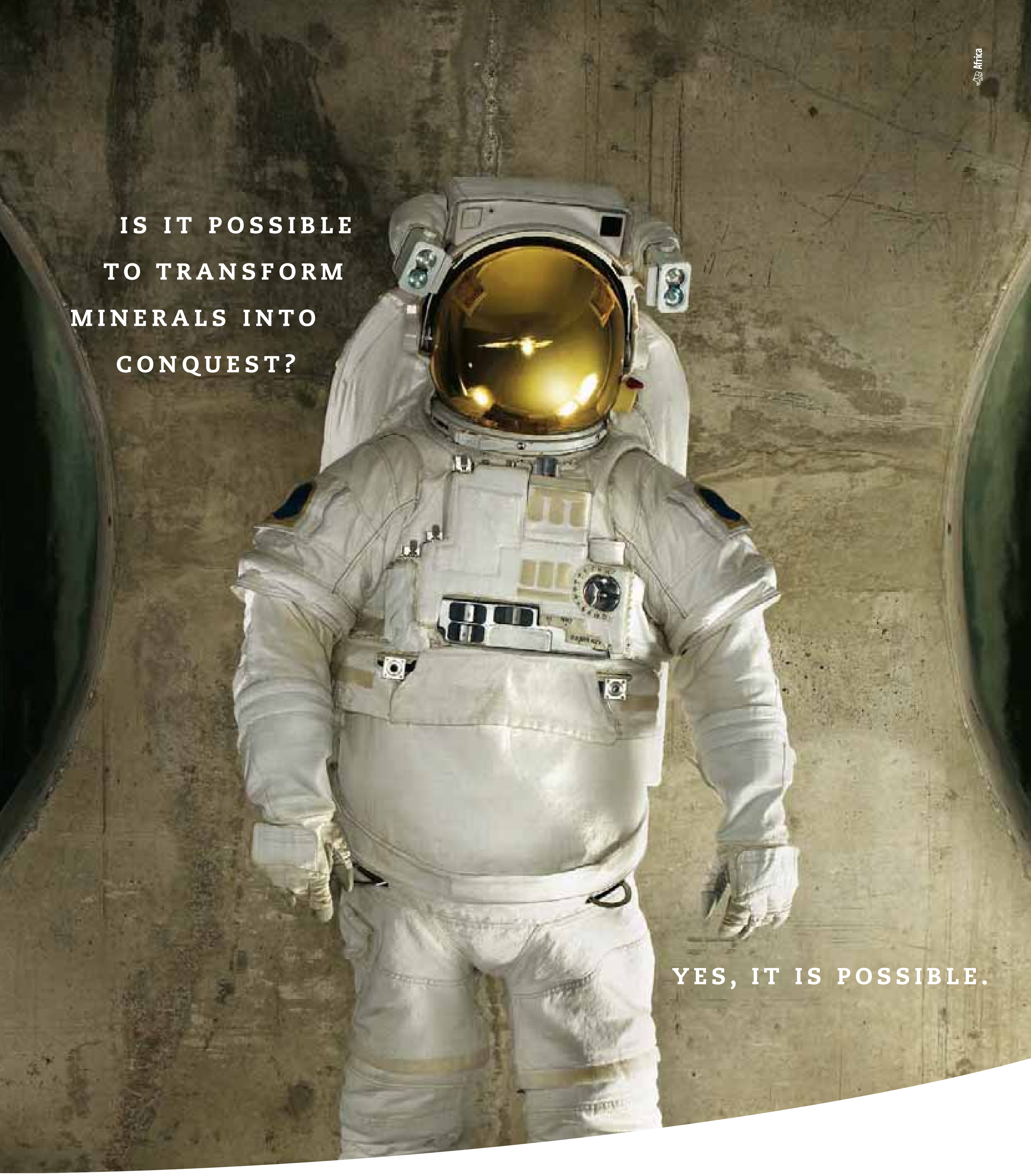
New interactions are needed between the national and supranational authorities responsible for them. Can the level of co-operation among our numerous and uneven sovereignties reach the intensity required with reforms of this calibre? Among scholars (and not only among them) the opinion prevails that only under the influence of a leading power is international co-operation high. To the contrary, our problem is how to enhance it for the sake of farsighted reforms in a world that "the rise of the rest" has made multipolar, and do so among the major countries that tend to operate on the basis of short-term perspectives. How else could we explain the undisturbed development of speculative bubbles that have not passed unnoticed?

Certainly this is the main explanation of the unsatisfactory performance of the G20 as an agent of reform. Yet, I do think that a bolder role is not at all out of its reach. Finance ministers, who have remained the core of the group (recently extended to other sectoral ministers), have always paid special attention to the long-term consequences of ongoing policies. I am sure that all of them are well aware that protectionism would – and perhaps will – be the only alternative to a more stable and fairer international financial system. Nor is rescuing banks a satisfactory solution, for today an unknown share of the losses is transferred outside, and households and other final investors will claim protection above all.

Finance ministers are also well aware that protectionism and growth do not go together, with the consequence that the problems of the world (and their own problems as responsible for public budgets) would become worse and worse. If they do not want this to happen, it is time for change – and change requires courage. They should feel committed to advancing in the G20 the bold proposals on the basis of which the Bretton Woods system may effectively play its role in a better governance of the world economy. It will be costly for the West and mostly for Europe, whose weight and influence will necessarily diminish. But it is a price to be paid in our own interest.

Fifty years after Marcuse, it would be quite sad for us to conclude that even the feasible utopias must return to the realm of the imaginary, for we lack not the resources, but the will to make them real. ◆

Right Toys produced for the Western market, Dongguan, Guangdong Province, China


IS IT POSSIBLE
TO TRANSFORM
MINERALS INTO
CONQUEST?
YES, IT IS POSSIBLE.

Ten years on

At its inception, the G20 opened up the post-1945 financial architecture to previously excluded emerging powers. Just how far has it come since then?

By Andrew F Cooper, associate director, Centre for International Governance Innovation

Scholars tend to analyse the G20 forum by looking backwards, especially to the motivations for its establishment and its policy ramifications, with a concentration on the relationship with the East Asian financial crisis at the end of the 1990s. But they also focus on the key issue of legitimacy. Scholars, however, have largely missed the forward-looking vision driving the G20 finance initiative, a vision shaped by both a legitimising function and a problem-solving mentality. With symbolism came a deep concern with efficiency that went well beyond 'managing' the immediate fallout from the financial crisis to an interest in policy entrepreneurship.

The G20's core innovative quality was its institutional design. Up to that point, the post-1945 financial architecture had been almost exclusively the preserve of industrialised countries. The G20 set a precedent by opening up membership to the global South. Several countries from the South – from all quadrants of the globe – entered the G20 and gained significant forms of ownership of the forum. The informal culture of the G20 provided them with a sense of identity. The order and distribution by which southern countries took on the hosting function (India 2002, Mexico 2003, China 2005, South Africa 2007 and Brazil 2008) showed that G8 countries were willing to share this instrument of power. This signalled that the G20 was not only about improving the global financial system, but also about bringing the emerging big powers into a rearranged system.

Showing that the G20 was more than a narrow, technical forum, the 2000 meeting in Montreal focused on the opportunities and challenges of globalisation, which needed to be 'shaped' more effectively on both its financial/economic and social sides. The equity rationale was compelling. Acting on the wider purview of the Montreal consensus from the 2000 meeting, the G20 expanded its interests to encompass the United Nations Millennium Development Goals (MDGs). But the main argument, which prompted calls for the extension of this forum to the leaders' level, was based on instrumental necessity. As the Secretary General of the Organisation for Economic Co-operation and Development (OECD), Angel Gurría, bluntly put it in 2005: "The different fora that deal with globalisation are not working."

> "The vision driving the G20 finance initiative was shaped by a problem-solving mentality"

Some see the G20 as a forum for de-legitimisation. While the status of countries such as China, India, Brazil, South Africa and Mexico are enhanced, other countries are increasingly marginalised, notably the small, poorest countries (represented in such groups as the G24) and the traditional middle states in western Europe, such as the Nordics and the Dutch, which often act as voices for the poor.

In this hierarchy, China stands out. With its ascendance in the global economy, there was no question that China deserved to be at the top of the list for entry into the G20 in 1999 – and even today, into the G8. But on grounds of legitimacy, China continues to be

Battery Park and the piers of downtown Manhattan, New York. The post-1945 financial architecture had been almost exclusively the preserve of industrialised countries

an awkward fit. Along with highlighting its democratic deficiencies, the rise of China showcases the new modes of diplomatic inequities between big and small countries of the global South.

Reinforcing the visionary aspect of the G20 was the appreciation that these rising states had other options. Paul Martin in particular understood that this was not simply a case of the G7/8 allowing a country in – China needed to want membership. However, China had invested in its reputation as a universalistic-orientated actor consistent with its privileged role as a Permanent Five member of the United Nations Security Council and as a country that valued the Bretton Woods institutions. Therefore, entering more restrictive clubs, especially those offered by the G7/8, involved considerable problems. Externally there were abundant reputational sensitivities about China eroding its solidarity with the global South. Internally there were concerns that China – by joining forums such as the G20 – was making itself susceptible to criticism about its domestic policies.

The establishment of the G20 demonstrated how much progress had been made on both sides. A prominent policy entrepreneur, such as Paul Martin, had the professional and political acumen to know how much, and by what means, China could be persuaded to enter. And with the Asian crisis – and alternative initiatives such as Japan's proposed Asian Monetary Fund (which China opposed) – the incentives for China being brought into the G20 'big tent' gained momentum.

The G20 has succeeded in building trust and connections between the G7/8 countries and China, along with the other big emerging countries of the global South. Since 1999, China has actively participated in all G20 meetings – including a successful hosting of the 2005 meeting in Hebei.

The details of the G20 meetings deserve attention because of their own merit in crisis prevention, often by technical means, with attention to such matters as codes and standards in transparency and financial sector policy. But the forum was also crucial at the putative stage for an extension of the G20 into a L20, or leader-level summit.

The experience of the G20 was crucial for pushing Martin into his firm advocacy of ambitious summit reform. He recognised that the mandate of forums – whether the G20 or the G7/8 – required constant reconceptualisation. The prime task of the initial G20 was inevitably that of seeking solutions

Heads of delegations during the G8+ China, India, South Korea Energy Ministers Meeting in Aomori, June 2008

> The Clinton administration responded to the Asian crisis by embracing institutional reform

to vulnerabilities in the financial system. Yet, in the aftermath of September 11, 2001, the agenda shifted toward security priorities: fighting the financing of terrorism in 2002, and addressing global poverty as a root cause of terrorism in 2003. The G20 also recognised that the financial issues it sought to address were global in nature. So too were many issues on the G8 agenda – terrorism, climate change, energy security and health governance – that could not be effectively addressed by the G8 alone.

Martin highlighted instrumental legitimacy as the motor for reform. Infectious diseases, an issue that made it onto the G20 agenda in 2000, stood out because the risk of a global pandemic this issue could 'tip the balance' in terms of a reformed G8.

The G20 experience also shaped the style that Martin wanted for an L20. As opposed to the popular impression (and stigma) of the G7/8 as talking shop, he and other finance ministers saw the G20 as a credible vehicle for action. Choosing the right members – with individual as well as collective leverage – was crucial, as was building a culture of policy delivery. As long as the countries are big and powerful enough, deliberations can lead to real decisions. The G20 could achieve this.

However, the idea of an L20 has not yet been realised, due in part to the fundamental differences between it and the G20. One such difference is the leadership of the main policy entrepreneurs. The Clinton administration responded to the Asian crisis by embracing institutional reform. US Treasury secretary Larry Summers adopted a hands-on role in the G20, picking along with Martin the members for the new forum. While fully behind the initiative, the United States did not try to control all the machinery of the G20. The first meeting was held in Germany. The first chair was Paul Martin, beating the United Kingdom's Gordon Brown in an informal poll of G8 countries.

The Bush administration has been far more resistant to institutional reform. George W Bush shared some of the same concerns, notably about avian influenza, but this did not translate into support for an L20. When Martin tried to call an informal meeting of the L20 leaders on the margins of the 2005 UN World Summit in New York, Bush declined. This sucked much of the momentum from the initiative, notwithstanding

Martin's enthusiastic campaign among key leaders.

A second obstacle was the difference in the policy context between the G20 and the proposed L20. There were obvious rivalries among the countries and ministers on the G20, as seen in the jockeying between Canada and Germany before and during its first meeting in Berlin. Yet the strong consensus among the key policy entrepreneurs was striking. Although there was some disagreement over membership – such as the inclusion of Saudi Arabia, Turkey, Korea and Australia – this did not impede institution building. There was a firm consensus on which countries to involve because of their possession of economic capacity. China and India were obvious. Saudi Arabia, with its massive oil and financial reserves, was too. There was agreement on those countries – notably Argentina and Turkey – that needed to be brought in, preventively, because of vulnerability to future financial shocks.

Signs of the club nature of the G20 forum soon emerged. An important subgroup of finance ministers, including Canada's Martin, Britain's Brown and South Africa's Trevor Manuel, worked closely together. When other colleagues faced adversity, this group rallied to their cause. In this context, Malaysia was excluded from the G20 because it had imprisoned its finance minister, Anwar Ibrahim, and Indonesia was nominated to take its place.

Building consensus on the L20 has proven far more difficult. Whereas the G20 has a policy-driven agenda, the G8, as with any leaders' meeting, is as much about style as performance. Photo-ops are far more important for leaders than for ministers of finance. So are unrehearsed, informal exchanges, often related to domestic politics. While lonely at the top, leaders can share confidences as a peer group during G8 summits.

Over time, an air of opportunism has begun to hover over proposals to expand the G8, while more recent reform proposals are disconnected from the G20 experience. Politically, this is not surprising, in that these calls have come from leaders who have not been ministers of finance or, in the case of the UK, where the Minister of Finance has been a challenger for power. Diplomatically, though, it means that calls for G8 reform often go hand-in-hand either with trips to the invited countries or as 'carrots' to enhance bilateral relationships. French President Nicolas Sarkozy has tended to support a country (India and South Africa, for instance) when he has been on official tours there. He has also included specific countries (Egypt) to coincide with other initiatives, as on the Mediterranean community. Such actions open up the issue of membership well beyond the G20.

Finally, timing is a factor. The G20 was created because of a crisis, as most new institutions are. The L20 initiative lacked such a triggering moment to mobilise political and diplomatic support. A major pandemic might have been a catalyst. But, to the credit of lower level bureaucrats and experts (who are responsible for handling these health governance issues), this threat did not escalate to the point where leaders took control.

The direct line between the G20 and G8 reform has thus eroded. There is little current perceived

Zhang Guobao, vice chairman of the National Development Reform Commission, at the G8+ China, India, South Korea Energy Ministerial Meeting, Aomori, Japan, June 2008

opportunity for a 'big bang' reform of the G8 with the inclusion of the G20 roster of countries. Instead, suggestions of countries to include in an enlarged G8 came *à la carte*. Nevertheless, some elements of the L20 reform drive remain. Akin to the G20, the Heiligendamm Process (HP) – initiated by German chancellor Angela Merkel at the 2007 Heiligendamm G8 Summit – was based on the functional notion that

> "The rise of China showcases the new modes of diplomatic inequities between big and small countries of the global South"

co-operation in specific areas (innovation, investment, development assistance and energy policy) would develop into further forms of trust and co-operation (an exercise that is explored in *Emerging Powers in Global Governance: Lessons from the Heiligendamm Process*, edited by Andrew F Cooper and Agata Antkiewicz).

Policy entrepreneurs can surprise scholars, who find it hard to identify when and where initiatives can be launched and gain traction in the global architecture. The G20 came into being suddenly, in response to a distinctive set of problems. The L20 proved a fascinating diplomatic laboratory for taking this spirit of reform to the apex of power. Although the initiative is transformed and stalled at the moment, prospects for another burst of activity remain. It will just take the right champion(s), support network and galvanising conditions to make it a reality. ◆

The OECD: an active player in building global governance

The OECD provides a link between G8 and G5 countries and endeavours to meet the challenges of global governance

By Angel Gurría, secretary general, Organisation for Economic Co-operation and Development

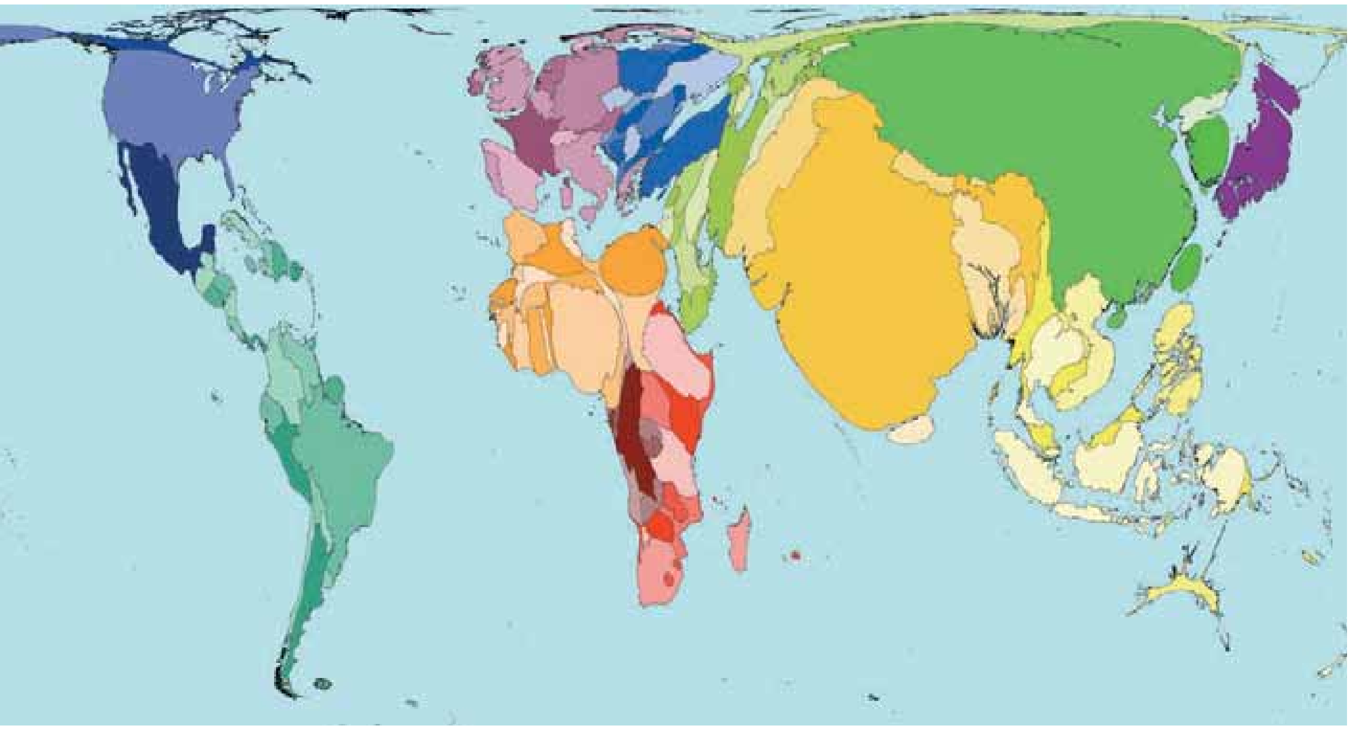
The distribution of the population of the Earth

Global governance is changing. As we have seen in recent years, through the emergence of different innovative schemes like the G8+, the Major Economies Meeting (MEM) at Heiligendamm Process at the Organisation for Economic Co-operation and Development (OECD), there is a growing realisation that we cannot build a stable global economy without including developing countries in the decision-making process.

The launch of the G20, a pioneering initiative by Canada's Paul Martin, has proven to be truly visionary. During the past ten years, economic power has shifted. Emerging economies now account for more than half of world gross domestic product (GDP) in terms of purchasing power parity, nearly 45 per cent of global exports and 75 per cent of global foreign exchange reserves. We are living in a much more plural global economy. Multipolarity, as Richard Haass argued recently in *Foreign Affairs*, has given way to 'nonpolarity'.

Global interconnectivity has intensified, reaching unprecedented levels. The international dimension of national challenges has never been so clear. The links between sectors, and therefore between policies, have also increased significantly. Today, we face multidimensional challenges that demand multidisciplinary attention and collective responses. How else can we have a serious debate on trade without China? How can we make progress in addressing climate change, poverty reduction or international migration without representatives from at least the emerging economies?

It is time for more inclusive, more representative and more agile international economic governance. We also need better follow-up mechanisms to turn decisions and more commitments into real change.



According to the World Bank's new poverty estimates, roughly half the world's population were living on less than $2.50 a day in 2005

The name of the group (G8+, G8+5, G8+5+3, G33, etc) is irrelevant, as long as it is representative enough to address the challenges on the agenda effectively. The G20 can help to build a more stable and balanced global economy. It gathers the main economic and financial players, representing 90 per cent of global GDP, 80 per cent of world trade flows and two-thirds of the world's population. The later proposal by Paul Martin to turn the G20 into a leaders' group, the so-called L20, seemed a natural progression. Some decisions – no matter how technical and complex – can only be made at the highest political level.

The OECD has identified a group of challenges for which crucial decisions are required, in order to produce a more balanced and harmonious globalisation. These include building a more stable global financial architecture, addressing the peril of climate change and reducing poverty and socioeconomic disparities. Once the tailwinds from the shocks hitting our economies have subsided, it will be necessary to draw lessons from the economic downturn and put in place policies that strengthen the resilience of the global economy. That will involve revisiting the prudential and supervisory framework for financial markets.

Climate change is the defining issue of our era. Our health, our security and our economies are being threatened by climate change. Although uncertain, the damage is likely to be unevenly distributed, with poorer economies and households incurring greater losses. Moving forward will not be easy. Nor will it be inexpensive. The OECD has long advocated a least-cost strategy as the key to success. It is working to help countries establish cost-effective, national climate change policies through rigorous economic analysis. I celebrate the fact that climate change will be discussed in this year's G20 meetings in Brazil.

Poverty is the ultimate systemic threat. In spite of recent progress, world poverty still kills one person every three seconds, most of them children. According to the World Bank's new poverty estimates, more than 3.1 billion people – roughly half the world's population – were living on less than $2.50 a day in 2005. These are not only numbers; these are shattered families, broken dreams, global shame.

> These are not only numbers: these are shattered families, broken dreams, global shame

The Guidelines on Poverty Reduction produced by the OECD's Development Assistance Committee (DAC) argue that rapid and sustained poverty reduction requires multidisciplinary responses and pro-poor growth. But it also requires that the Millennium Development Goals be met, that the development aid commitments be fulfilled to lift aid from $80 billion in 2004 to the equivalent of $130 billion in 2010 (at constant 2004 prices and exchange rates) and that the predictability and effectiveness of these flows be improved, as agreed recently in the Accra Agenda for Action. The Doha Development Agenda must also be revived, as the G20 Statement on Global Development Issues so clearly demands. The challenge is how to turn these words into action. Inclusive organisations such as the G20 and the OECD, working together, can do the job.

The OECD is an active player in building a new and more inclusive global governance. In recent years, it has been increasingly present in broadening efforts such as the G8+ and the MEM. It is the link between the G8 and the G5 countries of Brazil, China, India, South Africa and Mexico. It is strengthening its ties with the developing world through an ambitious process of enlargement, through the growing engagement of its DAC as well as its Development Centre in Africa, Latin America and East Asia, and through specific initiatives in collaboration with other international organisations: the Partnership for Democratic Governance with the United Nations Development Programme, aid for trade with the World Trade Organization and prospective work on agriculture and food prices with the Food and Agriculture Organization.

The OECD stands ready to increase its co-operation with the G20. It is time to put aside our many differences in favour of a more balanced and inclusive global economy. ◆

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A co-ordinated effort to resuscitate growth

Balancing the pressures of inflation with the desire to kick-start economic growth will not be straightforward. Decisions taken now will have far-reaching implications

By Robert Fauver, former US under secretary of state for economic affairs and former G7 sherpa

Finance ministers and central bankers around the world are currently confronted with some of the most difficult macroeconomic problems of the past 20 years.

Policy choices over the next two years or so will involve difficult trade-offs between fighting largely externally generated inflation pressures and trying to rekindle economic expansion and employment growth. In the industrial world, virtually all countries face this dilemma. In the developing world, the non-oil exporters will experience similar difficulties, with the exception that their problem will be to keep growth going (rather than rekindle it) despite significant slowdowns in their primary export markets. In the oil exporting countries, inflation comes largely from their own domestic investment and development programmes that have run into capacity constraints. No policy makers will face simple or straightforward decisions. Unco-ordinated policy actions are likely to exacerbate the problems and add to exchange-rate instability in the industrial world. This could further complicate the adjustment of external imbalances.

The world economy faces the most troubling and intractable problems that it has witnessed since the first round of oil price shocks in 1973–74. The major industrial economies are in a synchronised slowdown, coupled with rising inflation and substantial external imbalances. Developing countries face higher energy costs, rising commodity prices, slowing export growth and significant infrastructure shortages or bottlenecks in electricity, highways, railroads and sanitation.

One of the most difficult components is the balance of supply and demand in energy markets. China's rapid transition from a small energy exporter ten years ago to a very significant oil importer now has eliminated potential excess capacity in global crude oil markets. India is rapidly following the Chinese path. Further complications come from political instability in the Middle East. Iraq is only now beginning to produce crude oil at rates comparable to those of pre-war days. Iran's outspoken political leadership has added tensions to an already shaky regional environment. Russia's recent activities in Georgia and the 'near abroad' have added to uncertainty about future oil supplies. In tightly balanced markets, small changes in confidence or expectations can result in large price swings.

Moreover, there are no short-term solutions to increasing supply or reducing demand for crude oil. Energy policy will dominate economic issues over the medium term for most of the industrial world and the major developing countries. Developing alternative energy supplies and cleaner fuels will require significant investment and time before noticeable results come.

Perhaps most importantly, inflation is rising sharply in all countries – both developed and developing. Higher energy and commodity prices are leading to cost-push inflationary pressures around the world. Even the major oil producers are witnessing much higher prices as they have undertaken huge development programmes in the wake of dramatically higher oil export revenues.

> “Energy policy will dominate economic issues for most of the industrial world and the major developing countries”

At the same time, real growth in the developed world has been weak for several years. And for the first time in decades, all the major industrial economies are experiencing weak growth at the same time. For much of the last 20 years the US economy has provided a global growth stimulus during periods of slowdown

and provided the necessary export growth for weak economies. At present, however, the US real growth outlook is weak at best.

Synchronised cyclical downturns tend to be longer and slower to recover from than the non-synchronised downturns that the world witnessed during the 1980s and 1990s. In broad terms, the world economy will expand at a rate of less than 4 per cent in 2008 and somewhat slower still in 2009. This is the slowest global rate of real growth in ten years.

Most analysts believe that the real growth in the major industrial economies will centre on 1.5 per cent in 2008 and roughly 1 per cent in 2009. This is the weakest performance in more than two decades. Slowing growth in Europe and the US will be the major factor in the slowdown, while Japan continues with its very weak growth. Unemployment will rise.

The current account deficit in the US continues to represent a major imbalance in the system. At roughly 6 per cent of gross national product, the deficit adds to the uncertainty in foreign exchange markets and the instability of capital flows. While significant improvements in US exports have been recorded recently, these gains have been more than offset by the significant rise in oil import costs.

Workers demonstrate in front of the Alitalia headquarters in Rome

“The world economy will expand at a rate of less than 4 per cent in 2008 and somewhat slower still in 2009”

This overall outlook for the world economy presents complicated choices for policy makers. Within the developed world, central bankers will need to focus primarily on restraining inflation for the next year at least. Despite slower growth, the cost-push inflationary pressures coming from the energy and commodities sectors will complicate efforts to stimulate growth in the industrial world. Moreover, the maintenance of relatively high interest rates in Europe will hinder the decline of the somewhat overvalued euro in foreign exchange markets.

The US Federal Reserve has signalled that interest-rate softening is finished and that its next move will likely be to tighten interest rates (current mortgage problems aside). Rising interest rates aimed at restraining domestic inflation will benefit the dollar in foreign exchange markets while complicating the recovery efforts at least on the part of consumer spending.

When the new president takes office in January 2009, domestic economic problems will require his primary focus right away. His choices for key economic cabinet and White House positions will be critical to the development of anti-inflation policies, expanding energy supply policies, promoting domestic expansion without

> Current worries about credit markets will continue into 2009

hurting inflation pressures and strengthening domestic retraining programmes for displaced workers (whether from economic slowdown or globalisation pressures).

While the current worries about credit markets (housing and consumer loans) will continue into 2009, it is not likely to pose a major problem for the new administration once the markets settle down. The longer-term problems of reducing the national debt and strengthening the financial situation of the social security system will dominate the new administration's strategic planning for macroeconomic issues. Unfortunately, the weakness of the US fiscal position will tend to weaken the hands of the new administration's efforts to undertake significant new spending or investment programmes without offsetting revenue-enhancing plans.

During the past two presidencies in the US, working with other G7/8 members to strengthen the global economy has not received much attention. The concept of co-ordination and co-operation among the major industrial countries has fallen by the wayside of macroeconomic policy formulation. It will be important to revive the original spirit of the G7 among key industrial countries. Exchange markets will likely continue to be unstable. Rates are not likely to reflect underlying economic conditions without the active support of G7 policy co-operation and co-ordination. In recent years, exchange rates have moved away from underlying economic conditions in the absence of an active G7. Overshooting exchange rates has seemed to become the norm. And exchange rate conditions in major developing countries have been settled outside of the consultative process of the International Monetary Fund and outside G20 discussions as well. They have seemingly been based on national perceptions rather than global needs. This must change. ◆

> It will be important to revive the original spirit of the G7 among key industrial countries

Oil facilities at the Yanlian Oil Refinery in Luochuan County, Shaanxi Province, China. About 50 per cent of China's oil and natural gas supply will be imported by 2020 due to the growing gap between domestic demand and production

The Japanese crisis: a valuable lesson

From Japan's own period of financial instability through to its recovery, lessons can be learned that may be applied to the global economy as a whole

By Toshiro Mutoh, former deputy governor, Bank of Japan

While the financial turmoil that erupted in the wake of the subprime mortgage crisis has been dealt with by policies taken by the authorities and central banks in affected countries, serious strains still exist in international financial markets.

The situation is reminiscent of the Japanese experience during the so-called 'lost decade'. During this period, Japan experienced similar disorders in its financial markets. Consideration of this period may therefore be instructive.

After the bubble economy collapsed in the early 1990s, the Japanese economy suffered from financial market insecurity. Recovery took a significant amount of time. Although Japan eventually succeeded in overcoming the crisis through the implementation of financial market reforms, these countermeasures did not necessarily represent the best solution to the problem. Two reasons support this assertion.

First, throughout the process of overcoming the financial market insecurity, decisions in choosing effective policy tended to be taken late. The stability of the Japanese political system that had been maintained since the end of the Second World War wavered upon the collapse of the bubble economy. People's confidence in the monetary and financial authorities was shaken. This situation became an obstacle to building a quick and orderly process of reform. These changes in people's attitudes and the political decision-making process marked a turning point in Japanese post-War history. Indeed, it could be called a paradigm shift in politics.

In the middle of the 1990s, as the deterioration in the balance sheets of financial institutions was revealed, the government started to consider ways to relieve fears of a credit crunch and recession by bailing out struggling financial institutions with public funds. To maintain the soundness of the markets and provide security for depositors, the government introduced a law in 1996 that allowed it to finance home mortgage loan institutions to pay off their bad debt.

However, prior to approval of this law by the Diet, there were prolonged and divisive discussions that led to a delay in the final decision. On the one hand, those opposed to the law alleged it would create a moral hazard because it would use tax revenue to rescue private financial institutions that had been managed irresponsibly. On the other hand, supporters insisted that the government should make the recovery of the financial system the priority.

After that, the Japanese engaged in an intense discussion about the appropriate volume of public funds to be disbursed to the troubled deposit-taking financial institutions. Between 1997 and 1998, the government tried to prop up struggling financial majors in order to raise their capital ratio after the bankruptcy of several of them. During that period the dominant view among the public was that minimal public funds should be used. As a result, the initial amount disbursed was not enough to completely relieve fears of a credit crunch.

Second, because Japan had two economic recovery cycles during the lost decade, the settlement of these problems was postponed. In other words, the determination to reform was undermined by the complacency caused by the economic recoveries. Ironically, this delayed real economic recovery. At that time, Japan suffered from three major excesses: debt, equipment and employment. And while these issues remained unresolved, Japan experienced an additional financial shock from 1997 to 1998, symbolised by the bankruptcy of some major banks. However, the Japanese economy unnecessarily lost time in resolving these financial disruptions because of the cyclical economic recovery. This led to unnecessary sacrifices in people's welfare.

Furthermore, the financial institutions themselves were not necessarily positive in their approach to dealing with the problem. They were late in revealing their financial woes, which further delayed the settlement of their losses. As a result, it took the Japanese economy ten years – the lost decade – finally to overcome the crisis.

As a result of the structural reforms brought in by Junichiro Koizumi, Japan's economy succeeded in making a real recovery. Japan learned two lessons from this long and chaotic period of financial insecurity, which are most relevant for the present world economy, especially for the United States. First, people's confidence in the monetary and financial authorities is vital to the orderly resolution of financial disorder through what may be a lengthy process. Second, vigorous political leadership is necessary to convince the public and the

“It took the Japanese economy ten years – the lost decade – finally to overcome the crisis”

The Japan Leasing Corporation, Tokyo, filed for bankruptcy in September 1998. Its debts totalled 2.18 trillion yen

Above Long-Term Credit Bank of Japan President Tsuneo Suzuki and aides Kazuhide Koshiishi and Kenji Seo meet the press as the troubled bank applies to be nationalised, October 1998

markets that economic reform will not be delayed. Finally, the world may experience a structural change in the global economic system as a result of developments in the current global economic situation. The world is witnessing a slowdown in the US economy. In this context, the collapse of the housing bubble there has caused serious damage to household balance sheets, rather than those of private enterprises, as was the case in Japan. Historically, American households have had low savings rates, which has led to high consumption rates. The world economy has thus enjoyed the benefits of a system where the United States has acted as the consumer of last resort, providing a stimulus to the global economy.

> "The leading role in supporting global consumption is already shifting to emerging economies"

However, given the current financial insecurity, this system may change. Because America's economic doldrums will cause a reduction in household consumption, the leading role in supporting global consumption is already shifting to emerging economies. Of course, excessive consumption should be corrected. In terms of improving global imbalances, the world should welcome this change as a sound measure in the medium term. But there is the real possibility that it will be a great shock to the global economy in the short term.

In light of the possible change in American consumption patterns and the resulting global impact, it is risky to maintain an optimistic outlook for both this year and the next. The G20 should, therefore, closely monitor this crucial structural change to the world economy. ◆

Limiting the economic fallout

A year on from the subprime crisis, there is a continuing risk of systemic failure. The question must be asked: how bad can it get?

By Paola Subacchi, research director, Chatham House

Over a year has gone by since the subprime crisis erupted in the United States, triggering a widespread financial crisis. Many were expecting a rapid economic impact. Yet there has been a more drawn-out process, with the world's major economies only now teetering on the brink of recession. Over recent months, the crisis has moved from the financial and housing sector to the real economy, threatening jobs, consumption and investment – with the surge in commodity prices and inflation in early 2008 adding to the pain. And just as oil prices fell back, news of a sharply weaker eurozone economy, rising US unemployment and further crises in the banks turned hope to pessimism. How bad is it going to be?

Nobody can give a clear answer. Some economic indicators and forecasts point to a less dramatic picture than the one the more ebullient commentators and the media tend to portray. Despite high energy and food prices, inflation is still low by historical standards, and growth in the emerging market economies is still robust. In other words, even if a technical recession – two consecutive terms of negative growth – is in the future for many economies, the seeds of a prolonged global stagnation do not seem to be there. On the other hand – and this is the problem with the current crisis – it is not clear how the world economy, and in particular the most developed economies, can be pushed up again. Policy makers seem to be short of appropriate tools in their tool box. Monetary policy has little leeway given the resurgence of inflation: how low can real interest rates go before risking Japanese-style stagnation? Similarly, fiscal policy does not offer much room for manoeuvre. Unlike in 2001–02, when the United States could use its fiscal surplus to support economic growth, these days the fiscal deficit is already too large for comfort. The fact that the US also runs a large current account deficit further reduces the space for action.

> "The crisis has moved to the real economy, threatening jobs, consumption and investment"

The recourse to government-backed rescues of financial institutions is thus perhaps not surprising. If the September 2008 collapse of the US investment bank Lehman Brothers could be dismissed as the exception that confirmed the norm, then the 'nationalisation' of the two huge US mortgage finance companies 'Freddie Mac' and 'Fannie Mae' and the 'concerted' rescue of AIG, the world's largest insurer, leave little doubt about the policy of intervention that is pursued as a way to stabilise markets and avoid further turmoil and spillovers in the real economy. These interventions occurred just a few months after the emergency loan provided by the Federal Reserve Bank in New York in March 2008 to the investment bank Bear Stearns and the rescue by the British government of the troubled bank Northern Rock; they open the debate on the risk of moral hazard or the risk that banks and other investors could make irresponsible commitments based on the knowledge that the government will bail them out. Indeed, the

rescue of Fannie and Freddie immediately provoked a global investor rush toward more risk taking and the return of state capitalism.

Such concerns, however, seem of little importance when the stability of the international financial system is at stake and the alternative is a higher risk of systemic failure. So far, these measures have proved effective in keeping the situation under control and avoiding further deterioration in market conditions. With governments having shown the ability and willingness to act as final rescuers, the case for moral hazard has become deeply rooted within the system. Whether this would make crisis prevention and crisis resolution even more difficult in future, it is, however, too soon to say.

It is noticeable, and perhaps not surprising, that in the crisis narrative the US plays a critical role. It is where the crisis started, and it is where all eyes turn to detect signs of a recovery that would pull the rest of the world economy back on track. In particular, since the Asian financial crisis of 1997, the US has kept up its traditional role of economic and monetary hegemon and served as the main engine of global economic growth. US imports have helped the development and expansion of the manufacturing sector in many developing countries, especially China. So, despite much talk about decoupling, expectations are for the US to remain in the driver's seat.

The rescue of Fannie and Freddie provoked a global investor rush toward more risk taking and the return of state capitalism

“The case for moral hazard has become deeply rooted within the system”

Traders at Alfa Bank, Moscow. Stock market indexes in Russia recently plunged to three-year lows, forcing the government to adopt emergency measures

There are some structural problems, however, in the way the US has played and may continue to play the role of economic hegemon. Its main contribution to global growth has come from consumption, with consumption increasingly more a function of indebtedness – fuelled by high house prices – than of disposable income. The result has been a large trade deficit and a household savings rate now at a record low. The crashing of the property market, the unsound growth of which fed the US consumption binge for almost a decade, has left American households loaded with unsustainable debt. This came as no surprise, though. As early as 2004 it had become clear where the imbalances were and where adjustments, sooner or later, needed to come from.

Unlike the post-Second World War years, when the US exported capital and high-value manufactured goods to the fast-growing economies of western Europe and Japan, and sustained their expansion through a relatively open market for imports of foreign goods, emerging market economies are now an important source of finance for the US deficit. The capacity for capital accumulation in these economies – thanks to their much larger share of world manufacturing capacity – is indeed the distinctive feature of today's world economy. Together with this comes their capacity to deploy such capital beyond national borders. All this, combined with the size of their economies and the extent of their activities, is what makes developing countries key players.

The globalisation of financial markets and the integration of the world economy mean that national economies are now much more interdependent than in the past, as well as more vulnerable to spillovers and externalities. As a result, policies need to be much broader based and take the international dimension into account as they tend to have a far-reaching impact. More specifically, there should be a concerted effort to debate global economic issues in international forums where the main developed and developing economies are fairly represented. In other words, the emerging economic powers should be engaged in the dialogue on issues such as crisis prevention, crisis resolution and, more broadly, the management of an increasingly interrelated world economy, in which they are playing a much more significant role. The G20 offers such a forum. ◆

Emerging market economies, such as China, are now an important source of finance for the US deficit. China Development Bank governor, Chen Yuan

European Banks call for more Coordinated Action

European Banking Federation

In the light of the current financial turmoil, the European Banking Federation considers properly coordinated action from governments at European and global level as the solution to restore confidence in financial markets.

On the occasion of the G20 meeting, we call upon EU policy makers to engage their partners in order to foster rapid implementation of the most vital proposals issued by the Financial Stability Forum earlier this year.

We welcome recent support from governments through public partaking in private financial institutions as a viable short term solution. For their part, banks must do their utmost to restore confidence by cleaning up their balance sheets and communicating their precise financial situations.

Picture by Ilker "Hand in hand"

The European Banking Federation is the sector-based trade association representing the interests of over 5000 European banks, large and small, wholesale and retail, local and cross-border financial institutions in 31 EU & EFTA countries. EBF activities focus on the achievement of a European integrated market for financial services.

European Banking Federation

The voice of European banks

Reducing risk through policy co-ordination

As crises spread across markets, emerging economy members of the G20 are well placed to help re-establish stability

By Richard Waugh, co-chair, Committee on Market Best Practices, Institute of International Finance

Today, more than ever, global financial stability requires the active engagement of the G20. The tenth meeting of the G20 is an opportune time to renew its financial stability mandate with an explicit focus on addressing financial market vulnerabilities among systemically important countries. It is also an opportune time to consider the G20's role in facilitating policy responses due to the recent market disruption and its effects, the reports of the Financial Stability Forum (FSF) and the Institute of International Finance (IIF), and the many calls for reform and recommendations that need to be implemented.

The timing is right – as the G20 looks ahead to where it can deliver its greatest value – to recall the origins of its financial stability mandate and the strength of its membership, which includes systemically important countries beyond the G7 from the emerging markets. These elements make it an ideal forum for facilitating policy action, which is so important in addressing the effects of market disruption and preventing future crises. Although the G20 appears to have focused in the past on policy co-operation, as described in *The Group of Twenty: A History*, there is a strong case that it should elevate its role beyond shared diagnoses to actively encourage best practices, standards and harmonised approaches to reform.

The G20, a forum of finance ministers and central bank governors, was born out of a series of financial crises in 1995, 1997 and 1998. Its mandate – to promote discussion between industrial and emerging market countries on key issues related to global economic stability – is aimed squarely at the market disruption we continue to experience today. Organised to promote open and

G7 finance ministers at the 2008 spring meeting of the IMF and World Bank informal discussion among the key members of the global financial system, the G20 has promoted international standards to address vulnerabilities, including, in its 2000 communiqués, the statement:

> *We considered the role that weaknesses in financial sector regulation and supervision, in corporate governance, in the disclosure of economic and financial data and in the transparency of macroeconomic policies have played in contributing to recent financial crises. We agreed on the importance of international codes and standards to address these weaknesses, endorsed the Financial Stability Forum's recommendations, and encouraged continued work on incentives to foster implementation. The G20, as part of its mandate to promote co-operation to achieve stable and sustainable world economic growth, should play an important leadership role in supporting the continuing implementation of international standards and codes in a manner and at a pace that reflects each country's unique development and reform priorities, and institutional characteristics.*

The challenge to ensure global systemic stability is more pressing than ever. As co-chair of the IIF's Committee on Market Best Practices, trustee for the IIF's Principles for Stable Capital Flows and Fair Debt Restructuring in Emerging Markets, and member of the Advisory Committee for the Capital Markets Consultative Group of the International Monetary Fund (IMF), I have been involved in discussions about how to address stability issues. A major theme is that policy co-ordination must become an integral part of any jurisdiction's effort to mitigate systemic risk. Crises can spread rapidly across market segments via counter-party exposure, credit and liquidity risk. The speed of market developments has accelerated significantly.

As a result, without cross-border co-ordination, effective market supervision can be beyond the reach of national regulatory authorities. This is particularly true during periods of financial stress. Some of the key principles identified in the work of the IIF are that first, financial institutions, financial markets and the global regulatory community must deliberately embrace the goal of fully adapting to the globalisation of financial activities. Second, different approaches across and within jurisdictions make it difficult for regulators to rely on each other's work. This impedes shared oversight among jurisdictions. There are still substantial differences of supervisory style and approach, and the industry and regulators should work to reduce these differences over time. Third, regulatory co-ordination needs to become an ongoing process to ensure that international consistency is built into domestic regulation and legislation. Considerable work has been done by both the IIF and the FSF – by both the official and private sectors – to restore the health of financial markets following this liquidity crisis. Implementation of these recommendations will require an integrated effort by both sectors and across boundaries.

The diverse membership of the G20, designed to include the systemically important countries of the financial system, is an important asset. The G7 was deemed too narrow to deal fully with global financial stability issues. The FSF has a similar membership constraint. With the G20 spanning the IMF and the World Bank and working closely with the FSF and G7, it is best placed to assess and respond to systemic issues. Equally important, it has a broader perspective and better insight into emerging financial market risks, given its emerging market membership.

> Well-positioned emerging markets can focus on growth and their comparative strength

As the head of a bank with extensive operations throughout Central and South America and the Caribbean, as well as offices in India, China, Japan, South Korea, Russia and Turkey, I am well aware of the importance of this diversification and the broader perspective it brings. We have seen first hand how quickly financial markets in these key countries are developing and how well they have fared through this recent market disturbance.

The current crisis has been driven by certain elements of the financial markets, notably securitised mortgage markets. These markets are not a significant factor in the emerging economies. Many emerging markets deserve credit for the strides they have taken to remedy their vulnerability to such financial system disturbances. In the case of Latin America, the financial systems of Brazil, Mexico, Chile, Peru and others have matured in terms of liquidity, access to capital, consumer and capital market innovation, and financial sector governance. As a result, they and other equally well-positioned emerging markets can focus on growth and their comparative strength while financial systems in developed countries continue to work through the repercussions of the crisis.

Nonetheless, emerging markets are not immune to the effects of global market volatility, nor are the lessons and reforms irrelevant. The credit crisis, while stemming from mortgage securities, was the result of excessive risk-taking. The reasons that led to lax risk management should be studied carefully and avoided by all participants and stakeholders in the global financial system. In its final report, the IIF identified best practices across a range of financial sector issues beyond risk management, including compensation policies, liquidity risk, valuation, credit underwriting, ratings, investor due diligence, transparency and disclosure. The emerging market perspective on this reform agenda and on measures to prevent future crises must be taken into account.

The IIF has taken one step that the G20 may wish to consider. The Market Monitoring Group has been created as a forum for member firms to monitor global financial markets for early detection of vulnerabilities that have systemic implications, to examine market dynamics that could lead to financial market strains and discuss ways to address such risks.

> The G20 should actively encourage best practices, standards and harmonised reform

With Brazil's presidency of the G20 in 2008, this perspective is well represented and is already being established. Brazil's work programme states that the Brazilian chair will establish the Study Group on Global Credit Market Disruptions, which was proposed by Australia, who offered to chair it.

I fully support this initiative and encourage the G20, on this, its tenth meeting, to consider an active role in co-ordinating reform and policy responses going forward. ◆

A process of stabilisation

Restoring confidence in international financial markets will require strong medicine if a persistent global depression is to be averted

By Chiara Oldani, University of Viterbo 'La Tuscia'

The present international financial market is characterised by remarkably high financial volatility, which reflects a substantial loss of confidence, drying up inter-bank credit and spiking short-term interest rates. Inflationary pressures combined with financial risks, both originating in the energy sector, further complicate the transmission mechanism of impulses in the global economy. This financial disruption must be tackled at its root. Securitisation and deregulation created unbalanced and unfunded risks and harmed the shaky fundamentals of the financial system. But a lack of international economic co-ordination produced disorder, which weakens the responsibility of market players.

Abundant liquidity provided by G7 central banks between 2000 and 2006 has contributed to mispriced risks and assets prices, and induced excessive risk-taking. The other substantial policy mistake has been deregulation. The possibility of separating the risk from its originating credit, allowed by financial innovation such as credit derivatives, and the possibility of trading such unfunded risks under different domestic regulations and monitoring regimes, have fuelled global moral hazard. The lack of proper valuation by credit rating agencies contributes to the stress. In the absence of any mitigating factors, losses can reach up to 3 per cent of the world's gross domestic product, according to recent International Monetary Fund estimates. The transmission mechanism has changed, but the tools available to restore confidence are not effective.

The first step in attacking the roots of global instability is to institute a co-ordinated system of risk funding. The credit-rating agencies and the 'originate to distribute' model, which allowed banks to expand their lending business without violating the limits placed by regulations intended to prevent excessive risk, failed to value the effective risks embedded in most securities. Balance sheets do not reflect the value of financial operators and confidence needs to be restored. The rescue of non-banking institutions such as Bear Stearns has encouraged moral hazard. Deregulated operators and practices such as subprime mortgages should be

Exchange-traded futures prices on oil, traded since the 1980s, have proved to be poor predictors of spot prices

responsible for the losses they originated, together with the authorities that allowed such practices. The medicine is very bitter, and the crisis experienced by Japan, whose persistence has to be attributed to the weak banking system, should inspire strong action to avoid a persistent global depression.

The second step is to institute a new currency regime. G7 exchange rates are determined by the market, while emerging economies adopt the peg. This unbalanced currency market drives the accumulation of excessive foreign exchange reserves far above the sustainable level, especially in Asia. Most of these resources are invested in deregulated sovereign wealth funds (SWFs). The liquidity generated via exchange-rate misalignments is not absorbed via trade. Financial account imbalances reverse trade-related currency flows, but refer to transactions taking place in a weak financial environment. Risks accumulate in a non-linear fashion. The reaction to the negative effects of financial globalisation will be a degree of protectionism in the next few years.

SWFs are government investment funds, funded by foreign currency reserves, but managed separately. Their overall holdings are expected to reach $15 trillion in the next few years. Potential risks associated with them are mismanagement, resulting in further financial disruption; increased economic protectionism; negative political agendas; and worsening conflicts of interest. Hostility to them is fuelled by the fact that SWFs, with the exception of those in Norway and Singapore, do not publish their balance sheet or investment strategies, and are not publicly accountable. The United States and Europe have already demanded legal protection for sensitive industries

> “The crisis experienced by Japan should inspire strong action to avoid a persistent global depression”

US Treasury secretary Henry Paulson announces the bailout of troubled mortgage giants Fannie Mae and Freddie Mac

against takeovers by foreign state-run investment funds, but have to accept less freedom on private funds as well. The regulation and monitoring of private funds (whether hedge or sovereign wealth) must be dealt with in a comprehensive way by the G20. It should not be left to the market, which has proven unable to handle such risks.

The third relevant change in the global transmission mechanism is the effect of energy prices on global inflationary pressures. The energy sector is characterised by a physical gap of infrastructure and production, negatively influencing prices. Financial securities try to fill the gap and hedge related risks. The energy sector exhibits high excess returns and most international banks build and sell securities to their customers to hedge. In most cases, international banks also started over-the-counter (OTC) trading platforms to ensure sufficient liquidity. However, there can be a lack of liquidity, similar to what happened to the US mortgage industry, with a domino effect in the industrial and financial sectors.

The pricing of energy contracts follows the standard pricing rules of derivatives, corrected for their special features, such as storage and transport costs, or environmental risks. There are thus two dangers in handling energy derivatives: mispricing and illiquidity. Exchange-traded futures prices on oil, traded since the 1980s, have proved to be poor predictors of spot prices. Mispricing changes the risk-return profile of portfolios, altering the effectiveness of hedging and generating unknown non-linear correlations. Most energy contracts follow the oil price, but the underlying asset is not always a substitute for oil, nor is it traded under similar rules (see, for example, natural gas). This fact diminishes the ability to price derivatives efficiently, but, at the same time, increases the need for hedging tools from market participants. If the structural lack of investments does not reverse, through research and development

> "The G20 should support the introduction of transparent accounting principles for all market players"

in technology, increasing energy efficiency and productivity, and tax incentives toward renewables, then the inflationary pressures will continue to afflict the global economy, forcing central banks to increase interest rates, to the detriment of market liquidity.

The freedom that was allowed to deregulated financial operators (including sovereign wealth and hedge funds), to OTC markets, and to central and local public authorities that were not compelled to adopt fair value principles and accounting practices, induced excessive risk-taking behaviour that is unbalanced and unfunded. The G20 should co-ordinate a global response to the turmoil to create a sound environment and support the introduction of homogenous practices and transparent accounting principles for all market players and for all financial transactions. The Bank of International Settlements' Basel II Capital Accord has amplified the effects of the economic downturn in Europe. The Italian situation is even worse for domestic structural reasons. Italian private wealth is invested basically in government bonds, and only to a relatively small extent in private-issued securities. Banks finance small and medium-sized firms, which represent more than 80 per cent of the entire population, but such investment becomes expensive in periods of economic downturn.

Still, the risk-weighted approach represents a feasible approach to creating a sounder environment. The stabilisation of the financial system goes along with the creation of a common exchange rate regime, where the Chinese yuan would move toward more flexible management with respect to the US dollar, the euro and the Japanese yen. Such strong actions would smooth the financial and pricing frictions, help the adjustment process and reverse the negative trend of growth. ◆

Tropical Forests – An Essential Tool for Addressing Climate Change

How much money is a tropical forest worth? Until now, the only way to find out was to burn or log it and use the land for other purposes. A standing forest had no tangible economic value for simply existing.

That is changing. Increased understanding of how and why the planet is warming has raised awareness of the vital role of tropical forests in regulating the climate and benefiting people. The result is a new focus on creating economic value for the services that tropical forests have always provided for free.

Tropical forests contain more than half of all species on Earth, provide essential ecosystem services such as flood control and soil protection, and are the foundation for the livelihoods and culture of many of the world's indigenous and forest-dependent peoples.

These rainforests also absorb and store huge amounts of carbon dioxide – the most prevalent greenhouse gas in the atmosphere. Current deforestation, at a rate equal to an area the size of England each year, emits 20 percent of total greenhouse gases - more than all the world's cars, trucks, airplanes and ships combined.

By conserving tropical forests we can minimize the effects of climate change and maintain the essential resources and services that the forests provide to hundreds of millions of people. To do so, we need to provide incentives for forest-rich developing nations to preserve their existing jungles.

U.N.-led negotiations on a new global climate change treaty recognize the importance of curtailing emissions from deforestation. What we need now is leadership by G20 governments and others to adopt a system of incentives to reward countries for protecting standing forests.
Tropical forest countries understand this strategy and have taken laudatory steps to conserve their valuable resources in the long-term interest of their people. However, they must balance such crucial conservation with development needs for poor and vulnerable populations.

Organizations such as Conservation International (CI) and Duke Energy are part of a broader set of partners committed to helping developing countries earn revenue from protecting such important resources.

We want to help the G20 governments make such conservation-based income part of climate policy.

If done right, protecting tropical forests will provide multiple benefits – lowering carbon emissions now while the world works on transforming to low-carbon economies; bolstering sustainable development opportunities for the millions of people who rely on the forests for their livelihoods, and providing ecological benefits such as protecting biodiversity and water quality.

We need new mechanisms in a global climate change treaty that provide a powerful financial incentive to save tropical forests, substantially reduce carbon dioxide emissions and maintain essential natural resources for vulnerable people. Protecting tropical forests is essential for addressing climate change.

Duke Energy®

CONSERVATION INTERNATIONAL

A collaborative approach to global energy issues

The demand for a revolution in global energy policy will increase dramatically in the coming decade – and the world's economies will need to co-operate

By Nobuo Tanaka, executive director, International Energy Agency

Secure, clean and affordable energy resources are fundamental to future economic stability and growth. The G8 showed far-sightedness when it launched its programme to achieve a "clean, clever and competitive energy future" at its Gleneagles Summit in 2005, with a strong follow-up at the July 2008 G8 Summit in Hokkaido. Much more effort is needed, however, and the development and deployment of new energy technologies in global markets must play a key role. Long-term ambitions for cleaner energy must be buttressed by concrete short- and medium-term targets and implementation.

Energy Technology Perspectives 2008 (ETP), the recent study produced by the International Energy Agency (IEA), provides an analysis of the status and future prospects of key energy technologies, and shows how they can contribute to a more sustainable, secure and least-cost energy system. The goal of the analysis is to provide a technology perspective on the feasibility and

> All countries need to act in the next few years if the goal of halving emissions is to remain affordable

Eggborough Power Station, a coal-fired plant near Selby generates power

costs of deep emissions reductions, including various scenarios. One scenario is an extremely ambitious one, showing how carbon dioxide emissions could be reduced to 50 per cent below current levels by 2050 – to limit temperature increases to 2°C–2.4°C. The results make clear that all countries need to act in the next few years if the goal of halving emissions is to remain affordable.

ETP is built on three sets of global energy technology scenarios. These are a baseline (business-as-usual) scenario, a range of ACT (accelerated technology) scenarios showing how CO_2 emissions could be brought back to current levels by 2050, and a set of BLUE scenarios outlining how they could be reduced to 50 per cent below current levels.

In the BLUE Map scenario, end-use efficiency accounts for 36 per cent of all savings, renewables for 21 per cent, and CO_2 capture and storage 19 per cent. The remaining 24 per cent is accounted for by nuclear, fossil fuel switching and efficiency in power generation (see figure 1).

First, the world must harvest the huge efficiency potential in all economies. Energy efficiency has the greatest potential for CO_2 savings at lowest cost and is in many cases even paying off. And results can be delivered soon. The IEA submitted 25 energy efficiency recommendations to the G8 Hokkaido Summit. These covered seven priority areas: buildings, appliances, lighting, transport, industry, power utilities and cross-sectoral activity. The IEA estimates that if implemented globally without delay, the proposed actions could save around 8.2 gigatonnes (Gt) CO_2 per year by 2030. This is equivalent to around one fifth of global reference case CO_2 emissions from the energy sector in 2030.

Second, the world must decarbonise its power sector. Given the growing demand for electricity, this would mean that 35 coal- and 20 gas-fired power plants would have to be fitted with carbon capture and storage (CCS) technology on average per year between now and 2050 (see figure 2). The price tag is high – a single 500 megawatt (MW) coal-fired power plant with CCS costs of around $1.5 billion today and costs are escalating. In addition, the world would have to build 32 new nuclear plants each year. Numerous issues would need to be overcome, such as the questions of public acceptance and the availability of geologically stable sites for nuclear reactors or waste storage. Wind capacity would have to increase by approximately 17,500 turbines annually.

To meet the BLUE scenarios, the world must quickly develop and implement new far-reaching policies to a degree unknown in the energy sector and substantially decarbonise power generation. A significant discrepancy exists between current trends and the BLUE scenario targets. In the coming decade, the world will need to launch a global revolution in the way it produces and uses energy, with a dramatic shift in government policies and unprecedented co-operation among all major economies. The IEA's *World Energy Outlook 2008* provides further in-depth analysis on policy pathways to achieve significant emissions reductions.

The ACT Map scenario requires options with a marginal cost up to $50/t CO_2 while the BLUE Map scenario requires up to $200/t CO_2 ($200/t CO_2 translates into an additional cost of $80 per barrel of oil). These marginal cost estimates are based on reasonably optimistic assumptions about significant technology cost reductions. With less optimistic cost reductions, notably in the transport sector, the marginal cost for BLUE would rise to up to $500/t CO_2. The cost uncertainty increases for more ambitious targets, as technologies are needed

Figure 1: Contribution of emissions reductions options in the BLUE Map Scenario, between 2005 and 2050

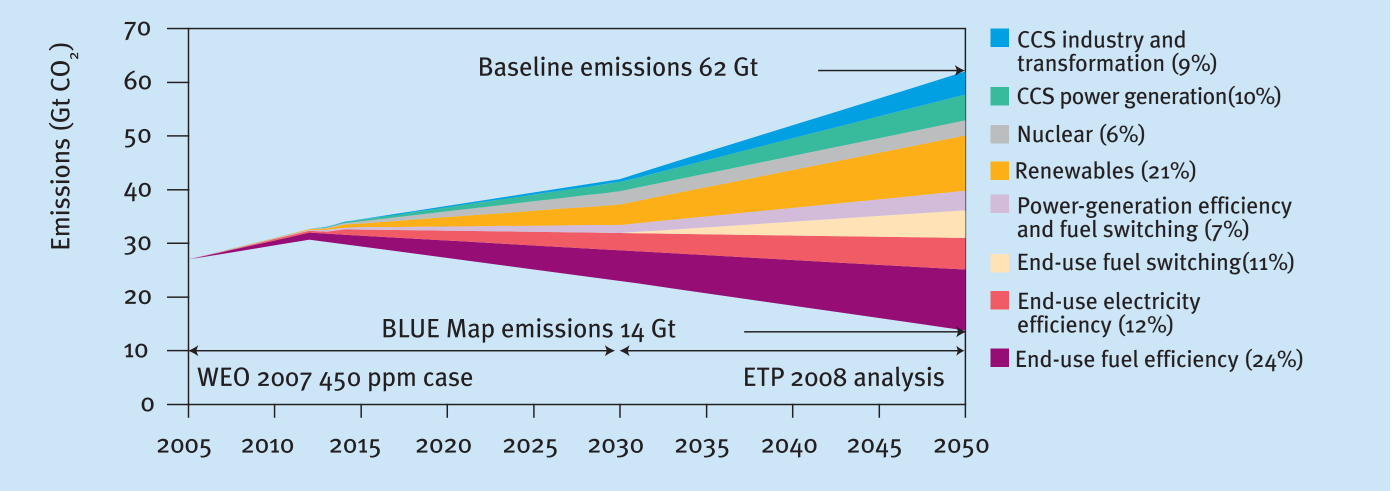
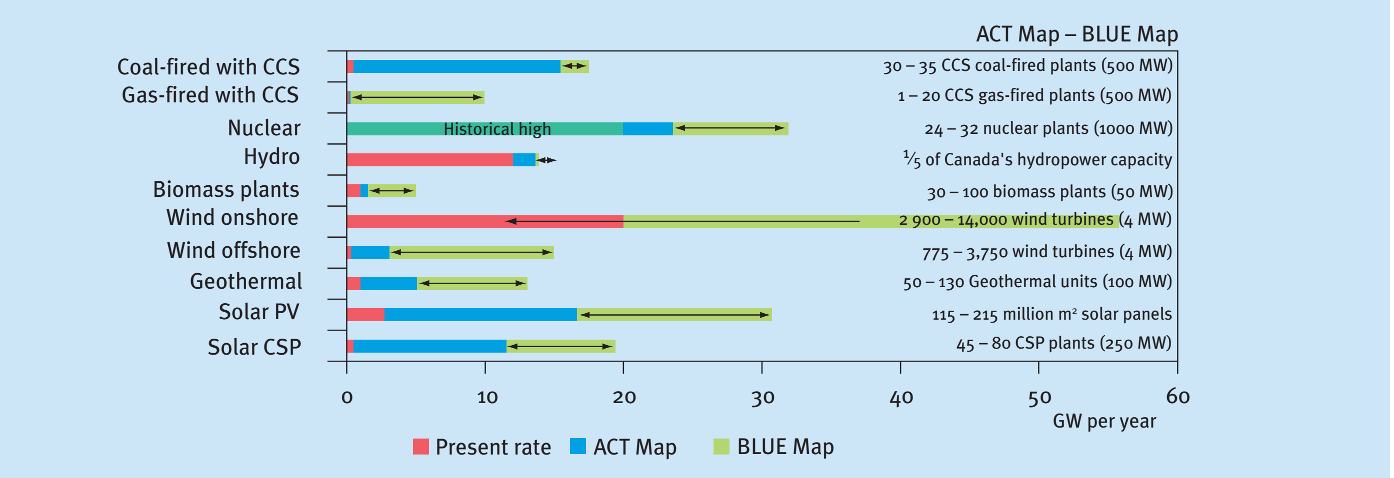


Figure 2: Annual investment in the electricity sector in the ACT Map and BLUE Map Scenarios, 2010–2050



that are not yet mature and whose future cost is therefore highly uncertain. The average emissions reduction costs in BLUE Map are about a fifth of the marginal cost, ranging from \$38/t CO_2 to \$117/t CO_2.

The future energy system will be determined by decisions taken in the coming years. Not acting now with policies to achieve the ambitious long-term goal implied by the BLUE scenario will impose higher costs in the future. Clear, long-term targets are needed to convince decision makers in industry to make the capital investments needed to dramatically change the energy system. Energy research and development levels must be raised and restructured in order to accelerate the development of new energy technologies with superior characteristics.

The IEA has more than 40 international technology co-operation programmes. Most welcome participation of member and non-member countries. The goals are primarily sharing information, developing a joint strategic view and developing research agendas. The IEA is actively trying to broaden the outreach of its technology programmes and welcomes more participation from developing countries. For example, it works on technology scenarios and roadmaps for developed and developing countries alike, working closely with experts from these countries.

> “The IEA is actively trying to broaden the outreach of its technology programmes”

Many developing countries demand technology transfer and consider this a condition for future climate change commitments. At the same time, equipment suppliers in developed countries worry about intellectual property rights and are often reluctant to provide technology for fear of copy piracy. Technologies are generally not owned by governments. Patents belong to institutions, companies or individuals. Companies have know-how that is not shared with others. In many cases, advanced technologies will require advanced knowledge.

Joint ventures could be a way to share knowledge, while also providing an incentive for current technology owners. Such co-operation is already happening. A good engineering education system, sufficient research, development and demonstration efforts, and international co-operation will be preconditions for a successful industrial transformation. The IEA looks forward to working with the G20 countries on such a global transformation in the coming decades. ◆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Hurricane over Cuba

The price of climate change

Climate change has a major impact on global economic stability. This will increase in Latin America and the Caribbean as their vulnerability to extreme weather events grows

By Alicia Bárcena, executive secretary, Economic Commission for Latin America and the Caribbean

Economic growth in Latin America and the Caribbean has been positive during the last few years. The region's gross domestic product (GDP) for 2007 was 5.7 per cent despite worsening conditions in the global economy. This growth has reduced unemployment and created better-quality jobs. The increase in non-wage income (remittances and conditional cash transfer programmes) has also played a significant role in the nine-point reduction in poverty levels since 2002. Still, more than 35 per cent of the region's population – 190 million people – live in poverty.

However, the current situation may be threatened by three factors. First, the volatility of financial markets since the middle of 2007 and increasing international uncertainty will have negative impacts on economic growth worldwide. Latin America and the Caribbean will be no exception, although it is expected that the region will be less affected than in previous crises, thanks to its increased economic strength and greater fiscal solvency. Even with the deterioration of external conditions, the region's GDP will continue to grow by 4.7 per cent. The second factor is the rising price of food and energy. The third factor is the economic cost the region will have to bear to cope with the effects of climate change.

The scientific evidence provided by the Intergovernmental Panel on Climate Change (IPCC) has helped build an emerging consensus on the manageable or safe concentrations of greenhouse gases of around 450 to 500 parts per million to avert global mean temperature increases above 2.4°C, as well as agreement on where emissions should peak in the next ten to 15 years. The European Union has been key to this political convergence. The economic cost of this effort has been estimated at approximately 1 per cent of global GDP, provided it begins as soon as possible.

> The costs of global mitigation and adaptation impose serious burdens on the region

An empty reservoir in Til Til, an agricultural municipality 50km north of Santiago, Chile

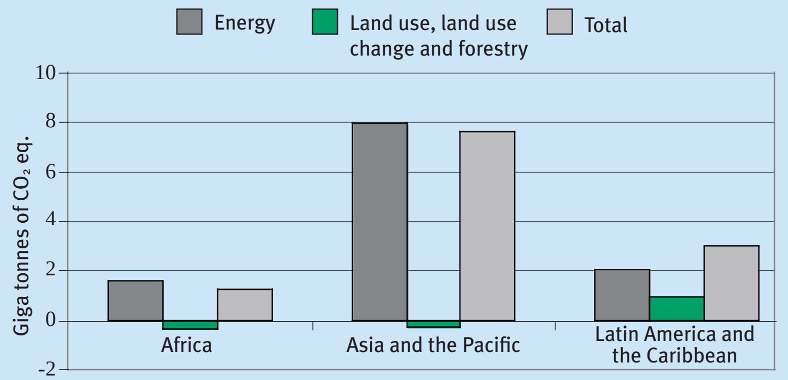
Yet, GDP and population are expected to continue growing in the long run, with China, India and other developing countries leading this growth. All these factors are at work in a world where, according to projections, fossil fuels will dominate in the global energy mix beyond the first half of this century, due to technological and economic constraints on the production of possible substitutes.

Industrialised countries will have to achieve a reduction of 60 to 80 per cent in their current level of emissions by 2050, while developing countries are expected to stabilise their emissions level before 2030 and reduce emissions from that point on. Meeting this challenge involves bringing about a rapid transformation of energy production and consumption in developed countries, while finding a way to achieve full economic development under a limited emissions budget.

> Industrialised countries will have to achieve a reduction of 60 to 80 per cent in emissions by 2050

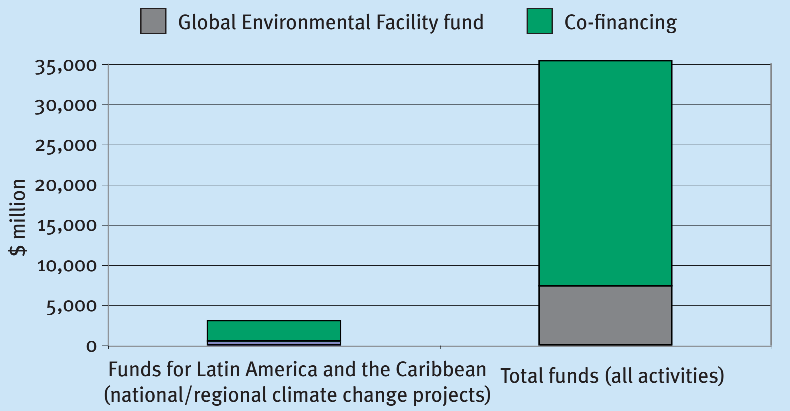
Apparently, the only pragmatic way to resolve this distributional dilemma is for industrialised countries, in addition to assuming the cost of drastic reductions in their own emissions, to finance or subsidise reductions in developing regions, as well as furnish technology to facilitate those decreases.

Figure 1: Non-annex I greenhouse gas emissions by region (according to their 1994 inventories)



Source: Economic Commission of Latin America and the Caribbean, 2007

Figure 2: Global Environmental Facility funds, 1991–2007



Source: Global Environmental Facility Project Database, 2008

Latin America and the Caribbean cannot escape this dilemma. The region plays a minor role in greenhouse gas emissions (around 10 per cent of the world total) (see figure 1). Nonetheless, it will be affected directly by climate change and indirectly by the regulatory changes, policies and instruments that industrialised countries are expected to introduce in response to the strengthened international regime on climate change likely to emerge for subsequent compliance periods.

The costs of global mitigation and adaptation impose serious burdens on the region. On mitigation, it will have to significantly increase its energy efficiency and expand the proportion of renewable sources in its energy mix. With regard to adaptation, countries will urgently have to improve their institutional capacity to be in a position to cope with the consequences of extreme hydrometeorological events and increase the resilience of the sectors of their production and society that could be most seriously affected.

The region will also need to protect the competitiveness of its products in international markets from protectionist measures that are likely to be imposed unilaterally by developed nations, with reduction targets on imports originating in developing nations that have not made similar commitments.

Thus, the construction of mechanisms to achieve long-term stabilisation in the context of these economic tensions is emerging as one of the priorities on the agenda for multilateral negotiations on climate change. This effort will include mechanisms to strengthen the international carbon market and to create the necessary funds to finance emission mitigation and adaptation in developing countries.

In addition to the reforms required to realise the full potential of the Clean Development Mechanism – which allows a country to implement emission reduction projects in developing countries in order to earn credits toward meeting its Kyoto commitment – Latin America and the Caribbean must expand the scope of carbon markets to capture all the environmental services that the region's agricultural and forestry sector can provide to mitigate climate change.

The region must also join its voice with others in calling upon industrialised countries to honour their international financial commitments, both to help the developing world deal with the impact of climate change and to be part of the effort to keep it under control.

The global yearly costs of adaptation in developing countries is estimated to be between $4 billion and $166 billion, according to sources such as the World Bank, the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Development Programme (see *Economic Aspects of Adaptation to Climate Change: Costs, Benefits and Policy Instruments*, Organisation for Economic Co-operation and Development, 2008).

Latin America and the Caribbean are highly vulnerable to extreme weather events such as flooding, storms, hurricanes, drought and forest fires. These events frequently turn into human and economic disasters due to insufficient prevention, inadequate investments and unsuitable areas for settlements. The estimated loss for the region, mostly in infrastructure, was $84 billion between 1970 and 2008. Extreme weather events are on the rise. There is some progress in terms of damage mitigation, but climate change is expected to increase the economic impacts, as well as the cost, of adaptation.

In spite of these challenges, the current global trends in development investment flows are neither as expected nor as needed. Between 2000 and 2006, Latin America and the Caribbean received approximately 9 per cent ($34.2 billon) of global ODA ($407.5 billion). Less than 1 per cent of this amount ($913 million) was directed to the Rio markers, which are designated by donors to identify activities that target the objectives of the three Rio conventions – the UNFCCC, the United Nations Convention on Biological Diversity and the United Nations Convention to Combat Desertification. From 2000 to 2006, only $121 million was allocated to climate change.

In addition, since its creation, the Global environment Facility has provided $7.4 billion in grants and generated more than $28 billion in co-financing. Yet Latin America and the Caribbean have received only about 7 per cent for national and regional projects on climate change (figure 2).

These statistics indicate that international financing sources, including carbon markets, still do not provide enough funding to accomplish what needs to be done. While today, flows to Latin America and the Caribbean barely exceed $100 million, estimated needs are expected to be much greater. It is time for the international community and international institutions such as the G20 to help close the gap. ◆

“Latin America and the Caribbean must expand the scope of carbon markets”

Climate change: the role of energy matrix diversification and sustainable development *by Joseph C. Brandt, President and CEO, ContourGlobal*

Over the past several years global power supply has faced unprecedented challenges: a surge in global power demand significantly ahead of any increase in capacity, soaring commodity prices, and substantiated fears of climate change being caused in part by emissions from fossil fuelled power generating plant. During this same period, various political pressures have undermined existing international trade flows, further threatening the sustainability and reliability of energy supply across the globe and have prompted countries to redouble their efforts at developing power production capacities and diversifying energy matrices. The challenge moving forward is for policymakers to find a way of securing power supply that effectively responds to the economic, environmental, and security challenges of today.

In South America, as in the rest of the world, policymakers are prioritizing diversification of their energy matrix to secure sustainable and reliable power supplies. For example, Chile built its power supply infrastructure around hydrological flows from the Andes and natural gas imports from Argentina. So when Argentina curtailed natural gas exports in recent years, Chile was forced to switch to more costly and more polluting fuel alternatives such as diesel and fuel oil for power generation during the dry season and peak demand periods. Chile has aggressively responded with a new energy policy that aims to diversify its energy matrix by promoting the development and construction of two liquefied natural gas terminals to enable imports from the global marketplace at international commodity price levels. In addition, recognizing the paradigm shift of its energy matrix and the resulting cost increase, the system regulator proactively adjusted its end-user tariffs. Through its efforts at diversification and regulatory reform, Chile is now working towards a more sustainable secure and reliable energy supply.

In the case of Brazil, the signals are clear and Brazil must act decisively and quickly to address the looming risk of increasing power shortages due to its over-reliance on hydroelectric power and thermal power from either precarious natural gas supply from its neighboring countries or from other expensive and polluting hydrocarbons. In 2001, Brazil suffered a significant power shortage due to poor hydrological conditions and insufficient thermal capacity to fill the gap. Moreover, the fact that seventy percent of Brazil's hydroelectric potential is located in the tropical Amazonia and Cerrado biomes raises environmental concerns, as Brazil endeavors to satisfy its growing energy demand in an environmentally friendly, sustainable manner.

ContourGlobal uses this renewable resource to help address Brazil's power shortfall

Achieving energy diversity: one of ContourGlobal's poultry waste-fired plants

Importantly, Brazil has proactively addressed the diversification of its energy matrix by implementing programs such as PROINFA (Incentive Program for Alternative Sources of Power Supply) to promote the development and construction of sustainable sources of power generation that would improve the reliability of the overall system. Furthermore, earlier this year, through its first-ever reserve auction, power plants running on sugar-cane bagasse became an integral component of the energy matrix. The challenge for Brazil now is to transform its wind, biomass, and biogas potential into a reality. The regulatory framework is therefore going to be very important to provide the proper incentives required for long term success, including such issues as clarity on all aspects of the permitting process and creating a tariff structure that properly reflects the generation economics of these particular energy sources.

The experiences of Chile and Brazil demonstrate why a diverse and wide-ranging approach to energy generation is a crucial component of energy security. Recognizing the benefits of energy diversity, ContourGlobal is making use of a variety of Brazil's natural resources to generate power, including poultry waste, swine waste, wind, and water. We are currently developing a poultry waste-fired power plant complex that would burn approximately 900,000 tons per year of poultry waste in Santa Catarina. Similarly, the State of Santa Catarina provides a unique opportunity in biogas where approximately 10 million liters of biogas could be produced daily from swine waste and are currently evaluating the development of this technology in Brazil. Lastly, we are developing and constructing wind parks in Rio Grande do Sul and run-of-river hydroelectric power plants in four different states. All of our projects will provide a true “win-win” strategy for all stakeholders – reliable, cost effective and sustainable power generation.


The Geysers geothermal field, California: the largest producer of geothermal electricity in the world

Clean energy: prevarication is not an option

Governments should be at the heart of building a low-carbon economy but practice must triumph over rhetoric

By Camilla Toulmin, director, International Institute for Environment and Development

Energy makes the world go round, though it is often largely invisible. Yet the choices made about energy – its form, scale and technology – will have powerful visible consequences for climate change, and for the distribution of benefits and costs now and in the future. Governments have a highly strategic role to play in setting the parameters for investment in energy to follow the most productive pathway, taking into account not only its carbon footprint, but also broader environmental, distributional and economic dimensions.

The world economy has been whipped by a series of powerful forces over the last 12 months, combining highly volatile oil prices with huge increases in those of many commodities, including basic foodstuffs. The credit crunch is bringing about the collapse of many of the most prestigious financial institutions, and the shift of global economic and political power from Wall Street and the City of London to Dubai, Mumbai and Shanghai. The past year has demonstrated very clearly the highly globalised nature of the world economy, with decisions being taken in Brussels, Beijing and Washington about biofuel targets bringing about big shifts in demand for land in Cambodia, Tanzania and Colombia. The interconnected nature of global environmental

Carbon capture and storage captures the greenhouse gases produced when fossil fuels are combusted

> The inter-connected nature of global environmental systems is evident in the rapid rise in greenhouse gas emissions

systems is also evident in the rapid rise in greenhouse gas emissions over the last five years, as economic growth and opportunities ripple through many parts of the developing world. Global warming seems to be happening considerably faster than had been thought, even in the fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC).

As Lord Stern has forcefully argued recently, any hope for a global deal at the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen, at the end of 2009, relies on the rich, industrial countries demonstrating that they are ready to take the lead on cutting greenhouse gas emissions and to invest in building a low-carbon economy. So far, this commitment has been more evident in rhetoric than in practice. Yet delivering this shift in investment, technology and behaviour change is not rocket science. Much of it depends on known technology and can be delivered at prices that are competitive with current prices of carbon and fossil fuels. As with so many public policy questions, government inertia and vested interests drag the impetus for change. Yet, never has change been more needed, if the world is to avoid the potential for catastrophic shifts in the global climate. Recent research on implementation of the Montreal Protocol on eliminating ozone-depleting substances shows that, once the construction of a low-carbon economy gets started, it may well be much easier, cheaper and quicker than anticipated.

Clean energy is key to generating growth with a lower carbon footprint, whether for transport, industry or residential use. The world relies on fossil fuels for some 80 per cent of its energy needs. This reliance is set to continue. This means that it is necessary to find ways to use energy more efficiently and to rapidly roll out methods for carbon capture and storage (CCS) so that the very large existing reserves of coal, oil and gas can be used to generate power with minimal impact on atmospheric concentrations of greenhouse gases. As yet, the prospects for effective CCS technology look rather distant, with commercial use predicted not to begin until at least 2020. Finding a means to speed up the process for testing and making such technology available should receive far higher priority, so that the kit to capture carbon emissions can be integrated into the large investments currently being made in coal-fired power stations around the world.

Other opportunities for clean energy investment include the many forms of renewables – solar, hydro, wind, geothermal, biomass and marine sources of energy generation. Each form has a wide range of technical options, depending on how it captures and transforms the particular source of energy. Solar energy can be captured by photovoltaic cells to generate electricity, through heating water directly, or by concentrating the rays through a set of concave mirrors. Each option presents a range of characteristics that will influence whether it is the right option for a given country and context. Hydropower can be generated from small waterfalls as well as from major rivers. If governments take the time to think through the multiple dimensions associated with different clean energy options, they can maximise the side benefits from such investment.

There are five key dimensions to consider. Together, they will help governments best plan for a balance of energy provision that both guarantees this fundamental service essential for economic growth and achieves a range of other goals. First, is the technology already available, and at what cost? Or will it require still further investment of research and development funding to bring it to operation? Are there sources of funding available that could bridge transition costs and, hence, speed up the spread of this technology?

Second, what are the scale options for this technology and how do they affect both the distribution of benefits and the levels of resilience in the energy system? For example, there is increasing interest in the development and spread of decentralised energy generation through small-scale and micro generation opportunities where these exist. Such a distributed system can offer greater resilience against the collapse of large-scale systems relying on a few power stations.

Third, can significant local multipliers be established with providers of goods and services in the locality that bring benefits from this investment to the broader community? There is often a range of local enterprises that can offer goods and services if these are thought about at the start.

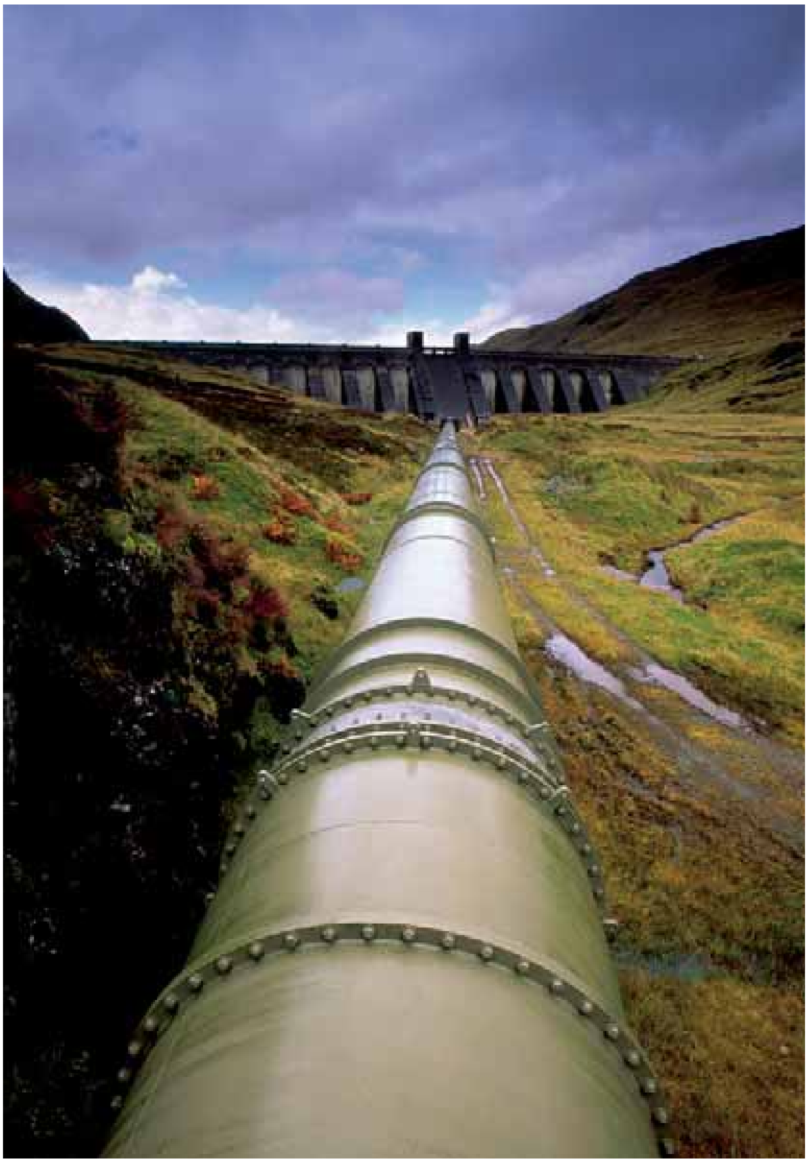
Fourth, what are the environmental dimensions of this form of energy generation? Some complain that wind turbines create an unacceptable cost by blighting the landscape. Those opposed to nuclear power cite the dangerous effects from waste materials, as well as large-scale water requirements for cooling. Hydropower requires damming or channelling water in ways that significantly alter existing flows, with knock-on consequences for fish populations, existing irrigation and other forms of water use. Equally, how will environmental change – particularly global warming – influence the effectiveness of this energy source? For example, many parts of Africa will likely see substantial changes in rainfall in the next ten to 20 years, with consequences for the viability of large- and small-scale hydropower.

Fifth, current and future energy options need to be analysed in terms of existing and future interest groups. In Britain, the main energy suppliers have wielded great power in slowing government measures to increase micro generation, by arguing for low feed-in tariffs (in contrast to Germany). This is now changing.

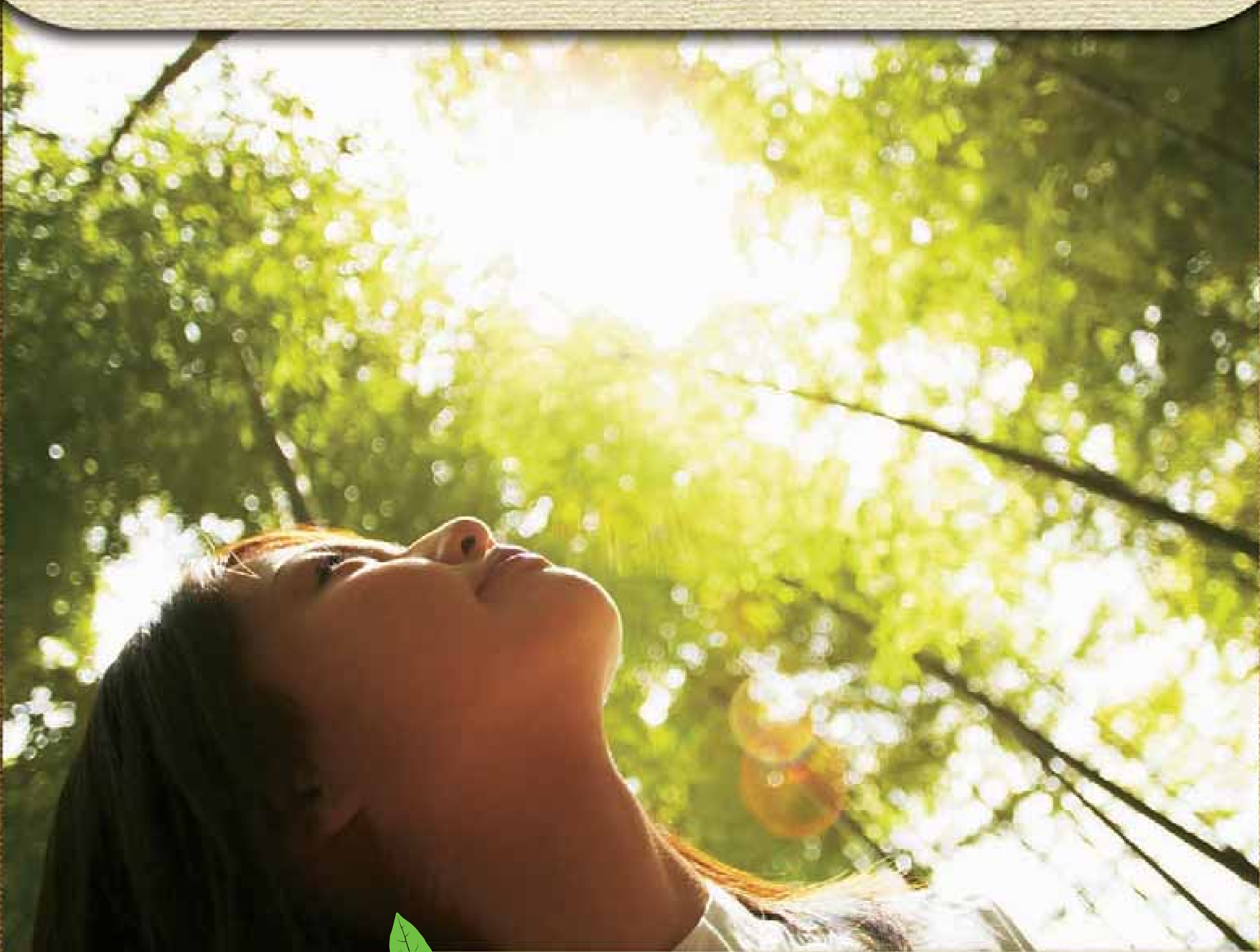
> “The world relies on fossil fuels for some 80 per cent of its energy needs”

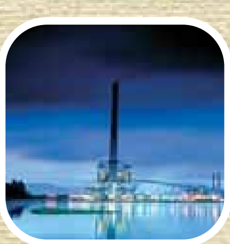
Governments must withstand lobbying from vested interests and recognise the central responsibility of the state in representing the needs of future generations whose votes do not currently count.

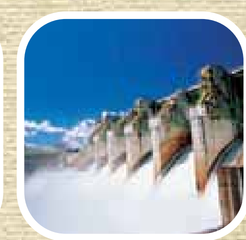
Governments have the power to construct policy frameworks that encourage cleaner energy and generate other positive side effects. Securing political commitment to the post-Kyoto agreement is key to ensuring a global price for carbon that gives the incentive for developing a range of clean energy systems. Government regulation sets the standard for energy suppliers and pushes them toward greater innovation. Procurement by government agencies can establish the critical mass needed for new energy suppliers to get started. Financial incentives can encourage local production of energy services, such as by having a high enough level for feed-in tariffs to make micro generation financially viable. A combination of policy measures thus could be enormously helpful in bringing about the transition to a low-carbon economy in ways that also promote innovation, minimise environmental hazards, strengthen local economic multipliers, and establish a more resilient energy system. ◆



Hydroelectric pipeline leading to Lawers Dam in the Scottish Highlands







In the face of criticism of food and feed-based biofuels, many argue that cellulosic ethanol is the future

Biofuels: what path forward?

The need to confront global warming has never been more urgent. But do biofuels provide all the answers?

By C Ford Runge, distinguished McKnight university professor of applied economics and law, University of Minnesota

Biofuels were hailed in the first half of the decade as a green solution to reliance on imported petroleum and a saviour to farmers seeking higher prices for commodities in surplus. But in the second half, biofuels (especially those using food and feed grain as feed stocks) emerged as threats to environmental quality and food security and as a costly response to energy concerns. The growth and development of the biofuels sector has occurred largely in the United States, Brazil and the European Union. The conduct of the 'big three' will loom large in determining the future of biofuels for other countries.

Three production modes have emerged. First are biofuels made from food and feed crops such as maize, soybeans, rapeseed, cassava or palm. Second are biofuels using non-food crops such as sugarcane, which, while a food ingredient, is not a staple. Third are cellulosic biofuels from plants such as woodchips, switchgrass, miscanthus, jatropha or algae. Early biofuel production has been dominated by the first mode in the US and EU, and the second in Brazil. The third has yet to reach commercial viability.

Between 2001 and 2007, world production of ethanol tripled from 18.5 billion litres to almost 62 billion litres, while biodiesel rose from 1 billion litres to 10.2 billion litres. US corn-based ethanol production was 26.5 billion litres in 2007, followed by Brazil at 19 billion litres of ethanol from sugar cane and the EU at 2.2 billion litres. Biodiesel, the other major biofuel, is produced mainly in the EU, with 6.1 billion litres of production in 2007, compared with 1.6 billion litres in the US.

The member countries of the Organisation for Economic Co-operation and Development (OECD) have spent substantial sums subsidising the biofuels sector. This has encouraged an expansion that now consumes a growing share of feedgrains and oilseeds. In the US, biofuels were projected to consume more than 25 per cent of maize harvests in 2007 and as much as 50 per cent or more by 2015. In the EU, ethanol and biodiesel will increase oilseed, maize and wheat usage from negligible levels in 2004 to roughly 21, 17 and 5 million tonnes respectively in 2016, according to the OECD.

Until oil prices began rising rapidly after 2004, biofuels would have been unprofitable without government support, which in 2006 totalled more than $11 billion in the OECD. The US led this list with $6 billion in annual support, followed by the EU with $4.8 billion. OECD biofuel supports have expanded since 2005, notwithstanding the rise in oil prices, which has enhanced biofuels' competitiveness. Biofuels producers have paid higher and higher prices for feedstocks, illustrated by the record 2008 levels of maize, soybean and wheat prices.

> "In poor countries, price increases directly threatened disposable income and food security, and led to riots"

> "The growth of the biofuels sector has occurred largely in the US, Brazil and the EU"

Where biofuels are made from food and feed crops, as in the US and EU, these trends have given rise to criticisms over three main issues: the impacts of food price increases on food insecurity in poor households, economic distortions and unintended consequences of OECD subsidies, and environmental and ecological impacts on land, air, water and global greenhouse gas emissions.

The rapid increase in grain and oilseed prices due to biofuels expansion was a shock to food prices worldwide. From 2005 to January 2008, the global price of wheat increased 130 per cent, corn (maize) by 193 per cent, rice by 190 per cent, sugar by 118 per cent and oilseeds by 197 per cent. In 2006–07, this rate of increase accelerated, according to the US Department of Agriculture (USDA), because of continued demand for biofuels and drought in major producing countries. In poor countries, these price increases directly threatened disposable income and food security and led to riots in Indonesia, Mexico and elsewhere.

Corn-based ethanol has also turned out to be a high-cost path to energy security. It consumes fossil fuels in its production, processing and distribution, so its net oil replacement value is only about 30 per cent. In the US, flexible fuel vehicles are exempt from fuel mileage standards in order to encourage the use of E85 (85 per cent ethanol fuel), which has probably resulted in a net increase of 4 billion litres per year in gasoline use; but E85, with its lower energy content, drives vehicles fewer kilometres. Ethanol is thus actually replacing only about one tenth of the gasoline implied in the fuel mandates.

The most salient criticisms of food and feed crop-based biofuels are their local, national and global environmental impacts. Growing corn to produce ethanol, according to the US National Academy of Sciences, consumes 200 times more water than that

UN peacekeepers patrol in an armoured vehicle during protests in Port-au-Prince, Haiti

A sugarcane cutter works in Batatais, Brazil

used to process corn into ethanol, which uses 4 litres of water per litre of ethanol, compared to 1.5 litres of water per litre of gasoline. In the upper midwest US, maize plantings rose 15 per cent in 2007, in response to ethanol demands and required extensive fertilisation, adding nitrogen and phosphorus run-off into the lakes and streams that enter the Mississippi and the Gulf of Mexico – enlarging the hypoxic ‘Dead Zone’. In 2007, scientists predicted that the Dead Zone would expand in 2007–08 to 22,127 square kilometres – 25 per cent higher than the year before and the largest since measurements began in 1985.

At the global level, recent studies have noted carbon loadings and greenhouse gas emissions due to land-use shifts from biofuels. Land converted from rainforests, peatland, savannas or grasslands will immediately incur a carbon debt. For maize-based ethanol, it takes 93 years to repay this debt through reduced emissions (48 years if grown on abandoned cropland); for soybean biodiesel from a rainforest, it is 319 years; for palm oil biodiesel it is 423 years if grown on peatland rainforest. Given the urgent need to confront global warming, this long payback to biofuels is disappointing.

“Land converted from rainforests, peatland, savannas or grasslands will immediately incur a carbon debt”

Finally, heavy applications of nitrogen are needed to grow expanded feedstocks of maize and rapeseed for biofuels. This releases nitrous oxide into the atmosphere, a greenhouse gas 296 times more damaging than carbon dioxide, which contributes more to global warming than biofuels save through fossil fuel reductions. This makes biofuels net greenhouse gas negative. These results do not even include the fossil fuels used on farms or for fertiliser and pesticide production.

Brazil’s biofuels industry is almost entirely based on mode two, the conversion of sugar to ethanol, a process considerably less expensive than maize-ethanol conversion. The Brazilian government has supported the industry through tax reductions at both the federal and state levels. Brazil has largely succeeded in pivoting between use of cane for sugar production and for ethanol, and in regulating the blending of ethanol and gasoline, integrating its use with the redesign of Brazilian vehicle engines. It has also mandated a 2 per cent blend of biodiesel and petroleum diesel from 2008 and a 5 per cent blend by 2013. Finally, it applies an import tariff of 20 per cent on imported ethanol. Because sugar is not a staple food crop, Brazil has avoided many of the distortions and untoward effects of biofuels policies in the US and EU. Brazil reports ample water supplies for its ethanol industry and enough land to allow continued expansion of cane in areas that are not tropical rainforest.

In the face of criticism of food and feed-based biofuels, many argue that mode three, cellulosic ethanol and biodiesel made from non-food crops, is the future. However, despite laboratory and pilot projects, no commercially viable production has emerged, and none is likely to before 2012. The US budget for research and development on cellulosic biofuels was $800 million in 2008, more than eight times that of any other country. The technical challenge is to find low-cost methods to break down lignans in cellulose so they can be converted to ethanol. It will also be necessary to locate plants where the advantages of growing feedstocks such as switchgrass are not overwhelmed by the commercial attraction of food or feed crops such as maize.

Thus, biofuels made from food and feed crops, such as maize and soybeans, face major challenges on economic, technical and policy grounds. Sugar-based ethanol production, led by Brazil, appears both more economical and less disruptive to world markets and the environment. Cellulosic biofuels are still in an incipient phase, and have yet to prove commercially viable. ◆

Committed to delivering alternative energy

DuPont is focused on delivering low-carbon solutions to reduce greenhouse gas emissions

"Innovations will be essential to increasing the energy efficiency of buildings and transportation to reduce global greenhouse gas emissions", DuPont Greater China President Doug Muzyka told participants at the Bali Global Business Day at the United Nations Framework Convention on Climate Change in Indonesia, December 2007.

"In the growing world economy, energy demand remains high and will continue to increase, particularly in countries with rapidly developing economies. At the same time, as a global community, we know that critical environmental challenges such as climate change must be addressed," Muzyka said. "DuPont is focused on delivering low-carbon solutions to the marketplace in order to help our value chains improve their energy efficiency and reduce greenhouse gas emissions."

From 1990 to 2003, DuPont reduced the greenhouse gas emissions from operations by 72 percent. During the same period, the global energy use actually declined 6 percent while the business grew by 40 percent – translating to over $3 billion in avoided energy costs.

"With the launch of our 2015 Sustainability Goals over a year ago, we expanded our commitments to go beyond our own footprint reduction, to include market-facing goals for R&D investment and revenues from sustainable products and services," he added. "For example, we know that buildings can account for approximately 40 percent of the greenhouse gas emissions in developed countries. DuPont™ has innovative products that can help reduce a building's emissions by reducing energy use up to 30 percent."

DuPont is committed to delivering alternative energy with a large portfolio that includes:

Photovoltaic Technologies

DuPont supplies eight of the nine key materials used in a solar panel. These products include conductive pastes and high-performance films that help the panel achieve higher power output and long life. DuPont will invest approximately $100 million in the continued development of products and technologies for solar cells and panels.

Biofuels

DuPont announced the creation of a Biofuels business unit to deliver commercial products and pipeline opportunities to the biofuels market. This business includes a programme that is marketing 135 corn hybrids this season to improve the yield potential of grain ethanol production; the Integrated BioRefinery research programme to develop technologies to convert entire corn plants and other cellulosic plant material into ethanol; and a research pipeline to accelerate commercialisation of alternative biofuels technologies.

Crop Genetics

Over the past decade, agricultural biotechnology has emerged as a high value-driving technology in major crops such as corn, soybeans and cotton. Given growing market needs for energy alternatives, energy security and environmental sustainability, there is a significant opportunity in seed genomics to meet the growing demand for agri- cultural feedstocks that will be used to create new bio-based products.

Fuel Cells

DuPont's product offering includes advanced materials such as DuPont™ Nafion® perfluorinated membranes, which have been used in fuel cells for more than 35 years, as well as high-performance membrane electrode assemblies (MEAs). DuPont is active in the development of both hydrogen and direct methanol fuel cell technology.

DuPont owns one of the world's largest patent estates in biotechnology, covering both the rapidly growing agricultural sector and the emerging industrial sectors, and currently ranks second among patent holders in this

DuPont is a science company. Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel.

Meeting the challenge of social inclusion

Collective responsibility must be the way forward in challenging long-term social exclusion. Economic booms alone will not suffice

By Diéry Seck, director, African Institute for Economic Development and Planning

In their efforts to reach the Millennium Development Goals (MDGs) and other social development targets, most developing countries face the following dilemma: given the need for sustainable long-term growth and the cyclicality of export earnings, which type of uncertainty should be imposed on the future level of social spending, bearing in mind the political and developmental cost of protracted social under-spending? On the one hand, predetermined levels of socially oriented budgetary expenditures – not linked to actual levels of export revenues – may force painful trade-offs within the social budget and competition with priorities in other sectors if revenues turn out to be significantly lower than anticipated. On the other hand, pro-cyclical social spending may, in years of export bust, expose vulnerable groups to unacceptable cut-backs in the provision of health services, sanitation or clean water with irremediably dire consequences for their very survival.

A young man walks along oil pipelines belonging to Italian oil company Agip in Obrikom, Nigeria

It is often argued that this dilemma can be tackled to a degree if developing countries, most of which are primary commodity exporters, use periods of export boom to fund unusually high social spending programmes that will tide them over through the lean years until the next boom. To this end, most social infrastructure would be built during the boom years and governments would purchase goods and services targeted at the social sector in advance for delivery over several years. An alternative method is to set up a social fund financed by part of the windfall revenues of the export boom. But in practice, using commodity booms to fund the social sector is difficult. Given that the intensity and duration of future export commodity booms are impossible to predict, it is unsustainable to base the social dimension of a country's long-term development strategy on them. At best, one can debate the proper allocation of proceeds from ongoing booms, at the risk of overestimating their duration – as is evidenced by countless unfinished infrastructural projects for which the money ran out before they were completed.

If export commodity booms are to help achieve social inclusion and pursue long-term development, the challenge of social inclusion must, if possible, be met

> “Grass-roots organisations are in tune with the seasonal, cultural and demographic peculiarities of social spending”

by several means. One such means, on the expenditure side, is the devolution of part of the management of the social sector to the private sector through fiscal and other incentives, to make use of its higher efficiency wherever this exists. In addition to efficiency, selectivity can also help reduce the cost of social inclusion through better targeting of needy groups by local governments and grass-roots organisations that are often more in tune with the seasonal, cultural and demographic peculiarities of social spending, and more adept at establishing acceptable location-specific, burden-sharing formulas. With respect to revenues, developing countries could take advantage of the new spirit instilled by the Paris Declaration on Aid Effectiveness to design new mechanisms aimed at making aid more counter-cyclical than it is currently, without prejudice to the volume and predictability of aid.

In the context of sustainable long-term development, proceeds from commodity booms, being irregular and fairly volatile in most developing economies,

UK Prime Minister Gordon Brown, Queen Rania of Jordan, Bill Gates and Bono at the World Economic Forum in Davos, January 2008

should not fund social programmes directly because such programmes require continuity and consistent levels over time to be effective. Since social inclusion policies require significant and regular funding to be successful, they must, to a large extent, be shielded from competition with other budgetary appropriations and the vagaries of the performance of the external sector. In this respect, reforming measures in the international financial architecture could play a vital role, along with developing countries' own efforts at home. In the spirit of the MDGs, which are supported globally, the following two measures could be considered steps toward globalised responsibility for social inclusion. They are particularly relevant to Africa.

Indebted developing countries face the challenge of fixed external debt service obligations over very long maturities, while their export earnings are characterised by uncertainty that increases exponentially over time. As a result, they face debt service difficulties and often sacrifice spending on priority sectors, including the social sector, to avoid default. As a measure of relief, all or part of their fixed external debt service payments could be replaced by debt service payments that are contingent on their export performance. Under this arrangement, they would be allowed to pay less than the contractual debt service amount during lean export years but commit to fund the social sector fully. The unpaid portion of the contractual debt service could be capitalised, subsidised from a global fund or postponed without interest. During export boom years, they could pay off their accumulated arrears or even buy back their own debt, thus reducing future competition between debt service and social spending. The potential for moral hazard that could arise from this risk-shifting mechanism could be controlled by limiting the maximum level of external indebtedness of participating countries.

The second solution is a United Nations (UN) development aid pool. For the international community to assume its global responsibility for social inclusion, the unpredictability, excessive conditionality, disorganisation and insufficiency of official development assistance must be remedied by entrusting management of aid to the governance of the UN and funding it through pools that support development priorities. This collective responsibility would promote new thinking and expand finance for development from traditional donors to private sector, civil society and 'South-South' solidarity. In addition to voluntary contributions, donor-backed bonds and a number of international levies could fund the pools, which would be managed by an aid council with broad representation. The pools would seek to supplement the development efforts of developing countries. In keeping with the UN's mandate to pursue the MDGs, these pools would place special emphasis on financing social inclusion in the form of grants. ◆

> "Reforming measures in the international financial architecture could play a vital role"

African Development Bank Group
Application of the Paris Principles

The Rural Water Supply and Sanitation Initiative RWSSI

What is RWSSI?

• ADB's initiative to contribute to the achievement of the MDGs for water and sanitation
• 270 million additional people having improved water supply by 2015 • 300 million additional people having adequate sanitation by 2015

How are the Paris Declaration Principles implemented in RWSSI?

• Assists through Government led national RWSS programmes and SWAps • Uses country systems •
• Coordination and shared framework among donors • Using monitorable indicators and is focused on results •
• Promotes transparency and shared accountability for results

Country RWSSI Programmes

• Program Approach: increasing number of countries moving from project to programme approach and majority of programmes based upon sector wide approaches
• Procurement: use of national country procurement systems is slowly gaining ground
• Implementation: use of national implementation arrangements on the increase; common monitoring systems and joint annual sector reviews being applied

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The Doha round: food crisis on the agenda

The global food crisis must be addressed with a broad, long-term strategy, underpinned by agreements on trade and development policy

By Supachai Panitchpakdi, secretary general, United Nations Conference on Trade and Development

The breakdown of the July 2008 ministerial talks of the World Trade Organization (WTO) was the latest in a series of failed attempts to agree on modalities for negotiations on agricultural and non-agricultural market access. The failure has led to concerns about the demise of the entire Doha round. Anxiety has been amplified by the looming threat of recession in developed economies brought on by turmoil in financial markets and the high price of energy and commodities.

While these events bring increasingly diverse challenges to the development agenda, the multilateral system is still the best platform for remedying long-standing trade problems and delivering development opportunities to the bottom billion. Reducing distortions in agricultural trade is crucial for providing greater and more secure market access for developing countries' exports, thereby creating the conditions needed to promote development, poverty reduction and the achievement of the Millennium Development Goals (MDGs).

The July ministerial actually achieved significant convergence on a number of issues. Since then, WTO member countries have expressed their desire to resume the talks and conclude the round sooner rather than later. In the meantime, it should be possible to pursue some of the development deliverables on which sufficient consensus was reached. These include duty-free, quota-free treatment for the least developed countries (LDCs), addressing the development dimension of the cotton issue, aid for trade, the Enhanced Integrated Framework and support for productive capacity building in developing countries.

> "The multilateral system is the best platform for delivering development opportunities to the bottom billion"

A prolonged freeze in the Doha talks, on the other hand, would likely enhance the importance of regional and bilateral trade negotiations. The inherent risk is considerable. Relegating the WTO to a position as the

administrator of increasingly marginal trade rules and a dispute settlement mechanism would disappoint the development aspirations of many of its members. Both the risk and the disappointment are compounded by the global interconnectedness of the food, energy and financial crises, and the lack of consensus among major trading nations on the correct policy response. But addressing the global food crisis should not deflect attention from the profound failure of trade and development policy that underlies the crisis. Calls for a co-ordinated global response to speculation in food prices are a short-term measure and must be accompanied by a broader strategy for the long term.

Regardless of the root causes of the current problems, the Doha round was explicitly labelled a 'development round'. Even if there is a shift toward regional and bilateral trade regimes, it is essential that the development dimension remains at the top of the agenda.

Emergency aid measures address the most urgent needs, but the food crisis must be addressed at the national and international policy level

Moving forward on the development deliverables in the WTO is inextricably linked to capacity building in agriculture. Investment, innovation and the resulting growth in productivity are needed to create a sustainable framework for global agricultural production and trade. Without productive capacity building, the food crisis is likely to recur in one form or another – in part because the agricultural sector in many developing countries was more productive several decades ago than it is today. The annual yield growth of cereal crops in many LDCs has shrunk from 3–6 per cent in the 1980s to just 1–2 per cent today.

The problem arises in part from the dynamics of international trade. Until recently, the availability of inexpensive food products in international markets, often due to export subsidies in developed countries, had caused rapidly increasing food imports in developing countries. With domestic farming unable to compete with subsidised imports, the

Specialised irrigation methods at a hydroponic farm, Cuba

agricultural sector shrunk. The current crisis erupted when this trend coincided with the rapid economic development of numerous large developing countries during the past five years. The demand for food has risen dramatically, while supply and productive capacities have lagged behind. The food crisis has been exacerbated by recent droughts, depreciation of the US dollar, high energy prices and the increased use of food crops for biofuels.

Climate change and the rapid rise in fuel prices are frequently discussed in conjunction with agricultural policy issues. Reforestation policies aimed at mitigating the consequences of climate change are reducing the stock of arable land and curtailing food supply. Biofuel production has often been cited as a major determinant of the current food crisis. While a discussion among development stakeholders is necessary, prejudging the effects of biofuels should be avoided. It is true that, in some cases, increased biofuel production has been a driver of food price inflation. But long-term factors and inadequate policy responses are probably far more responsible for the current crisis. In addition, speculation may help explain why a food price index compiled by UNCTAD showed a sharp increase of 84 per cent between April 2007 and April 2008, when a much more gradual increase might otherwise have been expected.

Another contributing factor to the food crisis is donors' new emphasis on social sector and emergency aid. This focus has meant less investment in productive sectors such as agriculture. Between 1980 and 2002, multilateral institutions slashed official development assistance (ODA) on agriculture from \$3.4 billion to \$500 million – an 85 per cent decline. Bilateral donors reduced spending by 39 per cent, from \$2.8 billion to \$1.7 billion. Most crucially, donors appear to have neglected aid for science, technology and innovation in agriculture. While emergency aid measures can address the most urgent needs, the food crisis in the longer run must be addressed at the national and international policy level in order to boost sustainable investment.

> Long-term factors and inadequate policy responses are responsible for the current crisis

An agreement on agriculture in the Doha round that would remove distortions in trade in agricultural goods is fundamental to the development dimension of the multilateral trading system. At the same time, developing countries must create the right incentives for investment in agriculture, including national trade policies that promote agricultural production and eliminate tariffs on agricultural inputs. The international community should support such efforts through increased ODA and investment in infrastructure and agricultural research and development. ◆

Time to modernise the global financial institutions

Can the World Bank and IMF transform themselves into genuinely global institutions? It is now up to them to lead the charge on global governance reform

By Colin I Bradford, Jr, senior fellow, Global Economy and Development and Johannes F Linn, executive director, Wolfensohn Center for Development, Brookings Institution

With the current challenges in the international economy and financial markets, with the continuing scourge of global poverty and with new problems of global energy, environmental and health security looming large, the world needs effective global institutions. The International Monetary Fund (IMF) and the World Bank have served the global community well over the last 60 years, but their governance needs to change significantly if they are to remain effective in the new world in which they now function.

One of the ironies of the moment is that the IMF, the supposed bastion of conservative financial policies, is the bow-of-the-boat in the effort to bring about international governance reform. The World Bank and the United Nations are following far behind in the IMF's wake. But despite the laudable effort to reform the IMF, the net results are likely to fall far short of what is required to put it back on the map as a truly global institution and as the principal focal point for the management of the global financial system. The core issue is whether the IMF can transform itself from what in effect has been a trans-Atlantic institution into a genuinely global one in which other countries and, in particular, the large emerging market economies, have a greater role and responsibility, and in which China especially has incentives to engage fully as a leading member. Very similar challenges face the World Bank.

Ralph Bryant of the Brookings Institution has demonstrated through careful simulations that the proposed and ultimately approved reform of voting quotas and shares of the IMF would fall woefully short of significant reform, shifting at most only 2.7 per cent of voting shares from developed to developing economies. This shift is insufficient to convince the new economic powers that the IMF is an institution where they have weight and stakes of sufficient consequence to warrant their serious engagement.

Europeans and Americans, dominant in most domains of the IMF, are unwilling to make room for the important new players in the global economy. That is short sighted and not in their own interest. They need to choose whether they wish to remain dominant in a trans-Atlantic institution that is increasingly ineffective and irrelevant or whether they will make real reforms to IMF governance that, while lessening their formal influence, would transform the IMF into a real and effective global financial institution.

Based on discussions organised by the Brookings Institution and the Centre for International Governance Innovation, it is clear that the reform process can be intensified in the IMF by increasing the number of arenas

> "The IMF is in the bow-of-the-boat in the effort to bring about governance reform"

for action that would complement the quota reform under way. This would enhance and enlarge its impact by creating synergies among various reform measures. The following list of potential IMF reforms can serve as a menu for member governments to select from, in order to widen the scope and scale of change in governance of the IMF.

First, the next US administration and key governments in Europe need to strike a grand bargain on reforming the selection process for the leadership of both the IMF and the World Bank. The United States should renounce its prerogative to name the president of the World Bank and the Europeans should renounce their prerogative to appoint the head of the IMF. The pathways for doing this have been laid out in working papers prepared jointly by executive directors of both institutions. Experts and

Robert Zoellick, World Bank president, speaks via video during an environmental conference in Brasilia, Brazil

advocates of reform agree that leadership selection reform is a *sine qua non* for reform of these international financial institutions. What is required now is political action at the highest levels by the US and Europe.

Second, several observers, including an under secretary of the US Treasury in the current administration, have recommended that the size of the board of executive directors of the IMF be reduced gradually from the current 24 seats to 20 seats to ensure more effective decision making. The burden and opportunity of this reform pivots around Europe, which holds eight of the current 24 seats on the IMF board. Reducing the number of European seats would not only allow for more efficient decision making, but would also visibly rebalance the board toward a greater share of chairs for developing countries. It thus complements the reforms of voting shares. At the same time, Europeans could act more effectively in representing their common interests by speaking with one voice and voting as one.

Third, the US currently has a veto since important decisions require a super-majority of 85 per cent of the membership votes and the US voting share is currently 17 per cent. Europe, if it were to act together, would hold around one third of votes, which means that Europe would also hold an effective veto if it votes as a block. The US and Europe should thus renounce their use of vetoes in board decisions. Is the IMF truly a multilateral institution or not? Europe and the US need to recognise that keeping exceptional blocking rights for themselves undermines the credibility and legitimacy of the IMF in the eyes of key players in the global financial system.

Fourth, the IMF should begin to employ selectively 'double majority' voting for some strategic and major policy decisions that affect the direction and the nature of the institution. This would assure that the full membership, irrespective of weight, would have voice and influence on significant decisions. This option was supported by the current managing director of the IMF, Dominique Strauss-Kahn, in his statement to the IMF Board on 20 September 2007.

Fifth, the IMF's International Monetary and Finance Committee, which is currently an advisory committee of ministers of finance that meets twice a year, needs to be transformed into a decision-making council that would provide direct and specific guidance to the board of executive directors on strategic issues.

Europeans could act more effectively by speaking with one voice and voting as one

Dominique Strauss-Kahn, managing director of the International Monetary Fund

Sixth, the IMF managing director should report to the board of executive directors and not chair it, as he currently does. There is an inherent conflict of interest between chairing the board and being accountable to it. This conflict needs to be removed so that member governments take more responsibility for board actions and the managing director is more clearly accountable to it.

These six reforms are synergistic with the already concluded voting quota reform. They amplify its impact by opening the IMF more to the rest of the world and especially to the large emerging market economies. The same synergies apply in the World Bank. Here, discussion of the reform of the voting structure is also beginning and many similar complementary reforms need to be pursued. Two key considerations are important: first, the traditional parallelism of voting shares between the IMF and the World Bank no longer makes sense, if it ever did. Second, it will be essential not to short circuit the reform process by rushing to a conclusion at the annual IMF-World Bank meetings in October 2008. This would very likely lead to minimal reforms that fall far short of what is needed to ensure that the World Bank remains a respected and effective development finance institution.

Global governance reform is urgent. The current global political and economic turmoil provides an opportunity to push forward. The IMF and World Bank can lead the reform process if the Europeans and the US recognise that it is in their interest to broaden the base and enhance the legitimacy of these institutions. The next 12 months will tell whether the new US administration is willing to meet this challenge and opportunity. If it does, others will follow. ◆

The current global political and economic turmoil provides an opportunity to push forward

Below The US should renounce its prerogative to name the president of the World Bank: Wolfowitz resigns, June 2007

World trade: down, but not out

Trade and development face an increased threat of trade protection in the wake of the failure of the Doha round. What are the prospects now for successful trade negotiations?

By Sheila Page, senior research associate, Overseas Development Institute

The collapse of the World Trade Organization's (WTO) Doha round of trade talks in July 2008 did not damage trade or development directly. But it does make them more risky and more complicated. It had been clear at least since the narrowing of the agenda at the Cancún ministerial meeting in 2003 that this would not be a major innovative round. The previous Uruguay round brought agriculture and apparel into the trading system, introduced predictable enforcement of the rules and, in fact, created the WTO to replace the General Agreement on Tariffs and Trade. A successful Doha agreement would have done little more than guarantee that countries could not go back on their current trade policies. Developing countries would have had to reduce the difference between the tariff maxima that they notify to the WTO and the (much lower) tariffs that they actually apply. Developed countries would have had to reduce the difference between the subsidies they are allowed to make to agriculture and what they are currently paying; to bind themselves internationally not to go back on national commitments to remove export subsidies; and to reduce barriers to imports from least developed countries (LDCs). All countries would have had to limit their flexibility to alter current rules on trade in services.

Trade and the WTO itself will continue in the absence of an agreement, but face increased fears of trade protection. Countries were not willing to make these very limited commitments. The largest developed country and the largest developing country caused the failure by disagreeing over how countries could respond to low food prices and a surplus of cheap exports at a time of record highs in prices and concern over shortages. This suggests that the risks are real. There were no expectations of major liberalisation in this round, so there should be little real disappointment and resentment, and therefore little chance of protection as retaliation. There are still national interests resisting protection, but they will no longer be helped by a reluctance to impose new restrictions in the middle of negotiations. Particularly in a global recession, countries may use any flexibility they have to raise tariffs or subsidies, or to take targeted action such as anti-dumping investigations. Exporters and investors will face more uncertainties.

> “Trade and the WTO itself will continue in the absence of a Doha agreement”

Disputes using the WTO legal processes could rise for similar reasons, but this is less likely. Disputes had already increased; the talks did not constrain them. On both sugar and cotton, developing countries used disputes and negotiations in parallel.

Bilateral and regional agreements will not be a substitute for a WTO round, but neither are they likely to obstruct a resumption of multilateral negotiations. Countries will certainly try to reach agreements in more limited negotiations, with fewer participants, but these have not succeeded in the past among major countries. To reach significant results, the negotiations have to include precisely the same significant countries between which an agreement was not possible in the WTO. Some depend on WTO agreements: for example, the negotiators for a new food aid convention were explicitly waiting for a new WTO agreement, and the European Union's negotiations with South America assumed that the WTO would remove agricultural subsidies.

Indonesian activists perform during their protest against the Doha negotiations of the WTO, Jakarta, Indonesia

The effects of such restricted agreements are more complex and usually less beneficial than from multilateral agreements. The potential for gain is smaller because the scope is smaller. There are potentially damaging effects both from trade diversion and from increasing the costs of trading.

Liberalising to only some trading partners means discriminating against the rest, thus diverting trade, so trade and production with those will be less efficient than before. Different arrangements with different trading partners impose additional costs of information and administration on traders as well as officials. They increase the costs of production: to contain the benefits of any regional or bilateral agreement, countries must ensure that goods traded are really from the designated trading partner and do not contain 'too much' material from other countries. In a globalised economy, the likelihood that any production chain will include inputs from more than one country increases the costs of restricting the sources of inputs (that is, rules of origin). Development can also continue. It depends principally on national policies, on public and private sectors that can plan and implement technological innovation, high and changing investment, and major changes in economic and political structures. No trade settlement can replace national policies. Trade is not sufficient on its own to drive development.

> Trade is not sufficient on its own to drive development

Trade and good international policy can, however, provide additional stimuli or inputs. The potential development benefits of a successful Doha round were more complex than the rhetoric of a so-called development agenda implied, but were important. There were some direct conflicts of interest between those who wanted to retain special preferences for particular products such as sugar, bananas and apparel and those who do not have these preferences – between efficient agricultural producers and inefficient producers who want to protect their farmers. There were more issues that were priorities for some, but irrelevant to others, including some aspects of services and trade rules. But the same elements that would have

Harvesting cotton in the Korhogo region, northern Ivory Coast. African cotton producers say subsidies paid by the US to its farmers depress world prices

A vendor reads the paper in the Central Market, Tegucigalpa, Honduras

been good for trade would have been good for most developing countries: reduced risk, fewer distortions in agriculture and encouragement to liberalise, not to protect.

The failure of the Doha round does not prove that WTO trade negotiations cannot work or that they cannot benefit developing countries. It was always at high risk of failure. It did not start because any countries had strong demands for reform, so it never had strong political or private sector support. The ministerial meetings were held simply because they were scheduled; the first Doha meeting, at the end of 2001, had to show international unity in the face of September 11. If there had been a strong desire for the negotiations to succeed on the part of any countries involved in the 2008 breakdown, the issues could have been resolved.

Developing countries substantially increased their ability to participate in the negotiations and in the WTO system during the round. They achieved some remarkable successes in the negotiations: the extension of the exemptions from patent rules to allow countries without pharmaceutical companies to import medicines for serious medical needs from other countries; the linking of new obligations explicitly to the provision of technical assistance in the proposals for trade facilitation; the adoption of special modalities for LDCs in services and the provisional agreements on duty-free/quota-free access; flexibility in investment rules; and aid for trade to help them implement and use agreements effectively. Developing countries used the dispute settlement mechanism to force change in developed country policies on cotton, sugar and services. That they found compromises on conflicting interests shows that they are better able to identify economic interests and more effective in promoting them.

> “A more risky trade environment is damaging for weak countries”

Existing WTO commitments, enforced by the disputes mechanism, limit backsliding. Particularly in a period of recession, it would have been better to have strengthened these commitments, but the recession made a successful negotiation less likely. A more risky trade environment is particularly damaging for weak countries which are vulnerable to others’ trade measures, and for countries hoping to move into new markets or to sell new exports. Trade and development will be more affected by the recession than if the Doha round had been successful. But when the recession is over, the restrictions imposed during it, the failures in regional negotiations and the accumulating dispute settlements will make the incentives for reform – and therefore the prospects for a successful trade negotiation – much greater than they were in 2001. ◆

Averting the next water crisis

Public-private partnerships may be the way forward in bringing clean water to all. Governments alone cannot answer this challenge

By Lars H Thunell, executive vice-president and CEO, International Finance Corporation

Every day across the globe, 5,000 children under five die from diseases spread by dirty water and inadequate sanitation. Each morning, more than a billion people wake up without clean water to drink. Billions lack the dignity and safety of a proper toilet facility.

These numbers indicate an emerging global risk. The scarcity of clean water and sanitation poses a risk to our ecosystems, economic growth and security. Water shortages threaten the food supply, just when the agricultural sector is stepping up production in response to riots over food prices, growing hunger and rising malnutrition. Unless the world acts, water could become the next global crisis, emerging from the shadow of climate change and the recent food and fuel crises.

There is an opportunity to act now. Public authorities and private companies around the world see strong incentives to collaborate to ensure clean water and sanitation. Companies, recognising the business risks of water shortages, are making water strategies an integral part of their risk management. They are asking governments how they can be part of the solution. Governments no longer ask whether the private sector should be involved in water. Instead, the question is: how can we work together for fair and practical solutions?

The new mindset provides a significant opportunity for private capital and innovative companies, especially in poorer countries that are the future sources of global economic growth. In emerging markets, governments alone cannot provide the estimated $180 billion needed to finance infrastructure projects in the next two decades or so. As a result, the expansion of projects focused on clean water and sanitation services will depend on public-private partnerships. The International Finance Corporation (IFC) is helping to foster a growing number of such partnerships by assisting with project design and developing innovative financing solutions.

> “In emerging markets, between 40 per cent and 70 per cent of water is lost to leakages and theft”

Water is both a development opportunity and a business opportunity. In 2007, the number of public-private water projects that reached financial closure in low- and middle-income countries climbed to 62, reversing the previous year’s decline, according to World Bank Group data. Investment levels are still below the $10.1 billion peak reached in 1997 – in 2007, the amount was $3.2 billion. But the climate for project finance is improving in the water sector. A growing number of governments are offering targeted subsidies and other viability-gap funding to attract private investors to such projects. Market incentives also are strong: stocks in the water sector have financially outperformed the global industrial average.

Water is at risk because people tend to overuse it. Water-efficiency practices are still limited in agriculture and industry, which represent 90 per cent of total freshwater use. Climate change is making water supplies more unpredictable, with serious consequences for agriculture. Demand is outpacing supply, and competing pressures from municipalities, agriculture and industry are

raising complex questions about who gets water and how it can be used. The world's population is expected to grow to 9 billion by 2050, more than 60 per cent of whom will live in mega cities. Because water consumption rises with development and improved lifestyles, the world can expect even greater demands on fresh water.

The scope for using water more efficiently is vast. In emerging markets, between 40 and 70 per cent of water distributed by city networks is lost to leakages and theft. Reduce the losses by 20 per cent in Jakarta, for example, and some 800,000 people can have reliable access to drinking water. In Uzbekistan, at least 30 per cent of water used in agriculture is wasted because of faulty irrigation.

Technology can play a big role in conservation. For example, efficient technologies support between 55 and 90 per cent of the irrigated farmland in Cyprus, Israel and Jordan. By contrast, the use of efficient technologies for farming in India and China is less than 1 per cent. Israel and several countries in Latin America, the Caribbean and Africa use treated wastewater for irrigation, a practice that should be adopted elsewhere.

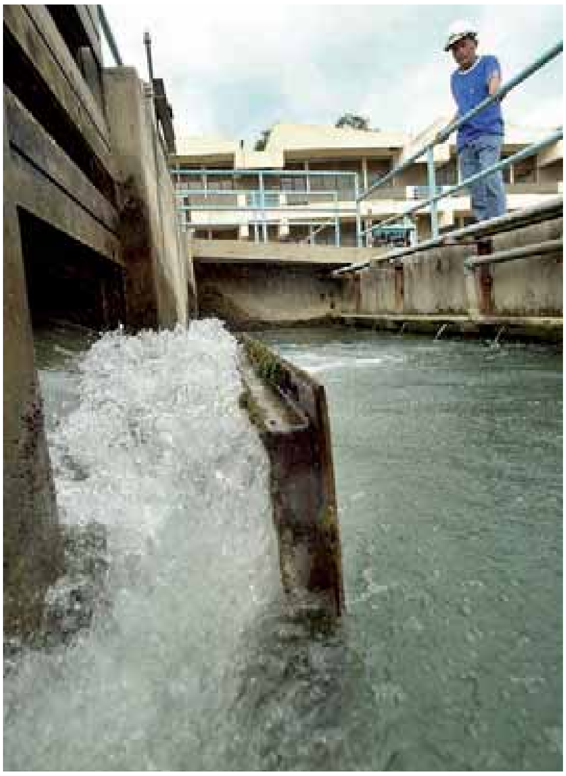
5,000 children under five die every day from diseases spread by dirty water and inadequate sanitation

IFC, the member of the World Bank Group that focuses on the private sector, is doing its part to avert a crisis. It is working with the private sector while other entities of the World Bank focus on policy issues and the public sector. The goal is to develop a pipeline of bankable projects in poor countries and regions that are well structured and attractive to private capital. IFC has launched a $100 million fund to provide risk capital for early-stage development of infrastructure projects in the poorest countries, mostly in sub-Saharan Africa. It is also working with public and private partners to introduce innovative performance-based grants that

Efficient technologies: computer-controlled irrigation for corn cultivation, Israel

address market failures and bring services to people who otherwise would have no access.

Manila Water in the Philippines is one example of what can be accomplished. The government – relying upon IFC's advisory services – privatised a state-owned water and sewage utility. The benefits to neighbourhoods have been significant. One million households in Manila now enjoy water connections and 98 per cent of them have a 24-hour water supply. The new set-up has also resulted in a significant reduction in water losses, keeping the system sustainable for more customers in the future. IFC also provided financing to support Manila Water's growth.



A worker checks freshwater flow at the water treatment facility at the La Mesa Dam, Manila

Companies that pursue opportunities in water conservation, efficiency and quality reduce costs and help the environment. In China, IFC is an equity investor in a company that provides turnkey wastewater-treatment solutions to municipalities and industry. In India, it is financing Jain Irrigation, the country's largest provider of micro-irrigation systems. Jain's clients are increasing their water efficiency by as much as 95 per cent. The technology can be as simple as a gravity-drip system of a 20-litre bucket and irrigation tape designed for small-scale farmers.

> "Water will be a key challenge to well-being, economic growth and security"

The opportunities for governments and investors are limitless. Water will be a key challenge to well-being, economic growth and security over the coming decades, along with energy, climate change and food. It will require all stakeholders in water – public and private – to work together to balance competing demands on a finite resource to create opportunities for sustainable development. The moment is right. We can find solutions by working as partners – starting now. ◆

Project financing, PPPs and the credit crunch

The credit crunch is affecting valuable private finance projects, as lenders' appetite for funding diminishes

By Geoff Haley, chair, International Project Finance Association

The credit crunch is affecting project finance in infrastructure by bringing capital constraints, higher funding costs, tighter financial covenants, lower leverage, wider spreads and fewer banks in the sector, affecting the syndication risk and leading to more club deals.

Debt markets are constrained and the available funding is now at a much higher cost. Many of the infrastructure equity investors have been affected by the credit crunch, which is placing constraints on private sector investments. These difficult circumstances have affected value for money and the affordability ceilings for the public sector. Initially, Standard & Poor's stated that project financing had escaped the credit crunch and growth remained solid in most parts of the world. However, the collapse of Lehman Brothers has changed that, as Moody's has affirmed.

Rating agencies are collecting information to determine the total extent of Lehman's exposure as either a counterparty or credit provider and to assess the impact for rated entities. The obvious consequences are downgraded ratings. Bonds issued to pay for infrastructure projects built under the United Kingdom's

The government of Rajasthan is implementing a project to develop 2,500 schools through public private partnerships

Private Finance Initiative (PFI) – a form of Public Private Partnership (PPP) – have become decreasingly attractive to investors because of their lower credit ratings. Typically, PFI project bonds benefited from a top credit rating as high-rated insurers guaranteed returns to investors. Since the start of 2008, however, the bonds' credit ratings have been lowered because of fears about the groups that insure them.

Rating agencies have cut insurers' ratings, amid concerns about the financial stability of the monoline insurers, such as Ambac and MBIA, who guarantee bonds. This has had a knock-on effect on the ratings of the PFI bonds that they insure. As a result, bond financing for PFI projects has almost disappeared.

> "The past decade has seen a dramatic expansion of PPPs across the world"

Bank debt in PFI deals is almost 20 basis points (0.2 per cent) more expensive since the credit crunch hit. According to Ernst & Young, the increase is primarily due to banks reassessing their pricing to take account of an increase in funding costs.

The credit crunch has made its impact on the project finance market. Loan margins have increased 100 basis points over the London Interbank Offered Rate (LIBOR) in 2008 for most deals, nearly doubling in many cases from a year ago.

Project finance lending is split between loan and bond finance. The loan markets continued to grow – up to $127.8 billion in 2008 from $103.7 billion in 2007 – but the bond market has plummeted from $9 billion to $5.1 billion. Project finance lending activity in the first half of 2008 rose 18 per cent over the same period in 2007, driven by strong growth in the oil, gas and mining sectors. Investment in the power generation sector continues its strong growth.

In highly rated countries, debt margins and fees have increased from 80 basis points to as much as 150 basis points. Other terms, such as cover ratios, tenors and security packages have not changed significantly. In lower-rated countries, credit margins have widened along with underlying country risk premiums.

Borrowers in pre-crunch projects and businesses now face the awkward challenge of how forecasted demand levels compare with actual demand and how shortfalls affect debt covenants. Whether, and to what extent, reduced demand causes losses to investors and lenders, will depend on the robustness of the financial structures. This will be particularly challenging for those borrowers who raised short-term finance with a view to refinancing once the project had entered operations.

The liquidity constraints have reduced the appetite of lenders in infrastructure. Before the credit crunch, large banks would enter into sole-underwrite positions at a fixed price on large infrastructure deals. Now banks want one or more co-underwriters and require market flux (a right for lenders to increase interest rates) on pricing. Credit committees want much higher reassurance that they will be able to sell down debt through syndication markets to avoid holding significant debt on their balance sheets.

The present problems are seen as short-term financing issues that can be corrected when stability returns to the market. However, the long-term advantages of project finance remain.

The past decade has seen a dramatic expansion of project finance PPPs across the world. With ever-increasing populations, greater expectations, demands from society on existing infrastructure resources and ongoing budgetary constraints, governments face increasing pressure to deliver new and improved infrastructure projects for transport (roads, railways, toll bridges), education (schools and universities), healthcare (hospitals, clinics, treatment centres), waste management (collection, disposal, waste to energy plants), water (collection, treatment, distribution), government accommodation and defence.

In many countries, the financing requirements of the need for current and prospective infrastructure far outstrip the resources available. A recent report by the Organisation for Economic Co-operation and Development indicated that in the coming decades the worldwide need for infrastructure investment (defined as public utilities such as telecommunication, power, transportation, water and sanitation) will exceed $1,800 billion per year. Meeting these needs is critical to continued progress, development and economic growth. Budgetary constraints and an acknowledgement of private sector efficiencies and know-how are two principal reasons why governments around the world are accelerating the use of private sector finance and adopting PPPs to deliver infrastructure projects that would previously have been built by the public sector. As stated in *Going Global: the World of Public Private Partnerships*, the report published by the Confederation of British Industry, PPPs offer value for money, service improvements and a better chance of delivering projects on time and to budget.

> "The liquidity constraints have reduced the appetite for lenders in infrastructure"

Research conducted by the British government (particularly the National Audit Office) confirms the largely positive impact of one such PPP/PFI. The key findings from HM Treasury's research of 61 projects reveal that 89 per cent of projects were delivered on time or early, and that all PFI projects in the sample were delivered within public sector budgets. Nowhere was the unitary charge changed following contract signature, other than where user requirements changed. Furthermore, 77 per cent of public sector management stated their project met initial expectations. There is scope to reduce the procurement time, although new incentives to tackle this problem are already having an impact.

The PricewaterhouseCoopers report, *Delivering the PPP Promise: A review of PPP issues and activity,* found that PPPs make projects affordable, maximise the use of private sector skills, have the private sector take lifecycle cost risk and allocate risks to the party best able to manage or absorb each particular risk. In addition, PPPs deliver budgetary certainty, force the public sector to focus on outputs and benefits from the start, maintain the quality of service for the life of the PPP and let the public sector pay only when services are delivered. PPPs encourage the development of specialist skills, such as lifecycle costing, allow the injection of private sector capital and let transactions be put off balance.

A PPP is used only where it can demonstrate efficiency, equity, accountability and clear value for money. Under these conditions, a PPP delivers several important benefits. By requiring the private sector to risk its own capital, and to deliver clear and agreed levels of service to the public over the long term, PPP procurement routes can help government deliver high-quality public services from essential infrastructure on time and on budget. In addition, unitary payments usually do not commence until after the infrastructure is commissioned and service delivery has begun. This arrangement provides a very effective incentive for the private sector partner to deliver promptly.

> PPP can help government deliver high-quality public services on time and on budget

A PPP is likely to generate better value for money where:

- there is a major and complex capital investment involved, requiring effective management of risks associated with construction and delivery;
- the private sector has the expertise to deliver and offers value for money;
- the structure of the service is appropriate. This allows the public sector to define its needs as service outputs that can be contracted to ensure effective, equitable and accountable delivery of public services in the long term, and where risk allocation between public and private sectors can be clearly made and enforced;
- the nature of the assets and services identified can be costed on a whole-life, long-term basis;
- the value of the project is sufficiently large to ensure that procurement costs are not disproportionate;
- the technology and other aspects of the sector are stable;
- planning horizons are long term, with assets intended to be used over long periods; and where
- robust incentives on the private sector to perform can be set up and enforced by the public sector partner.

Particularly where private finance is involved, PPPs are subject to extensive technical, financial and legal due diligence prior to contracting by qualified and experienced advisers to the principal financial institutions and to the private sector partner. This work acts to establish more fully the whole-life costs and risks associated with ownership and operation of the asset and services than is typically undertaken for conventionally procured projects funded from the public purse. In the past, this has exposed conventional projects to the impact of unforeseen (and unmanaged) risks on project delivery timescales and budgets – costs that, in time, have to be met by the taxpayer.

The case for project finance and PPP is overwhelming and the current 97 countries using this approach are reaping the benefits. ◆

The development of the Kaohsiung rapid transit system in China involved private financing

The role of the G20

The G20 has offered a useful informal forum for dialogue but it is no substitute for a reformed G8

By Stormy Mildner, senior researcher, German Institute for International and Security Affairs

One of the world's leading economic powers, Germany has a strong interest in a stable and well-functioning international financial system. It has repeatedly played an important role in the reform of the international financial architecture, be it the International Monetary Fund (IMF) and the World Bank or the founding of new financial institutions such as the Financial Stability Forum and the G20. Regardless of the party in power, Germany's international financial policy has always followed three dictums: structurally, Germany emphasises multilateralism; institutionally, it aims to strengthen international organisations; and, with regard to the content of international financial policies, Germany always highlights the principles of a social market economy. Most recently, as president of the G8 in 2007, Germany placed the transparency of hedge funds at the top of the agenda of the G7 finance ministers in order to reduce potential systemic and operational risks. It also promoted freedom of investment. The current financial crisis in the United States has once again exposed the vulnerabilities of the international financial system. Germany has thus redoubled its efforts to increase financial transparency and oversight.

Global economic problems need global solutions. Most challenges in key economic areas such as trade and investment rules, as well as climate change and energy, cannot be tackled without the co-operation of the big emerging economies. At the 2008 spring meeting of the IMF and the World Bank, Peer Steinbrück, Germany's finance minister, welcomed the proposed IMF quota and voice reform as a crucial step in enhancing its credibility and legitimacy by aligning the representation of members with their relative weight in the global economy. Bridging the divide between the industrialised and developing countries has also been a German concern in the G8. As G8 chair, Germany launched the Heiligendamm Process, a two-year, structured dialogue between the member states of the G8 and the emerging economies of Brazil, China, India, Mexico and South Africa (the so-called Outreach Five Countries). As Caio Koch-Weser, state secretary in the Ministry of Finance, emphasised, building consensus among industrial and emerging market countries is necessary because of the rising economic weight of emerging markets as well as the diversity of their cultural, institutional and economic systems.

> "Recently, Germany placed the transparency of hedge funds at the top of the agenda"

The G20 has offered such an informal forum for North-South dialogue since 1999. While the German government views the G20 as important in international financial and other matters, there is no consensus within the grand coalition of the Christian Democratic Union (CDU) and the Social Democratic Party (SPD) on the future role of the G20, a possible enlargement of the G8 or the establishment of a new group of leading economies, a leaders 20 (L20). Not much has thus changed since the last G20 summit in Germany in 2004, when Koch-Weser stated: "At one end of the spectrum there are those who would like to see the G20 as the essential pillar of future global governance, with more frequent meetings and a broadening toward a meeting of G20 heads of state and government. At the other end, some observers see it as not much more than an outreach event for the G7."

The G20 was initiated under Germany's G7 presidency at the Cologne Summit on 18 June 1999 as a new mechanism to broaden the dialogue on key economic and financial policy issues among systemically significant economies. The inaugural G20 ministerial meeting took place in Berlin in December 1999, hosted by Germany and co-chaired by Canada.

Germany and Canada took the lead in the newly formed institution, proving to be important agenda setters as they consecutively held the presidency. During Germany's 2004 G20 presidency, one of the focal points was strengthening the Framework for Crisis Prevention and Resolution through establishing a voluntary code of conduct aimed at crisis prevention and facilitating an orderly resolution. One of the G20's greatest advocates, Hans Eichel (SPD), former finance minister and a key actor, together with Canadian finance minister Paul Martin in the establishment of the G20, complimented the G20's performance and stressed its significance in 2004: "The G20 has proven itself." And further, in 2006: "It is not without reason that many observers accord the G20 an important role, for some, even the most important role in the future – in global governance." He stressed: "If the G20 continues to develop along these lines and becomes even more effective, I think we could, in theory, expect to see a G20 comprising the heads of state and government set up at some time in the future." SPD members have lauded the G20 for its significant contribution to improved global financial governance, claiming it has helped establish a common understanding of today's financial and fiscal policy challenges and has initiated an ambitious agenda of policy response.

Germany took the chair of the G8 at Heiligendamm in 2007

While the inclusion of the outreach countries in the G8 process is largely supported, the strengthening of the G20 at the expense of the G8 or the institutionalisation of an L20 is met with scepticism among most German politicians. Thus, Steinbrück's 2006 call for a radical transformation of the G8 did not get strong support, among his own party or within his own ministry. As Chancellor Angela Merkel stated in 2007: "The German G8 presidency aims to develop procedures that will generate a common understanding on the part of the G8 states and the major emerging economies in terms of how to tackle the major global challenges of our times. The objective is not to enlarge the G8 to make it a G13, but to build new co-operation with the emerging economies in the form of a topic-oriented dialogue." Bernd Pfaffenbach, state secretary in the Ministry of Economics and Labour, and Chancellor Merkel's sherpa for the G8 Summit, likewise emphasised: "It is all about integrating large emerging markets. Nobody should be left with the feeling of not being welcome in the international economic order. This concerns China, India, Brazil, Mexico and South Africa in particular. But don't get me wrong: we do not want to enlarge our group to a G9 or G13. That is not our aim." Likewise, in *Freedom and Security: Principles for Germany*, the CDU stated that it aims to aid India and China in becoming responsible members in the design of

Chinese President Hu Jintao, German Chancellor Angela Merkel and Indian Prime Minister Manmohan Singh, gather at the 2007 G8 Summit in Heiligendamm

the international order. The CDU underlined in its Asia strategy that a closer integration of the Asian emerging economies into global structures was necessary to turn them into responsible stakeholders of the international community. One way to achieve this was the Heiligendamm Process. While the position paper argued that "an alternative [to the outreach process] could lie within the political strengthening of the G20," Merkel's party does not view the G20 as a prospective substitute for the G8. Accordingly, it offers no proposals for how to formalise or strengthen the G20.

The G8's legitimacy has long been questioned. Even if the G8 countries still hold the world's top positions in economic terms, others are catching up quickly. "As the newly industrialising countries are not represented in the G7, the mandate of this group is restricted, especially in issues that concern developments of the international economic and financial system," the German Ministry of Finance acknowledged in 2003. Indeed, a solution to these problems could be an enlarged G8, further institutionalisation of the G20 – or even an L20. The G20 has a comparatively high level of legitimacy. "The G20 brings the most important actors at one table: discussions about capital transfer liberalisation, financial stability, oil prices, exchange rates… can no longer be led without countries like China, Mexico, Russia, Saudi Arabia or South Korea," said Hans Eichel in 2004.

"The G20 can no longer be led without China, Mexico, Russia, Saudi Arabia or South Korea"

However, many critics, both SPD and CDU, rightly warn that a group as big as the G20 could hardly be expected to reach meaningful consensus or even agree on binding commitments. Although proponents argue that its decisional performance has never been any worse than that of the G8 in its initial stages, the unwanted consequence of upgrading the G20 could be at a standstill in the negotiations. Thus, while emerging economies would like to see their role in global governance strengthened according to their increased economic importance, they are often not willing to become involved at any price. G20 proponents counter this argument by predicting that emerging economies would eventually accept more responsibility, if they were provided with the appropriate governance framework. The G20's future decisional abilities thus remain uncertain, especially if its competencies are increased to those of the G8, or if the G8 will cease to coexist as a partner for assimilating positions. It might very well be that the G20 will only be successful as long as it stays an informal and open forum, contributing to the G8 summits, argue sceptics.

In the long run, the G8 will have to adapt to the new international power structure by granting leading developing countries a stronger voice and seat at the table of the G8 (or future L20?) permanently – particularly as the outreach countries are rather disillusioned with the process. But consensus on the future of the G8 and the G20 has yet to emerge in Germany. ◆

A worker servicing an oil well on the Ust-Balick oil field near Nefteyugansk, West Siberia, Russia

Russia: a major player

The current economic climate gives momentum to the G20 and Russia has a prominent role to play in realising its potential

By Victoria V Panova, Moscow State Institute of International Relations

The primary reason for the first G20 gathering in 1999 was to counter the major financial crisis that severely hit the Asian economies in 1997 and then, over the next year, spread to Latin America and Russia. Other reasons were the further decline in the relative economic power of the G7 countries and a growing awareness that the 'geriatric powers' could no longer set the global economic rules alone. The current G20 holds 65 per cent of the global foreign reserves, with the non-G7 members holding 43 per cent – a figure that has risen from 14 per cent in 1991.

Although Russia was part of the G20 from the start, it was not very enthusiastic in the beginning. At that time, Russia was concentrating mostly on gaining a more prominent place within the G7/8, including participating at the G7 finance ministers' meetings and pushing to become a member of financial and trade organisations that were not club-like, notably the World Trade Organization (WTO) and the Organisation for Economic Co-operation and Development (OECD).

Russia's relatively reduced attention given to the G20 was rather short-sighted, for Russia has been a full-fledged, equal member from the very start of the group, with no reservations regarding its status. The G20 also provides a representative forum for open discussion among most of the major economic players, without Russia being put in a defensive position or threatened with ostracism at times of discontent, as occasionally happens in the G8.

With the worsening relationship between Russia and the West and the further strengthening of Russia's political, military and economic role in the international arena, Russia has recognised that the G20 plays a bigger role – and specifically the BRIC grouping of

Brazil, Russia, India and China within it – as opposed to Russia's previous focus on Western-dominated institutions and mechanisms. One case of such behaviour was Russia's total support for the Outreach Five – the other BRICs plus South Africa and Mexico – on the quota reform at the International Monetary Fund (IMF).

> "Experts fear that the global economy is slipping into the worst crisis since the Great Depression"

Pressuring Russia seems to have placed it in the BRIC camp, rather than with the G8, or in fact in both. Thus, following the G8 St Petersburg Summit in 2006, hosted for the first time by Russia, President Vladimir Putin suggested that the BRIC foreign ministers meet on the sidelines of the United Nations General Assembly (UNGA) the following September. There, the four expressed interest in developing comprehensive quadrilateral co-operation. A second meeting of the four foreign ministers, held on the sidelines of UNGA in September 2007, produced a consultative mechanism at the level of deputy ministers that met in March 2008 in Rio de Janeiro.

On 16 May 2008, the BRIC foreign ministers met again in Yekaterinburg, where the countries agreed to work together on supporting the rule of law in international relations, democratising the global financial and economic architecture, countering new challenges and threats, and finding common approaches to arms reduction, non-proliferation, climate change, energy security and sustainable development. This meeting also saw a Brazilian initiative to hold the first meeting of the four ministers of economics and finance in November 2008, in the run up to the G20 meeting (aimed at the countries coming to the G20 meeting with a concerted position).

These developments give more momentum to the G20 meeting, since they offer an opportunity to move beyond geopolitical concerns and concentrate on the purely economic and financial issues that require immediate attention and actions in the current deteriorating situation.

Many experts now fear that the global economy is on the verge of slipping into the worst crisis since the Great Depression. That is why the key issues that will remain on the agenda of the G20 finance ministers and central bank governors will be the global economic slowdown (which is more pertinent to developed countries) and rising inflation (which is more pressing for the emerging economies). The IMF cut its forecasts for world economic growth from 4.1 per cent to 3.9 per cent for 2008, and from 3.9 per cent to 3.7 per cent for 2009. This was due to the general slowdown, the mortgage-lending crisis in the United States, the rapidly cooling eurozone economy (which has shrunk by 0.2 per cent, the first contraction since the euro was adopted) and worrisome inflation rates in the emerging economies, including Russia.

The slowdown could have a more adverse impact on developed countries, for even with the growth forecasts revised for China (down to 9 per cent), the gap between developing and developed countries will widen to six to one. The same is true for India and Russia, with a gap of four to one. A more modest performance is expected for Latin America. Thus, there is a massive shift of wealth from commodity users to commodity producers, as has happened in the movement of rule-setting power in the energy industry from the old, privately owned 'Seven Sisters' of the oil companies that dominated the 20th century to the new national energy companies of emerging economies.

Inflation is a bigger problem for emerging and developing countries. The IMF predicts their consumer prices will soar to 9.1 per cent in 2008, and 7.4 per cent next year (a 1.5 per cent rise from the previous forecast). In Russia, inflation is due to reach 12 per cent in 2008, with Sberbank, a major Russian bank, estimating figures as high as 14 per cent. Some blame high inflationary rates on the overheating economy (with an annual growth rate between 6 per cent and 8 per cent from 2000 to 2007), an inflow of oil revenue and heavy budget spending preceding the presidential elections in March 2008. Others say that inflation is due to a liquidity crisis and a huge inflow of foreign currency. Meanwhile inflation is due to drop to 8.5 per cent in 2009.

Nevertheless, all the BRICs are part of the global economic system. Their financial markets move parallel to one another and they are all vulnerable to negative global trends. Thus, the events of September 2008 have revealed Russia's extreme dependence on global market and oil prices, when it slipped into financial turmoil along with other countries. By 17 September, the Russian market had lost 52 per cent of its capitalisation

> "Inflation is a bigger problem for emerging and developing countries"

since the beginning of the year. Although two days later it had recovered by almost one quarter as a result of urgent government intervention, Russian shares remain some of the lowest priced in the world. This development led to the flight of as much as $15 billion in investments, a trend that could well continue. These events could also slow economic growth and soaring commodity prices are threatening planned investments in infrastructure projects. The banks have their share of worries, too, for the central bank announced a slight increase of 5.5 per cent in reserve requirements. Nevertheless, with the world's third-largest foreign currency reserves and a massive trade surplus, Russia is not on the edge of a crisis.

Although some inflationary and financial issues might be specific to Russia, the trend is no different from the rest of the world, which is witnessing a boom in food and commodities prices, which gives more objective reasons for an Outreach Five united with Russia to operate within the G20.

Clean energy and the role of climate change in global markets are also important for Russia and the G20 as a whole. Along with fears of rising commodity prices and finite hydrocarbon resources, opportunities offered by the existing instruments for mitigating climate change and for investing in green technologies are increasing. All these issues were priorities on the table during the Russian G8 presidency in 2006. The G20 started its energy-related discussion the same year, under the Australian chair. Previous G20 meetings have also discussed the effect of oil prices on the world economy, transparency in the energy market, improved market-related information, energy market opening for investment, and access to modern technologies. Other energy issues include environmental problems and access to energy for all countries, including less developed ones.

At the 2008 Hokkaido Toyako Summit, the G8 leaders agreed to "consider and adopt… the goal of achieving at least a 50 per cent reduction of global emissions by 2050" through their "common but differentiated responsibilities" and recognised the need for clean energy technology and nuclear power. The G8 also promised developing countries up to $150 billion in public and private investments to meet the challenges of mitigation, adaptation and access to clean energy. It looked as if it was too little for the Outreach Five countries, which came to the table on the last day of the summit. Calling themselves the Group of Five, they issued their own statement, stressing the need for more concerted action by the developed countries and a stronger commitment to cutting greenhouse gas emissions by between 80 per cent and 95 per cent below 1990 levels by 2050. The G20 presents an excellent opportunity to further this discussion on a more consistent basis, with the participation of major oil producers such as Saudi Arabia and highly dependent energy consumers such as South Korea.

Russia is increasingly realising the role and potential of the G20. Indeed, there is hope that working in this format on economic and financial problems will help overcome the new dividing lines that hamper fruitful co-operation on the political side. ◆

Indian Prime Minister Manmohan Singh, Russian President Dmitry Medvedev, Chinese President Hu Jintao and Brazilian President Luiz Inácio Lula da Silva at the G8 Hokkaido Toyako Summit in northern Japan, July 2008

Enhancing the G20's efficiency

By Xaiojin Chen, International Technology and Economy Institute, China

The rebuilding of the international financial system is now a priority. A reformed G20 may be just the mechanism to achieve this

As one of the founders of the G20, China has attended all the G20 ministerial meetings since 1999, and hosted its meeting in 2005. China regards the G20 as an important multilateral platform to listen to and exchange ideas with the G8 members and other significant countries.

The G20 contains all the systemically important countries from regions around the world, as well as the European Union. Its members account for more than 70 per cent of global population and 90 per cent of the world's gross domestic product. The G20 is also more broadly representative and has a stronger legitimacy than the G8.

The G20's apparent weakness, however, is having too many members with too many different interests, which precludes it from reaching any substantial consensus. That harms the efficiency and influence of the G20 and makes it a loose multilateral forum. This innate weakness hinders the G20 from becoming a decisive institution in global governance.

Furthermore, with the G8 dominance of the G20, the latter seems like an enlarged version of the G8+5 dialogue platform – making it a G8+12. Both the G8+5 and the G20 have the function of legitimising G8 initiatives to the wider world and winning broader support for G8-generated ideas. It is thus difficult to imagine that the G20 will have any independent influence.

> "The G20's apparent weakness is having too many members"

Even though it has become a regular partner in the G8+5, China still needs the G20. As a new rising country that aspires to be accepted by the international system, China has an open and active attitude to participating in diverse multilateral economic institutions, including the G20. Moreover, while the reforms of International Monetary Fund and the World Bank are becoming difficult and the present international financial system becomes more fragile, the G20, under the strong leadership of the G8 or 'Gx', may be one potential suitable mechanism for the leading countries to negotiate and rebuild a new international financial system.

In order to play a robust role, the G20 needs to narrow its core decision-making group to improve efficiency. Although the G8 initiated this institution, the decision-making group of a reformed G20 should not necessarily include all G8 members. Not all G8 countries are as important as they were in 1970s when the G8 was founded. There are other countries that have grown in systemic importance. Members of the decision-making group should be selected according to each country's power and responsibility. The number of members should not exceed five. Suitable international mechanisms that reflect the real world are needed to solve real global problems. Otherwise both the G8 and the G20 will increasingly become simply a political show.

The G20 also needs to arrange its agenda carefully to fulfil its deliberative function and promote successful co-operation among its members. At present, new alternative sources of energy may become the most likely possibility of a breakthrough in co-operation. This is due to three factors.

First, a secure energy supply has become a priority for most G20 members in recent years. North America, Europe and Asia are all preoccupied by high oil prices and the consequent serious threat of inflation. They are looking for new energy sources that can substitute for oil on a large scale and be relatively inexpensive.

Second, even resource-rich members of the G20, such as Russia, Canada and Australia, worry about the carbon dioxide emissions caused by fossil fuel consumption. They seek new alternative sources of energy that can reduce carbon emissions. To develop a clean, inexpensive and ample supply of new energies is in the interest of all sides. Promoting a consensus on clean energy co-operation among the G20 members can become the common goal for all.

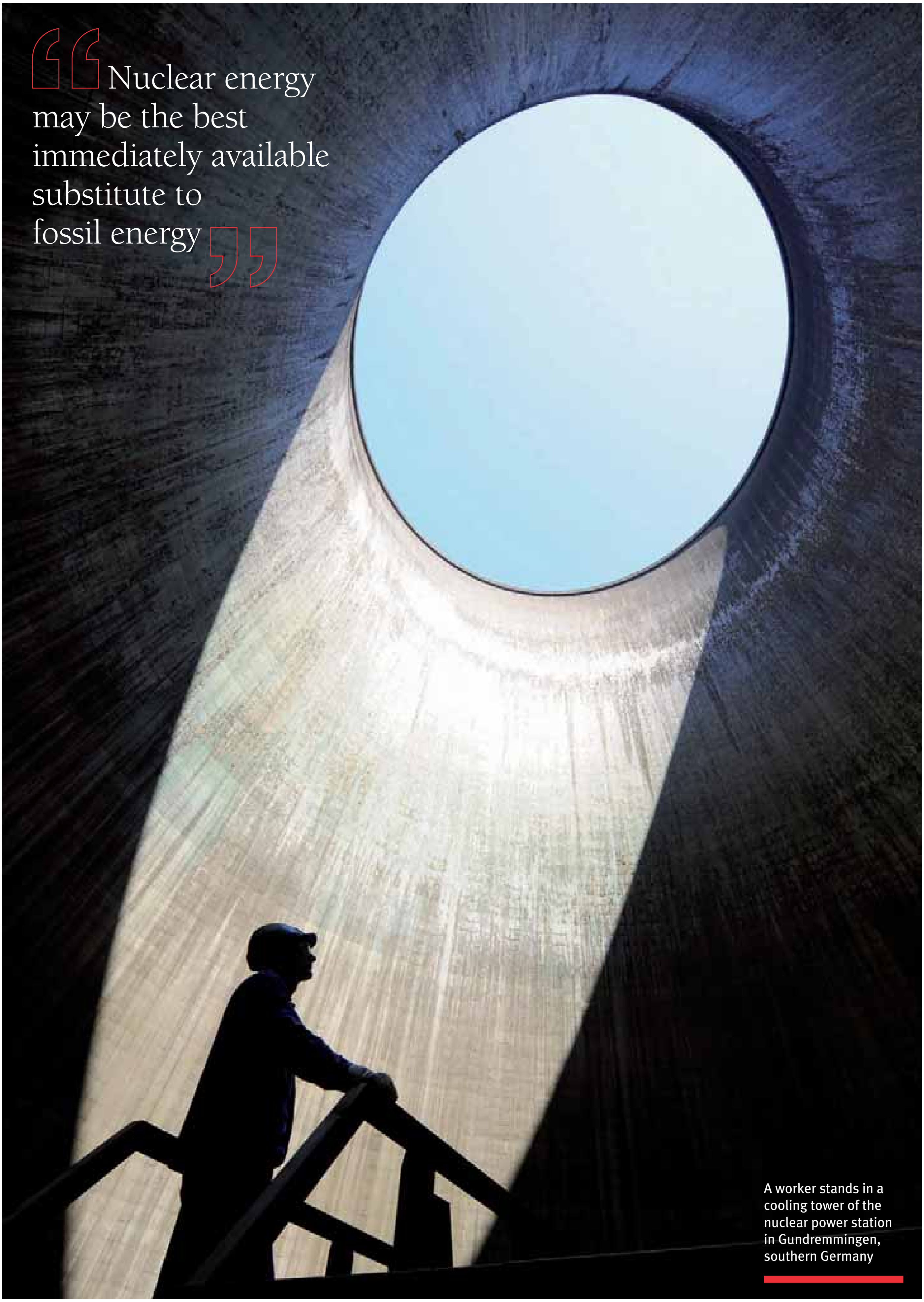
Third, international mechanisms have yet to be developed in many new energy fields. Compared with those policy areas that already have international mechanisms, it is easier for the G20 to achieve progress in the relatively new field of energy.

The 2008 G20 meeting of finance ministers and central bankers will address clean energy and biofuel as a priority. Building new mechanisms in nuclear energy should be added as a key topic. Given the experience of France and Japan, nuclear energy – rather than renewable sources such as the wind or sun – may be the best immediately available substitute to fossil energy and would reduce carbon dioxide emissions on a large scale. Renewable energy is but a tiny fraction of global consumption. It can hardly meet the high global demand for energy.

Many countries are currently formulating or implementing ambitious plans to create nuclear power, especially in east and south Asia. According to a 2007 report, if all the nuclear capacity currently under construction or firmly in the development pipeline is completed and attached to the grid, capacity would grow from 370 GW(e) at the end of 2006 to 447 GW(e) in 2030. If additional promising projects and plans are added, global nuclear capacity could rise to 679 GW(e) in 2030. That would be an average growth rate of about 2.5 per cent per year.

> "The G20 needs to narrow its core decision-making group to improve efficiency"

Co-ordinating the balance between nuclear power construction and non-nuclear proliferation is a key question. Concrete topics on building international mechanisms for nuclear energy could include three elements: the development of a global market for nuclear fuels; a global management mechanism for nuclear fuels (amending plans based on the Global Nuclear Energy Partnership initiated by the United States); and global barriers and protective regulations for building in nuclear power capability and controlling nuclear fuel. ◆



“Nuclear energy may be the best immediately available substitute to fossil energy”

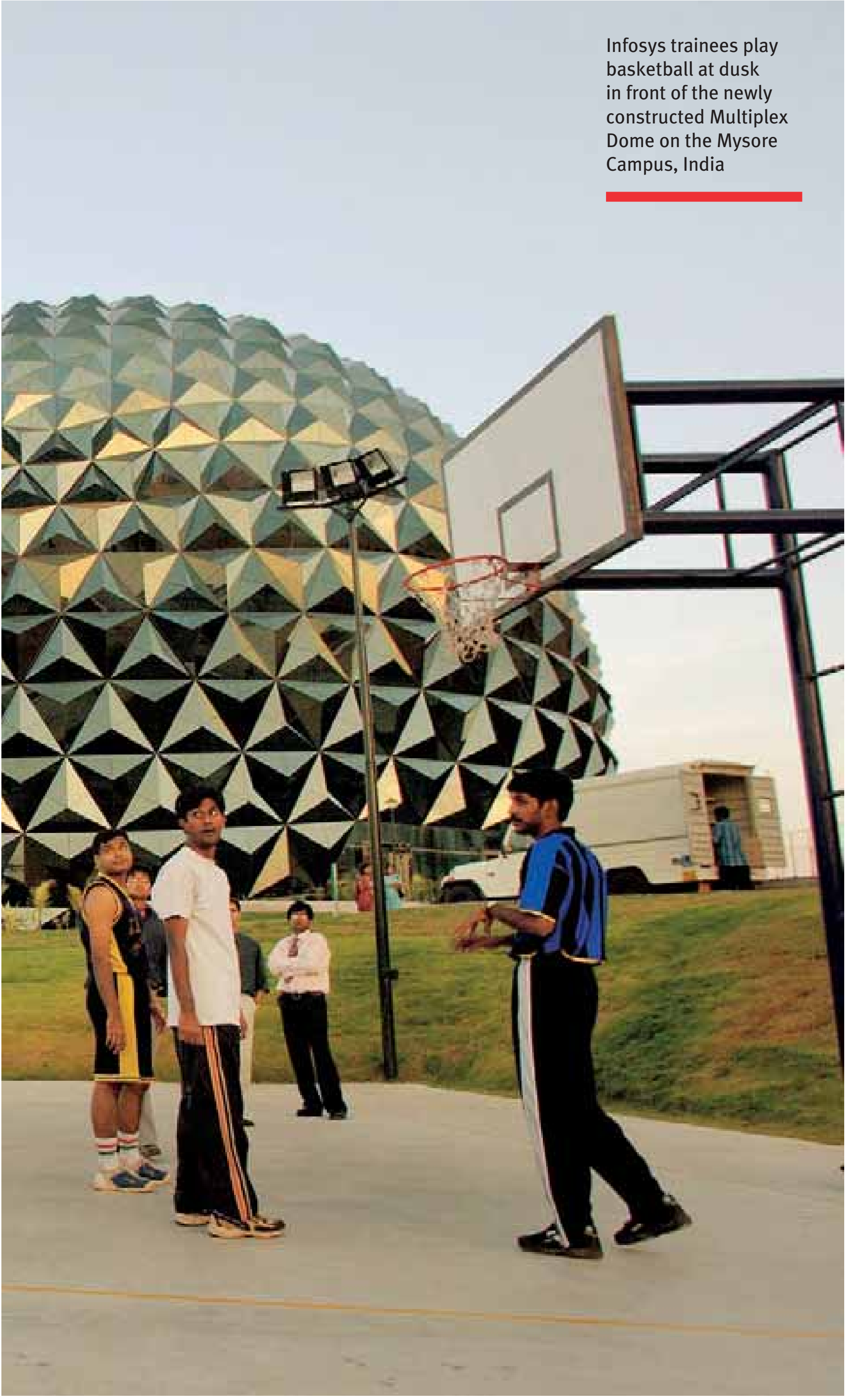
A worker stands in a cooling tower of the nuclear power station in Gundremmingen, southern Germany

India in the global economy

India's economic rise has brought it to the world stage. Stability, growth and trade reform have been its route to success

By Yoginder K Alagh, chancellor, Central University of Nagaland, and former minister, power, planning and science and technology of India

In the decade before the G20's creation, India was unnoticed in the world. But then India started growing rapidly and defined its interests as a growing power more concretely and as part of the constituency of growth. Many of its inherited institutions went through the inevitable changes, which conditioned India's responses in global forums. In the G20 the institutional changes came in financing mechanisms, with command economy principles giving way to fiscal and monetary instruments. In financing, trade, energy and other renewable resource areas, India's domestic development experience defined its positions on global issues abroad.



Infosys trainees play basketball at dusk in front of the newly constructed Multiplex Dome on the Mysore Campus, India

In the earlier non-aligned G77 years, India pushed a global anti-colonial agenda and built coalitions for the development of the poor. The military option against Portugal over Goa in the 1950s was avoided for some time in order not to weaken diplomatic initiatives for the independence of erstwhile colonies. India participated fully in global debates and developed several ideas. "Poverty is the biggest pollutant," said Indira Gandhi at the United Nations Conference on the Human Environment in Stockholm. By the end of the 1980s, however, India's security and development paradigms had changed. Rajiv Gandhi's vision was that India would pursue its goals in "concentric circles of influence".

India would grow rapidly as a part of a globalising world. There was a refreshing youthful emphasis on technology and the newer organisations and social institutions in which it would be embedded, as the flip side of the problems of low growth, poverty and shortage of renewable resources. There was a break with the past in putting decentralised growth into operation. Indeed, India's fast growth reinforced the new world view at home.

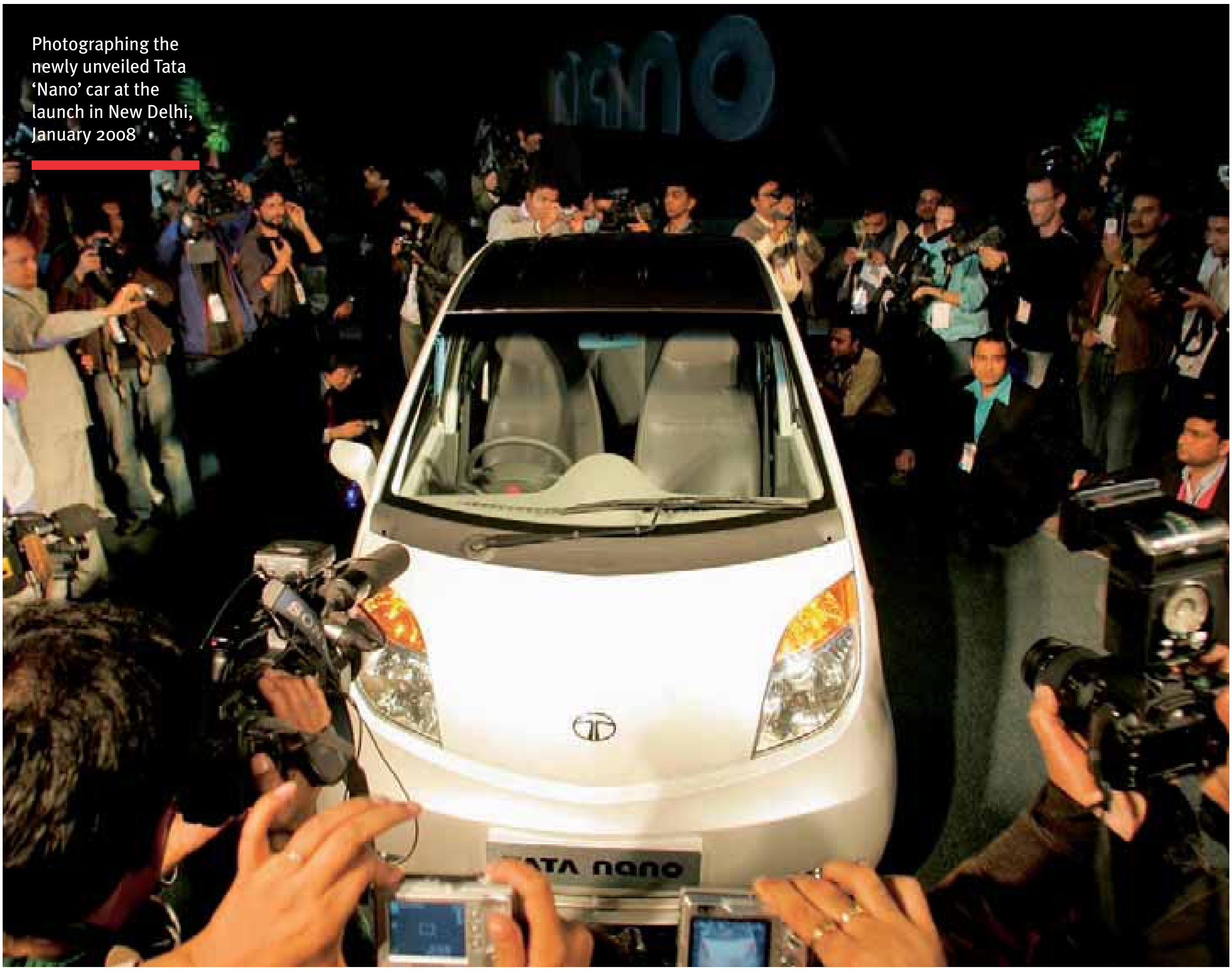
However, the world woke up only in 2003, when first a well-known study by the United States Central Intelligence Agency, and then later Goldman Sachs, declared India to be one of the BRICs – Brazil, Russia, India and China. Economists at the International Monetary Fund (IMF) recognised that growth had already begun. They claimed it was due to India's shift in the early 1980s reforms from pro-market to pro-business policies. In fact, in the 1980s, India abolished its level price and output controls and relaxed its investment and foreign exchange controls. Indeed, about two thirds of Indian industry was freed from such controls. But since these reforms were not designed by the Bretton Woods institutions, they were ignored abroad. Yet these broad,

> "By the end of the 1980s, India's security and development paradigms had changed"

paradigm-based reforms gave strength to India's stance at institutions such as the G20.

Here, India has pursued three objectives. The first is stability for reform. The second is improving the global and national architecture for deepening financial markets to foster inclusive growth. The third is to link these two to trade policy.

On the first objective of stability, India's phased process of reform, ending with the goal of complete capital account convertibility, was to be protected from the wild swings of global financial markets particularly evident after the East Asian meltdown at the end of the 1990s. India's central bank governor stated later that at the G20 meeting under India's presidency in 2002, "for the first time, the international community through the G20 endorsed the idea of the voluntary 'principles' for



Photographing the newly unveiled Tata 'Nano' car at the launch in New Delhi, January 2008

> India wanted the rules to be clear but the paths flexible

prevention and solution of sovereign crises" to replace the IMF's sovereign debt restructuring mechanism, which had failed.

India's second objective was to encourage the world to let countries reform at their own pace and in their own innovative ways. At times, the G20 or the World Trade Organization's (WTO) review committees admonished India for not reforming fast enough. Indeed, the G20 stated that "in India, the challenge is to reduce the budget deficit while raising sufficient resources for infrastructure and rural development. Tax reforms and public sector reforms are important areas of concern. Employment generation and better access to education and health remain important." In response, India wanted the rules to be clear but the paths flexible.

A major issue for India has been the harmonisation of financial rules with the development process. This stance informs India's interventions at the G20, the WTO and the UN's 2002 International Conference on Financing for Development at Monterrey. At the 2002 preparatory meeting of the World Summit on Sustainable Development, one proposal intended to

> *Improve investment processes in developing countries and countries with economies in transition to facilitate access to credit lines as well as to preferential terms of financing and of providing funds for collateral support systems and sharing of investment risk. In this context, provide securities for local institutions involved in infrastructure development and specific knowledge-based activities to support sustainable economic growth, through, for example, creation of collaterals, interest differentials and trading of financial papers. These processes should be targeted, amongst others, to artisan and producer groups linked with local and global markets, local government agencies providing social and economic infrastructure, and farming and rural communities.*

With regard to energy, water and sustainable development, India shows – with its technical work and experience – the need to think dynamically, because growth produces innovation rather than more of the same. India is using maximum flexibility and creativity to leverage the international environment for its own domestic economic transformation. It is increasingly integrating knowledge-based initiatives, science and technology, and business in its goals. Given the nature of new global challenges, the deployment of soft power assets and the involvement of civil society are now as important as hard power in order to "win the peace". As Sonia Gandhi said: "India seeks an open and inclusive world order." At the G20, India is constantly reinventing the art of following its own interests and championing the growth of the poor as two sides of the same coin. ◆

Delegates attend the 2006 G20 meeting of finance ministers and central bank governors at the Grand Hyatt Hotel, Melbourne

How effective is the G20?

The G20 has proved itself a valuable forum for finance ministers from emerging markets to meet with colleagues from industrialised nations. But how successful has it been?

By Ariel Buira, member, Mexican Council for International Affairs

The G20 is an informal meeting of the ministers of finance and the central bank governors of major industrial and emerging market countries that account for some 85 per cent of world output. It is a useful response to the shortcomings of the International Monetary and Finance Committee of the International Monetary Fund (IMF) and its unrepresentative nature and the rigid format of its meetings.

The G20 was established by the G7 in response to the financial crises experienced by major emerging market countries: in Mexico, Brazil and Argentina, and in Asia. It was intended to influence the policies of emerging markets to enhance financial stability and prevent future financial crises or to diminish their intensity.

To this end, the G7 recommended that emerging markets adopt policies of transparency, standards and codes, and those other policies suggested by the Financial Stability Forum. Additionally, in order to prevent risks, emerging markets should undertake Financial Sector Assessment Programs (FSAP) introduced by the IMF. More generally, their policies should be designed to foster stability. Thus, emerging markets were supposed to follow certain principles

> The G20 successfully promoted the adoption of best practices to prevent financial crisis

regarding the management of their financial system, their exchange rate and their external debt, and to adopt certain principles of debtor-creditor co-operation, such as the introduction of collective action clauses to facilitate the resolution of external payments crises. The G20 also successfully promoted the adoption of best practices by countries to prevent financial crisis.

The atmosphere of the G20 has always been friendly. For the financial authorities of the emerging markets, it provides a valued opportunity to meet their counterparts in industrial countries and informally raise their concerns with them.

The G20 policy recommendations, however, did not apply equally to the major industrial countries. The major problems of the world economy were largely left off the G20 agenda. Thus, global imbalances, surveillance of exchange-rate policies, intervention in foreign-exchange markets and fiscal imbalances in major economies were not subjects for discussion by the G20.

Indeed, major industrial countries, particularly the United States, are not inclined to have global problems come under the purview of the G20, the IMF or any other international body, presumably because they feel able to deal with them on their own.

Five years after its start, as the issue of financial stability in emerging markets came to be exhausted, the G20 went on to matters that had been raised by emerging economies, such as IMF governance and reform. But they did not get very far, because the industrial countries were not interested in undertaking major reforms of the Bretton Woods institutions.

The official history of the G20 makes a point of stating that the G20 played a catalytic role in fostering the greater participation of emerging market economies in decision making. But the major emerging markets played no role in the appointments of the last two managing directors of the IMF and presidents of the World Bank. The old procedures were followed: a few European officials decided on the head of the IMF, while the United States decided on the head of the World Bank.

The results of the recent reform of the IMF quota system are trivial. They fail to bring quotas in line with the size of the economies. Japan would not allow

China's quota to approach its own; Britain and France retain larger quotas than China; while Belgium and the Netherlands retain larger quotas than Mexico and Brazil, whose economies are significantly larger. In fact, if the results were not tampered with, the new quota formula would raise the quota shares and voting power of industrial countries.

Even with the rise in basic votes, the increase in the voting power of developing and emerging market countries at the IMF remains very small, at 2.7 per cent. Given the US veto and the qualified majority requirements for policy decisions, the control of the G7 over the Bretton Woods institutions remains essentially as it was. Therefore, on issues where a disagreement may lead to a stand off with the G7, as with US and European reluctance to give up power in the Bretton Woods institutions, emerging market countries have been unwilling to use their political capital for something that may be of systemic significance, but of little national importance at a time when the role of those institutions is fading.

In today's globalised economy, the economic policies of any significant country spill over and affect the performance of many other countries. Thus the G20's founders were right to seek a greater dialogue and co-operation in the economic sphere with major emerging economies. But they were wrong not to concern themselves with developments in the major industrial economies.

Mexico's secretary of finance, Agustín Carstens, chair of the World Bank / IMF Development Committee 2009 annual meetings, talks to Robert Zoellick

The current US financial crisis, with its various components and subprime mortgages, the ensuing credit crisis and the industrial slowdown, seriously affects the rest of the world. It would thus be within the purview of the G20 to look into it and see what can be done to diminish the depth of the crisis, to assist recovery and to prevent its recurrence. This would require an open attitude on the part of the US, however, which is not inclined to open its policies to analysis and discussion by others. While it encouraged other countries to submit to an FSAP, in the years since the G20 was established, it has not submitted its banks to this analysis. It did, however, agree to have the IMF assess the US financial system in 2008, about a year after the subprime crisis arose.

"The economic policies of any significant country spill over and affect the performance of many other countries"

For several years, China and the US have run unsustainable imbalances, with the US absorbing a large proportion of world saving to sustain consumption. This is a global misallocation of resources. Although persistent misalignments pose risks for the stability of the international economy, the exchange-rate policy of these countries has never come under scrutiny by the G20. Neither has US financial supervision or its fiscal deficits.

The US financial crisis was no accident. The most sophisticated financial system in the world was not well supervised, as a number of institutions and practices remained outside prudential supervision. A lax monetary policy financed large fiscal and external deficits, fuelled domestic and international inflation, and contributed to the problems facing the world today.

The difficulties in US commercial banks and investment banks give rise to geographical contagion and to contagion between instruments and markets. These have hit financial institutions and economic activity in many other countries – and have done so more than in the case of the emerging country crisis of the 1990s. But the G20 has not concentrated on them.

The G20 has been an institution focused on emerging markets, largely controlled by the G7 and particularly the United States. Is this a case where double standards limit effectiveness? ◆

South America and the G20: fostering growth

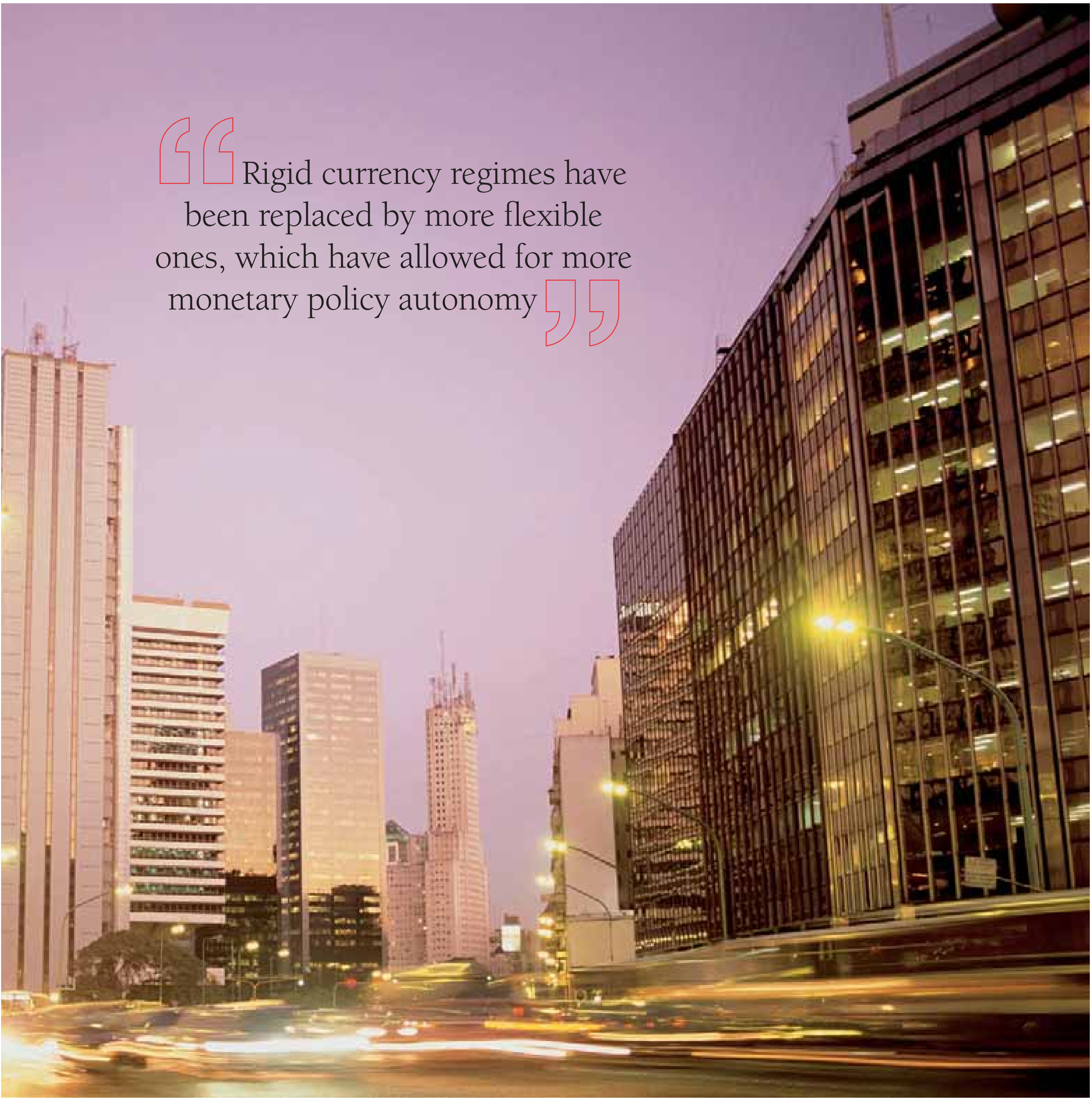
South American countries' financial vulnerabilities are related to current global uncertainties. But their experiences will prove valuable to G20 discussions

By José Maria Fanelli, Centro de Estudios de Estado y Sociedad, Buenos Aires

When the G20 was created, Argentina's situation was very different from what it is today, with regard to both economic fundamentals and the policy regime. In 1999, the country was running current account and fiscal deficits, had no independent monetary policy and a highly dollarised financial system. In contrast, in the last five years, Argentina has grown around 8 per cent per year while running twin (fiscal and current account) surpluses of more than 3 per cent of gross domestic product (GDP). Additionally, financial dollarisation has fallen substantially, reducing the risks associated with currency mismatches. These positive developments, however, have a darker side. Although the currency regime is more flexible and government solvency is not under scrutiny, weak policies have resulted in higher inflation and very difficult access to capital markets. This could eventually give rise to liquidity squeezes should the primary surplus fall.

Practically all natural resource-rich, financially underdeveloped South American countries have been going through processes that, in different degrees, resemble the Argentine case. These processes combine a strengthening of economic fundamentals with persistent vulnerabilities.

One reason for the strengthening fundamentals is the loosening of the external constraint that occurred hand-in-hand with the increase in commodities and energy prices. A second reason is the progress of fiscal and monetary policies. Rigid currency regimes (such as Argentina's currency board) have been replaced by more flexible ones, which have allowed for more monetary policy autonomy. In some cases, such as Chile and Brazil, this greater autonomy has been instrumental in lowering inflation (although this was not always the case in, for example, Argentina). Fiscal policies, in turn, have become stricter. Many countries run significant primary surpluses. Furthermore, some countries have implemented fiscal responsibility laws (for example, Brazil) or sophisticated counter-cyclical regimes (such as Chile). This has greatly helped to prevent fiscal dominance and improve public debt management.



> "Rigid currency regimes have been replaced by more flexible ones, which have allowed for more monetary policy autonomy"

The financial district of Buenos Aires. Argentina has grown 8 per cent per year over the past five years

The new policy framework has, however, created new policy dilemmas. The loosening of external constraints resulted in downward pressures on the nominal exchange rate, which tended to erode competitiveness. The most common response to preserving the economy's competitiveness was sterilised intervention, which resulted in the accumulation of international reserves. In a number of cases, sounder fiscal policies reduced the fiscal space for growth. Public investment is, as a rule, very low and the tax burden has increased substantially (as in Brazil and Argentina), hampering private investment.

The enduring vulnerabilities are closely associated with the financial uncertainties in the global economy. But they are also related to the failure in the 1990s of the reforms to modify two key structural features: economic dualism and the lack of financial deepening (Chile is an exception in this regard). The prevalence of dualism means that sectors exist with markedly different productivity – and hence income – levels. This is a source of vulnerability because income disparity feeds distributional conflicts and exacerbates the pressures on the fiscal budget. The recent increases in the prices of food and energy imply major challenges. The lack of financial development is a source of vulnerability to the extent that it makes risk management difficult at both the micro and macro levels and reduces the supply of policy instruments at the disposal of the authorities.

Argentina is the world's third largest exporter of soy beans

Under these circumstances, policy priorities have changed. In Argentina, in 1999, the key issues were to avoid the occurrence of a twin-crisis episode and preserve the advances in market reform. Today, the challenges are to improve the quality of policies to sustain the growth momentum, manage distributive conflicts, preserve competitiveness and reduce liquidity risks. Many of the policies that are relevant to such challenges are contemplated in the *G20 Work Program for 2008*: competition in the financial sector, fiscal space for growth and social inclusion and risks originating in the global economy. It is only natural to expect that the current priorities and the lessons learned from the past decade of financial and monetary reforms in Argentina and other South American countries will play a role in the discussions. They could usefully take account of the following points.

Stronger competition in the financial sector calls for further reforms. Reforms are exercises in institution-building and the experience of the 1990s suggests that institution-building is a process, not an event. Reform failures are extremely costly: ill-designed financial reforms produce both macro-economic disequilibria and reform fatigue, which lead to reversals. Likewise, reforms are intensive in co-ordination and prone to co-ordination failures. The well-known 'sequencing' problem associated with the process of liberalisation is just one manifestation of the co-ordination problem.

Co-ordination efforts should embrace domestic, regional and multilateral levels. Low spreads and high commodity prices will not last forever and there is no market for contingent securities that pay off when negative financial shocks occur. Countries still need insurance. In the 1990s, countries relied on the international financial institutions for crisis lending; today, self-insurance plays a larger role and some advances have been made in regional mechanisms for risk sharing and reserve pooling. These mechanisms are not mutually exclusive and institution-building efforts should be co-ordinated. To this end, it is essential to identify the comparative advantage of each mechanism and the eventual complementarities. It is also important to characterise international shocks (say, correlations and persistence).

The ultimate goal of financial reform is to foster growth. When policy instruments are scarce, it is difficult to preserve fiscal space for growth. To avoid this, there must be a concerted effort to co-ordinate the goals and timing of policies implemented on different fronts. A financial reform designed on the basis of high-quality standards and codes may fail if the overall institutional framework is shaky or the economy is too sensitive to shocks. For example, deregulation is more likely to be successful if the country is self-insured. But the sterilised interventions typically associated with reserve accumulation may crowd out private credit, offsetting the positive effects expected from the reform. It can perpetuate the segmentation of financial markets, reinforcing economic dualism. If the country does not follow a self-insurance strategy because it has access to a liquidity facility provided by a multilateral or regional institution, this new instrument could contribute to strengthening the effects of the financial reform. This is why the creation of policy instruments should be given high priority. Of course, if the private sector offered an equity that paid off under financial stress, it would be even better. This is why it is market creation rather than market liberalisation that matters in emerging economies. But both instrument and market creation are intense institution-building activities and are thus a process, not an event. ◆

> It is market creation rather than market liberalisation that matters in emerging economies

Argentina

Carlos Fernández

Carlos Fernández became minister of the economy and production for Argentina in April 2008. He replaced Martin Lousteau, who resigned after fewer than five months in office. Prior to becoming economic minister, Fernández was head of the Administración Federal de Ingresos Públicos (AFIP), the national tax agency. He also served as the minister of the economy for the province of Buenos Aires. For the national government, Fernández held the position of economy subsecretary for federal-provincial relations and was national director of tax co-ordination with the provinces. He also worked as subsecretary of fiscal policy in Buenos Aires. He holds a degree in economics from the National University of La Plata and specialised in public finance and tax administration. This will be his first G20 meeting.

Martín Redrado

Martín Redrado was appointed governor of the Central Bank of Argentina in September 2004. Between 2002 and 2004 he served as secretary for trade and international economic relations. Previously, Redrado was chief economist of Fundación Capital, an institution he founded, and is devoted to economic research and public policy. In 1991 he was appointed president of Argentina's National Securities Commission. He has also chaired the Emerging Market Committee of the International Organization of Securities Commissions (IOSCO). In 1996, he was appointed secretary of state of the Education Ministry's technological education area. Redrado began his professional career as a member of Jeffrey Sachs' team, working on the programme to stabilise the Bolivian economy, and later held a number of positions for various companies in the United States. He received his Master's in public administration from Harvard University. This will be his fifth G20 meeting.

Polity

Political party:	Justicialist Party
Most recent election:	28 Oct 2007
Next election:	2011
Government:	Lower House – Majority Upper House – Majority
Political system:	Presidential
Legislature:	Bicameral, elected Chamber of Deputies, elected Senate
Capital:	Buenos Aires
Official language:	Spanish

Economy

Currency:	Peso (P)
GDP (millions):	$262,331 (2007) 8.7% (growth 2006-2007)
Currency value:	3.08 (Sep 2008), 3.15 (Sep 2007)
Current account balance:	$7.9 billion (latest year, Q1 2008) 2.9% of GDP (2008)
Trade balance:	11.3 (latest year, Jul 2008)
Trade to GDP ratio:	44.3 (2004–2006)
Unemployment rate:	14.10 (2007 est.)
Inflation:	Government 195.196 (average consumer price index in units)
Government interest rates:	13.75% (latest 3 months, Sep 2008)
Budget balance:	1.7% of GDP (2008)
Public debt:	59% of GDP (Jun 2007 est.)
Exchange reserves:	46,120,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 9.5 Industry 34.0 Services 56.5 (2007 est.)
Energy production:	85.4 (m TOE)
Oil production:	801,700 bbl/day (2005 est.)
Natural gas production:	43.76 billion cu m (2005 est.)
Electricity production:	101.1 billion kWh (2005)
Energy consumption:	63.7 (m TOE)
Oil consumption:	480,000 bbl/day (2005 est.)
Natural gas consumption:	38.79 billion cu m (2005 est.)
Electricity consumption:	88.98 billion kWh (2005)
Foreign debt:	$114.3 billion 73.0% of GDP

Geography and ecology

Size of territory:	2,766,890 sq km (8th in the world)
Coastlines:	4,989 km (South Atlantic Ocean)
Fresh water:	30,200 sq km
Forests:	12.1% (of land area, 2005)
CO_2 emissions:	127.5 m tonnes (2003)

Demography (2008 est.)

Population:	40,677,348 (30th in the world)
Population growth:	0.917% (average annual % change)

Australia

Wayne Swan

Wayne Swan was appointed treasurer of Australia in December 2007. In 1993, he was elected to the House of Representatives for Lilley in Queensland. Although he was defeated in the 1996 general election, he was subsequently re-elected four consecutive times. He has held a number of positions including shadow minister for family and community services as well as manager of opposition business in the House of Representatives. Prior to his current appointment, he was the shadow treasurer for three years. He was a lecturer at the Queensland Institute of Technology between 1976 and 1988 and a policy analyst at the Office of Youth Affairs in 1978. Born in 1954 in Nambour, Queensland, Swan won a Commonwealth scholarship to study public administration at the University of Queensland. This will be his first G20 meeting as treasurer.

Glenn Stevens

Glenn Stevens was appointed governor of the Reserve Bank of Australia in September 2006 for a seven-year term. From 1980 to 2001, he held various positions at the bank, including head of the Economic Analysis Department, head of the International Department and assistant governor (economics), and was a visiting scholar at the Federal Reserve Bank of San Francisco in 1990. He was appointed deputy governor in December 2001. Born in Sydney in 1958, Stevens completed his Bachelor's in economics with first class honours at the University of Sydney in 1979 and attained a Master's at the University of Western Ontario. This will be his third G20 meeting as governor of the Reserve Bank of Australia.

Polity

Political party:	Labour Party
Most recent election:	24 Nov 2007
Next election:	On or by 16 Apr 2011
Government:	Lower House – Majority Upper House – Minority
Political system:	Parliamentary
Legislature:	Bicameral, elected House of Representatives, elected Senate
Capital:	Canberra
Official language:	English

Economy

Currency:	Australian dollar (A$)
GDP (millions):	$821,716 (2007) 3.9% (growth 2006–2007)
Currency value:	1.24 (Sep 2008), 1.20 (Sep 2007)
Current account balance:	-61.6 (latest year, $ billion, Q2 2008) -5.1% of GDP (2008)
Trade balance:	-18.6 (latest year, Jul 2008)
Trade to GDP ratio:	62.7 (2004–2006)
Unemployment rate:	4.40 (2007 est.)
Inflation:	123.014 (average consumer price index in units)
Government interest rates:	7.25% (latest 3 months, Sep 2008)
Interest rates:	5.64% (lasted 10-year government bonds)
Budget balance:	1.4% of GDP (2008)
Public debt:	15.40% of GDP (2007 est.)
Exchange reserves:	26,910,000,000 (Dec 2007 est.)
Structure (% of GDP)	Agriculture 3.0 Industry 26.4 Services 70.6 (2007 est.)
Energy production:	261.8 (m TOE)
Oil production:	572,400 bbl/day (2005 est.)
Natural gas production:	38.62 billion cu m (2005)
Electricity production:	236.7 billion kWh (2005)
Energy consumption:	115.8 (m TOE)
Oil consumption:	903,200 bbl/day (2005 est.)
Natural gas consumption:	25.72 billion cu m (2005 est.)
Electricity consumption:	219.8 billion kWh (2005)
Official development aid:	$1.68 billion 0.25% (share of GDP)

Geography and ecology

Size of territory:	7,686,850 sq km (6th in the world)
Coastlines:	25,760 km (Indian Ocean, Tasman Sea, Coral Sea, Arafura Sea, Timor Sea)
Fresh water:	68,920 sq km
Forests:	21.3% (of land area, 2005)
CO_2 emissions:	337.0 m tonnes (2005) (increase from 255.0 m in 2004)

Demography (2008 est.)

Population:	20,600,856 (53rd in the world)
Population growth:	0.801% (average annual % change)

Brazil

Guido Mantega

Guido Mantega became Brazil's finance minister in March 2006, replacing Antonio Palocci. He was introduced into political life alongside President Luiz Inácio Lula da Silva in 2003. He served as minister for planning until 2004, when Lula appointed him to the position of president to the Brazilian Development Bank (BNDES). He helped to co-ordinate the economic programme for the Labour Party in the presidential elections of 1984, 1989 and 1998. He has been economic adviser to President Lula since 1993. Mantega was director of the budget and head of the Office of the Municipal Department of Planning of São Paulo from 1982 to 1992. He was also director of Petroleo Brasileiro and taught economics in the School of Business Administration of Fundacão Getúlio Vargas. Born in 1949 in Genoa, Italy, Mantega earned a degree in economics from the College of Economics and Business Administration at the University of São Paulo. He obtained his PhD in development sociology at the University of São Paulo, with a specialisation from Sussex University's Institute of Development Countries, in 1977. This will be his third G20 meeting and his first as host.

Henrique de Campos Meirelles

Henrique de Campos Meirelles has held the position of central bank governor of Brazil since 2003. Previously, he served as a member of the board of directors of the Council of the Americas in New York and a member of the advisory board of the Brazilian Mercantile and Futures Exchange in São Paulo. He was chair of the American Chamber of Commerce in São Paulo. Meirelles served as president of various companies and banks including BankBoston in Brazil and the Brazilian Association of International Banks. He has been a member of various academic boards and councils including the dean's Advisory Council of the Sloan School of Management at the Massachusetts Institute of Technology and the advisory board of the Center for Latin American Issues at the George Washington University in Washington DC. Born in 1945 in Anápolis in the state of Goiás, Mereilles received a Bachelor of science in engineering from São Paolo University in 1972 and a Master's degree of business administration from the Federal University of Rio de Janeiro in 1974. He also attended the advanced management programme at the Harvard Business School in 1984. This will be his fifth G20 meeting as governor.

Photo: Mantega – ACS/Brazilian Ministry of Finance

Polity

Political party:	Workers' Party (PT)
Most recent election:	29 Oct 2006
Next election:	3 Oct 2010
Government:	Lower House – Minority Upper House – Minority
Political system:	Presidential
Legislature:	Bicameral, elected Chamber of Deputies, elected Senate
Capital:	Brasilia
Official language:	Portuguese

Economy

Currency:	Real (R)
GDP (millions):	$1,314,170 (2007) 5.4% (growth 2006–2007)
Currency value:	1.80 (Sep 2008), 1.92 (Sep 2007)
Current account balance:	-19.5 (latest year, $ billion, Jul 2008)
Current account balance:	-1.6% of GDP (2008)
Trade balance:	29.5 (latest year, Aug 2008)
Trade to GDP ratio:	26.4 (2004–2006)
Unemployment rate:	9.30 (2007 est.)
Inflation:	163.589 (average consumer price index in units)
Government interest rates:	12.92% (latest 3 months, Sep 2008) 6.16% (latest 10-year government bonds)
Budget balance:	-1.6% of GDP (2008)
Public debt:	45.10% of GDP (2007 est.)
Exchange reserves:	180,300,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 5.5 Industry 28.7 Services 65.8 (2007 est.)
Energy production:	176.3 (m TOE)
Oil production:	1.71 million bbl/day (2006 est.)
Natural gas production:	12.24 billion cu m (2005 est.)
Electricity production:	396.4 billion kWh (2005)
Energy consumption:	204.8 (m TOE)
Oil consumption:	2.1 million bbl/day (2006 est.)
Natural gas consumption:	17.85 billion cu m (2005 est.)
Electricity consumption:	368.5 billion kWh (2005)
Foreign debt:	$188 billion 34.0% (of GDP)

Geography and ecology

Size of territory:	8,511,965 sq km (5th in the world)
Coastlines:	7,491 km (Atlantic Ocean)
Fresh water:	55,455 sq km
Forests:	57.2% (of land area, 2005)
CO_2 emissions:	5,298.3 m tonnes (2003)

Demography (2008 est.)

Population:	191,908,598 (12th in the world)
Population growth:	0.98% (average annual % change)

Canada

James Flaherty

James (Jim) Flaherty was appointed minister of finance in February 2006. He was elected to the House of Commons in January 2006 as the representative for Whitby-Oshawa in Ontario. Prior to serving as a member of Parliament, he served in the legislature of the province of Ontario from 1995 to 2005, during which time he held posts including deputy minister of finance, attorney general, minister responsible for Native affairs, minister of labour, solicitor general, minister of correctional services and minister of enterprise, opportunity and innovation. Before entering into politics, he practised law for more than 20 years. Born in 1949 in Lachine, Quebec, Flaherty graduated with a Bachelor of Arts from Princeton University and, after earning a law degree from Osgoode Hall Law School, was called to the bar in 1975. This will be his third G20 meeting.

Mark Carney

Mark Carney was appointed governor of the Bank of Canada in February 2008 for a seven-year term. He served as deputy governor of the Bank of Canada from 2003 until his appointment as senior associate deputy minister of finance in 2004. During his time in the Department of Finance, he served as finance deputy at the G7, the G20 and the Financial Stability Forum. Prior to entering public service, he worked for Goldman Sachs in many positions, including co-head of sovereign risk, executive director for emerging debt capital markets and managing director for investment banking. Born in 1965 in Fort Smith, Northwest Territories, Carney graduated with a Bachelor's in economics from Harvard University and received his Master's and doctorate in economics from Oxford University. This will be his first G20 meeting as Bank of Canada governor.

Polity

Political party:	Conservative Party of Canada
Most recent election:	23 Jan 2006
Next election:	14 Oct 2008
Government:	Lower House – Minority Upper House – Minority
Political system:	Parliamentary
Legislature:	Bicameral, elected House of Commons, appointed Senate
Capital:	Ottawa
Official languages:	English, French

Economy

Currency:	Canadian dollar (C$)
GDP (millions):	$1,326,376 (2007) 2.7% (growth 2006–2007)
Currency value:	1.07 (Sep 2008), 1.04 (Sep 2007)
Current account balance:	13.6 (latest year, $ billion, Q2 2008) 0.9% of GDP (2008)
Trade balance:	47.1 (latest year, Jun 2008)
Trade to GDP ratio:	72.3 (2004–2006)
Unemployment rate:	6.00 (2007 est.)
Inflation:	116.853 (average consumer price index in units)
Government interest rates:	2.37% (latest 3 months, Sep 2008) 3.51% (latest 10-year government bonds)
Budget balance:	0.2% of GDP (2008)
Public debt:	68.50% of GDP (2007 est.)
Exchange reserves:	39,310,000,000 (2007 est.)
Structure (% of GDP):	Agriculture 2.1 Industry 28.8 Services 69.1 (2007 est.)
Energy production:	397.5 (m TOE)
Oil production:	3.092 million bbl/day (2005)
Natural gas production:	178.1 billion cu m (2005 est.)
Electricity production:	609.6 billion kWh (2005)
Energy consumption:	269.0 (m TOE)
Oil consumption:	2.29 million bbl/day (2005)
Natural gas consumption:	92.76 billion cu m (2005 est.)
Electricity consumption:	540.2 billion kWh (2005)
Official development aid:	$3.76 billion 0.34% (share of GDP)

Geography and ecology

Size of territory:	9,984,670 sq km (2nd in the world)
Coastlines:	202,080 km (North Atlantic Ocean, North Pacific Ocean, Arctic Ocean)
Fresh water:	891,163 sq km
Forests:	33.6% (of land area, 2005)
CO_2 emissions:	549.0 m tonnes (2005) (decrease from 50.0 m in 2004)

Demography (2008 est.)

Population:	33,212,686 (36th in the world)
Population growth:	0.83% (average annual % change)

China

Xie Xuren

Xie Xuren was appointed minister of finance in August 2007. Earlier in his career, he was the director of the Investment Office, director of the Comprehensive Planning Office and deputy commissioner of the Planning and Economic Commission of Zhejiang province. Between 1990 and 1995, his many positions included deputy director general of the Budget Department, director general of the Comprehensive Planning Department, director general of the Policy and Reform Department and assistant minister of finance. He became the vice-minister of finance in 1995. In 1998 he served as the president of the Agriculture Development Bank of China. In 2000 he became the deputy commissioner of the State Economic and Trade Commission. From March 2003 to 2007, he was the minister of state administration of taxation. Born in 1947 in Ningbo, Zhejiang, Xie holds a degree in industrial economics from Zhejiang University. This will be his second G20 meeting as minister of finance.

Zhou Xiaochuan

Zhou Xiaochuan was appointed governor of the People's Bank of China in December 2002. He was appointed vice-president of the Bank of China from 1991 to 1995, after which he became administrator for the State Administration of Foreign Exchange. He then moved into the position of deputy governor of the Bank of China and administrator of the State Administration of Foreign Exchange from 1996 until 1998. Prior to his position as governor of the China Construction Bank, he chaired the China Securities Regulatory Commission. He also chairs the Bank of China's monetary policy committee. Born in 1948, Zhou graduated from the Beijing Chemical Engineering Institute in 1975 and received his PhD from Tsinghua University in 1985. This will be his sixth G20 meeting as governor of the People's Bank of China.

Photos: Xie – World Bank; Zhou – Asian Financial Forum '07

Polity

Political party:	Communist Party of China
Most recent election:	15 Mar 2008
Next election:	2013
Government:	Single House – Majority
Political system:	One-party rule
Legislature:	Unicameral, elected National Congress
Capital:	Beijing
Official language:	Mandarin

Economy

Currency:	Yuan (¥)
GDP (millions):	$3,280,053 (2007) 11.4% (growth 2006–2007)
Currency value:	6.85 (Sep 2008), 7.53 (Sep 2007)
Current account balance:	371.8 (latest year, $ billion, 2007) 8.3% of GDP (2008)
Trade balance:	252.5 (latest year, Aug 2008)
Trade to GDP ratio:	69.0 (2004–2006)
Unemployment rate:	4.00 (2007 est.)
Inflation:	113.679 (average consumer price index in units)
Government interest rates:	4.32% (latest 3 months, Sep 2008) 4.32% (latest 10-year government bonds)
Budget balance:	0.6% of GDP (2008)
Public debt:	18.40% of GDP (2007 est.)
Exchange reserves:	1,534,000,000,000
Structure (% of GDP):	Agriculture 11.3 Industry 48.6 Services 40.1 (2007 est.)
Energy production:	1,536.8 (m TOE)
Oil production:	3.73 million bbl/day (2007 est.)
Natural gas production:	58.6 billion cu m (2006 est.)
Electricity production:	3.256 trillion kWh (2007)
Energy consumption:	1,609.3 (m TOE)
Oil consumption:	6.93 million bbl/day (2007 est.)
Natural gas consumption:	55.6 billion cu m (2006 est.)
Electricity consumption:	2.859 trillion kWh (2006)
Foreign debt:	$281.6 billion 14.0% (share of GDP)

Geography and ecology

Size of territory:	9,596,960 sq km (3rd in the world)
Coastlines:	14,500 km (East China Sea, Korea Bay, Yellow Sea, South China Sea)
Fresh water:	270,550 sq km
Forests:	21.2% (of land area, 2005)
CO_2 emissions:	4,143.5 m tonnes (2003)

Demography (2008 est.)

Population:	1,330,044,605 (1st in the world)
Population growth:	0.629% (average annual % change)

France

Christine Lagarde

Christine Lagarde was appointed minister of finance in June 2007. She was previously minister of trade in the government of Dominique de Villepin and minister of agriculture and fishing in the government of François Fillon. Prior to entering government, she joined the law firm of Baker & McKenzie and was later appointed managing partner of its Paris office. In 1999 she was elected chair and was re-elected to the position in 2002. Born in 1956 in Paris, Lagarde graduated from law school at the University of Paris X-Nanterre. She also holds a post-graduate diploma in labour law and a Master's in English. This will be her second G20 meeting as minister of finance.

Christian Noyer

Christian Noyer was appointed governor of the Bank of France in November 2003. Following his military service as a naval officer, he was appointed to the Treasury in the Ministry of the Economy and Finance in 1976. At the Treasury he held a range of positions dealing with both domestic and international affairs. In 1993 he was appointed head of the Treasury and held the position of chief of staff for two other ministers of finance in 1993 and from 1995 to 1997. He was appointed vice-president of the European Central Bank from 1998 to 2002. Born in 1950 near Paris, Noyer studied law at the University of Rennes and the University of Paris and graduated from the Institut d'Etudes Politiques de Paris, and later studied at the École Nationale d'Administration. This will be his fifth G20 meeting as governor.

Photos: Lagarde – NYSE Europe; Noyer – Banque de France/Philippe Jolivel

Polity

Political party:	Union for a Popular Movement (UMP)
Most recent election:	22 Apr and 6 May 2007
Next election:	2012
Government:	Lower House – Majority Upper House – Majority
Political system:	Semi-presidential
Legislature:	Bicameral, elected National Assembly, elected Senate
Capital:	Paris
Official language:	French

Economy

Currency:	Euro (€)
GDP (millions):	$2,562,288 (2007) 1.9% (growth 2006–2007)
Currency value:	0.71 (Sep 2008), 0.72 (Sep 2007)
Current account balance:	-46.2 (latest year, $ billion, Jun 2008) -1.7% of GDP (2008)
Trade balance:	-71.9 (latest year, Jul 2008)
Trade to GDP ratio:	53.2 (2004–2006)
Unemployment rate:	8.30 (2007 est.)
Inflation:	114.471 (average consumer price index in units)
Government interest rates:	4.96% (latest 3 months, Sep 2008) 4.28% (latest 10-year government bonds)
Budget balance:	-2.9% of GDP (2008)
Public debt:	64.00% of GDP (2007 est.)
Exchange reserves:	98,240,000,000 (2006 est.)
Structure (% of GDP):	Agriculture 2.2 Industry 21.0 Services 76.7 (2007 est.)
Energy production:	137.4 (m TOE)
Oil production:	73,180 bbl/day (2005 est.)
Natural gas production:	1.4 billion cu m (2004 est.)
Electricity production:	543.8 billion kWh (2005)
Energy consumption:	275.2 (m TOE)
Oil consumption:	1.999 million bbl/day (2005 est.)
Natural gas consumption:	47.26 billion cu m (2005 est.)
Electricity consumption:	451.5 billion kWh (2005)
Official development aid:	$10.03 billion 0.47% (share of GDP)

Geography and ecology

Size of territory:	547,030 sq km (48th in the world)
Coastlines:	3,427 km (Bay of Biscay, English Channel, Mediterranean Sea)
Fresh water:	1,400 sq km
Forests:	28.3% (land area, 2005)
CO_2 emissions:	388.0 m tonnes (2005) (increase from 587.0 m in 2004)

Demography (2008 est.)

Population:	60,876,136 (metropolitan) (20th in the world)
Population growth:	0.574% (average annual % change)

Germany

Peer Steinbrück

Peer Steinbrück became minister of finance for Germany in November 2005. He served as governor of Germany's most populous state, North Rhine-Westphalia, from 2002 to 2005. He served as finance minister of that state from 2000 to 2002 and minister of the economy from 1998 to 2000. From 1993 to 1998 he was minister of the economy of Schleswig-Holstein. Born in 1947 in Hamburg, Steinbrück studied economics and social sciences at the University of Kiel. Steinbrück has participated in two G20 meetings, but he will be represented by Jörg Asmussen at the 2008 meeting.

Jörg Asmussen

Jörg Asmussen became state secretary at the Ministry of Finance in July 2008. His many previous positions include head of the minister's office and private secretary to the minister of finance, private secretary to the state secretary and head of the directorate-general for finance market policy. Previous to his time in government he worked as a project manager in the field of European economic, social and labour market policy. He is chair of the administrative council of Germany's Federal Finance Supervisory Authority, an alternative governor at the World Bank and at the European Bank for Reconstruction and Development and a member of the Financial Stability Forum. Born in Flensburg in 1966, Asmussen studied economics at the University of Gießen and later received his Master's degree in business administration from Bocconi University. This will be his first G20 meeting representing the German minister of finance.

Axel Weber

Axel Weber was appointed president of the Deutsche Bundesbank in April 2004. In 1994, he began working as a professor at the University of Bonn, moving to Johann Wolfgang Goethe University in Frankfurt in 1998, where he remains a member of the advisory board. During his time at Frankfurt, he became the director of the Center for Financial Studies. In 2001 he taught international economics at the University of Cologne. He served as a member of the German Council of Economic Experts from 2002 to 2004 while he was also a member of the expert advisory panel to the Deutsche Bundesbank. He also currently sits on the board of directors for the Bank for International Settlements. Born in 1957 in Kusel, Weber graduated with degrees in economics and public administration at the University of Konstanz in 1982. This will be his fifth G20 meeting as president of the Deutsche Bundesbank.

Photos: Steinbrück – BMF / Hendel; Weber – Deutsche Bundesbank

Polity

Political party:	Christian Democratic Union (CDU-CSU)
Most recent election:	18 Sep 2005
Next election:	27 Sep 2009
Government:	Lower House – Majority (coalition) Upper House – Majority (coalition)
Political system:	Parliamentary
Legislature:	Bicameral, elected Federal Assembly, elected Federal Council
Capital:	Berlin
Official language:	German

Economy

Currency:	Euro (€)
GDP (millions):	$3,297,233 (2007) 2.5% (growth 2006–2007)
Currency value:	0.71 (Sep 2008), 0.72 (Sep 2007)
Current account balance:	271.9 (latest year, $ billion, Jul 2008) 6.7% of GDP (2008)
Trade balance:	284.9 (latest year, Jul 2008)
Trade to GDP ratio:	77.0 (2004–2006)
Unemployment rate:	8.40 (2007 est.)
Inflation:	112.695 (average consumer price index in units)
Government interest rates:	4.96% (latest 3 months, Sep 2008) 4.04% (latest 10-year government bonds)
Budget balance:	1.1% of GDP (2008)
Public debt:	63.20% of GDP (2007 est.)
Exchange reserves:	136,200,000,000 (Dec 2007)
Structure (% of GDP):	Agriculture 0.8 Industry 29.0 Services 70.1 (2007 est.)
Energy production:	136.0 (m TOE)
Oil production:	141,700 bbl/day (2005 est.)
Natural gas production:	19.9 billion cu m (2005 est.)
Electricity production:	579.4 billion kWh (2005)
Energy consumption:	348.0 (m TOE)
Oil consumption:	2.618 million bbl/day (2005)
Natural gas consumption:	96.84 billion cu m (2005 est.)
Electricity consumption:	545.5 billion kWh (2005)
Official development aid:	$10.08 billion 0.36% (share of GDP)

Geography and ecology

Size of territory:	357,021 sq km
Coastlines:	2,389 km (Baltic Sea, North Sea)
Fresh water:	7,798 sq km
Forests:	31.7% (land area, 2005)
CO_2 emissions:	813.0 m tonnes (2005) (decrease from 850.0 m in 2004)

Demography (2008 est.)

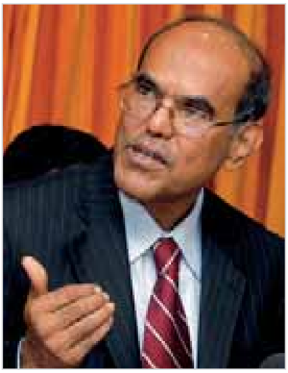
Population:	82,369,548 (14th in the world)
Population growth:	-0.044% (average annual % change)

India

Shri Palaniappan Chidambaram

Shri Palaniappan Chidambaram was appointed minister of finance in 2004. He also held the position from 1996 to 1998. He was first elected in 1984 to represent Sivaganaga in Tamil Nadu in the Lower House of the Parliament. He has represented the same constituency continuously except between 1999 and 2004. He was inducted into the Union Council of Ministers in 1985 and served multiple positions including minister of state in the Ministry of Personnel, Public Grievances and Pensions, minister of state for internal security in the Ministry of Home Affairs and minister of state in the Ministry of Commerce. Before entering government he worked as a lawyer, focusing primarily on constitutional and corporate law. Born in 1945 in Kanadukathan, Sivaganga, Chidambaram received his Bachelor of law from the Law College at Madras University and completed a Master's in business administration at the Harvard Business School. This will be his fifth G20 meeting as the finance minister of India.

Duvvuri Subbarao



Duvvuri Subbarao was appointed governor of the Reserve Bank of India in September 2008 for a three-year term. Prior to this he served as the finance secretary in the Ministry of Finance. He held the posts of secretary to the Prime Minister's Economic Advisory Council, lead economist at the World Bank, finance secretary in the government of Andhra Pradesh and joint secretary in the Department of Economic Affairs for the Indian Ministry of Finance. Born in 1949 in Andhra Pradesh, Subbarao earned a Master's in physics from the Indian Institue of Technology in Kanpur, a Master's in economics from Ohio State University in 1978 and a PhD in economics at Andhra University. He was a Humphrey Fellow at the Massachusetts Institute of Technology from 1982 to 1983. This will be his first G20 meeting as governor of the Reserve Bank of India.

Polity

Political party:	Indian National Congress
Most recent election:	2004
Next election:	By May 2009
Government:	Lower House – Majority (coalition) Upper House – Majority
Political system:	Parliamentary
Legislature:	Bicameral, elected Assembly, indirectly elected Council of States
Capital:	Delhi
Official language:	Hindi

Economy

Currency:	Indian rupee (Rs)
GDP (millions):	$1,170,968 (2007) 9.2% (growth 2006–2007)
Currency value:	45.7 (Sep 2008), 40.5 (Sep 2007)
Current account balance:	-17.5 (latest year, $ billion, Q1 2008) -3.2% of GDP (2008)
Trade balance:	-93.3 (latest year, Jul 2008)
Trade to GDP ratio:	42.2 (2004–2006)
Unemployment rate:	7.20 (2007 est.)
Inflation:	137.273 (average consumer price index in units)
Government interest rates:	9.00% (latest 3 months, Sep 2008) 9.08% (latest 10-year government bonds)
Budget balance:	-3.4% of GDP (2008)
Public debt:	58.00% of GDP (2007 est.)
Exchange reserves:	275,000,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 17.6 Industry 29.4 Services 52.9 (2007 est.)
Energy production:	466.9 (m TOE)
Oil production:	834,600 bbl/day (2005 est.)
Natural gas production:	28.68 billion cu m (2005 est.)
Electricity production:	661.6 billion kWh (2005)
Energy consumption:	572.9 (m TOE)
Oil consumption:	2.438 million bbl/day (2005 est.)
Natural gas consumption:	34.47 billion cu m (2005 est.)
Electricity consumption:	488.5 billion kWh (2005)
Foreign debt:	$123.1 billion 16.0% (share of GDP)

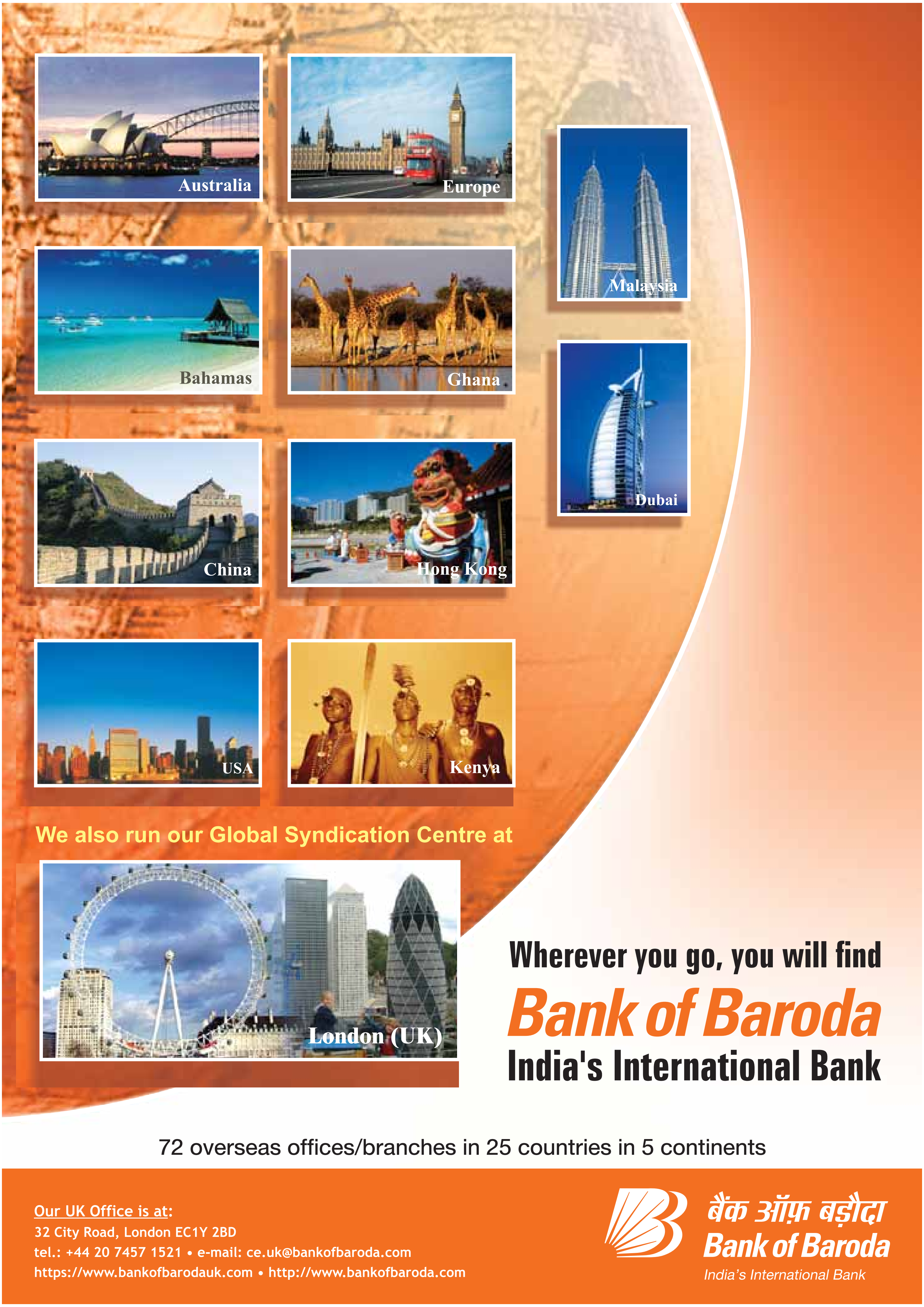
Geography and ecology

Size of territory:	3,287,590 sq km (7th in the world)
Coastlines:	7,000 km (Arabian Ocean, Indian Ocean, Bay of Bengal)
Fresh water:	314,400 sq km
Forests:	22.8% (of land area, 2005)
CO_2 emissions:	1,273.3 m tonnes (2003)

Demography (2008 est.)

Population:	1,147,995,898 (2nd in the world)
Population growth:	1.578% (average annual % change)

Photo: Palaniappan – London School of Economics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Indonesia

Sri Mulyani Indrawati

Sri Mulyani Indrawati was appointed minister of finance in 2005. She is the governor for Indonesia in the Asian Development Bank, the Islamic Development Bank and the World Bank. She was executive director of the International Monetary Fund for the South East Asia constituency from 2002 to 2004, representing 12 economies. She was minister of state for national development planning and chair of the National Development Planning Agency from 2004 to 2005. In 2001 she served as a consultant with the United States Agency for International Development on programmes to strengthen Indonesia's autonomy. She has also lectured at a number of institutions, including Georgia University. Born in 1962 in Tanjungkarang in Lampung, Mulyani received her doctorate in economics from the University of Illinois at Urbana-Champaign. This will be her third G20 meeting.

Boediono

Boediono became governor for Bank Indonesia in May 2008, replacing Burhanuddin Abdullah. His term will last until 2013. He previously served as deputy governor in charge of fiscal monetary policy, as minister of finance from 2001 to 2004 and as state minister for national planning and development. He has lectured at Gadjah Mada University. Born in 1943, Boediono received his Master of economics from Monash University in Australia in 1972 and his PhD in business economics from the Wharton School at the University of Pennsylvania in 1979. This will be his first G20 meeting as central bank governor.

Polity

Political party:	Democratic Party
Most recent election:	20 Sep 2004
Next election:	2009
Government:	Lower House – Minority Upper House – None
Political system:	Presidential
Legislature:	Bicameral, elected house of people's representatives, elected house of regional representatives
Capital:	Jakarta
Official language:	Indonesian

Economy

Currency:	Rupiah (Rp)
GDP (millions):	$432,817 (2007) 6.3% (growth 2006–2007)
Currency value:	9,390 (Sep 2008), 9,371 (Sep 2007)
Current account balance:	6.3 (latest year, $ billion, Q2 2008) 2.8% of GDP (2008)
Trade balance:	35.6 (latest year, Jul 2008)
Trade to GDP ratio:	60.3 (2001–2003)
Unemployment rate:	9.60 (2007 est.)
Inflation:	187.666 (average consumer price index in units)
Government interest rates:	10.24% (latest 3 months, Sep 2008) 6.98% (latest 10-year government bonds)
Budget balance:	-2.0% of GDP (2008)
Public debt:	34.10% of GDP (2007 est.)
Exchange reserves:	94,330,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 13.8 Industry 46.7 Services 39.4 (2007 est.)
Energy production:	258.0 (m TOE)
Oil production:	1.07 million bbl/day (2006 est.)
Natural gas production:	74.0 billion cu m (2006 est.)
Electricity production:	125.9 billion kWh (2006 est.)
Energy consumption:	174.0 (m TOE)
Oil consumption:	1.1 million bbl/day (2006 est.)
Natural gas consumption:	37.5 billion cu m (2006 est.)
Electricity consumption:	108.0 billion kWh (2006 est.)
Foreign debt:	$138.3 billion 55.0% (share of GDP)

Geography and ecology

Size of territory:	1,919,440 sq km (16th in the world)
Coastlines:	54,716 km (Indian Ocean, Andaman Sea, Java Sea, South China Sea, Celebes Sea, Banda Sea, Philippine Sea, North Pacific Ocean, Arafura Sea, Timor Sea)
Fresh water:	93,000 sq km
Forests:	48.8% (land area, 2005)
CO_2 emissions:	295.0 m tonnes (2003)

Demography (2008 est.)

Population:	237,512,355 (4th in the world)
Population growth:	1.175% (average annual % change)

Italy

Giulio Tremonti

Giulio Tremonti became minister of the economy and finance in May 2008. He has served as minister of the economy and finance in the governments of Silvio Berlusconi from 2001 to 2004, and from 2005 to 2006 and finance minister from 1994 to 1995. He entered politics in 1987 and was first elected in 1994. He has served as vice-president of Forza Italia and vice-president of the Chamber of Deputies. He was vice-chair of the Council of Ministers from 2005 to 2006. He has also been a professor since 1974 and currently teaches in the Faculty of Law at the University of Pavia. He has also been a visiting professor at the Institute of Comparative Law at Oxford. Born in 1947 in Sondrio, Tremonti received his education from the University of Pavia. This will be his fifth G20 meeting.

Mario Draghi

Mario Draghi was appointed governor of the Bank of Italy in 2006 for a six-year term. He sits on the governing and general councils of the European Central Bank and on the board of directors of the Bank for International Settlements. He represents Italy on the board of governors of the International Bank for Reconstruction and Development and the Asian Development Bank. In 2006 he was elected chair of the Financial Stability Forum. Prior to taking the helm at the Bank of Italy, he was vice-chair and managing director of Goldman Sachs International. He was director general of the Italian Treasury from 1991 to 2001, chair of the European Economic and Financial Committee, a member of the G7 deputies and chair of Organisation for Economic Co-operation and Development Working Party 3. He was appointed chair of the Italian Committee for Privatisation in 1993, and from 1984 to 1990 he was an executive director at the World Bank. Born in 1947 in Rome, Draghi graduated from the University of Rome and received his PhD in economics from the Massachusetts Institute of Technology. This will be his second G20 meeting as central bank governor.

Polity

Political party:	People of Freedom (coalition)
Most recent election:	13–14 April 2008
Next election:	Variable
Government:	Lower House – Majority (coalition) Upper House – Majority (coalition)
Political system:	Parliamentary
Legislature:	Bicameral, elected Chamber of Deputies, elected Senate
Capital:	Rome
Official language:	Italian

Economy

Currency:	Euro (€)
GDP (millions):	\$2,107,481 (2007) 1.5% (growth 2006–2007)
Currency value:	0.71 (Sep 2008), 0.72 (Sep 2007)
Current account balance:	-67.6 (latest year, \$ billion, Jun 2008) -2.6% of GDP (2008)
Trade balance:	-13.9 (latest 12 months, Jun 2008)
Trade to GDP ratio:	52.8 (2004–2006)
Unemployment rate:	6.00 (2007 est.)
Inflation:	117.687 (average consumer price index in units)
Government interest rates:	4.96% (latest 3 months, Sep 2008) 4.72% (latest 10-year government bonds)
Budget balance:	-2.6% of GDP (2008)
Public debt:	104.00% of GDP (2007 est.)
Exchange reserves:	94,330,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 1.9 Industry 28.9 Services 69.2 (2007 est.)
Energy production:	30.1 (m TOE)
Oil production:	164,800 bbl/day (2005 est.)
Natural gas production:	11.49 billion cu m (2005 est.)
Electricity production:	278.5 billion kWh (2005)
Energy consumption:	184.5 (m TOE)
Oil consumption:	1.732 million bbl/day (2005 est.)
Natural gas consumption:	82.64 billion cu m (2005 est.)
Electricity consumption:	307.1 billion kWh (2005)
Official development aid:	\$5.09 billion 0.29% (share of GDP)

Geography and ecology

Size of territory:	301,230 sq km
Coastlines:	7,600 km (Mediterranean Sea)
Fresh water:	7,210 sq km
Forests:	33.9% (of land area, 2005)
CO_2 emissions:	454.0 m tonnes (2005) (increase from 451.0 in 2004)

Demography (2008 est.)

Population:	58,145,321 (22nd in the world)
Population growth:	-0.019% (average annual % change)

Japan

Shoichi Nakagawa

Shoichi Nakagawa was appointed minister of finance in September 2008. He also currently serves as state minister for financial services. He was first elected to the House of Representatives in 1983. During his time in politics, he has held a number of distinguished portfolios in the Liberal Democratic Party and in Cabinet, including minister of economy, trade and industry from 2003 to 2005 and minister of agriculture, forestry and fisheries from 1998 to 1999 and again from 2005 to 2006. He also worked at the Industrial Bank of Japan. Born in 1953 in Tokyo, he received a law degree from the University of Tokyo in 1978. This will be his first G20 meeting as minister of finance.

Masaaki Shirakawa

Masaaki Shirakawa was appointed governor of the Bank of Japan in April 2008. He first joined the bank in 1972 and has held a variety of positions, including director for the head of financial system, director for the head of planning division in the policy planning office and general manager for the Americas. In 1997 he became the deputy director general for the international department as well as the adviser to the governor of credit and market management. In 2000 he took over the position of adviser to the governor at the policy planning office. He became the executive director of the Bank of Japan in 2002. He also taught at the Kyoto University School of Government in 2006 before serving as the deputy governor of the Bank of Japan in March 2008. Born in 1949, Shirakawa received his Bachelor's in economics from the University of Tokyo in 1972 and his Master's in economics from the University of Chicago in 1977. This will be his first G20 meeting as Bank of Japan governor.

Polity

Political party:	Liberal Democratic Party
Most recent election:	11 Sep 2005
Next Election:	Oct/Nov 2008
Government:	Lower House – Majority (coalition) Upper House – Minority (coalition)
Political system:	Parliamentary
Legislature:	Bicameral, elected House of Representatives, elected House of Councillors
Capital:	Tokyo
Official language:	Japanese

Economy

Currency:	Yen (¥)
GDP (millions):	$4,376,705 (2007) 2.1% (growth 2006–2007)
Currency value:	107 (Sep 2008), 114 (Sep 2007)
Current account balance:	206.4 (latest year, $ billion, Jul 2008) 3.7% of GDP (2008)
Trade balance:	88.2 (latest year, Jul 2008)
Trade to GDP ratio:	28.8 (2004–2006)
Unemployment rate:	3.90 (2007 est.)
Inflation:	98.141 (average consumer prices index in units)
Government interest rates:	0.75% (latest 3 months, Sep 2008) 1.51% (latest 10-year government bonds)
Budget balance:	-2.8% of GDP (2008)
Public debt:	195.50% of GDP (2007 est.)
Exchange reserves:	954,100,000,000
Structure (% of GDP):	Agriculture 1.4 Industry 26.5 Services 72.0 (2007 est.)
Energy production:	96.8 (m TOE)
Oil production:	125,000 bbl/day (2006)
Natural gas production:	4.85 billion cu m (2005 est.)
Electricity production:	1.025 trillion kWh (2005)
Energy consumption:	533.2 (m TOE)
Oil consumption:	5.353 million bbl/day (2005)
Natural gas consumption:	83.67 billion cu m (2005 est.)
Electricity consumption:	974.2 billion kWh (2005)
Official development aid:	$13.15 billion 0.28% (share of GDP)

Geography and ecology

Size of territory:	377,835 sq km
Coastlines:	29,751 km (North Pacific Ocean, Sea of Japan)
Fresh water:	3,091 sq km
Forests:	68.2% (of land area, 2005)
CO_2 emissions:	1,214.0 m tonnes (2005) (increase from 1,201.0 m in 2004)

Demography (2008 est.)

Population:	127,288,419 (10th in the world)
Population growth:	-0.139% (average annual % change)

Korea

Man-Soo Kang

Man-Soo Kang was appointed minister of strategy and finance in February 2008. He joined the senior government service in 1970, working for financial and fiscal affairs as director general of finance and assistant minister for trade and customs in the Ministry of Finance, while also serving as financial attaché to the Korean embassy in the United States. He later worked for the promotion of trade and industrial development as commissioner of customs service and vice-minister of trade, industry and energy. He also served as executive vice-chair of the Korea International Trade Association and chair of the Digital Economy Institute, as well as president of the Seoul Development Institute. Kang received his Master's in economics from New York University. This will be his first G20 meeting as minister of strategy and finance.

Lee Seong-Tae

Lee Seong-Tae was appointed governor of the Bank of Korea in 2006. Since joining the Bank of Korea in 1968, he has held many positions, including deputy director of the monetary policy department, director of public information, director of support services and properties, director of the budget and management department and director of research. He served as assistant governor from 2000 to 2003 and went on to become the deputy governor, while also serving on the monetary policy committee in 2004. Born in 1945, Lee completed his Master's in economics at the University of Illinois in 1988. This will be his third G20 meeting as governor.

Polity

Political party:	Grand National Party
Most recent election:	19 Dec 2007
Next election:	2012
Government:	Single House – Majority
Political system:	Presidential
Legislature:	Unicameral, elected National Assembly
Capital:	Seoul
Official language:	Korean

Economy

Currency:	Won (W)
GDP (millions):	\$969,795 (2007) 5.0% (growth 2006-2007)
Currency value:	1,110 (Sep 2008), 932 (Sep 2007)
Current account balance:	-1.8 (latest year, \$ billion, Jul 2008) -2.5% of GDP (2008)
Trade balance:	-6.7 (latest year, Aug 2008)
Trade to GDP ratio:	83.5 (2004-2006)
Unemployment rate:	3.30 (2007 est.)
Inflation:	123.014 (average consumer price index in units)
Government interest rates:	5.79% (latest 3 months, Sep 2008) 5.79% (latest 10-year government bonds)
Budget balance:	1.5% of GDP (2008)
Public debt:	33.40% of GDP (2007 est.)
Exchange reserves:	262,200,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 3.0 Industry 39.4 Services 57.6 (2007 est.)
Energy production:	38.0 (m TOE)
Oil production:	17,050 bbl/day (2005)
Natural gas production:	1.66 billion cu m (2006)
Electricity production:	403.2 billion kWh (2007)
Energy consumption:	213.0 (m TOE)
Oil consumption:	2.13 million bbl/day (2006)
Natural gas consumption:	34.2 billion cu m (2006)
Electricity consumption:	368.6 billion kWh (2007)
Foreign debt:	\$152.8 billion 19.0% (share of GDP)

Geography and ecology

Size of territory:	98,480 sq km
Coastlines:	2,413 km (Sea of Japan, Korea Strait, Yellow Sea)
Fresh water:	290 sq km
Forests:	63.5% (of land area, 2005)
CO_2 emissions:	455.0 m tonnes (2003)

Demography (2008 est.)

Population:	49,232,844 (25th in the world)
Population growth:	0.371% (average annual % change)

Mexico

Agustín Carstens

Agustín Carstens became secretary of finance for Mexico in December 2006. Previously, he served as deputy managing director of the International Monetary Fund (IMF) and Mexico's deputy secretary of finance. From 1999 to 2000, he was an executive director at the IMF, after a career at the Central Bank of Mexico, where his positions included those of director general for economic research and chief of staff in the governor's office. In addition, he was an organiser of the United Nations Conference on Financing for Development in Monterrey and of meetings of the G20 during Mexico's year as host in 2003. He has served as alternate governor for Mexico at the InterAmerican Development Bank and the World Bank. Born in 1958 in Mexico City, Carstens received his Master's in economics and PhD in 1983 and 1985 respectively from the University of Chicago. This will be his second G20 meeting as finance minister.

Guillermo Ortiz Martínez

Guillermo Ortiz Martínez assumed the position of governor of the Bank of Mexico in January 1998. He was re-elected for a second six-year term in 2004. In 1999 he became a member of the Group of Thirty, a financial advisory body based in Washington DC. He served as secretary of communication and transportation for a short term under the government of Ernesto Zedillo and in 1994 he was appointed secretary of finance and public credit. He represented Mexico at the International Monetary Fund, where he also served as executive director and represented seven countries. Born in 1948 in Mexico City, Ortiz received his Master's and PhD in economics from Stanford University. This will be his tenth G20 meeting as governor.

Photo: Carstens – World Bank

Polity

Political party:	National Action Party
Most recent election:	2 Jul 2006
Next election:	2012
Government:	Lower House – Minority Upper House – Minority
Political system:	Presidential
Legislature:	Bicameral, elected Federal Chamber of Deputies, elected Senate
Capital:	Mexico City
Official language:	Spanish

Economy

Currency:	Mexican peso (PS)
GDP (millions):	$893,364 (2007) 3.3% (growth 2006–2007)
Currency value:	10.6 (Sep 2008), 11.1 (Sep 2007)
Current account balance:	-5.3 (latest year, $ billion, Q2 2008) -0.8% of GDP (2008)
Trade balance:	-8.2 (latest 12 months, Jul 2008)
Trade to GDP ratio:	62.7 (2004–2006)
Unemployment rate:	3.70 (2007 est.)
Inflation:	238.794 (average consumer price index in units)
Government interest rates:	8.17% (latest 3 months, Sep 2008) 8.53% (latest 10-year government bonds)
Budget balance:	-0.1% of GDP (2008)
Public debt:	22.80% of GDP (2007 est.)
Exchange reserves:	87,190,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 4.0 Industry 26.6 Services 69.5 (2007 est.)
Energy production:	253.9 (m TOE)
Oil production:	3.784 million bbl/day (2005 est.)
Natural gas production:	41.37 billion cu m (2005 est.)
Electricity production:	222.4 billion kWh (2005)
Energy consumption:	165.5 (m TOE)
Oil consumption:	2.078 million bbl/day (2005 est.)
Natural gas consumption:	47.5 billion cu m (2005 est.)
Electricity consumption:	183.3 billion kWh (2005)
Foreign debt:	$167.2 billion 26.0% (share of GDP)

Geography and ecology

Size of territory:	1,972,550 sq km (15th in the world)
Coastlines:	9,330 km (Caribbean Sea, Gulf of Mexico, North Pacific Ocean)
Fresh water:	49,510 sq km
Forests:	33.7% (of land area, 2005)
CO_2 emissions:	415.9 m tonnes (2003)

Demography (2008 est.)

Population:	109,955,400 (11th in the world)
Population growth:	1.142% (average annual % change)

Russia

Alexei Leonidovich Kudrin

Alexei Leonidovich Kudrin was appointed minister of finance in May 2000. He worked as deputy mayor and member of city government as well as chair of the economy and finances committee for the city of St Petersburg. He was appointed deputy chief of the presidential administration of the Russian Federation and, in 1996, chief of the administration on trade, economic and scientific-technological co-operation. He was appointed first deputy finance minister of the Russian Federation in 1997 and was reappointed in 1999. In September 2007, he was appointed deputy prime minister and reappointed to the positions of both deputy prime minister and finance minister in May 2008. Born in 1960 in Dobele, Latvia, Kudrin began graduate studies in 1985 at the Institute of Economics of the Russian Academy of Sciences. This will be his ninth G20 meeting as minister of finance.

Sergey Mikhailovich Ignatiev

Sergey Mikhailovich Ignatiev was appointed chair of the Bank of Russia in 2002 and reappointed in November 2005. He was appointed deputy minister of economics and finance in 1991, then deputy minister of finance one year later. He served as the deputy chair of the Bank of Russia in 1992, prior to serving three years as the deputy minister of economics. He was the aide for economic issues to the president of Russia in 1996, and held the position of first deputy minister of finance until 2002. Born in 1948 in Leningrad (now St Petersburg), Ignatiev completed his graduate studies in economics at Lomonosov Moscow State University in 1978. This will be his seventh G20 meeting as the chair of the Bank of Russia.

Polity

Political party:	United Russia
Most recent election:	2 Mar 2008
Next election:	2012
Government:	Lower House – Majority Upper House – None
Political system:	Semi-presidential
Legislature:	Bicameral, elected Duma, appointed Federation Council
Capital:	Moscow
Official language:	Russian

Economy

Currency:	Rouble (Rb)
GDP (millions):	$1,291,011 (2007) 8.1% (growth 2006–2007)
Currency value:	25.6 (Sep 2008), 25.4 (Sep 2007)
Current account balance: 6.2% of GDP (2008)	109.8 (latest year, $ billion, 2008)
Trade balance:	182.7 (latest year, Jul 2008)
Trade to GDP ratio:	55.8 (2004–2006)
Unemployment rate:	6.20 (2007 est.)
Inflation:	238.794 (average consumer price index in units)
Government interest rates:	11.00% (latest 3 months, Sep 2008) 6.78% (latest 10-year government bonds)
Budget balance:	3.6% of GDP (2008)
Public debt:	5.90% of GDP (2007 est.)
Exchange reserves:	476,400,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 4.7 Industry 39.1 Services 56.2 (2007 est.)
Energy production:	1,158.5 (m TOE)
Oil production:	9.87 million bbl/day (2007)
Natural gas production:	656.2 billion cu m (2007 est.)
Electricity production:	1.0 trillion kWh (2007 est.)
Energy consumption:	641.5 (m TOE)
Oil consumption:	2.916 million bbl/day (2006)
Natural gas consumption:	610.0 billion cu m (2007 est.)
Electricity consumption:	985.2 billion kWh (2007 est.)
Foreign debt:	$229.0 billion 40.0% (share of GDP)

Geography and Ecology

Size of territory:	17,075,200 sq km (1st in the world)
Coastlines:	37,653 km (Arctic Ocean, Pacific Ocean, Baltic Sea, Black Sea, Caspian Sea)
Fresh water:	79,400 sq km
Forests:	47.9% (of land area, 2005)
CO_2 emissions:	1,493.0 m tonnes (2003)

Demography (2008 est.)

Population:	140,702,094 (7th in the world)
Population growth:	-0.474% (average annual % change)

Saudi Arabia

Ibrahim Abulaziz Al-Assaf

Ibrahim Abulaziz Al-Assaf was appointed minister of finance and national economy in January 1996. Previously he served as economic adviser for the Saudi Fund for Development in Riyadh. He then became the alternative executive director of International Monetary Fund for Saudi Arabia until 1989, when he became executive director of the World Bank for Saudi Arabia. While at the World Bank until 1995 he took on many other roles on various committees. Born in January 1949 in Ayoun Al-Jawa, Qassim, Saudi Arabia, Al-Assaf received his Master's in economics from the University of Denver in 1976 and completed his PhD in economics at Colorado State University in 1982. This will be his tenth G20 meeting as minister of finance and national economy.

Hamad Al-Sayari

Hamad Al-Sayari was appointed governor of the Saudi Arabian Monetary Agency in April 1983. He is also chair of the board of directors of the Saudi Arabian Monetary Agency and a member of the boards of the Public Investment Fund, the Gulf Investment Corporation and the Supreme Economic Council. After teaching economics at the Institute of Public Administration in Riyadh, he became secretary general of the Public Investment Fund and director general of the Saudi Industrial Development Fund. He later became vice-governor of the Saudi Arabian Monetary Agency – his current appointment. Born in 1941, Al-Sayari completed his Master's in economics at the Univerisity of Maryland. This will be his tenth G20 meeting as governor.

Polity

Political party:	None
Most recent election:	None
Next election:	None
Government:	Absolute monarchy
Political system:	Monarchy
Legislature:	None
Capital:	Riyadh
Official language:	Arabic

Economy

Currency:	Riyal (SR)
GDP (millions):	$381,683 (2007) 4.1% (growth 2006–2007)
Currency value:	3.75 (Sep 2008), 3.75 (Sep 2007)
Current account balance:	95.0 (latest year, $ billion, 2007) 33.1% of GDP (2008)
Trade balance:	150.8 (latest year, 2007)
Trade to GDP ratio:	75.0 (2003–2005)
Unemployment rate:	13.00 (2004 est.)
Inflation:	107.213 (average consumer price index in units)
Government interest rates:	4.30% (latest 3 months, Sep 2008)
Budget balance:	13.3% of GDP (2008)
Public debt:	23.30% of GDP (2007 est.)
Exchange reserves:	34,010,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 3.0 Industry 65.9 Services 31.1 (2007 est.)
Energy production:	556.2 (m TOE)
Oil production:	11.0 million bbl/day (2007 est.)
Natural gas production:	68.32 billion cu m (2005 est.)
Electricity production:	165.6 billion kWh (2005)
Energy consumption:	140.4 (m TOE)
Oil consumption:	2.0 million bbl/day (2005)
Natural gas consumption:	68.32 billion cu m (2005 est.)
Electricity consumption:	146.9 billion kWh (2005)
Official development aid:	$1.73 billion 0.69% (share of GDP)

Geography and ecology

Size of territory:	2,149,690 sq km (13th in the world)
Coastlines:	2,640 km (Persian Gulf, Red Sea)
Fresh water:	0 sq km
Forests:	1.3% (of land area, 2005)
CO_2 emissions:	302.3 m tonnes (2003)

Demography (2008 est.)

Population:	28,161,417 (46th in the world, includes non-nationals)
Population growth:	1.945% (average annual % change)

South Africa

Trevor Andrew Manuel

Trevor Andrew Manuel was appointed minister of finance of the Republic of South Africa in 1996. In 1994 he was appointed to the advisory committee of the United Nations Initiative for Trade Efficiency as well as governor of the board of the World Bank for the African Development Bank Group and Development Bank of Southern Africa. He served as the minister of trade and industry for two years. From 2001 to 2005 he served as chair of the development committee of the World Bank. In 2003 he was appointed commissioner of the International Task Force on Global Public Goods. He served as commissioner in the Commission for Africa and the Commission on Growth and Development. He was appointed special envoy for development finance by the United Nations Secretary General. Born in 1956 in Kensington in Cape Town, Manuel received his national diploma in civil and structural engineering from Peninsula Technikon and completed the executive management programme at Stanford National University in Singapore. This will be his tenth G20 meeting as minister of finance.

Tito Mboweni

Tito Mboweni was appointed governor of the South Africa Reserve Bank in August 1999. He was minister of labour from 1994 until 1998 in Nelson Mandela's Cabinet. Prior to this appointment he was deputy head of the department of economic policy in the African National Congress (ANC). In 1995 he was named one of the World Economic Forum's global leaders of tomorrow. He was appointed head of the ANC's policy department in 1997 before joining the Reserve Bank as adviser to the governor in 1998. During his tenure he has been appointed honorary professor of economics at the University of South Africa and awarded an honourary doctorate of economics from the University of Natal. Born in 1959 in Tzaneen, Mboweni earned his Master's in development economics from the University of East Anglia in 1987. This will be his tenth G20 meeting as governor.

Photos: Manuel – World Bank; Mboweni – Bank of Greece

Polity

Political party:	African National Congress
Most recent election:	14 Apr 2004
Next election:	2009
Government:	Lower House – Majority Upper House – Majority
Political system:	Parliamentary
Legislature:	Bicameral, elected National Assembly, elected National Council of Provinces
Capital:	Pretoria
Official languages:	Afrikaans, English

Economy

Currency:	Rand (R)
GDP (millions):	$277,581 (2007) 5.1% (growth 2006–2007)
Currency value:	8.12 (Sep 2008), 7.17 (Sep 2007)
Current account balance:	-22.3 (latest year, $ billion, Q1 2008) -8.0% of GDP (2008)
Trade balance:	-11.1 (latest year, July 2008)
Trade to GDP ratio:	57.5 (2001–2003)
Unemployment rate:	24.30 (2007 est.)
Inflation:	143.500 (average consumer price index in units)
Government interest rates:	12.20% (latest 3 months, Sep 2008) 9.21% (latest 10-year government bonds)
Budget balance:	0.4% of GDP (2008)
Public debt:	31.30% of GDP (2007 est.)
Exchange reserves:	32,980,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 3.2 Industry 31.3 Services 65.5 (2007 est.)
Energy production:	156.0 (m TOE)
Oil production:	200,000 bbl/day (2006 est.)
Natural gas production:	2.11 billion cu m (2005 est.)
Electricity production:	264 billion kWh (2007)
Energy consumption:	131.1 (m TOE)
Oil consumption:	519,000 bbl/day (2006 est.)
Natural gas consumption:	2.11 billion cu m (2005 est.)
Electricity consumption:	241.1 billion kWh (2007)
Foreign debt:	$30.6 billion 14.0% (share of GDP)

Geography and ecology

Size of territory:	1,219,912 sq km (25th in the world)
Coastlines:	2,798 km (South Atlantic Ocean, Indian Ocean)
Fresh water:	0 sq km
Forests:	7.6% (of land area, 2005)
CO_2 emissions:	285.4 m tonnes (2003)

Demography (2008 est.)

Population:	43,786,115 (26th in the world)
Population growth:	-0.501% (average annual % change)

Turkey

Kemal Unakıtan

Kemal Unakıtan was appointed minister of finance in November 2002. Previously, he held a number of executive positions, such as general director and executive board member in the private sector for various industrial institutions, financial institutions and foreign trade companies. From 1976 to 1978 he served as the general director of SEKA, a paper mill. Born in 1946 in Edirne, Unakıtan completed his studies at Ankara Economic and Commercial Sciences Academy. This will be his sixth G20 meeting as minister of finance.

Durmu Yılmaz

Durmu Yılmaz was appointed governor of the Central Bank of Turkey in April 2006. He started working in the foreign exchange department at the central bank in 1980. He became deputy director of the foreign exchange transactions division in 1993, director of the interbank money market division in 1995 and director of the balance of payments division in 1996. He was promoted to deputy executive director in the markets department in 1996 and served there until 2002, when he became executive director of the workers' remittances department. In April 2003 he was elected member of the board in the shareholders ordinary general meeting and held this position until becoming governor. Born in 1947 in Usak in Anatolia, Yılmaz received his Master's from University College at the University of London. This will be his third G20 meeting as governor of the central bank.

Polity

Political party:	Justice and Development Party (AKP)
Most recent election:	22 Jul 2007
Next election:	Variable
Government:	Single House – Majority
Political system:	Parliamentary
Legislature:	Unicameral, elected Grand National Assembly
Capital:	Ankara
Official language:	Turkish

Economy

Currency:	Turkish lira (YTL)
GDP (millions):	$657,091 (2007) 5.0% (growth 2006–2007)
Currency value:	1.24 (Sep 2008), 1.28 (Sep 2007)
Current account balance:	-41.7 (latest year, $ billion, Jul 2008) -6.4% of GDP (2008)
Trade balance:	-73.8 (latest year, Jul 2008)
Trade to GDP ratio:	63.0 (2004–2006)
Unemployment rate:	9.90 (2007 est.)
Inflation:	392.904 (average consumer price index in units)
Government interest rates:	18.29% (latest 3 months, Sep 2008) 6.61% (latest 10-year government bonds)
Budget balance:	-2.7% of GDP (2008)
Public debt:	38.90% of GDP (2007 est.)
Exchange reserves:	76,510,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 8.9 Industry 28.3 Services 62.8 (2007 est.)
Energy production:	24.1 (m TOE)
Oil production:	45,460 bbl/day (2005 est.)
Natural gas production:	860.3 million cu m (2005 est.)
Electricity production:	154.2 billion kWh (2005)
Energy consumption:	81.9 (m TOE)
Oil consumption:	660,800 bbl/day (2005 est.)
Natural gas consumption:	26.256 billion cu m (2005 est.)
Electricity consumption:	129.0 billion kWh (2005)
Foreign debt:	$171.1 billion 59.0% (share of GDP)

Geography and ecology

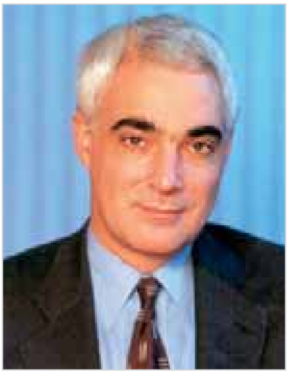
Size of territory:	780,580 sq km (37th in the world)
Coastlines:	7,200 km (Black Sea, Aegean Sea, Mediterranean Sea)
Fresh water:	9,820 sq km
Forests:	13.2% (of land area, 2005)
CO_2 emissions:	146.2 m tonnes (2003)

Demography (2008 est.)

Population:	71,892,807 (17th in the world)
Population growth:	1.013% (average annual % change)

United Kingdom

Alistair Darling



Alistair Darling was appointed chancellor of the exchequer in June 2007. He was the member of Parliament for Edinburgh Central from 1987 until 2005 and for Edinburgh South West since 2005. He was appointed chief secretary to the Treasury from 1997 to 1998, secretary of the state for social security from 1998 until 2001 and secretary of state for the Department of Work and Pensions from 2001 to 2002. He served as secretary of state for transport and secretary of state for Scotland from 2002 until 2006, when he was appointed secretary of state for the Department of Trade and Industry from 2006 until his current position. Born in London, Darling studied law at Aberdeen University and worked as a solicitor in Edinburgh before being called to the Scottish Bar and accepted into the Faculty of Advocates in 1984. This will be his second G20 meeting as chancellor of the exchequer.

Mervyn King

Mervyn King was appointed governor of the Bank of England in 2003. After teaching economics at the universities of Cambridge, Birmingham and Harvard and the Massachusetts Institute of Technology, he taught at the London School of Economics and Political Science from 1984 to 1995, where he established the Financial Markets Group. He later served as a non-executive director of the Bank of England until he became chief economist and executive director in 1991. He was deputy governor from 1998 to 2003, when he was elected to his current position, and continues to chair the monetary policy committee. In 1998 he became a member of the Group of Thirty, the financial advisory body based in Washington DC. Born in 1948, King attained a first class degree in economics at King's College, Cambridge, and continued to study at Cambridge and Harvard. This will be his sixth G20 meeting as governor.

Polity

Political party:	Labour Party
Most recent election:	5 May 2005
Next election:	By 3 Jun 2010
Government:	Lower House – Majority Upper House – Minority
Political system:	Parliamentary
Legislature:	Bicameral, elected House of Commons, appointed House of Lords
Capital:	London
Official language:	English

Economy

Currency:	British pound (£)
GDP (millions):	$2,727,806 (2007) 3.1% (growth 2006–2007)
Currency value:	0.57 (Sep 2008), 0.49 (Sep 2007)
Current account balance:	-102.4 (latest year, $ billion, Q1 2008) -3.4% of GDP (2008)
Trade balance:	-187.4 (latest year, Jul 2008)
Trade to GDP ratio:	57.6 (2004–2006)
Unemployment rate:	5.40 (2007 est.)
Inflation:	112.460 (average consumer price index in units)
Government interest rates:	5.69% (latest 3 months, Sep 2008) 4.45% (latest 10-year government bonds)
Budget balance:	-3.8% of GDP (2008)
Public debt (% of GDP):	43.00 (2007 est.)
Exchange reserves:	57,300,000,000 (Dec 2007)
Structure (% of GDP):	Agriculture 0.9 Industry 23.4 Services 75.7 (2007 est.)
Energy production:	225.2 (m TOE)
Oil production:	1.861 billion bbl/day (2005 est.)
Natural gas production:	84.16 billion cu m (2005 est.)
Electricity production:	372.6 billion kWh (2005)
Energy consumption:	233.7 (m TOE)
Oil consumption:	1.82 million bbl/day (2005 est.)
Natural gas consumption:	91.16 billion cu m (2005 est.)
Electricity consumption:	348.7 billion kWh (2005)
Official development aid:	$10.77 billion 0.47% (share of GDP)

Geography and ecology

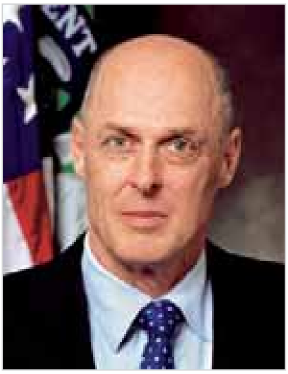
Size of territory:	244,820 sq km (includes Rockall and Shetland Islands)
Coastlines:	12,429 km (North Sea, English Channel, North Atlantic Ocean)
Fresh water:	3,230 sq km (includes Rockall and Shetland Islands)
Forests:	11.8% (of land area, 2005)
CO_2 emissions:	530.0 m tonnes (2005) (decrease from 540.0 m in 2004)

Demography (2008 est.)

Population:	60,943,912 (21st in the world)
Population growth:	0.276% (average annual % change)

United States

Henry Paulson



Henry Paulson was appointed secretary of the Treasury in July 2006. He is a member of the board of governors of the International Monetary Fund. Previously he was staff assistant to the assistant secretary of defence at the Pentagon and a member of the White House domestic council, serving as staff assistant to the president from 1972 to 1973. In 1974 he joined the Chicago office of Goldman Sachs, eventually becoming chair and chief executive officer in 1999. Born in 1946, Paulson received his Master's in business administration from Harvard University in 1970. This will be his third G20 meeting as secretary of the Treasury.

Ben Bernanke

Ben Bernanke was appointed chair and member of the board of governors of the Federal Reserve System in February 2006. After many years of teaching, he held various positions in the Federal Reserve System, including member of the academic advisory panel at the Federal Reserve Bank of New York, visiting scholar at the Federal Reserve banks of Philadelphia, Boston and New York, and member of the board of governors of the Federal Reserve System. Prior to his current appointment he chaired the president's Council of Economic Advisors. He continues to serve as chair of the Federal Open Market Committee. Born in 1953 in Augusta, Georgia, Bernanke received his PhD in 1979 from the Massachusetts Institute of Technology. This will be his third G20 meeting as chair of the Federal Reserve System.

Photo: Paulson – US Dept of Treasury

Polity

Political party:	Republican
Most recent election:	2 Nov 2004
Next election:	4 Nov 2008
Government:	Lower House – Minority Upper House – Minority
Political system:	Presidential
Legislature:	Bicameral, elected House of Representatives, electedSenate
Capital:	Washington DC
Official language:	English

Economy

Currency:	US dollar ($)
GDP (millions):	$13,811,200 (2007) 2.2% (growth 2006–2007)
Currency value:	Not available
Current account balance:	-740.7 (latest year, $ billion, Q1 2008) -4.8% of GDP (2008)
Trade balance:	-836.2 (latest year, Jun 2008)
Trade to GDP ratio:	44.3 (2004–2006)
Unemployment rate:	4.60% (2007 est.)
Inflation:	120.414 (average consumer prices index in units)
Government interest rates:	2.09% (latest 3 months, Sep 2008) 3.64% (latest 10-year government bonds)
Budget balance:	-2.4% of GDP (2008)
Public debt:	60.80% of GDP (2007 est.)
Exchange reserves:	70,570,000,000 (Dec 2007 est.)
Structure (% of GDP):	Agriculture 0.9 Industry 20.5 Services 78.5 (2007 est.)
Energy production:	1,641.0 (m TOE)
Oil production:	8.322M bbl/day (2005 est.)
Natural gas production:	490.8 billion cu m (2005 est.)
Electricity production:	4.062 trillion kWh (2005)
Energy consumption:	2,325.9 (m TOE)
Oil consumption:	20.8 M bbl/day (2005 est.)
Natural gas consumption:	604 billion cu m (2005 est.)
Electricity consumption:	3.816 trillion kWh (2005)
Official development aid:	$27.62 billion 0.22% (share of GDP)

Geography and ecology

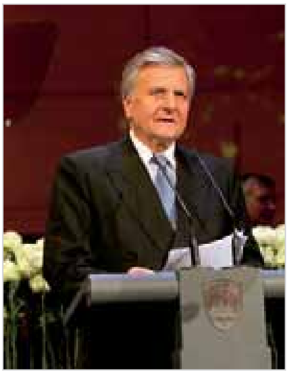
Size of territory:	9,826,630 sq km (4th in the world)
Coastlines:	19,924 km (Atlantic Ocean, Pacific Ocean, Arctic Ocean, Bering Sea, Arctic Ocean)
Fresh water:	664,707 sq km
Forests:	33.1% (of land area, 2005)
CO_2 emissions:	5,817.0 m tonnes (2005) (increase from 5,792.0 in 2004)

Demography (2008 est.)

Population:	303,824,646 (3rd in the world)
Population growth:	0.883% (average annual % change)

European Union

Jean-Claude Trichet



Jean-Claude Trichet was appointed president of the European Central Bank in 2003. He was assigned to France's Treasury department in 1975 and held many positions, including head of the Development Aid Office, deputy director of bilateral affairs, head of international affairs and director. He also served as alternative governor of the International Monetary Fund and the World Bank, later becoming governor of the World Bank. He served as governor of the Bank of France for two terms. In 1987 Trichet became a member of the Group of Thirty, a financial advisory body based in Washington DC. In 1998 he became a member of the governing council of the European Central Bank before chairing the Group of Ten governors. Born in 1942 in Lyon, France, Trichet completed his studies at the Institut d'Études Politiques de Paris and the École Nationale d'Administration in 1971. This will be his sixth G20 meeting as president of the European Central Bank.

Council of the European Union

The European Union is represented by the rotating presidency of the Council of the European Union. France has held the presidency of the Council since July 2008 and will continue to hold the position when the G20 meets in November 2008. This will be France's second time representing the EU at the annual G20 meeting. It also held the presidency of the Council at the 2000 G20 meeting held in Canada.

Polity

Political party:	European People's Party – European Democrats
Most recent election:	10-13 Jun 2004
Next election:	4-7 Jun 2009
Government:	Lower House – Minority Upper House – None
Political system:	Parliamentary
Legislature:	Bicameral, elected Parliament, indirectly elected council
Official languages:	Bulgarian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Irish, Italian, Latvian, Lithuanian, Maltese, Polish, Portuguese, Romanian, Slovak, Slovene, Spanish, Swedish

Economy

Currency:	Euro (€)
GDP (millions):	$12,179,250 (2007) 3.0% (growth 2006–2007)
Currency value:	0.71 (Sep 2008); 0.72 (Sep 2007)
Current account balance:	-31.5 (latest year, $ billion, Jun 2008) -0.3% of GDP (2008)
Trade balance:	3.5 (latest year, Jun 2008)
Trade to GDP ratio:	26.4 (2004–2006)
Unemployment rate:	8.50 (2006 est.)
Government interest rates:	4.96% (latest 3 months, Sep 2008) 4.04% (latest 10-year government bonds)
Budget balance:	-0.9% of GDP (2008)
Structure (% of GDP):	Agriculture 2.0 Industry 27.1 Services 70.7 (2006 est.)
Energy production:	462.9 (m TOE)
Oil production:	2.868 million bbl/day (2004)
Natural gas production:	215.4 billion cu m (2005 est.)
Electricity production:	3.007 trillion kWh (2004 est.)
Energy consumption:	1,245.1 (m TOE)
Oil consumption:	14.58 million bbl/day (2004)
Natural gas consumption:	496.7 billion cu m (2005 est.)
Electricity consumption:	2.18 trillion kWh (2004 est.)
Official development aid:	$39.50 billion (2005) 0.41% (share of GDP)

Geography and ecology

Size of territory:	4,324,782 sq km
Coastlines:	65,993 km (Black Sea, Mediterranean Sea, Atlantic Ocean, North Sea)
CO_2 emissions:	3,976 m tonnes (2005) (decrease from 4,021 in 2004)

Demography (2008 est.)

Population:	491,018,677
Population growth:	0.12% (average annual % change)

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