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**Working Paper**

## Economic trends and China's impact on world trade

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# **Economic trends and China's impact on world trade**

NZ Trade Consortium working paper no 43

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**The New Zealand Trade Consortium**

**in association with the**

**New Zealand Institute of Economic Research (Inc)**





## **Preface**

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## **Authorship**

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*“what you cannot avoid, welcome”* Chinese proverb quoted in Economist 30<sup>th</sup> July 2005.

## **1. Introduction**

The Ministry of Economic Development has asked the NZIER to examine the impact of:

- increased integration of the world economy i.e. the economic trends and how they impact on economic/business activity; and
- China as a world economic power and how it is affecting globalisation trends. Are these trends accelerating and/or changing under China’s influence? How important is China’s influence compared with other influences?

This paper is organised in a way that briefly canvasses each of the questions asked, explaining the context surrounding each question and providing indications as to where the answers may lie. In some instances, it is very uncertain as to how events may play out and this is signalled. We have focused on providing the reader with information from various sources on the big issues of global interconnectedness and Chinese integration into the world trading system that will stimulate debate rather than close it off.

## **2. Economic trends & their impacts on business**

Three broad categories have been identified where economic trends have a direct impact on business. These are demographics, resources and technology, and economic connectedness.

### **2.1 Economic trends**

#### **2.1.1 Demographics**

An aging population in the developed world, urbanisation in the developing world, and migration issues will interact with increased global integration and have a major impact on the 21<sup>st</sup> century. In developed countries (and China) the population will continue to age, while in the developing world population growth will continue to increase. The problem is identifying how people will respond to changing economic circumstances i.e. how will they trade-off work and leisure? What will be the emerging spending patterns? What are the implications for savings and investment?

The 21<sup>st</sup> century will be the century of urbanisation for developing countries. The process will be far more rapid than what has already occurred in developed countries and has the potential to intensify conflict between the haves and the



have not. Intensification of social tension in some parts of the developing world will hinder economic development.

Rising incomes are also a possible outcome of urbanisation and greater global integration, spurring demand. Therefore, there is also potential for infrastructure to be built that delivers more sophisticated products and services to consumers (e.g. supermarkets can store milk, meat products and other high value agricultural products; and specialist outlets have the ability to cater for niche manufacturing goods and services).

Global interconnectedness has changed the nature of migration. The number of sending countries has increased while some traditional sending countries (e.g. Europe) are now receiving countries. Migration from sending developing countries to receiving developed countries is likely to be a continuing issue that causes friction. Developed countries are, on the one hand, trying to attract skilled workers and on the other hand, discourage unskilled labour, when the reality is that they need both. This is compounded and accentuated by an aging population in developed countries and further liberalisation of the world economy. Furthermore, the experience of Western Europe is that economic migrants arrive whether governments want them or not.

A potential exists to capitalise on the inflows of temporary and permanent migrants from sending countries (both skilled and unskilled). This is a delicate balancing act as political forces in receiving countries react strongly against surging numbers of migrants.

### **2.1.2 Resources & technology**

As societies become richer, the linkages between resource use, environmental degradation, and technological advance receive more attention.

The demand for resources over the past five years has driven up commodity prices (see Figure 5 to 12). Figures 5 to 12 are significant because for the first time in decades they show marked increases in most commodity groups at the same time. Countries that supply these products have benefited significantly because not only have they experienced favourable commodity price returns but imports have been cheaper as well (see section 2.1.3). Commodity price rises (in particular the oil price, see Figure 10) have caused much public speculation about further price hikes and whether or not oil resources are being diminished.

In line with the past two oil shocks, we expect the current price shock to inevitably lead to a longer term supply response, which will be a combination of increased efficiency, new sources of supply, and innovation (that could change demand patterns). Most forecasters expect that the supply response will, at the very least, dampen down commodity prices in the near future. In fact, some are already predicting that agricultural, energy, and metal commodity prices will resume their long term declining trend (see for example OECD – FAO forecasts,

2005 & ABARE, 2005). Oil and uranium may be the exception to this but over the long term we expect real prices to fall from their current levels.<sup>1</sup>

Population increases and robust economic growth has and will further stress the environment in which people live. The stress manifests itself through soil degradation, CO<sup>2</sup> pollution, deforestation and loss of species. Environmental stress will be particularly acute in the developing world, which does not have strong institutions to police unrestricted environmental degradation.

Climate change is also impacting on domestic resources such as water. While we do not fully understand why climate change is occurring, there is some realisation that the climate is changing. One of the main manifestations of climate change is the shortage of water and the constraints that will place on production. This is particularly acute in agriculture, which uses 70% of the world's water (FAO, 2003).

Driven by increased integration and competition in world markets, the prospects for technological advance appear bright. This may alleviate some of the impacts of environmental degradation through the application of IT, biotechnology, smart materials, and the first nanotechnologies. In the developed world, entrepreneurs driven by regulatory compliance costs and a perceived market advantage are creating products that are more environmentally friendly (right through the production process). The real gains in the 21<sup>st</sup> century will occur when these technologies are applied in developing countries in a fashion that is locally appropriate. While there may be opportunities for "green technologies" to be exported, this will crucially depend on the strength of the institutions that are designed to foster this process in the importing country.

Technology has also transformed connectedness and speed in which business is now conducted (see Figure 1). Not only have transport costs been reduced but complexity of how global production is delivered to the various markets has increased, particularly in manufacturing. In the past, it has been difficult to coordinate production in many different places and deliver the final product, at least cost. The computer and technologies such as the internet have changed this process shaping and re-shaping Global Value Chains (GVCs) to such an extent that each GVC is shaped by the product characteristics (i.e. modes of delivery, ability to outsource, where its manufactured/grown, service input, number of steps in the value chain etc). This complexity is expected to increase and become even more sophisticated as logistics efficiency<sup>2</sup> becomes even leaner.

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<sup>1</sup> There is a controversial theory that oil production will peak and decline within the next ten to twenty years. The major weakness of these forecasts is the data used (based on past production data) and the total lack of a supply response. Furthermore, the marginal cost of oil production is well under \$US20 per barrel and is expected to remain there for the foreseeable future. In the short and medium term uranium used for commercial power stations is in short supply. In the medium term, demand could be generated by signatories to the Kyoto Protocol looking to reduce greenhouse gas emissions.

<sup>2</sup> Measured by an inventory/sales ratio.

Product characteristics not only determine the shape of the GVC, they also determine the relative power relationships inside the GVC (i.e. the battle for profits between different firms along each GVC). Generally, the more technology that is embodied in the product the more power the producer/manufacturer has, while for commodity products the power gravitates to those entities that are closer to the market.

### **2.1.3 Economic connectedness**

Trade is the main source of world economic growth and increased economic connectedness. Since the 1950s, real world Gross Domestic Product (GDP) has grown at an average of 4% annually. Over the same period world trade in goods and services has grown at more than double this rate.<sup>3</sup> Figure 2 compares the growth in world exports with world GDP. Since 1994, export growth has consistently out-performed GDP growth (except in 2001).

The growing integration of developing nations into the world trading system has benefited consumers and had a deflationary impact on the world economy to such an extent that even a surging oil price has had little impact on world inflation, relative to the past two oil shocks. There are also flow-on effects where those countries that use developing country inputs have also become even more competitive. In New Zealand, for example, consumer welfare has been increased: through cheaper manufactured goods, clothing and textiles, and some agricultural products; by making available goods that in the past have been out reach of the average consumer; and increasing the variety of goods on the shelves.

Governments shape interconnectedness.<sup>4</sup> The current world trading system is shaped by the political preferences of the US and the EU. Trade in manufactured products is relatively free flowing with tariffs averaging between 4%-5%. Therefore, it is no surprise that competition in manufacturing is fierce and that GVCs for each product are highly intricate. Agricultural trade tariffs average between 40% and 50% with some products not traded because of the high tariff walls.<sup>5</sup> Agricultural trade is characterised by managed trade, where competition, although strong, is not as competitive as in manufacturing. However, as trade barriers come down in agriculture, competition is increasing. The services trade is a mixture of protected and unprotected sectors with some services such as tourism almost completely open while others services such as consultancies supporting construction are highly protected. The degree of competition, therefore, depends on the service sector you are examining.

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<sup>3</sup> The volume of trade grew from one tenth of world GDP in 1950 to close to one third of world GDP in 2000 (Mussa, 2000).

<sup>4</sup> It is commonly thought that global trade and further interconnectedness are unstoppable. This overlooks the uncomfortable truth that it was stopped for the best part of forty years starting in 1914. Big country attitudes are crucial to further integration.

<sup>5</sup> Also impacting on trade are a large array of non tariff barriers and the extensive use of market support mechanisms.

Growing interconnectedness is also driving changes to capital market investment patterns. There is a strong link between the growing internationalisation of the GVC, investment (mainly through mergers and acquisitions), and intra industry/firm trade. To remain competitive firms are investing across borders to acquire scale, tap into workforces that have particular skills (e.g. R&D skills), and/or use cheaper unskilled labour for assembly purposes. The trade can be between industries with similar products (e.g. components of cars of a similar class) or along GVCs (e.g. companies making expensive Italian shoes that import cheap leather).

While the data on intra industry/firm trade is poor, some conclusions have been tentatively drawn (see OECD 2002). The speed in which GVCs are shaped and reshaped is growing as demand patterns change. This contributes to world trade becoming more volatile. Also, the impact of the shaping and reshaping of GVCs is more widely felt internationally e.g. the ICT price crash in the 1999-2000 period had a major impact on bilateral trade between the US and Asian component suppliers. However, trade may be less affected by short-term losses in price competitiveness; i.e. if intermediate goods are an increasing part of the production chain then companies are less likely to chop and change suppliers because of short term exchange rate movements.

The structure of world trade is also determining the pattern and speed of adjustment in the developing and developed world. The relatively open manufacturing trade has seen the most adjustment over the past ten years as developing countries led by China, Brazil and India have transformed trade based on a comparative advantage of cheap labour. In most cases, developed countries have experienced a hollowing out of their manufacturing sectors. Most of these jobs have been absorbed into the fast growing services sector. This process is likely to continue.

Some parts of the services trade are also becoming more tradable. In some regions, developing country software and engineering capabilities are at such a high level that jobs are being both lost and created in the developed world. The loss of engineering jobs has been well documented in New Zealand recently (e.g. Dominion Post 20<sup>th</sup> October, 2005), however, Bhagwati (2004) describes the bigger picture in the service trade as a “race to the top not the bottom”. The demand for skilled workers all over the world is increasing and while in some instances jobs will be lost in specific industries, other opportunities will arise which create jobs in a more integrated world market for skilled labour. Bhagwati gives an example where a firm has been able to employ additional engineers to do more specialised work in the US simply because they are able to employ engineers in India to prepare the ground work.

The end of the Multi Fibre Agreement (MFA) has also highlighted the changing world market for textiles. The MFA was created in 1974 to control the textile trade. A quota system was introduced so that some countries – who up to that point had no history in the textile trade – could export to industrialised nations.

Therefore, the ending of such a highly arbitrary set of rules was always going to create adjustment problems in producer (developing) countries and consumer (mainly developed) countries. Liberalisation in this sector has been much more sudden because of the back-loading of reform, so that the majority of the reform happened in the last year of the MFA.

Agricultural protectionism is still well entrenched in the industrialised world and will take longer to breakdown, slowing adjustment rates in agricultural trade. In a recent article Thompson (2005) shows how subsidies in the US cotton industry are divided between participants all along the GVC, reinforcing protectionist sentiment in that industry. This sentiment translates into political lobbying that has successfully locked in protection.

Increased global interconnectedness is not a steam roller that will flatten the world into a generic economy with one wage rate run by big corporations. There are and there will continue to be global brands and successful multinationals. However, each region has an economic, social, political and cultural heritage which shapes that society. Global interconnectedness is a more subtle process that impacts on society in different ways depending on the reactions of each society e.g. use of technology can reinforce a sense of cultural awareness (by providing low cost radio, TV, and newspapers) and increase interconnectedness with the world by providing real time coverage of news in other parts of the world. Similarly, wages can increase, over and above what they would have been in a less connected world, if a region can provide unique products and services demanded by the world.

Global interconnectedness is also likely to show a major divergence in growth rates between the richest and very poorest of nations. The divergence is due to poor governance and weak institutional structures that underpin markets. Without strong governance, the development of many of the hallmarks of a developed economy can not occur.

## **2.2 Impact on business/economy**

### **2.2.1 Demographics**

Changing demographic patterns will have a profound impact on demand and supply of goods and services as the population in the developed world ages. There is, however, great uncertainty about how some of these issues will impact on the conditions facing business.

There is a potential, because of baby boomer economic behaviour, that business could be confronted by higher world interest rates, lower productivity, lower labour participation in the paid workforce, skill shortages, and governments running persistent higher deficits. However, these interest rates could be mitigated by increased substitution of capital for labour and higher participation rates (relative to previous generations) by baby boomers.

What is more certain is the impact of governments. In the absence of policy changes, governments in the developed world could find their current account deficits ballooning as older populations rely on external capital rather than their own savings. Big deficits in the developed world and a more integrated world capital market could put heavy pressure on world interest rates and some currencies. This is looked at in more detail in section 3.1.3, particularly the relationship between Chinese savings and US debt levels.

In the developing world, the more youthful populations are likely to be drawn to regions where economic growth is flourishing. While businesses may welcome them, local and central governments may not. Therefore, on-going tension will remain around migration (both intra and inter country), as businesses seek both skilled and unskilled labour to fill jobs. Governments are faced with a tension between policy objectives, on the one hand, embracing global integration, and on the other, controlling migration (which comes with the globalisation process) to remain popular with constituents.

Changing consumption patterns in the developing world will be driven by continued urbanisation (and rising incomes), particularly as some parts rapidly industrialise. Taste preferences in these regions are likely to create an increased demand for products such as beef, milk products and feed grains, which support the production of these products. We also expect changes in the service industry; however it is difficult to speculate what these might be given the diverse nature of the service industry and how these trends might develop. The tourist industry is one obvious exception. As urbanisation and incomes rise tourism numbers are likely to increase.

### **2.2.2 Resources & technology**

Fostering an internal culture that is able to respond quickly to the changing resource constraints and technological advances will be an important strategic weapon for company survival i.e. most companies can sell products when prices are climbing, however surviving price slumps and product obsolesces (or other reasons for a declining demand) determines whether or not a business is sustainable or not.

The commodity demand shocks being experienced currently will spur a supply response from firms. For example, in the last two oil shocks car manufactures dramatically improved the fuel efficiency of cars. Those companies that are able to deliver (or copy from others) the best combination of efficiency, new products, and innovation are likely to be more successful. The strategies employed by firms are looked at in more detail in section 2.2.3.

Resource constraints are likely to limit the ability of agri-businesses to continually produce more agricultural products. Variability of production is also likely to increase as droughts and water shortages increase. This may well increase the already volatile price fluctuations that exist in the commodity cycle. New

technology could partly mitigate this problem in two ways: improve the efficiency of resource use (e.g. water use) and reduce the pollution from the farming process.

Concerns about environmental degradation are raising the fixed compliance costs of doing business. Government environmental management policies add further costs to businesses as they seek to fully price in the impact of activities such as transport on the environment. To survive, smaller companies will have to find innovative ways of overcoming the higher fixed costs of doing business (e.g. combine with other similar businesses to fund compliance regimes or use technology such as the internet to more efficiently comply with mandatory procedures).

Advances in technology are likely to reinforce the fundamental economic drivers that underpin business performance. Reduced transaction costs, the benefits of scale, a firm's positioning in the GVC, and cheaper methods of delivery will intensify competition for business e.g. the period of rapid industrialisation in Japan and Korea is full of examples where, with little previous knowledge of industries, companies leveraged their capabilities (cheap labour, scale, and smart technology) and successfully challenged incumbent businesses (e.g. ship building, cars, and electronics). Technology is also likely to effectively introduce competition into industries that have enjoyed high barriers to entry or are currently viewed as natural monopolies.

### **2.2.3 Economic connectedness**

Key to long term business survival will be how firms adapt to increased competition, falling prices, and the changing nature of demand. Economic connectedness is likely to speed-up these processes; therefore how to cope with these trends is vitally important.

Contributing to increased competition and a driver of further innovation has been greater trade openness reinforced by an increase in global regulations (e.g. through the WTO) and adoption of global standards. As economies deregulate further, more industries (or parts of industries) move from the non tradable sector to the tradable sector e.g. retailing (internet sales), help desk enquires, professional services etc. This has created more opportunities for firms to improve productivity by outsourcing at various points along the GVC. It also further underpins the need to clearly define and re-define, given changing competitive conditions, the core competencies a firm has in any particular market.

Work by Chandler (1990) shows the vital importance of scale in production.<sup>6</sup> Not only is scale important in production it is also increasingly important in marketing and government relations (e.g. see section 2.2.2). Many multinational companies have invested heavily across borders to increase the scale of their operations in order to compete more effectively. This means that smaller and medium sized

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<sup>6</sup> In particular, Chandler (1990) refers to second mover advantage at scale.

businesses, for their survival, must innovate to achieve scale or offer niche products and services that can not be replicable or commoditised.

Services represent the fastest growing sector of the global economy and WTO (2003, p33) figures show services "... account for 60 percent of global output, 30 percent of global employment and nearly 20 percent of global trade". Depending on the sector involved and the product characteristics this has major implications for how firms tap into the demand. Will developing countries open up services markets? Will businesses need to be close to the customer? How will the service be delivered? Will the customer come to the buyer?

Changes in the world trading system present opportunities for businesses. Being flexible enough to take advantage of these changes can be a major competitive edge. To maximise success, position in the GVC is important e.g. Buzzel and Gale (1987) show that there is a correlation between firms backward integrating from the market and return on investment, while there is no correlation between those forward integrating and return on investment.<sup>7</sup>

For businesses, the increased focus on identity provides unique challenges. Marketers are noticing that profitable niches can be developed by use of local brands. Companies such as Nestle (Economist 2002), for example, will not only have their global brands present in the market but also a portfolio of brands that have a long history in that particular market. Authentic local brands, with indigenous or other unique qualities can also be used as a point of difference and sales advantage in an export market. In this way, the identity of particular region or group can be used to make a product stand out from an already crowded market.

Well functioning markets are the life blood of economic growth. They spur innovation, productivity, deepen the labour market, and increase competition. Firms find it advantageous to locate in specific regions because they can grow faster (e.g. Glaxo's move from rural New Zealand to Britain). Therefore, it is extremely important that governments/markets devise rules that allow for markets to function properly. McMillan (2002) highlights five elements that are required before a market can function properly: information flows smoothly; property rights are protected; people can be trusted to live up to their promises; side effects are curtailed; and competition is fostered.

McMillan (2002) points out that this process is not simple and happens by trial and error. Market participants drive bottom up changes, mainly around increasing transaction efficiency, while government focus on the overall structure of the market. The relationship between government and business has always been an

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<sup>7</sup> Backward integrating refers to acquiring entities (or locking firms into long term supply contracts) that supply the inputs into what another entity produces e.g. supermarkets buying a grocery wholesaler or contracting dairy farmers to supply fresh milk products all year round. Forward integration refers to entities buying other entities they supply to e.g. farmers buying processing facilities, packhouses, or distribution businesses to secure an outlet for their goods.



uneasy partnership, and requires careful management to strike the right balance between government regulation and market innovation.

## **3. China & world trade**

In this section we examine China's impact on the trends described above and how important China's influence is over and above other influences. Three reoccurring themes emerge: the sheer size of China, the extremely low labour costs, and China's approach to economic openness.

### **3.1 How China impacts on global trends**

#### **3.1.1 Demographics**

In a more integrated world, an aging Chinese population, similar to the developed world, urbanisation, and outward migration will have a major impact on the economic growth patterns in the 21<sup>st</sup> century.

China, through its one child policy, has a similar population profile to many developed countries (see Figure 3). China's aging population is posing real questions for world savings, government savings behaviour, and interest rates. The current high savings rate in China points to Chinese saving for their retirement. The key questions are how they spend it once retired or whether they spend it. The ramifications of this are looked at in more detail in section 3.1.3.

The urbanisation of China is the single biggest issue that will shape the 21<sup>st</sup> century (Stiglitz 2002). By 2020, it is expected that 50 to 60 percent of Chinese will live in an urban setting (China's City Forum, 2004). Rising incomes and rapid urbanisation are contributing to changing life styles and food preferences, which in turn impacts on the commodity trade. Demand for non traditional foods, more dietary diversity and convenience foods are being driven by the changes in urban life styles in China. We expect this trend to continue with the more lucrative segment of the global food trade increasingly focused on high value and processed foodstuffs.

The sheer scale and speed of the urbanisation process in China will not only accentuate global demographic trends but create pressure for space and impact on quality of life. Therefore, China is likely to be a net exporter of permanent and temporary migrants, which will, to some extent, increase its trade reach as migrants look to trade between China and the receiving country. How economies harness the Chinese immigrants that are resident in their country could have major implications for trade and investment between China and the receiving nation.

In most Asian economies it has been increased participation in the workforce that has driven economic growth, not productivity increases. Relatively low participation rates and the abundance of workers in China could mean that economic growth is likely to be sustained over the long term as industry absorbs

(mainly) rural workers. This is highly significant and suggests that high growth may continue over a long period of time before China experiences labour shortages.

### **3.1.2 Resources & technology**

As a major user of resources and technology China's entry on to world markets is having a marked impact. How this develops will depend on the individual characteristics of each market and the ability of the Chinese to sustain the conditions for technological development.

As commodity prices rise, governments become focused on how they can secure supply of raw materials for industry. China is a major consumer of energy and raw materials e.g. it consumes 8% of all oil, 28% of all coal, 25% of all copper, 35% of all iron ore, and is a major importer of bauxite (for aluminium production). While China's share of the world oil consumption is lower than the US it is the growth in consumption that has been marked. Its share of the world oil market has doubled in five years and last year China's consumption grew by approximately 15%. To secure its supply it has entered into long term agreements to purchase gas from Australia (in 2002) and even suggested to the Australian government that China should be able to prospect and mine uranium within Australia (Age 2005).

As these commodity price rises occur, in the short run, there is a potential for countries that are net importers of commodities to have negative terms of trade effects. In the long run, the risks for the producing countries occur when real prices fall. The power along the commodity GVC resides with the consumer country, not the producer country.

One of the resource constraints facing China is a lack of water. China's problem is relatively simple: developed countries use 59% of the world's total water use and low income countries use 8% (FAO, 2003). As China develops, it consumes more and more of its scarce water supply. Furthermore, climate change is likely to exacerbate the problem further as some regions are exposed to prolonged dry conditions and floods. This could mean that China's reliance on imported food – particularly land intensive agricultural products (e.g. milk and meat) – could increase, although this will be mitigated by the increased production of labour intensive agricultural products (e.g. pigs, poultry, farmed fish etc.)

Increased urbanisation is also likely to increase pollution problems in cities and could well limit expansion in some regions of China. While the impact of pollution has been felt within its borders for some time, the potential to further add to pollution problems of other countries is almost unavoidable.

To try and alleviate China's pollution problems, Japan is investing over \$US2.5 billion in environmental protection technology in China. While the quantity of technological aid is impressive, it is difficult to gauge the quality of that aid or how much is tied to Japanese companies.

It is still very uncertain as to whether China will be able to create the conditions for technological leadership. China has some of the capabilities to be at the forefront of technology. It has a large market, a growing skill base, and cheap labour. This means that foreign companies locating in China are willing to hand over some of its IP<sup>8</sup> to obtain a share in the growing Chinese market (e.g. car companies) or tap into skills (e.g. IBM and GE have set up laboratories).

However, some major questions still remain. According to De Jonquieres (2005) the bulk of Chinese high technology exports are made from imported components and are, in effect, low margin commodity products. While its engineers are highly skilled and competitively priced, its state-owned enterprises have been very slow to take advantage of the skill base. Also, in high technology industries such as software, India has developed a major competitive advantage over China because of its English speaking heritage, highly skilled researchers and entrepreneurs, and links into Silicon Valley.

The biggest question mark relates to the strength of China's informal and formal institutions in fostering high technology growth.<sup>9</sup> Weak contract enforcement and flagrant violations of intellectual property laws are a major handicap to fostering high technology industries. Without strong institutional support, the incentive for domestic entrepreneurs to make risky investments into high technology businesses is greatly diminished. There is also a lack informal institutional infrastructure. Co-operation between firms and between universities and firms is not promoted, therefore the free flow of ideas and different ways of working is limited, De Jonquieres (2005).

Despite this, China has very high aspirations, Young (2003). They do not want to always be just making T-shirts and reverse engineering other people's products. China is deepening (its high technology capabilities) and widening (a continuum from low to high technology capabilities) its economic base. Therefore, while Chinese firms are renowned for highly competitive low skilled manufacturing, they are advancing up the skill chain. The competitive advantages being developed by the Chinese could enable them to further capitalise on, and develop capabilities that allow entry into industries that it presently has no history in or even contemplated entering. This is also helped by the literally hundreds of thousands of Chinese who have been trained in technology and research in the United States, Young (2003).<sup>10</sup> However, the more that government directs this process the less likely it will be successful.

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<sup>8</sup> Although it is far from clear that foreign companies are handing over core pieces technology (De Jonquieres, 2005). De Joquieres also points out that Chinese companies do not talk to each other and have weak links with universities.

<sup>9</sup> North (1991) defines institutions as "...constraints that structure political, economic, and social interactions. They consist of both formal and informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights).

<sup>10</sup> Estimates vary as to how many engineers China is training per annum. Each source gives a different estimate, however we believe that the figure is between 600,000 and 800,000 per year. This compares with 200,000 in Japan, 50,000 in the US and 80,000 in India (sources include [www.usatoday.com](http://www.usatoday.com) and [us.tom.com](http://us.tom.com)),

### 3.1.3 Economic connectedness

The entry of China into the world trading system is a highly significant development, having a major impact on world trade. However, in the same way that the US and EU have influenced the structure of world trade, so will China, i.e., the US and EU have structured world trade in such a way that industrial products are traded relatively freely and most agricultural products are heavily protected.

In some areas, such as manufacturing and agricultural trade, China is relatively open – more open than most other industrialised nations. In other sectors, China is less open. In areas such as media, telecommunications, banking, and power the government has sought to control entry and prop-up failing businesses. Furthermore, these businesses are large. McKinsey's (2004) claim that these, mainly state owned enterprises, make up 57% of the industrial assets and employ over ½ China's workforce. They act as a drag on the economy and also threaten the stability of China's financial system. Instilling a performance culture in China's state-owned enterprises will be slow and difficult. How the Chinese respond to this challenge will be one of the factors that shape their long term growth prospects.

China's entry into a world trading regime dominated by the US and EU and structural adjustment that has taken place has been in areas where free trade already exists. The main impact has been in manufacturing where world prices have come down dramatically. The supply of labour-intensive manufacturers has reduced the relative world price to importing nations, benefiting consumers. Consequently, the success of Chinese exports has lifted incomes and drawn in more imports (e.g. food, energy, intermediate inputs, and related services, IMF 2004).

China's entry on to world markets has also coincided with the end of the MFA (see section 2.1.3). China's presence in the textile market has intensified the adjustment process and has been able to put further pressure on industrialised nations to end preferences and reform the textile trade.

In agricultural markets, the managed trade that exists has not yet been affected by Chinese integration. However, as labour intensive agricultural sectors (e.g. horticulture, fruit and vegetables, and fish farming) become more competitive, China is likely to put more pressure on exiting protection regimes in the industrialised world.

The increase in trade generated by China's entry into the world trading system (see Table 1) has generated demand for shipping space.<sup>11</sup> Combined with an increase in oil prices it has meant that freight rates (or container slot costs) are well above prices quoted in the 1990s. Freight rates almost doubled from their

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<sup>11</sup> Chinese ports are experiencing freight traffic per annum growth rates of between 30% and 70% (Noteboom 2004).

1990s averages in 2000-2002 but since that time they have steadily declined – now they are roughly 11% above 1990s averages (see Table 5). Not only are prices higher but there is also a shortage of ships to move the increased trade. Shippers have responded by increasing rates, ordering new bigger ships, and delaying the scrapping of older ships. As a result, freight rates are declining, particularly as larger more fuel efficient ships enter service.

A test of how China integrates with the world will be its attitude to international standards. For example, will China join efforts to establish a radio-frequency-identification (RFID) standard or will they set up their own standard?<sup>12 13</sup> Many European and US manufacturers have embraced a set of RFID standards – China has yet to adopt it. Chinese officials have indicated that they will not necessarily fall into line with international standards. This has implications that could lead to a proliferation of regional standards that limit use of RFID or create a complicated set of translating interfaces between different standards. If China decides to go it alone on the RFID, and standards generally, it will increase the fixed costs and complexity of trading.<sup>14</sup>

Like manufacturing, investment markets have similarly been affected by the trade integration of the Chinese market. Foreign investors have invested heavily in China as a way of diversifying their investments and reaping potential high returns, (IMF, 2004). How the pattern of foreign investment flows evolves is difficult to forecast. On the one hand, foreign investors may keep investing, further diversifying their holdings and looking for high returns or they may seek opportunities elsewhere. The danger for other regions is that the continued focus on China may crowd-out other investment opportunities and limit their region's ability to grow.

Are the Chinese saving too much? What the Chinese do about savings rates in the long term may be influenced by what, on the surface, looks like short term savings imbalances both internally and externally. Internally, very high Chinese savings are fuelling an investment boom. However, there are worries about the efficiency (quality) of that investment and whether savings are being put to good use. If the investment is not of good quality it could undermine the sustainability of economic growth.

Externally, the Chinese are buying US bonds, which are keeping down interest rates in the US. The low US interest rates are fuelling a housing (and household spending) bubble, which is drawing in more Chinese imports. This process may

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<sup>12</sup> RFID has the potential to increase efficiencies for global supply chains. It has the ability to capture and more accurately record precise data and share it with supply chain partners so companies can further fine-tune their supply chains to optimise sales and reduce costs.

<sup>13</sup> It is not a question of China going it alone on a particular standard; it is whether or not the rest of the world will adopt your standard. These battles are being fought over a wide range of codes and standards e.g. the latest internet protocols, standards for high bandwidth, long distance mobile telephony etc.

<sup>14</sup> China also has a lot to lose, since WalMart, one of the driving forces behind RFID, is China's sixth largest export market, CRMBuyer 2005.

not be sustainable, but it is an open question as to how this might play out (Economist, 2005c). One scenario is that it will end with a sharp decline in the US dollar (the classic hard landing). Another scenario suggests that the current high savings in China is the result of long-term structural shift and is likely to last for years, perhaps decades. It is argued that aging populations in rich countries (including New Zealand) will mean lower interest rates, because older economies with mature workforces will need less capital and their citizens will save more in preparation for retirement. Others suggest that the Asian economies will continue to export their savings for many years, for mercantilist reasons (keeping their currencies cheap to create jobs in export industries) as well as demographic ones (China, for instance, is aging faster than America).

What happens to currencies will be an outcome not a driver of the processes described above. Since it is unclear what will transpire from the impact of world savings and investment behaviour, it is also unclear what the impact on world currencies will be.

Economic institutional arrangements underpin well functioning markets that lead to economic success. Central to well functioning markets is the development of property rights. Therefore, if private ownership is banned, how then has China been able to be so economically successful? The answer to this lies at the village level (McMillan 2002), where workers, in one particularly village, tired of underproduction and starvation decided to divide up the land between them. The experiment was highly successful and soon caught on. Fortunately for the villages this coincided with reform at the central government level that encouraged individualistic behaviour.

What looks to be on the surface, embryonic institutional development that requires a major overhaul to work, is actually more sophisticated and robust than (mainly) western commentators first thought. Therefore, careful detailed analysis is required before pronouncing on the sustainability of the institutional arrangements that underpin Chinese growth. As China's development occurs, changes in its institutional structure are inevitable. At the moment their institutions do not automatically support economic growth, but do not suppress it either.

While it is not the intent of this paper to understand the role Confucian culture in Chinese life, it must be understood that the Chinese are building institutional frameworks that, if not in theory, in practice are influenced by Confucian behaviour. Young (2003) describes Confucian behaviour as being solely routed in the practical world (e.g. education is important so that practical problems can be solved). It emphasises the importance of the group rather than the individual, views government as an extension of the family (therefore, it is the duty of the government to look after all of its citizens). This has the potential to collide or be at odds with international (mainly western) business practices and/or the efficiency of market transactions. This will manifest itself in terms of its approach to international standards (big enough to go their own way and a chance to remind

others of their economic power), attitudes towards graft and corruption (i.e. a certain ambivalence towards its occurrence), information that it sees as of national importance (i.e. they will protect this information despite economic costs), and reform of the state sector (i.e. the natural conservatism could mean a slow adjustment).

## **3.2 How important is China's influence compared with other influences?**

### **3.2.1 Demographics**

It is worth restating that in a more integrated world, the aging population and urbanisation process in China have the potential to be the most important economic influences of the 21<sup>st</sup> century e.g. the Chinese City Forum (Beijing Summit, 2004) estimated that 200-300 million people will need to be digested by towns and small cities, while another 600 million will be digested into big cities. Moreover, incomes are increasing rapidly; currently, Chinese incomes in rural China average \$US1,000 per person and \$US3,000 per person in the cities. In both cases it is approximately 7 to 8 times what incomes were in 1978 (ERS 2004). The weight of China's influence on consumption patterns, lifestyles, and other economic activity has the potential to have a major impact on the world economy.

### **3.2.2 Resources & technology**

As a new consumer of commodities, China has had a major impact on world commodity prices. Chinese entry into the WTO (and the increased openness that it bought) and robust economic growth have pushed commodities prices up and for longer than most forecasters ever expected. As China becomes more integrated with the world economy it will become more susceptible to business cycles in other countries – it will not be immune to the downturns occurring in other parts of the world. We expect, that as time goes on, that its current heavy influence on world commodity prices will diminish somewhat and most commodities will resume their long term declining price path. While still a major factor, the ups and downs of the business cycle will also temper the current intense fixation with locking in resources to feed its industries (e.g. we expect this process to evolve in the same way as the five yearly Australian – Japanese coal agreements).

Growth in China has had its costs. The impact of Chinese pollution on its own environment has been well documented (e.g. Zulin et al 2001 and World Bank, 2005). China is one of the most polluted economies in the world with high rates of diseases, cancers, and other medical conditions directly related to pollution. As China develops further, what is more likely to be a source of domestic and international tension is further Chinese pollution and its impact.

As already noted it is an open question as whether China will become a leader in high technology products. It does have some of the capabilities to put them at the

forefront of technological advance and rival Japan and US, however, as Hayek (1949) points out the crucial component of economic growth are the individual incentives that motivate managers to innovative.<sup>15</sup> At present, the institutional structure does not provide the incentives to take the risks necessary (see section 3.1.2).

### 3.2.3 Economic connectedness

The direct impact of the resurgence of China on the world economy has altered business dynamics throughout the world. One of the reasons for its large impact on the world is its openness to both imports and exports. In the past twenty years its share of world trade has grown from 1% to 6%, growth rates have averaged 9%, it is the 4<sup>th</sup> largest trader in the world, and the 6<sup>th</sup> biggest economy, (IMF 2004).

In recent decades the importance of Chinese manufacturing has been realised, with nearly 83 million manufacturing employees in 2002 compared with the total in the G7 of 53 million manufacturing workers.<sup>16</sup> China is not only a major exporter of products using unskilled labour it also has moved into more sophisticated machinery and durable goods (Scott, 2005); therefore it covers most manufacturing industries e.g. China is moving up the value chain in telecommunications equipment, computers, video and digital cameras etc.. Its main competitive advantage is that its labour costs are extremely low (see Figure 4). As an example of how China has started to change the face of the manufacturing trade Table 1 shows the growth in value of world merchandise trade, other regions trade, and China's trade. China's merchandise trade growth is more than double that of any other region.

China is also having a major impact on world commodity trade. Over the past five years there has been an unprecedented boom in commodity prices as Chinese demand has grown (see Figures 5 to 12). In 2002, IFPRI examined the impact of China and India on world agricultural markets. The study was commissioned because of the realisation that world prices in the major agricultural trades were no longer being determined in the United States. The results (see Table 2) showed that agricultural prices, in real terms would remain at the same level as 1997. Over the past twenty years agricultural prices have fallen between 20%-30%, therefore this is a major change in the outlook for agricultural commodities and is a direct result of China's demand.<sup>17</sup>

The world services trade is growing quickly. The WTO reports that transportation, travel, and other services are all growing steadily (see Table 3). While much

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<sup>15</sup> Hayek in his book: *The Road to Serfdom* was referring to why the Soviet Union would ultimately economically collapse.

<sup>16</sup> According to Banister (2005) the number of Chinese involved in manufacturing is likely to be understated.

<sup>17</sup> It should be noted that these forecasts were made before the current boom in commodity prices. The latest OECD-FAO agricultural predictions show agricultural prices returning to their long term declining path. However, by 2015 these real prices are still above 1998 real prices.



smaller than the US, China's exports and imports of services are growing strongly. This suggests that while its influence at the moment is not as dominant as other trades, as its population urbanises and incomes grow, China has the potential to become a major player in the services market. However, this will depend, in some service related industries, on whether or not it takes a protectionist stance.

Most multinational companies are making investments in China. In 2004, 57% of total investment was foreign. By the end of 2004, China approved a cumulative of 508,941 foreign investment projects, with contracted and actual utilised overseas FDI amounting to US\$1,096.6 billion and US\$562.1 billion (www.tdctrade.com). As with other trades, it is the sheer size of China that is already impacting on the investment process, so much so that the Economist (2005a) claims that world monetary policy is decided in Beijing, not Washington.

Recently the IMF (2004) modelled the impact of China integrating with the world economy.<sup>18</sup> They ran two scenarios, firstly a fast growing China with 8% growth and the ability to absorb 150 million workers into manufacturing by 2020. In this scenario, the Chinese share of world output and trade almost doubles. In scenario two, China's share of world output is frozen at current levels. The difference between these two scenarios shows the impact of a fast growing Chinese economy (see Table 4) on the world economy. The main winner is China itself. For other regions the results are broadly positive apart from South Asian nations who compete directly with China. Most regions benefit because of increased Chinese demand for their exports and cheaper labour-intensive imports. The labour abundant South Asia that has limited direct trade with China loses slightly because competition from China means they receive lower prices for their exports.

## 4. Take out points

1. China's population has a similar aging profile to the industrialised world.
2. Urbanisation in China and other developing countries will have a major impact on demand patterns in the 21<sup>st</sup> century.
3. China has a vast pool of labour which will be integrated into world markets (through the goods, services and migration).
4. The dynamics of markets are important. We have experienced a demand shock (higher commodity prices with Chinese entry on to world markets) but we are yet to fully see the supply response. The supply response will come from efficiency improvements, new sources of supply, and innovation.

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<sup>18</sup> New Zealand is combined with other developed western economies, therefore it is not possible to distinguish the impacts on New Zealand from this modelling run .

5. China has the capacity to be a leader in technology. This will crucially depend on whether or not they are able to design institutional structures that support innovation.
6. High Chinese savings rates are having impacts domestically (high investment) and globally (low interest rates in the US). How this influences the world economy over time is uncertain.
7. China will shape world trade in the same way that the US and EU currently shape the world trading system. This will have positive and negative consequences for world growth.

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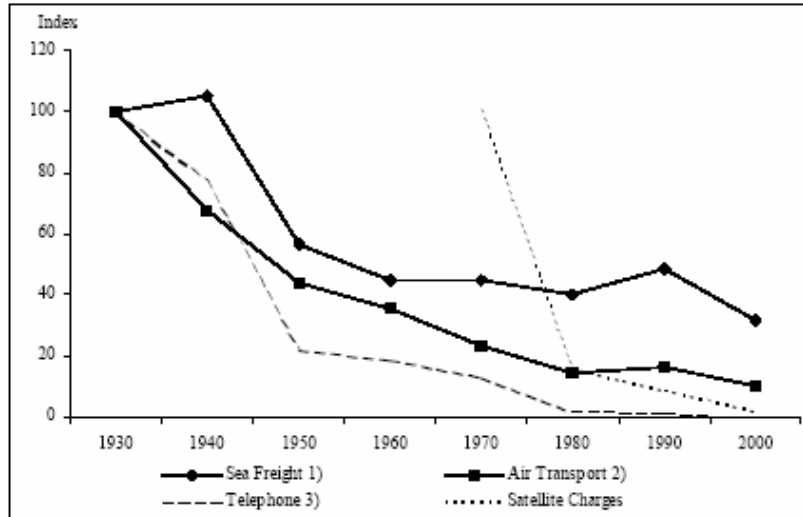
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## Appendix A : Graphs and tables

**Figure 1: Transport and Communication Costs 1930-2000**

Base year 1990 (US dollars)

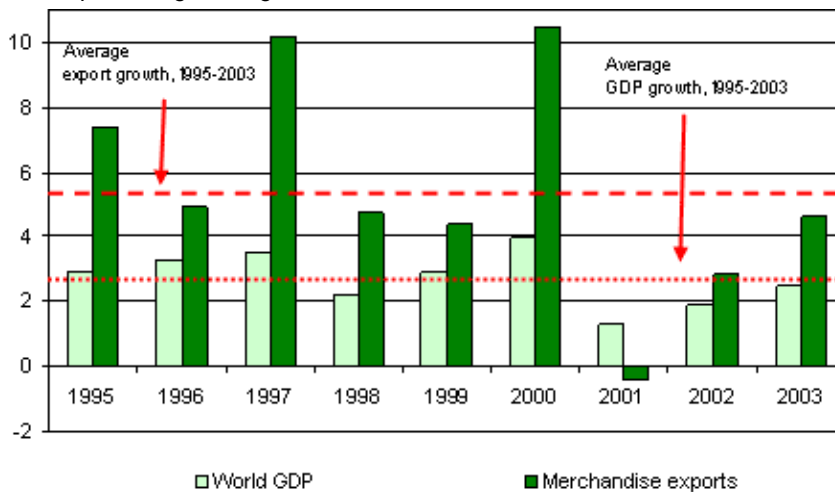


- Notes: (1) Average ocean freight and port charges per short tonne of import and export cargo  
 (2) Average air transport revenue per passenger mile  
 (3) Cost of a three minute telephone call from New York to London

Source: Busse, M.

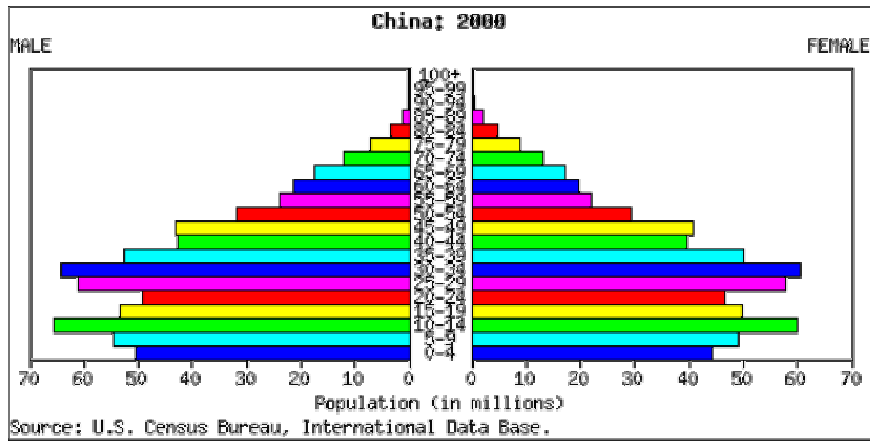
**Figure 2: World export growth and world GDP growth 1995-2003**

Annual percentage change

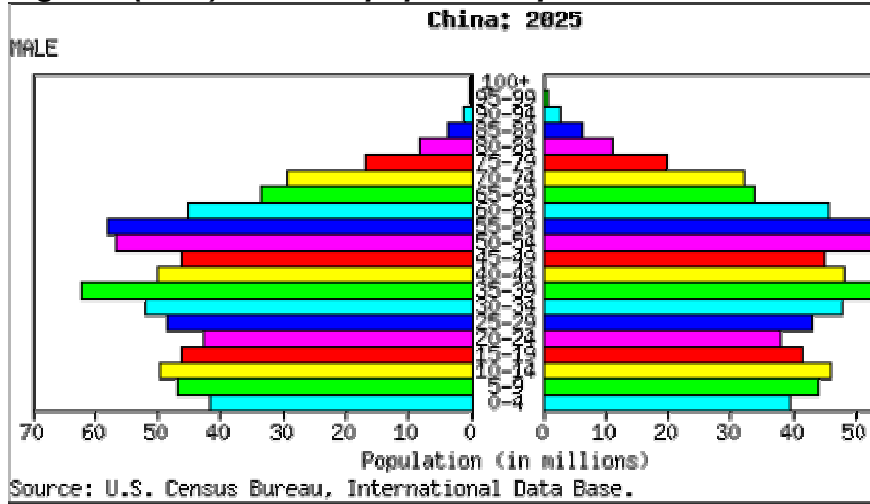


Source: WTO, press release 373, 2004

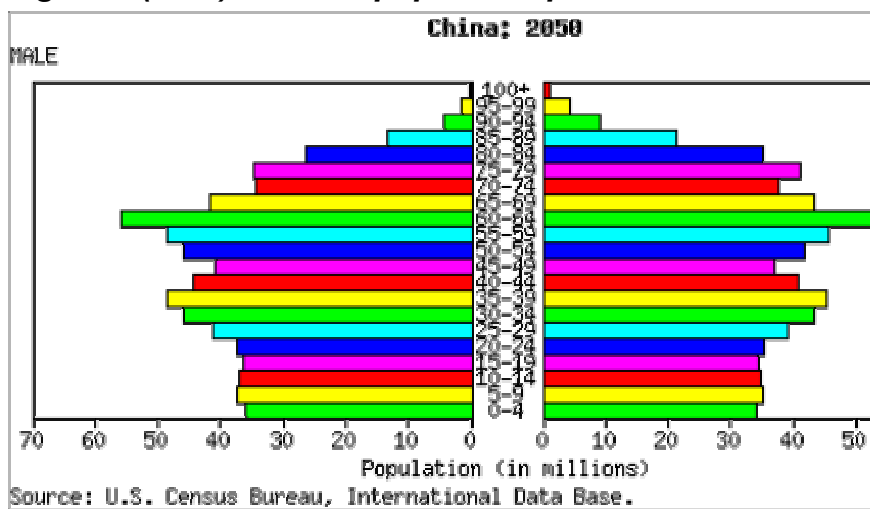
**Figure 3: China's population profile: 2000**



**Figure 3(cont): China's population profile: 2025**



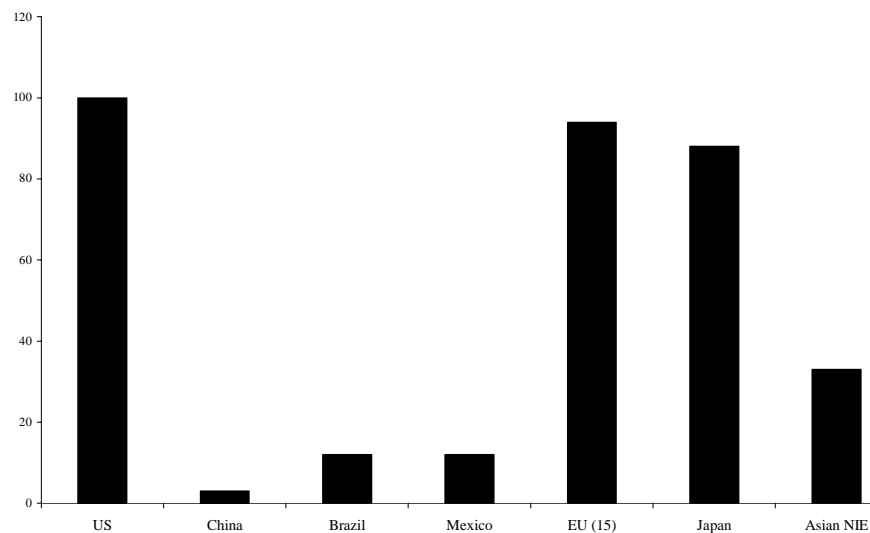
**Figure 3 (cont): China's population profile: 2050**



Source: <http://www.census.gov/>

**Figure 4: Average hourly compensation costs of manufacturing workers 2002**

US = 100 (\$21.11)



Source: Banister 2005

**Table 1: Growth in the value of world merchandise trade**

2003, billions of US\$, % per annum

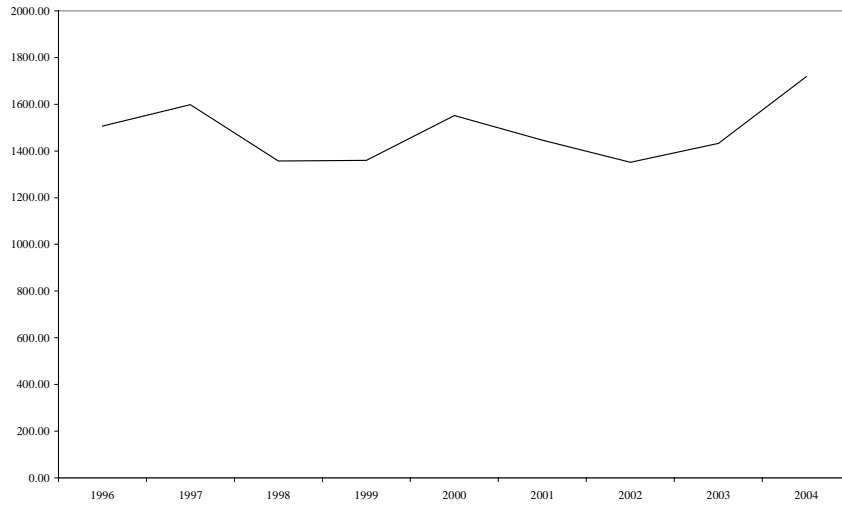
	Exports	% change	Imports	% change
World	7294	16	7569	16
North America	997	5	1549	8
Latin America	378	9	366	3
Western Europe	3145	18	3178	19
Asia	1901	17	1739	19
<b>China</b>	<b>438</b>	<b>34</b>	<b>413</b>	<b>40</b>

Source: WTO 2004



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**Figure 5: Aluminium prices 1990-2004**  
\$US per MT

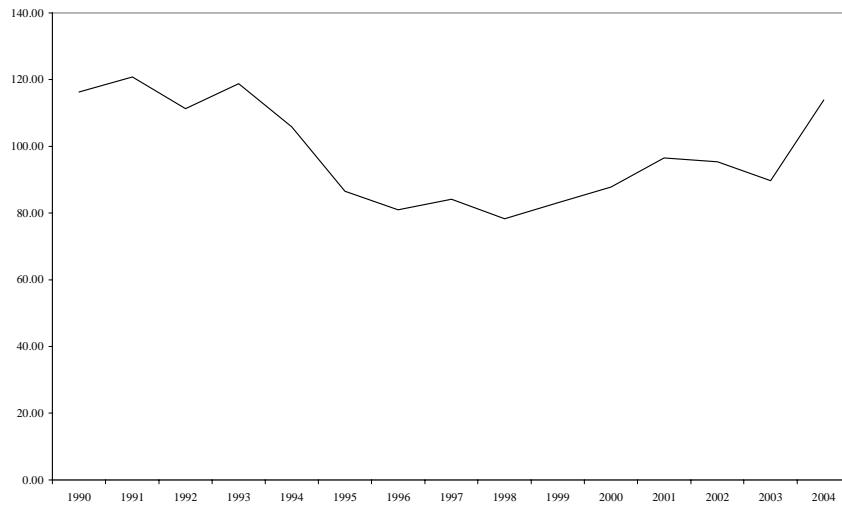


Source: International Financial Statistics

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**Figure 6: Beef price 1990-2004**  
\$US cents per pound (NZ/Aust landed in US port)

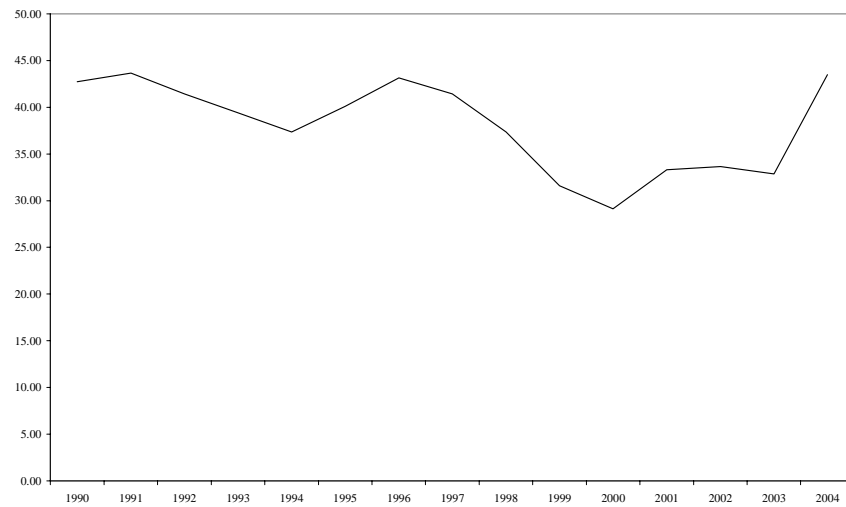


Source: International Financial Statistics

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**Figure 7: Coal price 1990-2004**  
\$US MT (Aust)

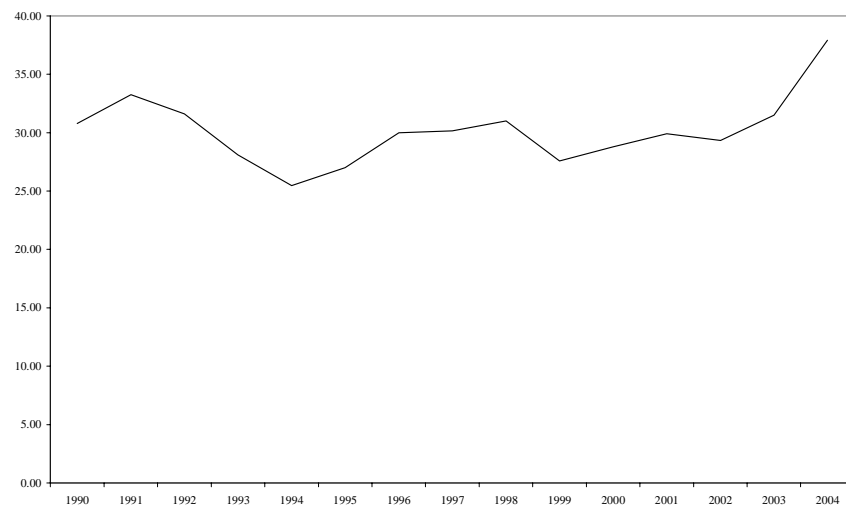


Source: International Financial Statistics

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**Figure 8: Iron ore price 1990-2004**  
\$US per MT

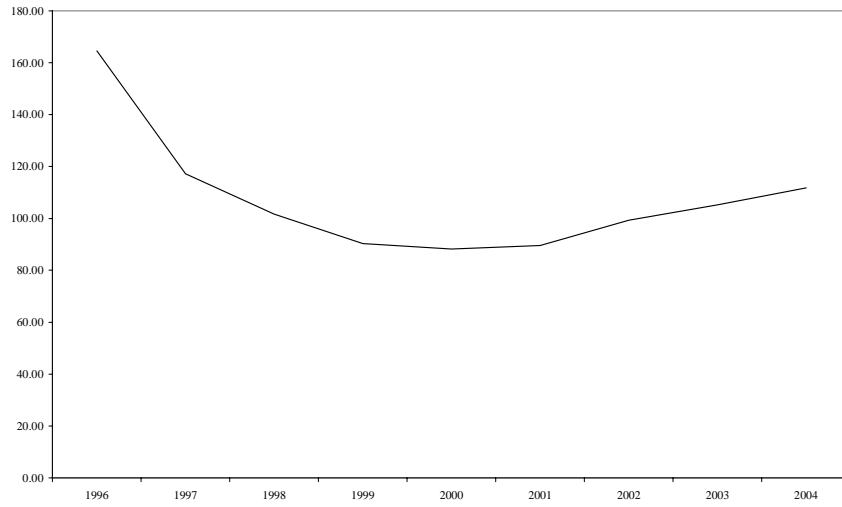


Source: International Financial Statistics

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**Figure 9: Maize price 1996-2004**  
\$US per bushel

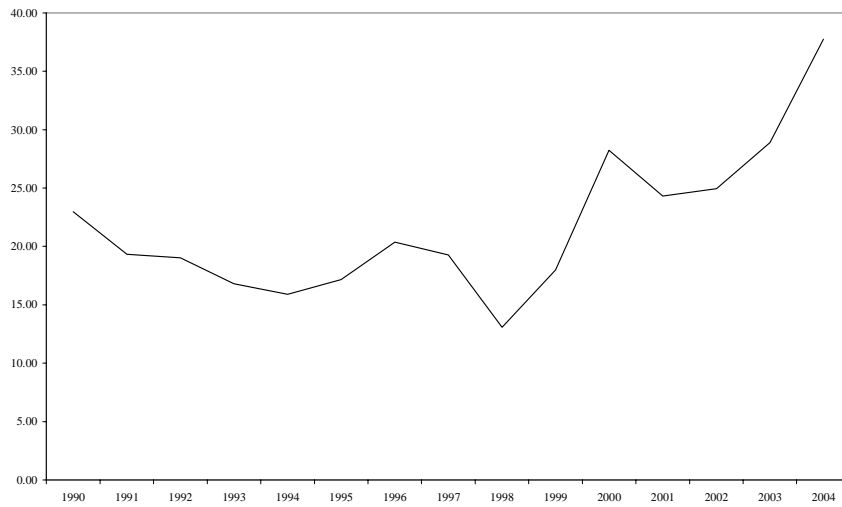


Source: International Financial Statistics

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**Figure 10: Oil price 1990-2004**  
\$US per barrel average crude price

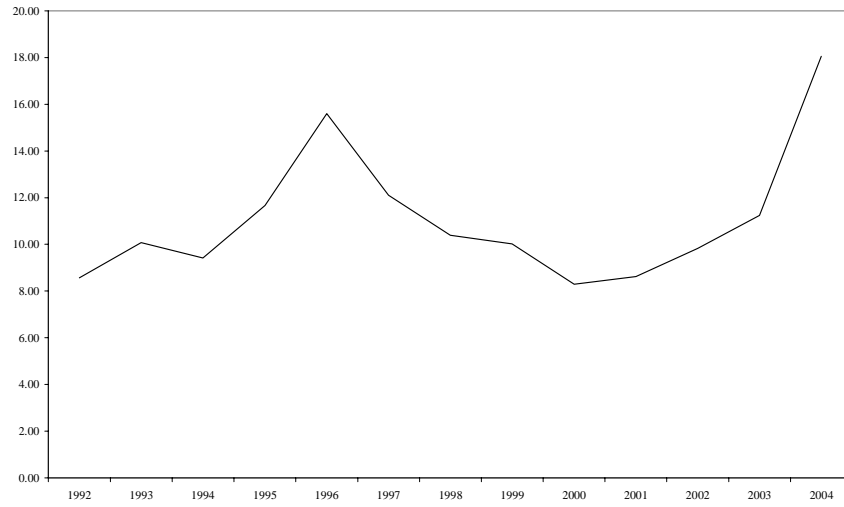


Source: International Financial Statistics

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**Figure 11: Uranium price 1992-2004**  
\$US per pound



Source: International Financial Statistics

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**Figure 12: Wheat price 1996-2004**  
\$US per bushel



Source: International Financial Statistics

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**Table 2: Forecast commodity prices**

Forecasts to 2020

Commodity	Forecast % change in real prices from 1997- 2020
Maize	+1
Beef	-3
Pork	-3
Poultry	-3
Milk	-8
Fish	+16

Source: Source: IFPRI forecasts in Delgado (2002)

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**Table 3: Growth in value of world trade in commercial services**

Billion US\$ and percentages

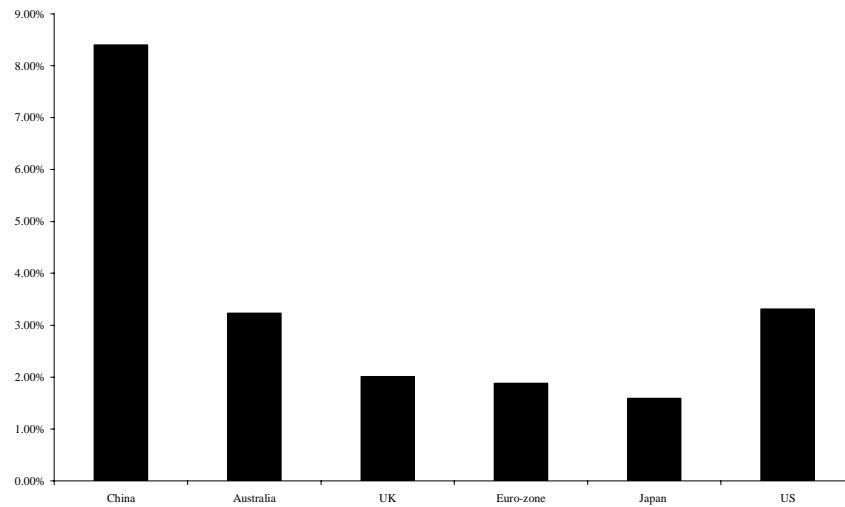
	Value billions of US \$	Growth rates (%)		
		1995-00	2002	2003
<b>Exporters</b>				
World	1795	4	7	13
China	46	10	20	18
N. America	330	7	3	5
<b>Importers</b>				
World	1780	4	5	13
China	55	8	18	19
N.America	279	9	3	9

Source: WTO (2004)

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**Figure 13: Projected Growth rates 2005 – 2010**

Percentage, average annual, calendar years



Source: NZIER

**Table 4: Trade related impacts of faster Chinese integration, 2020<sup>1</sup>**

	Welfare <sup>2</sup>	Exports	Imports	Terms of trade
World	5.3	7.4	7.2	0.0
China	126.1	86.6	85.7	-7.0
Advanced economies	0.1	2.3	2.7	0.7
NIEs	0.2	2.2	2.9	0.5
ASEAN	-	0.9	0.5	-0.1
South Asia	-0.2	0.1	-2.3	-1.0
Middle East	0.7	-0.8	0.4	1.9
ROW	0.1	1.3	0.6	0.4

Notes: (1) As % deviation from values prevailing in the slow moving Chinese scenario (The difference, in percentage terms, between a fast and slow growing China)

(2) Welfare is defined as the equivalent variation, relative to GDP (a measure of GDP growth)

Source: IMF (2004)

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**Table 5: Index of freight rates in liner trades**

1995 = 100

Year	Europe	Africa	America	Asia/Australia
1996	99.2	97.8	100.4	93.0
1997	99.8	99.8	106.3	92.9
1998	94.9	94.9	102.3	76.5
1999	91.4	91.4	98.0	74.2
2000	95.9	95.9	129.8	110.5
2001	97.7	97.7	136.3	96.2
2002	97.7	94.7	109.9	77.9
2003 <sup>1</sup>	94.6	94.6	112.8	94.8

Notes: (1) July only

Source: Beuerlein I & Roemer P (2003)

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