



Reserve Bank of New Zealand Analytical Notes

Economic linkages between New Zealand and China

AN2014/06

Ross Kendall

October 2014

Reserve Bank of New Zealand Analytical Note series
ISSN 2230-5505

Reserve Bank of New Zealand
PO Box 2498
Wellington
NEW ZEALAND

www.rbnz.govt.nz

The Analytical Note series encompasses a range of types of background papers prepared by Reserve Bank staff. Unless otherwise stated, views expressed are those of the authors, and do not necessarily represent the views of the Reserve Bank.

NON-TECHNICAL SUMMARY

Over the past several decades, China's share of global output and trade – and of trade with New Zealand – has increased rapidly.

Although China's economy is expected to continue to grow quite rapidly, the pace of credit-fuelled growth in investment since the global financial crisis has increased the chance of a sharp slowdown at some point. Recognising this risk, the Chinese authorities have announced an ambitious reform agenda, which if successfully implemented should help to address economic imbalances and support ongoing productivity growth.

China is now one of New Zealand's largest trading partners. But New Zealand's most significant economic linkage to China may be through China's impact on the terms of trade – the global prices of the things we buy and sell – rather than through the direct trade channel itself. New Zealand's terms of trade have increased significantly over the past 15 years, with China contributing both to higher export prices and lower import prices. Increasing demand from urban consumers has seen the real world prices of many of the primary products we export increase sharply. And China's industrialisation has put considerable downward pressure on the world prices of imported manufactured goods.

New Zealand is also indirectly exposed through China's connections to the global economy and to our major trading partners in the Asia-Pacific region in particular. If Chinese growth were to slow markedly, demand for New Zealand's exports may be relatively robust if consumption continues to grow, but demand for capital goods and industrial raw materials from the rest of the world could be expected to slow significantly. The limited room for further policy easing in most advanced economies helps highlight the importance of this risk.

There is potential for considerable further growth in demand for our export products, especially if the Chinese authorities' reform agenda is implemented successfully. As with any trading relationship, there are risks from the trade our firms undertake with China. However, the share of our trade with China (about 17 percent in the past year) is not materially higher than China's share of global economic output. The volume of our exports to China itself may be relatively robust in the face of a slowdown in China. However, much of New Zealand's economic exposure to China – through its impact on the global economy and our major trading partners – is likely to exist regardless of the extent of New Zealand firms' direct trade with China.

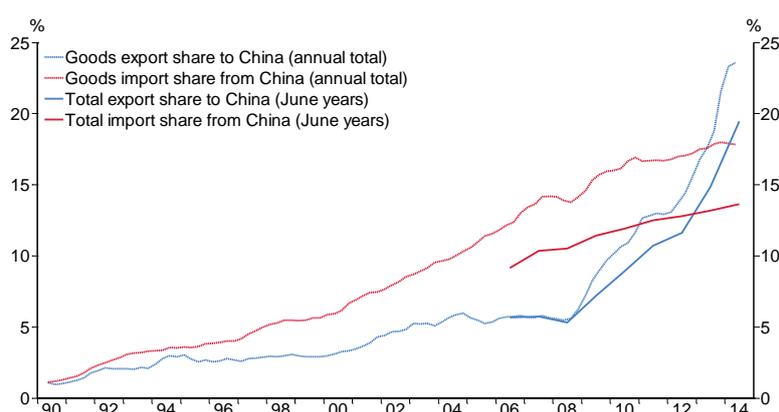
1 INTRODUCTION

In the 30 years to 2013, the Chinese economy grew at an average pace of 9.9 percent per annum, and real per capita GDP increased more than 11 times over. China is now the world's second largest economy. Its share of nominal world GDP has increased from below 2 percent in 1990 to 13 percent in 2013. China is also now the world's largest exporter, accounting for over 11 percent of world merchandise exports. China's firms are increasingly integrated into regional and global supply chains, and Chinese consumption spending makes up a growing share of final global demand.

China's rapid growth was driven by large increases in physical capital, a massive shift of labour from subsistence farming to urban industrial production, and ongoing reform resulting in the economy becoming increasingly market-based. China's integration into global trade, reflecting an export-led growth strategy and enhanced by its accession to the World Trade Organisation in 2001, has further boosted growth and significantly raised its importance to the global economy.

Similarly, China's trade with New Zealand has also increased considerably over the past decade. China is currently New Zealand's second-largest trading partner, behind Australia, accounting for about 19 percent of exports and 14 percent of imports in the year to June 2014. Although dairy is now New Zealand's largest export to China – and both prices and volumes rose strongly in 2013 – China is becoming an increasingly important destination for a wide range of New Zealand's exports.

Figure 1: New Zealand's goods and total (including services) trade with China



Source: Statistics New Zealand, author's calculations.

China is entering a critical period in its economic development. Investment and credit have grown very rapidly in recent years, and are now extremely high as a share of GDP. Successful implementation of wide-ranging economic reforms to boost productivity, address

imbalances, and enable further urbanisation is required in order for GDP growth to continue at relatively rapid rates.

This paper discusses structural economic trends in China, the economic linkages between New Zealand and China, and some of the potential future benefits and risks to New Zealand.¹

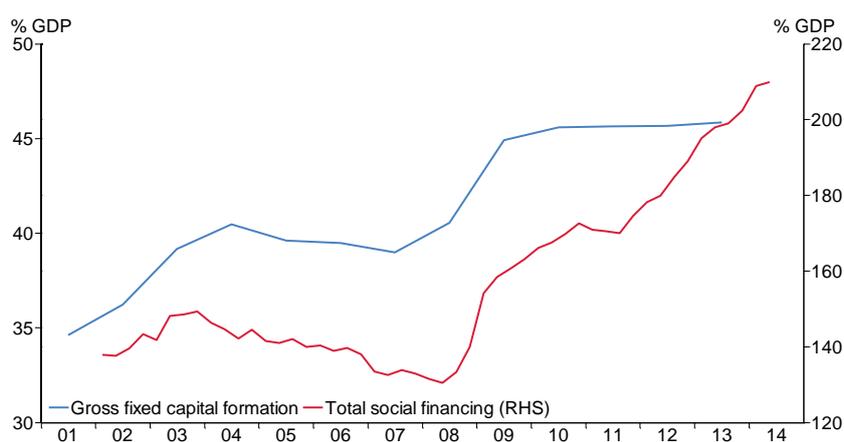
2 STRUCTURAL TRENDS IN THE CHINESE ECONOMY

In this section we examine some of the major structural trends in the Chinese economy as background for the economic challenges facing China at present. For further discussion see, for example, International Monetary Fund (2014a) and World Bank (2013).

2.1 COMPOSITION OF OUTPUT

Since 2000, investment has increased significantly as a share of GDP, from about 35 percent to over 45 percent in 2013 (figure 2). The largest shift in the composition of GDP was during the global financial crisis (GFC) in 2008-2009. The government implemented a large stimulus package to offset collapsing export demand. This involved substantial infrastructure investment by local governments, and substantially increased lending by state-owned banks to support economic activity. However, in subsequent years, external demand has remained relatively weak – exports have fallen from 38 percent of GDP in 2007 to 26 percent in 2013, and investment has maintained its high share of output.

Figure 2: Investment and credit are high as a share of GDP



Source: Haver, author's calculations.

The investment share of GDP in China is extremely high compared to both advanced and emerging economies. This has raised concerns that much of the investment has been of

¹ Bowman and Conway (2013a and 2013b) also examine these topics.

poor quality, particularly given the large role played by state-owned enterprises and local governments in directing investment, and the low effective cost of capital. Indeed, there are signs of overcapacity in some industries, such as steel and property development. Investment booms often foreshadow subsequent economic difficulties and China's high reliance on investment spending in recent years increases the risk of a sharp slowdown in GDP growth.

2.2 CREDIT

Total credit-to-GDP in China rose very rapidly over the past five years (figure 2) and at over 200 percent of GDP (based on total social financing data) is now higher than many other advanced and emerging economies. Rapid increases in credit have been identified as factors in many previous financial crises. The recent IMF Article IV review of China noted that, of countries that have experienced similarly large increases in credit-to-GDP as China has over recent years, over half had subsequently experienced banking crises (IMF, 2014a).

Since 2008, the proportion of funding coming from outside the formal banking sector has increased rapidly, accounting for more than one third of all new lending in 2013. This 'shadow banking' is generally viewed as riskier than traditional bank lending for a number of reasons, including looser regulation, maturity mismatches, and greater lending to sectors perceived as high risk. Although potentially a source of risk, the shadow banking sector plays an important role in providing credit to the private sector, with the formal banking sector often favouring state-owned enterprises due to their implicit government guarantee.

2.3 FINANCIAL CONDITIONS

High savings rates, undeveloped capital markets, and a closed capital account have provided the banking system with a plentiful source of funding, enabling China to maintain a high level of investment without requiring offshore funding. However, financial innovation is beginning to undermine the system of regulated interest rates, with new forms of shadow banking cropping up to avoid regulation. This de facto interest rate liberalisation may help to improve the income share of households (who are net savers in aggregate), allowing consumption to increase as a share of the economy.²

Another factor suppressing household consumption in earlier years may have been the low exchange rate. Chinese authorities manage the exchange rate by intervening to keep it

² According to one estimate, a one percentage point increase in real interest rates is associated with a reduction in urban household saving rates of 0.5 percent of disposable income (Nabar, 2011).

within a tight band around a crawling daily fix. Consistent with a perception that the exchange rate had historically been undervalued, the government accumulated substantial volumes of foreign reserves (the stock was close to 4 trillion USD in 2013, or about 40 percent of GDP) in the process of maintaining the exchange rate close to its official rate. The low exchange rate provided significant support to China's export sector during the 2000s, but the exchange rate has appreciated over time, increasing by about 35 percent since 2005 on a real trade-weighted basis. Some analysts believe that the exchange rate is no longer undervalued – indeed China's current account surplus has declined substantially over recent years, falling from over 10 percent of GDP in 2007 to about 2 percent of GDP at present.

2.4 DEMOGRAPHICS

Large demographic shifts are taking place in China. Over the past 30 years, rapid growth in the working age population has added to the pool of available labour. However, China's working age population growth has slowed drastically over time, and may already be negative. Although the one-child policy continues to be loosened, this is likely to at best mitigate the slowdown. Perhaps partly due to income growth and lifestyle shifts, the desire for children appears to have fallen (mirroring patterns seen in advanced Asian economies, where the fertility rate is often only a little above one child per woman).

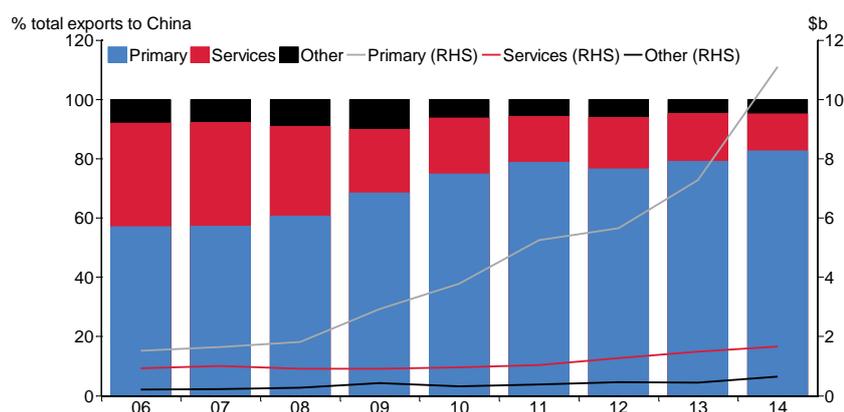
These demographic shifts could have wide-ranging implications for the Chinese economy. The size of the labour force will shrink over time, and wages may rise more quickly as surplus labour shrinks, resulting in increasing incomes for households, but worsening competitiveness. Demand for new housing may reduce as population growth slows, and as the population ages and more workers retire, savings rates may begin to decline.

3 ECONOMIC LINKAGES BETWEEN NEW ZEALAND CHINA

This section examines both the direct and indirect economic linkages between China and New Zealand.

3.1 NEW ZEALAND'S EXPORTS TO CHINA

China is the largest destination for New Zealand exports of dairy, forestry, seafood, and wool, and the second largest destination for meat products and hides. The (increasing) majority of New Zealand's exports to China are primary products (figure 3). While exports of all types of goods and services have continued to grow, a surge in dairy, forestry, and meat exports since 2008 has seen the share of primary exports grow to over 80 percent.

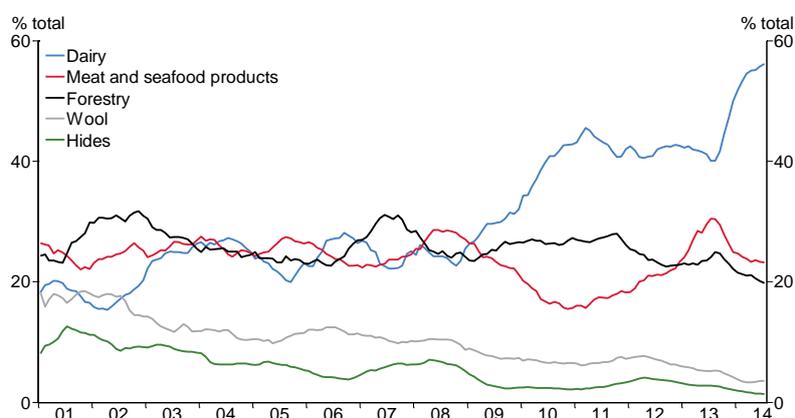
Figure 3: Composition of New Zealand exports to China (annual)³

Source: Statistics New Zealand, author's calculations. Note: June years. Primary products include some processed dairy, meat, and forestry items.

In 2008, New Zealand became the first OECD country to sign a free trade agreement with China. The agreement is likely to have contributed to the strong increase in our primary exports to China, due both to the gradual reduction in the tariffs applied to our products, and the regulatory/signalling value of the agreement encouraging Chinese firms to choose New Zealand products.

Dairy now comprises the largest share of our primary exports to China (figure 4). In the early 2000s, primary exports were relatively evenly split between dairy, meat, forestry, wool, and hides. Although exports of each of these categories have increased in value since then, the massive growth in the value of dairy exports, especially since 2008, has swamped growth of other primary goods.

Figure 4: Composition of primary exports to China (share of primary exports to China)

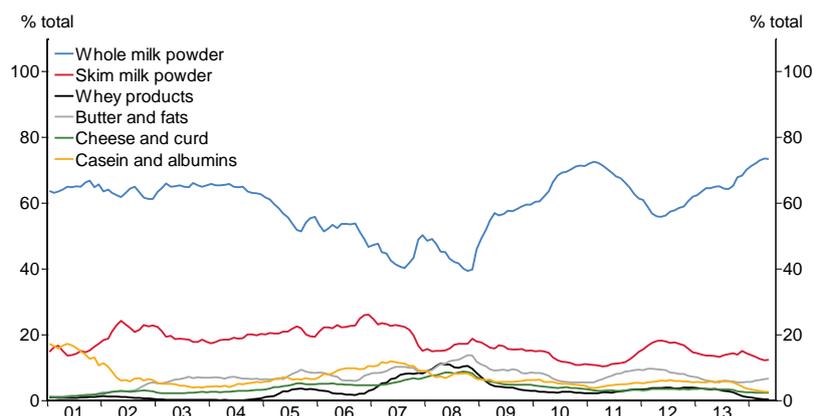


Source: Statistics New Zealand, author's calculations. Note: Annual totals.

³ In the remainder of this section, charts of the composition trade are presented in terms of shares of nominal values, as the rapid growth in trade makes charts of levels difficult to interpret.

New Zealand firms export a wide range of dairy products to China, but whole milk powder dominates (figure 5). This reflects both New Zealand's own production profile, and the profile of demand from China.⁴ New Zealand is the source of nearly all of China's imports of whole milk powder, and over half of China's imports of skim milk powder.⁵

Figure 5: Composition of dairy exports to China (share of New Zealand's dairy exports to China)



Source: Statistics New Zealand, author's calculations. Note: Annual totals.

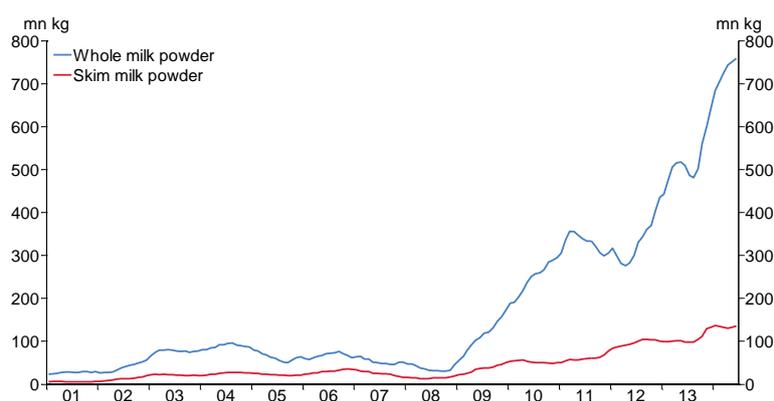
The volume of New Zealand's milk powder exports to China has surged over the past five years (figure 6). Several demand factors have contributed to this. Urbanisation in China has continued at a rapid pace, contributing to higher consumption of dairy products (dairy consumption per capita in urban areas is about three times higher than rural areas). In addition, urban household incomes have grown very rapidly due to strong economic growth and a tightening labour market. In 2008, a scandal involving melamine tainting of milk resulted in a strong shift in consumer preferences towards imported dairy products.

As Chinese demand for foreign milk products has increased, growth in China's milk production has stagnated (figure 7). Margins for Chinese producers have fallen, resulting in many dairy processors operating at a loss, and a large number of farmers abandoning milk production (OECD/FAO, 2014). Costs have risen rapidly, as feed, labour, and land prices have increased. In addition, high beef prices have also encouraged increased slaughter, and there have been several outbreaks of foot-and-mouth disease in recent years.

⁴ Over the past few years, China's import volumes of whole milk powder have been around 2.5 times larger than its import volumes of skim milk powder.

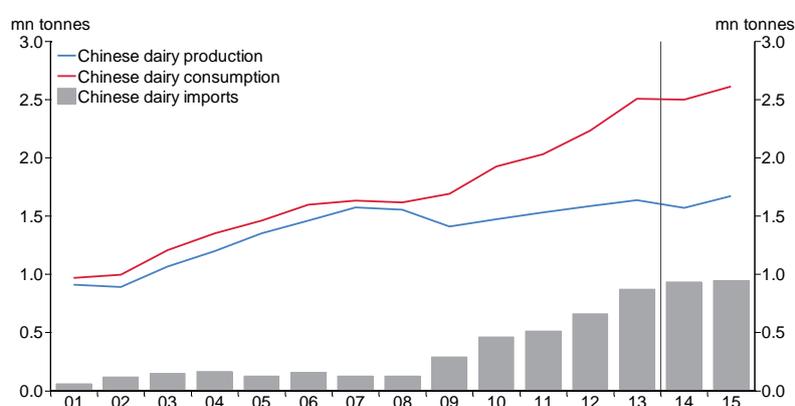
⁵ In 2013, the US supplied 23 percent, Europe 16 percent, and Australia less than 6 percent of China's skim milk powder imports.

Figure 6: New Zealand milk powder export volumes to China



Source: Statistics New Zealand, author's calculations. Note: Annual totals.

Figure 7: Chinese dairy production and consumption (annual)



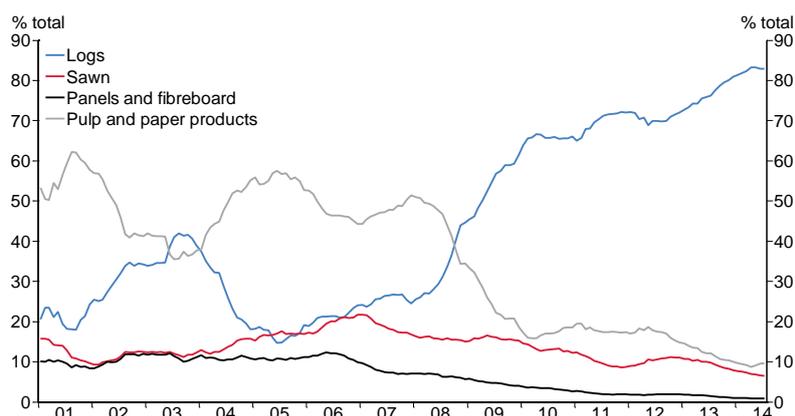
Source: OECD-FAO Agricultural Outlook database. Note: 2013 data are provisional. 2014-15 data are forecasts.

Together, these factors resulted in a reduction of China's dairy herd size of 10 percent and total milk production of 5.7 percent in 2013 (OECD/FAO, 2014). Partly as a result, raw milk prices in China have increased almost 50 percent since 2008, and in 2013 were about 30 percent higher than the average world price. China's milk production is recovering, but the proportion of local consumption that will have to be met from imports is not expected to fall back in the near term.

Prior to 2008, pulp and paper products comprised the majority of New Zealand's forestry exports to China (figure 8). Since 2008, the value of sawn wood, panels and fibreboard, and pulp and paper exports to China have continued to increase, but a surge in the volume of log exports has meant that logs now dominate our forestry exports to China. By volume, around 65 percent of New Zealand's log exports now go to China, up from just over 10 percent in 2007. This surge is due to an increase in Chinese demand for logs, and to Russia (which previously supplied the vast majority of logs to China) imposing a large tax on its log exports in 2008.

New Zealand's log exports to China are comprised almost entirely of radiata pine. Although predominately used for packaging and concrete boxing, increasing use of radiata pine in applications such as windows, furniture, and plywood has contributed to increasing demand (USDA, 2010). Therefore, our forestry exports to China are likely mainly exposed to construction activity, but also somewhat to wider economic activity in China and external demand for manufactured products produced using New Zealand logs.

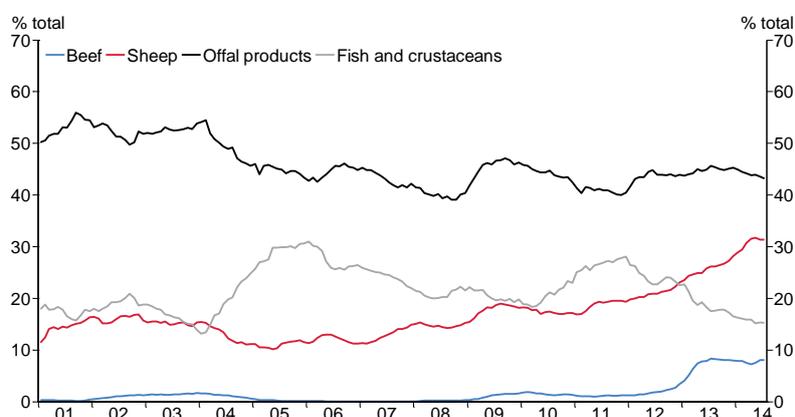
Figure 8: Composition of forestry exports to China (share of forestry exports to China)



Source: Statistics New Zealand, author's calculations. Note: Annual totals.

Offal products comprise the largest share of New Zealand's meat and fish product exports to China (figure 9). Over recent years, however, urbanisation and rising incomes have lifted Chinese demand for higher-quality meat products, resulting in an increase in beef and sheep meat exports to China. China is now our second largest export destination for beef, and our largest export destination for sheep meat. Live lobsters and frozen fish account for most of New Zealand's seafood exports to China.

Figure 9: Composition of meat/fish exports to China (share of meat/fish exports to China)

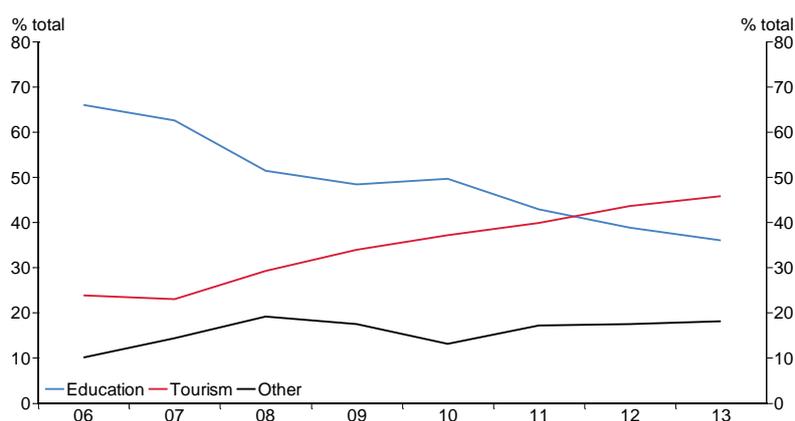


Source: Statistics New Zealand, author's calculations. Note: Annual totals.

Services comprise a relatively low share of New Zealand's exports to China, at about 13 percent, compared to about 32 percent of New Zealand's exports to Australia and the United States. However, services exports to China have increased by 83 percent over the past five years. China is now New Zealand's third largest services export destination, accounting for 9 percent of total services exports.

Until recently, education was New Zealand's largest service export to China (figure 10). China is New Zealand's largest source of international fee-paying students, although this market has not grown much in recent years. Short-term visitor arrivals from China, however, have grown rapidly over the past decade. Chinese visitors now make up about 9 percent of overseas arrivals, making China our second largest source of arrivals behind Australia. Chinese tourists also spend a relatively large amount of money per visit, at about \$4,000 per person, compared to the average of slightly under \$3,000 per person.

Figure 10: Composition of services exports (share of services exports to China)

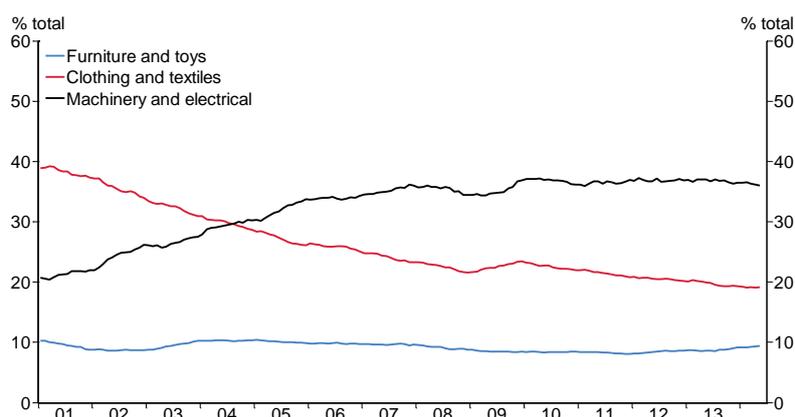


Source: Statistics New Zealand, author's calculations. Note: June years.

3.2 NEW ZEALAND'S IMPORTS FROM CHINA

New Zealand's imports from China are almost entirely manufactured goods. Historically, the majority of these imports have been relatively labour-intensive products, such as clothing, textiles, furniture, and toys, reflecting China's large pool of relatively cheap labour (figure 11). Many New Zealand companies have moved production to China over the past two decades in order to reduce costs.

Figure 11: Composition of merchandise imports from China (share of imports from China)



Source: Statistics New Zealand, author's calculations. Note: Annual totals.

Over time, New Zealand's imports from China have become more broad-based across product types. Imports of more sophisticated manufactured products such as machinery and electrical goods have grown significantly, reflecting increasing wages, skills, and levels of capital in China.⁶ Although computers and phones are by far the largest categories of machinery and electrical imports from China, New Zealand also imports a broad range of other mechanical and electrical goods, with other significant categories including audio-visual equipment, household appliances, printers and copiers, industrial machinery, and electrical circuitry and wiring.

Although China is the source of a large proportion of New Zealand's imports, China's simple import share is overstated relative to the share of Chinese value-added. China is the final assembly point for a wide range of manufactured products, but a large portion of the nominal value of these Chinese exports reflects production of components that have been imported from elsewhere in Asia, and research and development undertaken in advanced economies (smartphones are a clear example of this).

3.3 CHINA'S EFFECT ON NEW ZEALAND'S TERMS OF TRADE

Although China has become a major trading partner for New Zealand, its impact on the real world prices of our exports and of our imports (and the ratio of the two, the terms of trade) may be more important than the change in trade flows. New Zealand's major export products are primary commodities, which are relatively homogenous, and are sold on and priced in international markets. Growth in China has generated increasing demand for commodities,

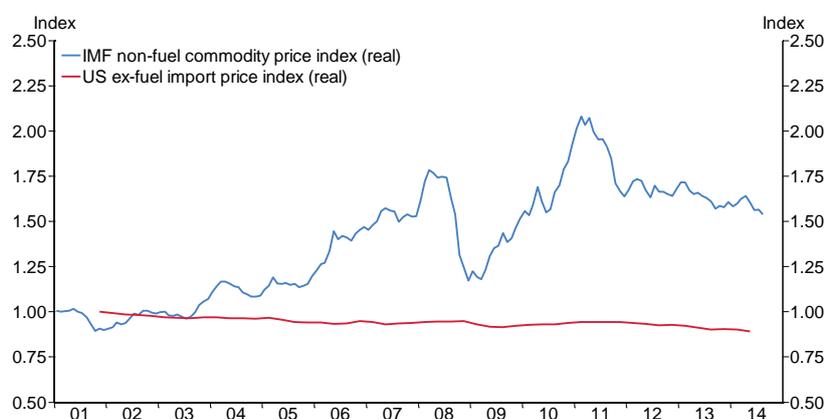
⁶ Labour-intensive imports have still grown at a strong pace, and China remains by far our largest source of clothing and textile products, supplying around 75 percent of New Zealand's imports.

which has pushed up the price New Zealand has received when selling these products to other countries as well. Although China's demand for imported dairy products has been mostly for whole milk powder, over time the prices for different classes of dairy products have tended to move together closely.

This also applies to New Zealand's imports from China. Labour-intensive products, such as clothing and textiles, are relatively similar whether sourced from China or from other countries, but by increasing the low-cost supply of these goods, China has pushed down real global prices. This benefits New Zealand, no matter which country we end up importing them from.

China's economic development and opening is widely regarded as having had a significant impact on relative global prices over the past two decades. Non-energy commodity prices have increased more than 50 percent in real terms since 2001 (and oil prices have increased by even more), while US non-fuel import prices – as a proxy for the world price of manufactured goods – have steadily declined in real terms (figure 12). China's competitiveness in manufacturing has resulted in many companies shifting production to China, and has resulted in global manufacturing profit margins being squeezed.

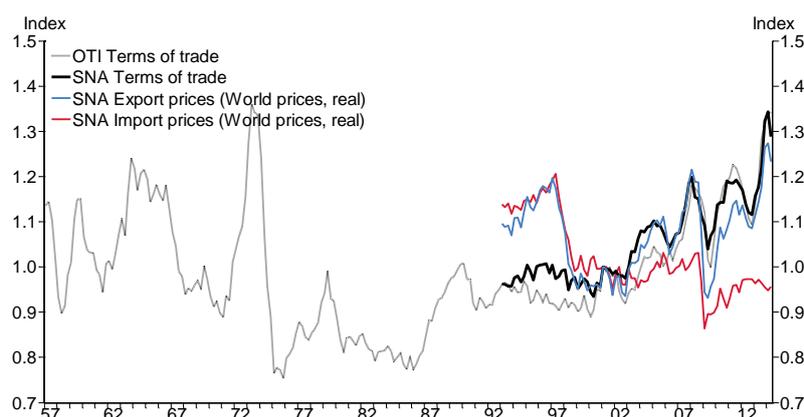
Figure 12: Commodity prices have increased, manufacturing prices have been suppressed



Source: Haver.

Commodity products dominate New Zealand's exports, while manufactured products dominate our imports. As a result, the outperformance of commodity prices has seen New Zealand's terms of trade increase by about 20 percent since 2003/04, to their highest level since 1973 (figure 13).

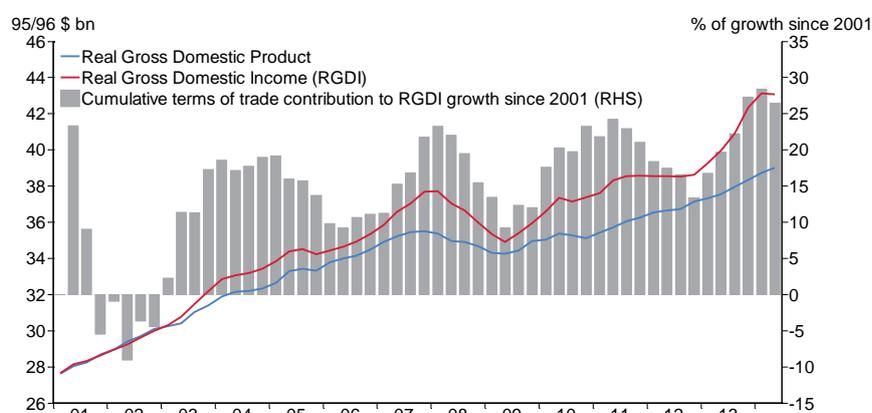
Figure 13: Terms of trade, export prices, and import prices (2001Q1=1)



Source: Statistics New Zealand, author's calculations.

A higher terms of trade means that New Zealand can purchase a higher volume of imports for any given volume of exports, resulting in an increase in our real purchasing power for a given level of production. This increase in purchasing power has been very significant, with the increase in the terms of trade accounting for over a quarter of the growth in New Zealand's real gross domestic income since 2001 (figure 14).

Figure 14: New Zealand's real income has been boosted by the higher terms of trade



Source: Statistics New Zealand, author's calculations. Note: Real gross domestic income is real GDP adjusted for the effect of the terms of trade on real income.

The increase in the terms of trade has also contributed to a higher real exchange rate, spreading the increase in purchasing power across all consumers and firms who purchase imports (Steenkamp, 2014a). New Zealand's terms of trade are quite volatile, and over recent months world dairy prices have fallen sharply.⁷ However, even at current levels, real

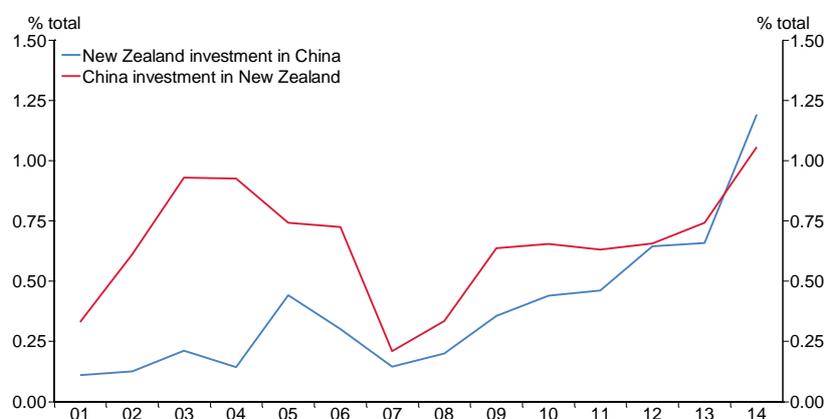
⁷ Steenkamp (2014b) compares the volatility of New Zealand's terms of trade to other economies, and finds that cycles in New Zealand's terms of trade have been relatively large, but similar to those in other advanced commodity exporting countries.

world dairy prices remain well above levels in the decade prior to 2003/04. Along with strong prices for New Zealand's other commodity exports, this suggests that the terms of trade will remain above those experienced in the 1980s and 1990s.

3.4 INVESTMENT FLOWS BETWEEN NEW ZEALAND AND CHINA

Private sector investment flows between China and New Zealand remain low, partly reflecting the relatively closed nature of China's capital account. Official statistics suggest that China's stock of investment in New Zealand and New Zealand's stock of investment in China are both about 1 percent of New Zealand's total foreign liabilities and assets respectively (figure 15).⁸ By contrast, Australia accounts for over a third of the stock of foreign investment in New Zealand. Over recent years, China's share of New Zealand's stock of outward investment has increased, partly due to the increasing trade ties between the two nations, with, for example, two-way investment between the countries in the dairy sector. Two-way investment could increase significantly in the future as China's capital account becomes more open, and as private foreign investment is allowed in more sectors of the Chinese economy.

Figure 15: New Zealand-China stocks of investment (share of total New Zealand stocks)



Source: Statistics New Zealand. Note: March years.

3.5 INDIRECT ECONOMIC LINKAGES BETWEEN NEW ZEALAND AND CHINA

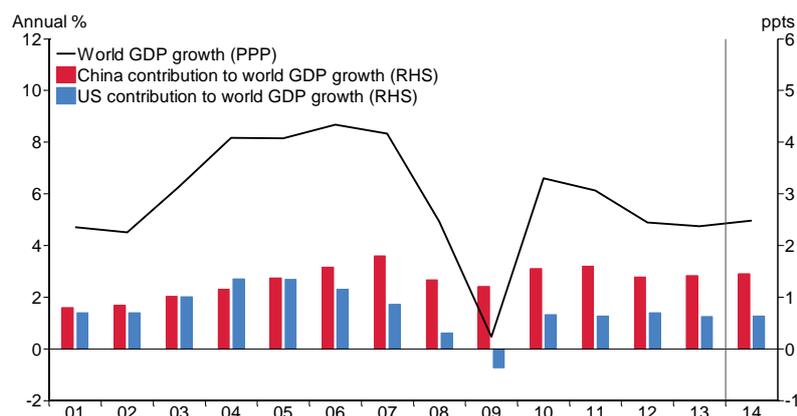
Economic developments in China have become increasingly important for the global economy. China's share of world GDP has increased from 4 percent in 2001 to 13 percent in 2014 on a nominal basis.⁹ China's increasing share of global output, along with its high

⁸ However, these data are unlikely to classify correctly, for example, holdings of government securities held through international securities settlement systems such as Euroclear.

⁹ On a PPP basis, China's share has increased from 7.9 percent to 16.5 percent over the same period.

growth rate compared to other countries, has resulted in its contribution to global growth increasing markedly. When measured on a PPP basis, China's growth contributed around 0.8 percentage points per year in the early 2000s, but contributes around 1.5 percentage points per year at present – now more than double the contribution of the United States (figure 16).

Figure 16: China's contribution to global growth

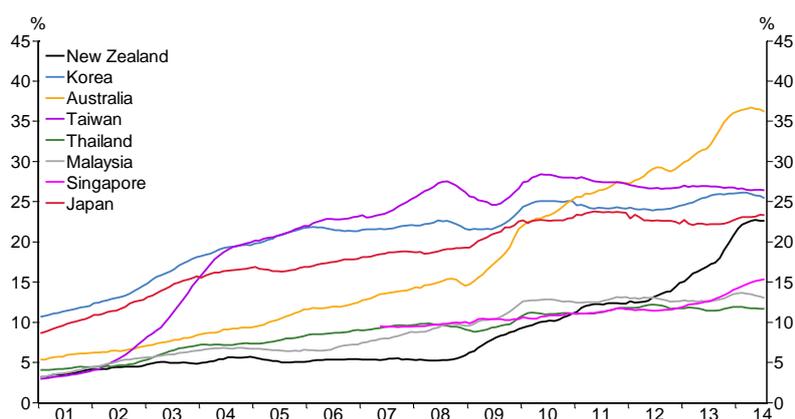


Source: IMF World Economic Outlook database, author's calculations.

China's continued strong economic growth has been especially important in the wake of the global recession of 2008/09. China's stimulus policy ensured a very quick rebound in growth, when other countries' economies mostly remained very subdued. Australia and New Zealand in particular benefitted, with our export baskets reorienting markedly during this period, and China's strong growth causing the terms of trade to rebound in both countries after sharp falls in 2008. Since the crisis, China has remained an important source of global demand, as other major countries have struggled to lift demand. China's current account surplus has also drastically declined, from 10.1 percent of GDP in 2007 to 2.1 percent of GDP in 2013, providing an additional impetus to global demand on top of its GDP growth alone.

Although China is important for the global economy, it is even more important for the Asia-Pacific region, which comprises the majority of New Zealand's trade. China is the largest trading partner for the majority of our other Asian trading partners, and the share of China in most of these countries' trade has increased materially over the past decade (figure 17).

Figure 17: China's share of selected Asia-Pacific countries' merchandise exports



Source: Haver. Note: Annual totals. Singapore data are non-oil domestic exports.

The nature of trade with China differs across countries. Australia's exports to China are almost entirely comprised of hard commodity exports, Japan and Korea export a large amount of capital goods to China, and many Asian economies are integrated into supply chains with China and so trade heavily in intermediate goods. The integrated supply chains in the Asian region mean that merchandise trade weights may overstate linkages to Chinese demand, as advanced economies may account for a larger share of final demand for Asian products. Our Asian trading partners are also likely to be linked to China via confidence effects and financial exposure (which, although limited by China's relatively closed financial markets, has been growing over time).

New Zealand's fastest growing sales to China are mostly to urban consumers, whose demand may continue to grow even if investment growth slows. This means that the volume of our exports may not be overly sensitive to aggregate Chinese economic growth. In addition, although China is a significant importer of soft commodities, its consumption of these commodities is only a small share of the global total (whereas China – with 13 percent of world GDP – consumes about half of all global iron ore production). Therefore, China's indirect linkages to New Zealand, and how these linkages cause a slowdown in China to propagate into reduced global demand for New Zealand's export products, may be more important.

4 POTENTIAL FUTURE BENEFITS AND RISKS

This section examines the potential future benefits and risks associated with New Zealand's economic linkages with China through considering firstly a benign scenario where reforms are successfully implemented, and then a scenario where China grows much more slowly than in the past. It then discusses risks facing our dairy exports to China.

4.1 CHALLENGES TO CONTINUED RAPID GROWTH AND THE NEED FOR ECONOMIC REFORM

China faces several structural challenges. In response, the Chinese government announced a broad reform agenda in late 2013, with the goal of achieving full implementation by the end of the decade. Important aspects of the reform agenda include reform of rural property rights and the social security system to remove obstacles to urbanisation, relaxation of the one-child policy, fiscal reform, increased competition from private enterprise, and financial liberalisation. These reforms, if successfully implemented, would boost productivity growth and allow GDP growth to continue at a high rate relative to developed economies.

The degree of progress implementing the government's reform agenda, and the resulting outcomes, will be major determinants of the future growth and composition of the Chinese economy. Therefore, we next discuss the potential future implications of New Zealand's economic linkages with China firstly in a scenario where reform is successful, and secondly in a scenario where GDP growth drops sharply.

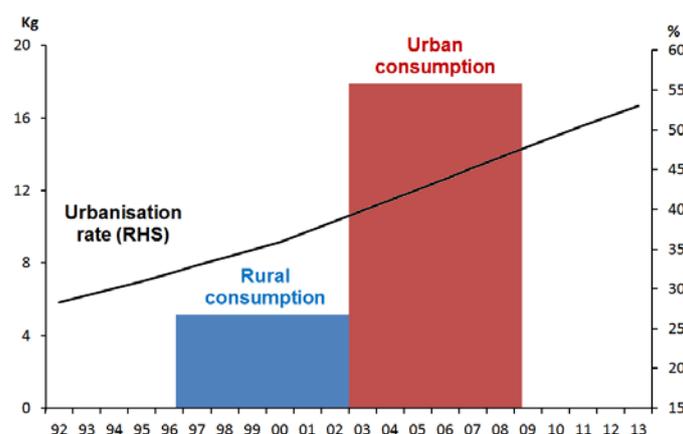
4.2 SCENARIO 1: SUCCESSFUL REFORM AND CONTINUED STRONG GROWTH

New Zealand's exports to China are primarily exposed to urban consumers. These consumers have higher incomes, somewhat more westernised diets, and better access to refrigerated supply chains for the distribution of food products. They are also more likely to travel abroad. Therefore, a scenario in which reform is implemented successfully, resulting in further urbanisation and growth in urban household incomes, is likely to result in continued growth in demand for New Zealand's export products.

Even though Chinese diets are unlikely to ever fully resemble Western ones, there is scope for dairy consumption in China to continue to increase considerably over the longer term, as incomes grow and migration to cities continues (figure 20). Growing demand should lead to continued growth in imports, as Chinese production growth is likely to be slow, at least in the near term.

In addition to dairy, demand is likely to continue to grow for New Zealand's other export products. Chinese demand for New Zealand meat products has begun increasing, and this trend is likely to result in both a higher quantity and quality of meat products being exported to China. Tourism exports to China are also likely to increase as incomes rise. Demand for New Zealand forestry products should remain strong for some time, as high levels of construction are required to facilitate ongoing urbanisation and demand associated with upgrading the housing stock (Berkelmans and Wang, 2012).

Figure 20: Chinese milk product consumption per capita (2011) and urbanisation



Source: Haver, World Bank World Development Indicators database.

A successful reform and growth scenario in China would have positive implications for the global and regional economy. Although growth in Chinese investment is likely to slow in any scenario, China's demand for Australia's hard commodities will remain at a high level, and a push for cleaner energy could see China become a destination for Australia's rapidly growing LNG exports. As incomes in China increase, it will become a more important source of final demand for goods produced in the Asian region, and support growth across a broad range of New Zealand's trading partners. Even as China's economic growth slows, its absolute increase in value-added is likely to increase due to the larger size of China's economy. The increase in China's real GDP in 2013 was 21 percent larger than in 2006, even though growth was 12.7 percent in 2006 and only 7.7 percent in 2013.

As levels of productivity, education, technical expertise, and wages increase in China, production is likely to move further towards more sophisticated products. This could result in a pattern where China's downward pressure on prices of more labour-intensive goods begins to fade, but instead becomes more prevalent in more capital-intensive and complex goods. To some degree this pattern has already begun to occur, with Chinese producers in industries such as aviation, automobiles, communications, and renewable energy becoming more important in the global market.

Financial liberalisation is intended to be a major aspect of the Chinese reform agenda. Liberalisation is expected to continue, with interest rates liberalised within a few years, and further steps taken to allow more capital flows both in and out of China. Capital account liberalisation could result in substantial flows of Chinese funds into other asset classes in a wider range of destinations, including New Zealand. Likewise, as restrictions on capital inflows fade and Chinese financial markets become more developed, global investors are likely to allocate more funds to China in search of higher returns and diversification.

The positive implications of a benign scenario in China illustrates that the future benefits to the New Zealand economy of our linkages with China are potentially large. There is considerable potential for further growth in Chinese demand for our export products, especially if the authorities' reform agenda is implemented successfully, supporting continued urbanisation, increasing household incomes, and strong consumption growth.

4.3 SCENARIO 2: SHARP SLOWDOWN IN CHINA'S GROWTH RATE

There are a number of factors that could cause economic growth to slow significantly in China. If economic reforms progress too slowly due to vested interests or a focus on maintaining rapid near-term growth, then the risk of a more serious disruption to the financial system and a sharp drop in investment will increase as imbalances continue to build. In addition, the reforms themselves could trigger a financial shock, as the financial system becomes more exposed to market forces and profitability is squeezed.

The direct implications for New Zealand of a significant slowdown in Chinese growth depend on the nature of the event.¹⁰ As discussed previously, New Zealand's exports to China are primarily exposed to urban consumers. Therefore, an investment-led slowdown in China may not significantly impact demand for most of New Zealand's export products. However, if a fall in investment was particularly large and protracted, this would inevitably have a flow on effect to urban consumers, with employment and incomes likely to be affected, and the incentive to migrate to cities reduced. A short period of slower economic growth and financial disruption, followed by successful recovery and implementation of reform, would likely see strong demand for New Zealand's exports continue. However, a failure to reform and a sharp slowdown in growth could have a significant effect on urban households, and could lead to a protracted period of stagnant demand.

Given the commodity-based nature of our exports to China, the effect on prices is likely to matter more than the effect on export volumes to China itself, as trade patterns are able to shift elsewhere in response to changes in relative demand. If commodity prices did decline significantly, it is likely that the New Zealand dollar would depreciate against other advanced economy currencies, helping to mitigate the effect on New Zealand growth somewhat.

A sharp slowdown in Chinese growth could affect New Zealand more severely through indirect channels. The share of Australia's exports going to China is almost twice that of New

¹⁰ However, Osborn and Vehbi (2013) estimate a structural vector autoregressive model on data to 2011 and allowing for effects via Australia, find that a one percent fall in output in China leads to a cumulative fall in New Zealand GDP of between 0.2-0.4 percent.

Zealand's, and is dominated by hard commodities, many of which are direct inputs to investment. As a result, Australia is substantially more exposed to Chinese investment fluctuations than New Zealand is. In addition, many of our Asian trading partners that export intermediate and capital goods to China may face a relatively severe reduction in demand.¹¹ Confidence and financial channels may amplify the effect of a slowdown in China. Direct global financial exposure to China, although growing, is currently limited due to the relatively closed nature of Chinese financial markets.

A sharp slowing in Chinese growth would have larger implications for the global economy if it were to occur in the next year or two. The pace of the global recovery remains moderate, and monetary and fiscal policy are constrained in major economies (interest rates are at or near zero, and public debt levels are uncomfortably high in many countries), making it more difficult to offset the effects of a slowing in Chinese demand.

4.4 DAIRY SPECIFIC RISKS

Although the outlook for New Zealand's exports of dairy products to China appears to be strong, there are a number of risks that could result in a reduction in profitability. First, Chinese consumers and regulators have become increasingly sensitive to food quality issues over time. This has benefitted New Zealand producers, whose reputation for quality has ensured strong demand for their products. The risk of reputational damage was highlighted by the botulism scare in 2013, which resulted in Chinese media questioning the safety of our products, and caused some importers to consider ways of diversifying their dairy imports away from New Zealand. In addition, as other countries sign free trade agreements with China, our tariff advantage on dairy products could diminish.

Secondly, although the outlook for Chinese milk production growth is relatively subdued for now given their fragmented herds and relative water scarcity, the current low level of productivity means there is potential to increase production significantly. Chinese authorities have made some efforts to begin consolidating dairy herds, and rural land reform may facilitate this. In addition, farming and processing practices are becoming more commercialised, and foreign investment in the Chinese dairy sector, including from New Zealand, has increased. If productivity were to significantly increase in the Chinese dairy industry, this could have significant implications for China's dairy import volumes.

¹¹ A 1 percentage point slowdown in Chinese investment may lower GDP growth in the median Asian economy by about 0.2 percentage points (International Monetary Fund, 2014b).

Thirdly, global supply is likely to continue increasing over time due to relatively high dairy prices, improving productivity, and structural changes. Production in the United States and Europe is increasing, and the removal of European production quotas in 2015 could see production increase significantly. Dairy production in the United States and Europe is much larger than in New Zealand. If production increases further, producers will be looking for opportunities to export, especially given high prices in China. Additionally, processors from these regions may invest in whole milk powder production to meet Chinese demand, reducing New Zealand's dominance in this product. However, a large proportion of the potential increase in dairy production is from countries with higher marginal costs than New Zealand, which should limit the extent to which increased production can sustainably lower dairy product prices.

5 CONCLUSION

The benefits to the New Zealand economy from China's rapid growth over the past decade have been large. Urbanisation and growing household incomes, combined with problems in China's own dairy sector, have resulted in a significant increase in global demand for our primary export products, and the continuing industrialisation of China's economy has resulted in significant downward pressure on the prices of many of our imported goods. The resulting increase in our terms of trade has meant a significant increase in New Zealanders' purchasing power.

Although New Zealand's direct trade with China is important, New Zealand is also indirectly exposed to China via its impacts on the global economy and our major trading partners in the Asia-Pacific region in particular. If Chinese growth were to slow, demand for many of New Zealand's exports to China may be relatively robust if consumption continues to grow. Therefore, indirect linkages could be a more significant channel for New Zealand, given the exposure of some of our major trading partners to Chinese investment cycles, and the apparently limited scope for material additional countercyclical policy in large advanced economies if a slowing in China were to materially weaken the global economy.

If the Chinese authorities' reform agenda is implemented successfully, New Zealand could reap considerable additional benefits from growing trade with China and rising Chinese demand for high-quality food products. Inevitably, there also are risks to the New Zealand economy from our linkages to China. However, this is the case with any trading relationship, and the share of our trade with China is not out of proportion with China's share of global economic output. But even if the volume of our own exports to China prove relatively robust

in the face of a slowdown in China, New Zealand would still be significantly exposed to economic developments in China through their implications for the global economy and our major trading partners.

REFERENCES

- Berkelmans, L. and H. Wang (2012) 'Chinese urban residential construction to 2040', RBA Research Discussion Paper 2012-04.
- Bowman, S. and P. Conway (2013a) 'China's recent growth and its impact on the New Zealand economy', New Zealand Treasury Working Paper 13/15.
- Bowman, S. and P. Conway (2013b) 'The outlook for China's growth and its impact on New Zealand exports', New Zealand Treasury Working Paper 13/16.
- International Monetary Fund (2014a) '2014 Article IV consultation: staff report; press release; and statement by the Executive Director for the People's Republic of China', IMF Country Report 14/235.
- International Monetary Fund (2014b) '2014 Spillover report'.
- Nabar, M. (2011) 'Targets, interest rates, and household savings in urban China', IMF Working Paper 11/223.
- OECD/Food and Agriculture Organization of the United Nations (2014) 'OECD-FAO Agricultural Outlook 2014', OECD Publishing.
- Osborn, D. and T. Vehbi (2013) 'Empirical evidence on growth spillovers from China to New Zealand', New Zealand Treasury Working Paper 13/17.
- Steenkamp, D. (2014a) 'Structural adjustment in New Zealand since the commodity boom', Reserve Bank of New Zealand Analytical Note AN2014/02.
- Steenkamp, D. (2014b) 'How volatile are New Zealand's terms of trade? An international comparison', Reserve Bank of New Zealand *Bulletin*, 77(2).
- United States Department of Agriculture (2010) 'People's Republic of China: forest products annual report', Global Agricultural Information Network.
- World Bank (2013) 'China 2030: building a modern, harmonious, and creative society', <http://documents.worldbank.org/curated/en/2013/03/17494829/china-2030-building-modern-harmonious-creative-society>, March 2013.