

The World in 2015: A Survey of Major Trends and Drivers

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Abstract. Economic factors, environmental and social issues, and business and industry developments will all play a major role in the global landscape of the future. Increasing globalisation and market liberalisation and the onrush of new technology have started to occur. This paper reviews various trends and drivers that may interact to produce certain results towards 2015.

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The process of change is an ongoing one. Changes in government policies and the restructuring of firms and industries have been pursued to adapt to an increasingly global and highly competitive environment. Recent public policy debates have focused on what is likely to shape the global economy of the future. Broad social, geopolitical, environmental and economic trends including rapidly rising populations in some regions and declining populations in others combined with an ageing population, a degraded environment, and pressures on natural resources present serious challenges while changing consumption patterns in a growing global market, market deregulation and the rapid pace of technological innovation provide opportunity. Identifying relevant trends and drivers would assist government and businesses develop policies and strategies to navigate through change. This paper provides a discussion of these emerging trends and drivers which are of critical importance for the future.

GLOBAL SOCIAL TRENDS

Demographic Trends. Based on the US Bureau of Census estimates, world population in 2015 is forecast to be 7.2 billion, up from 6.1 billion in 2000, an average annual growth rate of 1.1 per cent (Table 1). The rate of world population growth, however, will have diminished from 1.7 per cent annually in 1985, to 1.2 per cent in 2000 to approximately 1 per cent in 2015— a slowing population growth. In most countries, people will have fewer children and live longer.

Table 1. Population Growth Estimates, % change over previous year

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
Australia	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7
US	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Europe	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Japan	0.2	0.2	0.1	0.1	0.1	0.07	0.04	0.0	-0.03	-0.07	-0.2
China	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Korea	0.8	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2
India	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2
Rest of Asia	1.5	1.5	1.5	1.6	1.4	1.3	1.3	1.3	1.2	1.2	1.1
WORLD	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1

Sources: US Bureau of Census (<http://www.census.gov/ipc/www/idbsprd.html>); Asian Development Bank, (<http://aric.adb.org/index.asp>);

Ninety-five per cent of the increase in population will be in developing countries, particularly in rapidly expanding urban areas, creating ‘mega cities’— those containing more than 10 million inhabitants. The explosive growth of cities in

developing countries will challenge governments in providing jobs, social services and infrastructure necessary to sustain liveable and stable environments.

In some developing countries, the combination of population growth and increasing lifespan will expand the size of the working population and the potential for economic growth (NIC, 2000). By 2015, nearly half of the world's population will be accounted for by China at 1.4 billion and India at 1.2 billion. These two countries will have the highest rates of population growth, although slowing, among developing countries.

For the next 10 years or so, India will be greying into middle age, while China will grey into old age. Nearly 400 million Chinese will be over 65 by 2020 and the consequences of a serious gender imbalance caused by China's one-child policy could have increasing political, social and even international repercussions. An unfunded nationwide pension arrangement means many Chinese will have to continue to work into old age (Eberstadt, 2004; NIC, 2004).

In developed economies, there will be ageing but wealthy populations. Ageing and declining birth rates will combine to increase healthcare and pension costs while reducing the relative size of the working population. As a consequence, there will be a "war" for talent, leaving significant shortfalls in the size and capacity of the workforce. Developed country governments will seek to mitigate the problem through such measures as delaying retirement, encouraging greater participation in the workforce by women, and relying on migrant workers. Migration has the potential to help solve the problem of a declining work force in Europe and to a lesser extent, Japan. With its population ageing rapidly, Japan will require a big number of new workers by 2015 to maintain current dependency ratios between the working population and retirees. By 2030, some estimates suggest that half the working-age population of Europe will be composed of immigrants. The US and Australia will continue to have the highest rates of population growth among developed economies.

With migration on the increase — from Latin America and East and South Asia to North America, and from North Africa, the Middle East, South Asia and the post-Communist states of Eastern Europe to Europe — countries will have significant differences in ethnic composition and cultural norms and will face the challenge of integrating migrants into their societies while respecting their ethnic and religious identities (NIC 2000; 2004).

Consumption Trends. Dixon (2003) predicts that there will be big demographic and social shifts affecting every aspect of consumer behaviour. In developing countries, a significant structural change in food consumption will occur due to urbanisation and income growth. An accelerated economic growth, especially if it becomes broad based, is likely to change dietary preference. The composition of the food basket will change with shifts in diets from rice and other grains to wheat, driving up per capita wheat consumption steadily by 2015. A dietary shift towards egg, meat (particularly poultry and pig meat) and dairy products will also translate into an increase in the consumption of corn used for animal feeds. By 2015, per capita consumption of livestock products could rise by 44 per cent and global meat consumption is forecast to grow by 2 per cent annually until the end of 2015. Poultry consumption will grow fastest (FAO, 2002). Most of this increase will occur in the developing world where

consumption to 2015 is expected to grow by 2.7 per cent per year, compared to 0.6 per cent per year in developed countries.

In addition, projected higher population growth will increase the pressure on food demand. However, even with the growing population, world food supply will be sufficient to feed the global population. With the limited availability of land (due to competing uses) combined with declining agricultural productivity in developing countries, cereal production is not expected to keep pace with demand. For instance, the World Bank is forecasting that China's net grain imports will rise to 19 million tonnes in 2010 and 32 million tonnes in 2020. On the other hand, global production of meat will increase at a similar rate to demand and that with progressive reductions in trade barriers so will trade in meat and meat products. It is highly likely that developing countries will depend increasingly on imported food to meet domestic requirements producing a growing trade deficit. In particular, net imports of cereals and livestock products will continue to rise quite rapidly (FAO, 2002).

Another significant change in consumption is a consequence of a growing middle class. China's middle class could make up as much as 40 per cent of its population by 2015. In India, there are now estimated to be some 300 million middle-income earners and this number is likely to rise rapidly by 2015. The income earned by middle income earners of US\$2,000 to US\$4,000 a year is considered sufficient enough to spur car purchases in Asia. Thus, rapidly rising income levels for a growing middle class will mean a huge consumption explosion, particularly of luxury goods.

The current explosion of economic openness and regionalism through preferential trade agreements (PTAs) has become increasingly prominent in the international trade environment. Through 2015, the world is predicted to see more of this happening as countries in the world economy become more interdependent and interconnected. The potential for trade blocs to snowball and the fear of being "left in the cold" will drive the growth and formation of free trade areas and customs unions. It is more apparent that "snowballing" ultimately will lead to a beggar-thy-neighbour world full of exclusive PTAs rather than to a world with multilaterally freer trade. At the firm level, with the world as its market, the scale of production and operations will undergo a dramatic increase making locational resource and supply considerations relevant (Lazer, 1999).

Social Activism. Private sector organisations — both for profit and nonprofit — increasingly will gain resources and power over the next ten years or so as a result of globalisation, dispersion of technologies and the ongoing liberalisation of global finance and trade.

The for-profit business sector will grow rapidly over the next 10 years, spearheading legal and judicial reform and demanding from governments to be more transparent and predictable. At the same time, governments will be asked to monitor and regulate business firms through measures consistent with economic policies. The increasing number in multinational corporations will continue as governments continue to deregulate their economies, privatise state-owned enterprises, and liberalise financial markets and trade. In many countries, medium-sized and small local businesses will also increase in number not only because of deregulation and liberalisation but also due to governments' inability to thwart small-scale commercial activities. As these

businesses grow in number, they will encourage, and then link into, various global networks. Accompanying this trend is the increasing number of shareholders who will be vocal and demand greater participation in decision-making.

Over the next ten years or so, the non-profit sector particularly the non-government organisations (NGOs) will not only expand but change in significant ways. They will be more global in nature with affiliates in more than one country, addressing cross-border issues and representing cross-border communities of interest. More effective use of the internet will enable the rapid mobilisation of their global constituencies. It is often claimed that with modern communications, it is very simple for small, local causes to find global resonance, and this is sometimes seen as a major threat to firms, particularly resources firms, often operating in developing countries with less than savoury local governments as partners.

NGOs will be more effective in the next decade as they work together in coalitions, pooling their resources and coordinating their lobbying efforts. The NGO networks will be increasingly organised allowing them to coordinate their actions in many countries and at international conferences and negotiations (Paul, 2000).

According to the National Intelligence Council (2000; 2004), NGOs will have more resources to expand their activities and will become more confident of their power and more confrontational. They will move beyond delivering services and advocacy missions to global decision-making, that is, the design and implementation of policies, whether as partners or competitors with governments or private businesses. NGOs will increasingly influence both the behaviour of corporations and of government policy.

Based on a study by the United Nations and SustainAbility (2003), international NGOs will face a huge opportunity to massively increase their impact by focusing their efforts on reforming market systems rather than simply confronting them. Public and private sector partnerships will increasingly become essential for NGOs to leverage change. This is not to say that the next decade will be characterised by no conflict between NGOs and governments and corporations (e.g., resource companies), at either the local or the global level. Socio-economic shocks will cause uncertainties in power balances. However, it does mean that such conflicts are likely to be substantially fewer in number and less intense in nature.

In addition, NGOs will be expected to meet codes of conduct in the future, by subjecting them to some type of control, such as registration and financial oversight. Governments and private businesses — which are increasingly held to standards of transparency and accountability — will, in turn, expect NGOs to meet similar standards. While markets and business engagement represent an opportunity for NGOs, in order to exploit this, NGOs will have to address three critical challenges around their accountability, financing and partnerships.

Technology and the knowledge economy. Very few people predicted the boundless impact of the information technology revolution in the past. Looking forward, the trend toward rapid, global diffusion of technology will continue producing significant efficiency gains to the global economy. These efficiency gains will benefit many countries— although in varying degrees, as the integration of new technologies to

production processes proceeds. The greatest benefits will accrue to countries that can access and adopt new technologies. Indeed, a country's level of technological achievement generally will be defined in terms of its investment in integrating and applying the new, globally available technologies, whether the technologies are acquired through a country's own R&D or from technology leaders (NIC, 2000).

The world will encounter more quantum leaps in information technology and in other areas of science and technology such as biotechnology, materials sciences, and nanotechnology. The effects of such developments will be profound on business and commerce, public health, and safety. New technology applications will foster dramatic improvements in human knowledge and individual well-being. It will improve the overall quality of life of many. Such benefits include medical breakthroughs that begin to cure or mitigate some common diseases and lengthen lifespan, applications that improve food and potable water production, expansion of wireless communications and language translation technologies that will facilitate transnational business, commercial and even social and political relationships, and products that are smart, multifunctional, environmentally compatible and customisable (NIC, 2004).

The impact of innovation in science and technology is unfathomable. For instance, over the next 10 or 15 years, a wide range of developments will lead to many IT-enabled devices and services which can be used in business operations. Local-to-global internet access will lead to an expansion of wireless connectivity via hand-held devices and large numbers of low-cost low altitude satellites. Satellite systems and services will develop in ways that increase performance and reduce costs.

The global economy will be one of a knowledge economy driven by rapid flows of information, ideas, cultural values, capital, goods and services, and people. . In the knowledge economy, technology and know-how will be more crucial factors of production than other economic resources. They will play the predominant part in the creation of wealth¹.

With these technological advances, countries will face serious challenges in oversight, control and prohibition of sensitive technologies. Questions concerning a country's ethical practices in the technology realm may become an increasingly important issue in international trade policy and foreign relations.

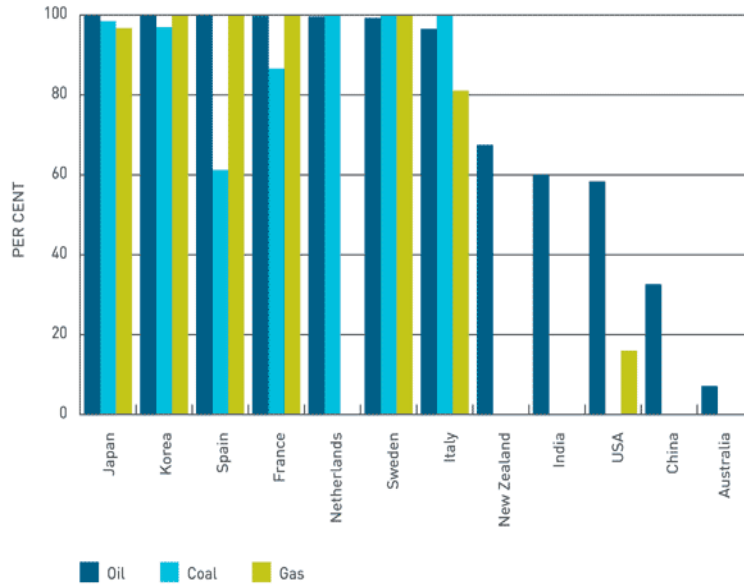
GEOPOLITICAL TRENDS

Energy security. Energy is vital to stability in the global economy. Where supplies are vulnerable to disruption, energy security problems arise. This is perhaps most evident regarding oil dependency (Fig. 1). Future concern about energy security will continue to centre around world dependence on oil from the Middle East. The share of the Middle East in world production is set to increase from 29 per cent in 2000 to 37 per cent in 2020, with the key Middle East members accounting for almost all of the change.

While world reliance on oil from the Middle East is increasing, this needs to be placed into context. Past disruptions in Middle Eastern supplies have had a relatively small impact on global oil flows. While countries had to face price increases in oil, access to oil has not been a major problem. Supplies have been maintained (Fig. 2). World

crude oil prices, while fluctuating over time, have declined in real terms over the last decades, notwithstanding recent sharp price increases. Part of the reason is that additional discoveries have increased world stocks of oil. Despite increasing demand for oil, there are sufficient reserves to supply world demand for around 40 years.

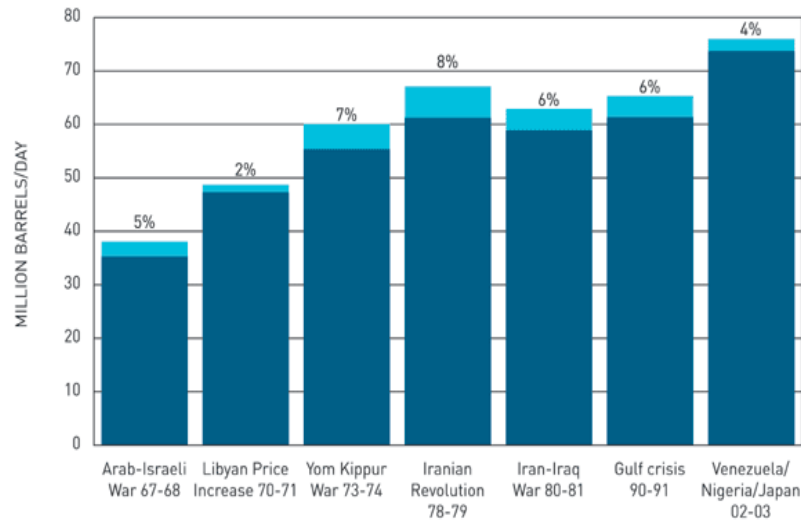
Figure 1: Net Import Dependency for Crude oil, Coal and Natural Gas, 2000



Source: International Energy Agency, Energy Policies of Countries 2002 Review

Another source of energy disruption is related to its delivery, where the potential for terrorist acts has increased. Despite some progress on alternatives, oil will continue to fuel industrialisation. Much of the oil is transported through fairly precarious means. Crude flows through pipelines and petroleum is transported through a number of oil tanker channels. These delivery systems will be vulnerable to disruption.

Figure 2 World oil supply disruptions



Note: Short fall in supply shown as percentage of pre-disruption world supply.
Source: International Energy Agency.

To avoid such disruptions in less than ten years time, countries would have invested in approaches to make the supply less risky. These approaches will include diversification of suppliers, the development of new and sustainable supply systems, the establishment of stockpiles to cover demand if supply is interrupted, and the attempt to reduce the likelihood of supply disruptions. In the long term, geographic diversification of the world's oil supplies will not be easily achieved, since the world's reserves will increasingly be concentrated in the Middle East.

Transport Issues. Logistical problems will come to the fore in the next ten years or so, as ocean freight rates soar, while port congestion disrupt supply chains. Freight rates for bulk commodities (as represented by the Baltic Dry Index) will further surge because of the continuing increase in volume of global trade in major raw materials. With very little sign of China's growth abating, rapidly rising cargo volumes to and from China raise the issue of port bottlenecks. Congestion problems are already occurring with cargo choking the quaysides and ships being forced to wait outside port limits for berths to clear. Indeed, insufficient through-transport capacity caused a drop in iron ore imports into China in mid-2004, as an estimated 25 million tonnes of ore clogged Chinese ports following unbridled imports. At the same time, deficient capacity on China's overstretched rail network was being blamed for coal shortages throughout the country (The Baltic, 2004a).

China's ports will face the further risk of being overwhelmed by double-digit port container throughput growth, from 48 million TEU in 2003 to 120 million TEU in 2010 (The Baltic, 2004b) and that its internal infrastructure will be inadequate to meet the demands that will be made of it. The hefty increase in demand for port and port-related infrastructure will spark heavy investment, not just in facilities at existing ports, but in entirely new ports particularly in the container sector. There is no doubt that the Chinese ports sector will be a booming market, and will attract plenty of investment. With demand for port services predicted to continue to increase sharply,

and with congestion problems already manifest, the question remain whether China can expand its existing ports and build new ports as quickly as it needs them.

Global Security and Terrorism. A more pervasive sense of insecurity, which may be as much based on psychological perceptions as physical threats, is foreseen by 2020, according to the views of the National Intelligence Council (2004). The world will see a relative decline, perhaps even extinction of “ideological” terrorism that brought about hijackings and bombings beginning around 1968 perpetrated by such groups as Red Army Faction, Red Brigades, Japanese Red Army, etc. The well of support for Marxist-based ideology will dry up (Pollard, 2004).

The threat of terrorism will come from ethno-religious conflicts. It will likely to increase in scope and the majority of international terrorist groups will continue to identify with radical Islam (Copley, 2004). The revival of Muslim identity will create a framework for the spread of radical Islamic ideology and will continue to be accompanied by a deepening solidarity among Muslims caught up in national or regional separatists struggle against government repression, corruption, and ineffectiveness. There are indications that the Islamic radicals will create a trans-national insurgency by overthrowing a number of allegedly apostate secular governments with predominantly Muslim subjects.

Pressures from global counterterrorism effort and the impact of advances in information technology will cause terrorist threat to become increasingly decentralised, forming into an eclectic array of groups, cells and individuals. Planning and carrying out of operations by terrorist groups will become virtual (i.e., online). The rapid proliferation of advanced technology will significantly increase the threat posed by missiles and weapons of mass destruction which will add to the pervasive sense of insecurity. Terrorists are likely to employ advanced explosives and unmanned aerial vehicles. Terrorist use of biological agents is likely. It is also expected that terrorists will try to acquire and develop the capabilities to conduct cyber attacks to cause physical damage to computer systems and to disrupt critical information networks.

Risk of war among developed countries will probably decrease over the next decade, but the international community will likely confront relatively frequent internal conflicts and less frequent regional interstate wars. Internal conflicts stemming from religious, ethnic, economic, or political disputes will remain at current levels or increase. Those countries most susceptible to this type of conflict are the sub-Saharan Africa, through North Africa, into the Middle East, the Balkans, the Caucasus and South and Central Asia, and through parts of Southeast Asia. The potential for conflict will arise from rivalries in Asia specifically, India-Pakistan and China-Taiwan and among numerous antagonists in the Middle East. Conflicts of this type will be made worse by availability of more lethal weapons of mass destruction, longer range missile delivery systems and other technologies.

Arms and weapons technology transfers will be more difficult to control. Over the next 10 to 15 years, a number of countries will continue to pursue their nuclear, chemical and biological weapons programs and in some cases will enhance their capabilities. Countries will continue to integrate both chemical and biological

weapon production into apparently legitimate commercial infrastructures, further concealing them from scrutiny.

In the realm of war and military affairs, the US will be the heavyweight champion, maintaining a strong technological edge in information heavy battlefield awareness and precision guided weaponry. Given its decisive edge in both information and weapons technology, as well as its economic power, the United States will maintain a dominant world position (if it wants to do so). America will remain in the vanguard of the technological revolution from information to biotechnology and beyond. A few countries will maintain large military forces with a mix of Cold War and post-Cold War concepts and technologies, posing a credible challenge to US might.

Terrorism and internal conflicts will significantly increase the security costs associated with international commerce, encouraging restrictive border control policies, and adversely affecting trade patterns and financial markets.

Threat of Pandemics. In today's world of global jet travel and the transportation of vast quantities of goods from all corners of the globe, there is no longer any capacity to isolate ecology of one part of the globe from another. This will mean that a disease, developing anywhere in the world will soon be found everywhere. Any lethal disease will eventually "burn itself out" among its endemic population, but if its transmission is faster than at which it consumes its host, the result will be a widening circle of disease. This has been proven many times in the past, seemingly whenever there are large or new movements of populations. Despite the advances in science and the increasing confidence in the ability to master micro-predators, it will be apparent that with the emergence of AIDS and drug-resistant tuberculosis, and lack of progress in many other infectious diseases, the age of pandemics will not disappear.

Progress against infectious diseases will encounter setbacks as a result of growing microbial resistance to antibiotics, urbanisation and the emergence of megacities and the intensification of mobility of populations and products. Although, the response to SARS (severe acute respiratory syndrome) showed that international surveillance and control mechanisms are becoming more adept at containing diseases, and new developments in biotechnologies hold the promise of continued improvement. Medical research and health care systems will continually be confronted with treatment-resistant new diseases or new versions of old diseases (Mendelson and Divinsky, 2002; Nichol, et. al., 2000).

Disparities in health systems between countries will persist and widen. In developed countries, major breakthroughs against a variety of maladies will be achieved by 2015 as a result of generous health spending and major medical advances. Non-infectious diseases will pose greater challenges to health in developed countries than will infectious diseases. In contrast, developing countries are likely to experience a surge in both types of diseases and will have inadequate health care capacities and spending to tackle the situation (NIC, 2004).

Although tuberculosis, malaria, hepatitis and AIDS will continue to increase rapidly, other diseases will come to the fore. Based on a study on emerging viral diseases (Horimoto and Kawaoka, 2001) apart from the current influenza being caused by an

avian virus, other future influenza outbreaks will likely be caused by a virus from pigs.

ENVIRONMENTAL TRENDS

Energy. The global economy will continue to become more energy efficient through 2015. One of the most significant energy-related developments in the last 20 years has been the significant reduction in energy intensity in developed countries. At the same time, there has been a movement of energy-intensive industries to developing countries. In some developing economies, reduction in energy intensity has started to occur because of technological modernisation. For instance, the reduction in energy intensity in China, Asia's largest energy consumer, has been attributed much more to improving technical efficiency than to changes in economic structure (Zhong, 2001). Higher income levels could lead to the diffusion of more technologically sophisticated, but less energy intensive, machines such as the trend occurring in the home appliances sector, where new models are more energy efficient than earlier models. In part, this reflects the imposition of efficiency standards by governments.

Energy production will also become more efficient. Technological applications, particularly in deep-water exploration and production will open remote and hostile areas to petroleum production hence increasing the world's total production of oil. The Persian Gulf region will see large increases in oil production capacity and will rise in its overall importance in the world energy market. Other energy sources including Russia, coastal West Africa and Greenland will also play a significant role in global energy markets. Latin America has more than 117 billion barrels of proven oil reserves and potentially 114 billion barrels of undiscovered oil (USGS, 2000). Caspian energy development will likely to be active in 2015 with new transport routes operating.

Total oil demand will increase from 75 million barrels a day in 2000 to more than 100 million barrels in 2015. Natural gas usage will increase more rapidly than that of any other energy source, by more than 100 per cent mainly due to the tripling of gas consumption in Asia.

Asia will drive expansion in energy demand, replacing North America as the leading energy consumer. China, and to a lesser extent India, will experience dramatic increases in energy consumption. Europe's energy requirements are unlikely to grow to the same extent as those of the developing countries, in part because of Europe's expected lower economic growth and the more efficient use of energy.

Based on a study conducted by the US National Intelligence Council (2000; 2004), despite a 50 per cent increase in global energy demand as a result of high economic and population growth to 2015, energy resources will be sufficient to meet demand. The latest estimates suggest 80 per cent of the world's available oil and 95 per cent of its gas remain untapped.

By 2015, global energy markets will be divided into two quasi-hemispheric patterns. Asia's energy needs will be serviced either through coal from the region or from oil and gas supplies from the Persian Gulf, Central Asia, and Russia. On the other hand,

Western Europe and the Western hemisphere will draw on the Atlantic Basin for their energy sources at world prices. Hence, it is forecast that three-quarters of Persian Gulf oil will be directed to Asia and only one-tenth to the western markets. The increased global demand, especially from China meant oil prices would stay well above the 1990s levels for the long term.

Water. The United Nations (2003) claims that the world is currently facing a serious water crisis. All the signs suggest that it is getting worse and will continue to do so in the next decade or so, unless corrective action is taken. This crisis is one of water governance caused mainly by the ways in which water is mismanaged — wrong policies and weak institutions. Better water management, such as liberalisation of the water sector, better valuation of water, and more private sector involvement, could bring forward new technology and infrastructure that will be able to address the growing per capita scarcity of water in many parts of the developing world.

Although water is widely occurring, only 2.5 per cent of the earth’s water is fresh water while the rest is salt water. Some two-thirds of this freshwater is locked up in glaciers and permanent snow cover while other freshwater resources are further reduced by pollution. Moreover, recent estimates suggest that climate change will account for about 20 per cent of the increase in global water scarcity. There are huge differences in freshwater availability in different parts of the world. Table 2 presents a global overview of freshwater availability and the distribution of population. It stresses the continental disparities, and in particular the pressure put on the Asian continent which supports more than half of the world’s population with only 36 per cent of the world’s water resources. Pressures on the water system will further increase with population growth and economic development leading to critical challenges in coping with progressive water shortages and water pollution. The UN estimates that by 2050, at worst 7 billion people in 60 countries will be water scarce, at best 2 billion people in 48 countries.

Table 2. Water availability and population, 2003

	Population (% of world population)	Water Availability (% of world’s freshwater)
North and Central America	8	15
South America	6	26
Europe	13	8
Africa	13	11
Asia	60	36
Australia and Oceania	<1	5

Source: UNESCO, 2003.

In addition, the NIC (2004) suggests that by 2015, water scarcities and allocation will pose significant challenges to governments, particularly in the Middle East, Sub-Saharan Africa, South Asia and northern China. These countries will be “water-stressed”, having less than 1,700 cubic metres of water per capita per year. For instance, the water table under some of the major grain-producing areas in northern China is falling at a rate of five feet per year, and water tables throughout India is falling an average of 3 to 10 feet per year.

According to the UNECE (2004) and the NIC (2000; 2004), as water supplies run out, water management could become a source of disputes between countries. Regional tensions over water will intensify as measures undertaken to increase water

availability and ease water shortages will not be sufficient to substantially change the outlook for water shortages in 2015. Although no water dispute has been a cause of open interstate conflict in the past, but as countries press against the limits of available water, the possibility of conflict will increase.

Looking at history, however, Wolf (1992) noted that there is an inverse relationship between level of violence and level of water conflict. In other words, people will kill each other around the water hole but are increasingly reluctant to do so as conflict grows into a national and international issue. Indeed, water may actually be one of humanity's great learning grounds for building community. Water agreements have actually prevented major conflicts such as on the subcontinent between Pakistan and India. Since 1945 approximately 300 treaties dealing with water management or allocations in international basins have been negotiated. Water sharing plans and infrastructure networks have fostered interdependence (Priscoli, 1998).

Climate change and biodiversity. Contemporary environmental problems will persist and in many instances grow over the next ten years. With the booming global economic outlook, greenhouse gas emissions will initially increase substantially but will decrease eventually as a result of less energy-intensive economic development and technological advances. For example, advances in the efficiency of energy use and the shift to less polluting fuels, such as natural gas will contribute to this trend.

The consensus on the need to tackle environmental issues will strengthen but progress in dealing with them will be patchy. As countries' incomes rise, governments can afford to give greater priority to environmental quality. Some of the poorest countries may opt to become pollution havens. The countries where industrialisation is most rapid but incomes are still low may face environmental deterioration. The rich countries may opt to improve their environments (Collier and Dollar, 2001).

Developing countries will face intensified environmental problems as a result of population growth, economic development and rapid urbanisation. Deforestation and habitat destruction will accelerate and lead to the loss of sustainable supply of forest products, hydrological impacts such as flooding, will reduce biodiversity and increase net greenhouse gas emissions. Megacities will face serious air and water quality problems. On the other hand, developed countries will continue to manage environmental issues which are unlikely to affect their economic growth and health standards given that they already have the technologies and techniques to solve many environmental problems. Environmental issues will become mainstream issues, particularly in developed countries.

Some existing environmental agreements, even when implemented by 2015, will not be able to reverse the targeted environmental damage they were designed to address. While the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer were important steps to international action, the total chlorine loading of the atmosphere of ozone-depleting substances has continued and will continue to rise. The 1979 Convention on Long-range Transboundary Air Pollution and its protocols have established a regional regime in Europe and North America. It has been extended by eight protocols that identify specific measures to be taken by parties. The Protocol on Heavy Metals adopted in 1998 has a direct impact on resource companies which targets three

particular harmful metals: cadmium, lead and mercury. Parties to this agreement will have to reduce their emissions for the metals below their levels in 1990. The Protocol aims to cut emissions from industrial sources (iron and steel industry, non-ferrous metal industry), combustion processes (power generation, road transport) and waste incineration. It also requires the phase out leaded petrol. It introduces measures to lower heavy metal emissions from other products, such as mercury in batteries, and proposes the introduction of management measures for other mercury-containing products, such as electrical components (thermostats, switches), measuring devices (thermometers, manometers, barometers), fluorescent lamps, dental amalgam, pesticides and paint. The Protocol on Persistent Organic Pollutants adopted in 1998 will fall short in meeting its objectives. It focuses on a list of 16 substances that have been singled out. It bans the production and use of some products outright (aldrin, chlordane, chlordecone, dieldrin, endrin, hexabromobiphenyl, mirex and toxaphene) and others are scheduled for elimination at a later stage (DDT, heptachlor, hexachlorobenzene, PCBs). Important new agreements will be implemented making the abovementioned protocols global treaties (UNECE, 2004).

Despite mounting efforts over the past 20 years to conserve biological diversity, its loss, mainly from habitat destruction, over-harvesting, pollution, atmospheric change, and the introduction of inappropriate plants and animals, has continued. The major issue that has prevented the conservation of biodiversity concerns how countries can act effectively and cooperatively, to provide for economic activity while preserving biological resources from degradation or elimination. The Convention on Biodiversity has three general goals of conservation of, sustainable use of, and equal benefits from biodiversity. It provides guiding principles for the preservation of biodiversity and it requires that parties carry out national biodiversity assessments and have conservation strategies. However, the measures needed to protect biological diversity may prove difficult to achieve, given the very broad array of human activities that cause extinctions: clearing land for agriculture or settlements, using chemicals that unexpectedly kill various species, draining swamps and other wetlands, disposal of various wastes, and many others. The objectives to improve the conservation of biological diversity and the sustainable use of biological resources under the Convention will not be fully met in around ten years time.

Global warming will challenge the international community as indications of a warming climate occur. The Kyoto Protocol represented a valuable first step in taking international action to reduce the rate of global warming. The Kyoto Protocol on Climate Change, which mandates emission-reduction targets for developed countries, is unlikely to be ratified in its present form. In the absence of a formal treaty, however, some progress will still be made in reducing the growth of greenhouse gas emissions. International firms will take steps to reduce their greenhouse gas emissions and so will some developing countries such as India and China which will actively explore less carbon-intensive development strategies.

World carbon dioxide emissions are expected to increase by 1.9 per cent annually between 2001 and 2025. Much of the increase in these emissions is expected to occur in developing countries where booming economies, such as China and India, fuel economic development with fossil energy. Developing countries' emissions are expected to grow above the world average at 2.7 per cent annually between 2001 and 2025 and surpass emissions of developed countries by 2018 (EIA, 2005).

ECONOMIC GROWTH TRENDS

The global economy. The global economy is well positioned to achieve a sustained period of dynamism through 2015. Global economic growth will return to the high levels reached in the 1960s and early 1970s. As seen in recent years, global recovery has become increasingly well established and is poised to grow at almost 4 per cent per annum in the next 10 years. By 2020, the world economy is projected to be about 80 per cent larger than it was in 2000 and average per capita income to be approximately 50 per cent higher.

Developing countries are predicted to turn in the strongest economic growth through 2015, led by China and India although growth projections are likely to be more subdued in 2005 and beyond, as world growth prospects have turned less favourable in the light of upward trends in world interest rates and the persistently strong oil prices (Table 3). The current strength of oil prices has led to a build up of inflationary pressures in many countries. Inflation is expected to pick up slightly in 2004 and 2005 but going forward it is predicted to trend downwards (Table 4).

Table 3. Real GDP Growth Estimates (Consensus Forecasts), % change over previous year

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
Australia	3.6	2.5	3.9	3.0	3.6	3.4	3.4	3.5	3.4	3.3	3.5
US	3.7	0.8	1.9	3.0	4.4	3.5	3.4	3.2	3.1	3.1	3.2
Europe*	3.5	1.6	0.8	0.5	1.9	2.0	2.0	2.1	2.1	2.1	2.1
Japan	2.8	0.4	-0.3	2.5	4.3	1.8	1.8	1.2	2.1	2.1	1.7
China	8.0	7.3	8.2	9.1	9.1	8.0	7.9	8.2	8.0	7.6	7.7
Korea (Rep. of)	8.5	3.8	7.0	3.1	4.9	4.4	5.3	5.0	5.0	5.4	4.6
India	4.4	5.8	4.0	8.2	6.0	6.5	6.6	6.9	7.1	6.6	6.8
Rest of Asia*	7.4	2.6	3.6	4.0	6.6	4.8	5.1	5.1	5.2	5.0	4.9
WORLD	4.2	3.9	3.0	3.9	4.6	4.4	3.5	3.5	3.6	3.5	3.4

Note: * Europe only includes the Euro zone countries; Rest of Asia was averaged from growth rates of 6 Asian countries— Indonesia, Malaysia, Hong Kong, Singapore, Taiwan and Thailand;

Source: Consensus Economics.

Most forecasts to 2020 and beyond continue to show higher annual growth for developing countries than for developed ones. Dynamism will be strongest among so-called “emerging markets” — especially in China and India — but will be broadly based world-wide, including in both developed and developing countries. China and India will be in a position to achieve higher economic growth than Europe and Japan, whose ageing work forces may inhibit their growth.

Political pressures for higher living standards will drive economic growth with a growing global middle class creating a cycle of rising aspirations. Other factors that will combine to promote economic growth include improved macroeconomic policies,

rising foreign trade and investment, the diffusion of information technologies and an increasingly dynamic private sector.¹

Economic liberalisation and globalisation entail risks and inevitably will create bumps on the road, some of them potentially disruptive. The global economy will be prone to periodic financial crises but its capacity to correct itself will remain strong. A prolonged disruption of energy supplies can also be a potential brake on the global economy. Conflict among key energy producing states, sustained internal instability in two or more major energy-producing states, or major terrorist actions could lead to such a disruption. Although the world economy is less vulnerable to energy price swings than in the 1970s, a major disruption in global energy supplies still would have a devastating effect.

Table 4. Inflation (Consensus Forecasts), % consumer price change over previous year

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
Australia	4.5	4.4	3.0	2.8	2.4	2.5	2.6	2.8	2.8	2.3	2.5
US	3.4	2.8	1.6	2.3	2.6	2.3	2.3	2.5	2.5	2.5	2.5
Europe	2.1	2.4	2.3	2.1	2.1	1.8	1.9	1.9	1.9	1.9	2.0
Japan	-0.7	-0.7	-1.0	-0.3	-0.1	0.0	0.4	1.6	0.8	1.0	1.2
China	0.4	0.7	-0.8	1.2	4.1	3.5	3.7	4.0	3.9	3.6	3.6
Korea (Rep. of)	2.3	4.1	2.7	3.6	3.7	3.4	3.1	2.9	3.0	3.1	2.9
India	3.8	4.3	4.0	3.9	4.6	4.6	4.8	4.7	4.6	4.7	4.3
Rest of Asia	1.0	2.3	1.8	1.2	2.3	2.7	2.8	2.7	2.6	2.6	2.6
WORLD	4.7	4.5	3.8	4.0	4.1	3.8	1.8	1.9	1.8	1.8	1.8

Source: Consensus Economics.

China. Following several years of exceptionally rapid economic expansion, China's economy has not showed signs of slowing down. High GDP growth has been accompanied by a strong upturn in industrial production and global trade flows (Table 5). Despite the policy-induced slowdown in 2004, China will remain one of the fastest growing economies with real GDP growth forecast of 8.0 per cent per year on average through 2015. China's high growth forecast is expected to remain in the next decade, especially with higher infrastructure and capital spending planned for the 2008 Olympic Games. As a result, China is expected to account for 20 per cent of global income in 2015 (on a purchasing power parity basis). To the degree that China implements reforms mandated by its entry into the World Trade Organisation, its economy will become more efficient, enabling rapid growth to continue. China will be well integrated into the world economy through foreign direct investment, trade and international capital markets in a decade's time. China's expanding share of world trade is expected to reach 16 per cent in 2015 (Fisher, 2005).

¹ http://www.futurestudies.co.uk/predictions/089_pdf.

Table 5. China: key economic indicators

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
% change over previous year											
Real GDP	8.0	7.3	8.2	9.1	9.1	8.0	7.9	8.2	8.0	7.6	7.7
Industrial production	11.4	9.9	12.6	17.0	16.0	12.8	11.8	13.0	13.7	12.1	12.2
Consumer Prices	0.4	0.7	-0.8	1.2	4.1	3.5	3.7	4.0	3.9	3.6	3.6
Population	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Current Account Balance (US\$bn)	20.5	17.4	35.4	45.9	25.6	23.5	13.3	9.1	3.7	2.0	5.5

Source: Consensus Economics.

China's economic development, however, will be mainly in the dynamic eastern coastal region encompassing the provinces from Shandong in the north to Guangdong in the south and including the municipalities of Beijing, Tianjin and Shanghai. Agricultural provinces in northern and western China will lag behind causing social tensions that Beijing will be challenged to manage.

Another future challenge to the Chinese government will concern its currency which it continues to peg to the US dollar. Many governments, particularly the American and European, which will see further widening of their current account deficits against China, will strongly argue that the Chinese yuan, pegged for a decade at 8.28 to the US dollar, is undervalued, and that a revaluation is essential. Calls for China to change its exchange rate regime will get louder as tensions increase. The Chinese government will agree that in the medium term it needs to set its currency free. But it will be unlikely to allow a free float until it has reformed its banking sector. Hence, a full liberalisation of the exchange rate will still be some way off given the fragility of the banking system. China will gradually move towards a more flexible exchange rate regime, but foreign pressure would not force China to move faster to free its exchange rate.

Given its enormous population and assuming a reasonable degree of real currency appreciation, the dollar value of China's gross national product may be the second largest in the world by 2020. Wilson and Purushothaman (2003) predict that China could overtake Germany by 2007, Japan by 2015 and the US by 2039. Indeed, by 2041 China would become the world's largest economy.²

India. India will emerge as another economic power. After a period of transition in implementing effective economic, political, social and legal policies, India is poised for a strong and sustained growth performance through 2015 (Table 6). The size of its population— 1.2 billion by 2015 and its technologically driven economic growth will lead India as a rising regional economic power.

Table 6. India: key economic indicators

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
% change over previous year											
GDP	4.4	5.8	4.0	8.2	6.0	6.5	6.6	6.9	7.1	6.6	6.8
Industrial production	5.0	2.7	5.8	6.9	7.1	6.9	7.3	7.6	7.8	8.1	8.1
Consumer Prices	3.8	4.3	4.0	3.9	4.6	4.6	4.8	4.7	4.6	4.7	4.3
Population	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2
Current Account Balance (US\$bn)	-3.6	0.8	4.1	8.7	2.7	0.1	-1.1	-2.3	-1.6	-7.9	-11.2

Source: Consensus Economics.

Growth will be generally broad based, with significant improvements across all sectors. India's relatively strong educational system, democracy and English-language skills will position it well to take advantage of gains related to information technology. This has already allowed India to grab market share in the information technology and business process outsourcing sectors. But further increases in the development of call centres, software development and back office outsourcing will completely transform India's services industry. In principle, India will have the potential to be competitive across an even broader range of services. In manufacturing, significant increases in production capacity in several industries such as automobiles, electronics, chemicals and metals will also occur (Brumby, 2004; Thirlwell, 2004).

Though India, like the rest of the world, will be falling behind China, its share in world GDP will continue to grow. Compared to China, its population is younger and growing faster, so its workforce will continue to expand when China's population starts ageing. By 2025 the Indian economy is projected to be about 60 per cent the size of the US economy. The transformation will be complete by 2035, with the Indian economy only a little smaller than the US economy but larger than that of Western Europe and Japan, thus taking it to third place, behind the US and China.

India nevertheless will face enormous challenges in spreading the benefits of growth to the impoverished, often illiterate citizens, particularly in the northern states. The inefficient agricultural sector highlights the need to improve India's infrastructure and highlights the key role of irrigation and water management in stabilising agricultural growth. The Indian government will also need to address environmental and sustainable energy supply problems. The persistent strength of global oil prices and India's strong oil import growth will pose a risk to its inflation outlook. However, this will not derail India's economy from becoming the next economic giant as it will not want to wait too long before making a move to curb rising inflationary pressures. Though India's economy remains on a high growth path, the effectiveness of ongoing economic reforms will be a key determinant of its growth prospects over the long term.

United States. The United States will continue to be a major force in the world community. It will be the key driver of the international system with its global economic, technological, military and diplomatic influence. It will continue to be the

leading proponent and beneficiary of globalisation and its economic actions will have a major global impact because of the tighter integration of global markets by 2015.

Table 7. United States: key economic indicators

% change over previous year	Historical Trends				Forecasts							
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015	
Real GDP	3.7	0.8	1.9	3.0	4.4	3.5	3.4	3.2	3.1	3.1	3.2	
Industrial production	4.4	-3.4	-0.6	0.3	4.6	4.5	4.2	3.9	3.7	3.7	3.6	
Consumer Prices	3.4	2.8	1.6	2.3	2.6	2.3	2.3	2.5	2.5	2.5	2.5	
Population	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Current Account Balance (US\$bn)	-413	-386	-474	-531	-640	-671	-669	-663	-650	-618	-557	

Source: Consensus Economics.

GDP growth forecasts for the US will remain optimistic, despite growing concerns over the impact of oil prices on activity (Table 7). Industrial activity will continue to be positive. Indeed, US long-term expectations will continue to outstrip those for Japan due to higher productivity growth and continued progress in technological innovation which are shifting growth rates higher and keeping inflation under control. However, high energy prices will pose a downside risk to the outlook. Moreover, consumer price expectations suggest that the pace of inflation is expected to rise over the medium-term. Another cause for concern is the massive current account deficit which, though expected to recede over the next 10 years, will remain large. If this large deficit does not recede and remains long-lasting, there will be a loss of international confidence in the US growth prospects that could lead to a sharp downturn. This would have deleterious economic and policy consequences for the rest of the world. Key trading partners would suffer as the world's largest market contracts and international markets could face serious instability.

Japan. The Japanese economy will expand at a relatively slow pace, over the next 10 years. Japan's domestic demand will remain muted while the expansion remains overly reliant on export demand. In the face of high oil prices and faltering global demand, concerns are rife about a sharp deceleration in GDP growth through 2015 (Table 8). Meanwhile, prices will begin to rise mildly in the next 10 years after a number of years of lingering deflation pressures. Japan's economic performance in the next 10 years will be stronger than that of the 1990s, but its relative importance in the global economy will decline. China is set to overtake it as one of the largest trading economies in the world.³ However, Japan will remain a huge market for exports, particularly of the Western Australian resources sector. Japan will maintain its position as a major export market for crude oil, iron ore, and nickel.

Table 8. Japan: key economic indicators

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
% change over previous year											
Real GDP	2.8	0.4	-0.3	2.5	4.3	1.8	1.8	1.2	2.1	2.1	1.7
Industrial production	5.2	-6.5	-1.3	3.3	6.4	2.6	1.9	1.1	2.9	2.5	1.8
Consumer Prices	-0.7	-0.7	-1.0	-0.3	-0.1	0.0	0.4	1.6	0.8	1.0	1.2
Population	0.2	0.2	0.1	0.1	0.1	0.07	0.04	0.0	-0.03	-0.07	-0.2
Current Account Balance (¥bn)	12.9	10.7	14.1	15.8	18.5	18.4	19.1	19.0	18.2	18.3	18.2

Source: Consensus Economics.

RAND (2004) predicts that the pace of Japanese liberalisation, reform and market opening would be modest. It has so far not shown willingness to facilitate the structural reforms necessary (particularly in the banking sector) to slow the erosion of its economic leadership role in Asia. Unlike the rapid growth and competitiveness of Japan's economy in the 1980s that caused tension between Japan and other countries, particularly the United States, the current slow pace of Japan's economic restructuring is unlikely to cause any animosity between countries.

Japan will face a bigger challenge in its demographic shift characterised by slow population growth and a rapidly ageing population. By 2007, Japan's population is expected to peak at 127 million, and then shrink to less than 100 million by 2050. This means 30 million fewer workers at a time when the number of elderly will have almost doubled. By the year 2025, one in every three people will be elderly. One obvious consequence will be pressure on the social-insurance system, including health care and pensions, as the working-age population shrinks. A shrinking workforce may also mean slower economic growth.

The social and economic implications of this trend will be significant. For the Japanese economy, facing 8 per cent fewer consumers by 2050 means slumping domestic sales of cars, hi-tech kit and home appliances, perhaps even another property crash. Japan will probably have to let more workers immigrate, though public unease will lead it to delay and minimise this shift as much as possible. Japan's other strategies for responding to a serious labour force shortage—enticing overseas Japanese to return, broadening the opportunities for women, and increasing investments elsewhere in Asia—may prove inadequate.

Europe. Europe has huge economic advantages – its stable democratic government and a unified bloc, its investments in infrastructure, some of the greatest global companies, a highly skilled workforce, single currency and the promise and as-yet-unfulfilled potential of the world's biggest single market. Despite these advantages, for years European growth has been too slow – averaging an annual 1.7 per cent since 2000 – and unemployment too high. A number of economic forecasts of the European future indicates the decline of the economy, slow economic growth because of ageing population (hence the growing burden of the elderly) and shrinking workforce (Table 9). There will be significant shortages of highly skilled workers in IT and other professions and unskilled workers in basic services.

Table 9. Europe: key economic indicators

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
% change over previous year											
Real GDP	3.5	1.6	0.8	0.5	1.9	2.0	2.0	2.1	2.1	2.1	2.1
Industrial production	5.3	0.4	-0.5	0.3	2.2	2.5	2.1	1.8	2.1	2.1	2.0
Consumer Prices	2.1	2.4	2.3	2.1	2.1	1.8	1.9	1.9	1.9	1.9	2.0
Population	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Current Account Balance (Euro bn)	-79.1	-17.2	53.4	24.2	45.6	45.7	49.2	49.6	52.0	56.3	59.0

Source: Consensus Economics.

* Europe only includes the Eurozone;

The proportion of the 65 and older people in Europe will skyrocket over the next 10 to 15 years. European countries will need large numbers of new workers because of ageing populations and low birth rates. Migration will relieve labour shortages to a limited extent but at a cost in terms of social friction and crime. Immigration will be a peculiarly sensitive issue in European politics as it complicates political and social integration: some political parties will continue to mobilise popular sentiment against migrants, protesting the strain on social services and the difficulties in assimilation. European countries will face difficult dilemmas in seeking to reconcile protection of national borders and cultural identity with the need to address demographic and labour market imbalances. This situation could dampen economic growth.

Structural reforms remain key to whether Europe can break out of its slow-growth pattern. Apart from social and welfare reform, Europe will need to streamline the complicated decision-making process that hinders collective action. Doing just enough to keep growth rates at one or two per cent would not enable Europe to play a major international role commensurate with its size. Looking out to 2015, Europe's agenda will be to put in place the final components of EU integration. Europe will require an outward-looking strategy, embracing the opportunities of globalisation, while maintaining its own identity to be able to compete successfully in the global economy.

Australia. Australia will see a certain degree of stability in its economic outlook as we look forward to 2015. The relatively stable political and economic environment will somewhat be reinforced by what is taking place on the international scene. Australia's economy will be one of the best performers among developed countries through 2015, which will be largely driven by wide-ranging structural reforms in areas such as industrial relations and privatisation, and more sound monetary and fiscal policies. The positive economic growth will be due to consumer spending and investment. The sound outlook for inflation and interest rates will ensure that Australia continues to enjoy relatively low levels of unemployment over the decade (Table 10).

Table 10. Australia: key economic indicators

	Historical Trends				Forecasts						
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010-2015
% change over previous year											
Real GDP	3.2	2.5	3.9	3.0	3.6	3.4	3.4	3.5	3.4	3.3	3.5
Industrial production	5.0	1.2	2.5	1.0	2.2	2.8	2.2	2.4	1.8	1.5	1.8
Consumer Prices	4.5	4.4	3.0	2.8	2.4	2.5	2.6	2.8	2.8	2.3	2.5
Population	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7
Current Account Balance (A\$bn)	-26.4	-16.6	-31.5	-46.6	-47.0	-43.3	-41.8	-42.7	-43.5	-46.6	-44.9

Source: Consensus Economics.

* Europe only includes the Eurozone

Australia will further re-orient its trade towards Asia and the Pacific Rim and away from more traditional markets in Europe and the US. Australia will export more to China than to the US. Not only will China import increasing quantities of coal and metals from Australia, but its appetite for raw materials will sharply push up global commodity prices. This will result in Australia's terms of trade peaking.

Australia will benefit greatly from China's economic boom, which will demand huge amounts of raw materials in the next decade or so. Western Australia with its dominant resource sector is poised to benefit most from this trend. Agriculture, minerals and fuels which are Australia's export mainstays will still account for a significant share of Australia's exports by 2015, although at a diminishing rate. Manufacturing and services will increasingly become significant contributors to Australia's export generated wealth.

There are downside risks to Australia's positive growth outlook in the next 10 years. One worry will be a softer demand from a commodity-hungry China. If China's overheats, then sooner or later its investment boom will likely to slow sharply, which would seriously curb Australian exports and commodity prices.

Table 11. The Leaderboard in 2015, by population and real GDP

	Population (million)				Real GDP (US\$billion)			
	2000	2005	2010	2015	2000	2005	2010	2015
Australia	19.2	20.1	20.9	21.7	462.2	562.7	665.7	790.6
US	282.3	295.7	309.2	322.6	9,405.2	11,149.6	13,051.4	15,277.6
Europe*	305.9	309.0	310.5	312.1	6,049.2	6,471.3	7,316.4	8,117.5
Japan	126.7	127.4	127.2	125.8	3,199.8	3,485.9	3,807.3	4,142.1
China	1,268.9	1,306.3	1,347.6	1,393.4	4,754.6	7,096.0	10,368.4	15,024.2
Korea (Rep. of)	47.3	48.4	49.2	49.7	683.4	857.0	1,096.9	1,373.5
India	1,002.7	1,080.3	1,155.0	1,227.5	2,779.2	3,735.3	5,190.1	7,211.6

Source: US Census Bureau; Eurostats; World Competitiveness Yearbook 2003;

* Europe only includes the Eurozone;

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¹ David Skyrme Associates, 'The Global Knowledge Economy: and its implications for markets,' Insight No. 21, <http://www.skyrme.com/insights/21gke.htm> (downloaded on 14 January 2005).

² For this projection to be realised, Wilson and Purushothaman (2003) indicate that China should remain on a steady growth track and keep the conditions for growth in place, such as sound macroeconomic policies and a stable macroeconomic background, strong and stable political institutions, openness and high levels of education.

³ 'China set to overtake Japan as world's No. 3 trader,' downloaded from <http://www.atimes.com/atimes/printN.html>.