# Emerging Asia and global inflation

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The integration of emerging markets such as China into the global economy has had a profound effect on the inflation process in advanced economies. This article examines the relationship between the integration of emerging Asia into the global economy and the inflation process in New Zealand, highlighting both the downward and upward pressures on inflation emanating from the region. Monetary policymakers appear to have benefited from the protracted deflationary impulse from lower import prices, which may have made the achievement of domestic inflation objectives easier to achieve than might otherwise have been the case. However, this positive supply shock has more recently been matched by the headwinds of higher commodity prices.

## 1 Introduction

A remarkable feature of the global economic landscape over the past decade has been the shift to a low and stable inflation environment, notwithstanding the more recent increases in headline inflation driven by higher prices for oil and other commodities. Consumer price inflation has averaged 2 to 3 percent since the early 1990s for industrialised economies, while the mean inflation rate for emerging markets is slightly higher at 5 percent (IMF 2006b, pp. 98-102). The current low-inflation environment is a consequence of a significant period of disinflation following the high inflation rates of the 1970s. Since that time, inflation has fallen 10 percentage points on average for industrialised economies, while the decline for developing economies has been even larger at 20-30 percentage points (Melick and Galati 2006, p 2).

A number of factors have been put forward to explain this fall in inflation. These include: more effective monetary policy and decisive efforts to target low inflation; fewer negative domestic shocks in most economies; positive productivity shocks associated with technological progress; greater fiscal discipline; and structural reforms. In addition, it is also recognised that the integration and growing importance of emerging market economies has been instrumental in keeping global inflation low. As Ken Rogoff states, "globalisation – interacting with deregulation and privatisation – has played a strong supporting role in the past decade's disinflation" (2003, p 54).

The primary channel by which emerging economies such as China affect inflation in the advanced economies is trade. The integration of China into the global economy has added 800 million people to the global labour supply (Fisher 2006). This additional global capacity has been reflected in a secular decline in the price of manufactured goods produced by China and emerging Asia. The consumption basket of advanced economies has increasingly been made up of these low-cost imported manufactured goods, previously manufactured locally or imported from traditional suppliers.

Of course, the falling price of imported manufactures is, on one level, simply a change in a relative price. Depending on how people form expectations of inflation and elect to price other items in the CPI (such as the costs of home ownership), and how the central bank responds, it is not necessarily the case that a falling relative price will directly lead to a fall in inflation.[1] But, as argued by Rogoff (2006), it is likely that the pace of China's development and the scale of downward pressure on import prices has represented a series of relative price surprises that are likely to have led to somewhat lower overall inflation.

More recently, however, the downward pressure arising from lower import prices of manufactured goods has been offset to varying degrees by higher prices for imported intermediate inputs. Rapid industrialisation in China and other emerging economies has resulted in upward pressure in the price of key commodity inputs into the production process.

This article examines the relationship between the integration of emerging Asia into the global economy and the inflation process in New Zealand, highlighting both the downward and upward pressures on inflation emanating

[1] For example, faced with falling import prices, a central bank could, in principle, target higher rates of domestic inflation, thereby leaving aggregate inflation unchanged.

from the region.[2] The next section sketches the broad impact of emerging Asia on the global economy. The impact has been profound in terms of the region's contribution to global growth and the demand for resources required to support this growth. Section 3 traces the major channels through which emerging Asia is affecting global inflation – focusing in particular on the trade channel. Cross-country empirical evidence is reviewed to identify the magnitude of this 'globalisation' effect.

In section 4, the inflation process in New Zealand is viewed through the globalisation lens, noting that the integration of China and other emerging economies into the world economy – and the greater share of New Zealand imports being sourced from this region – has helped lower inflation outcomes. The article concludes by highlighting a number of implications for the conduct of monetary policy arising from greater trade integration.

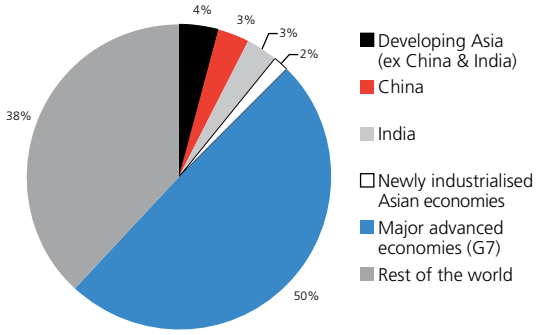
## 2 Emerging Asia and the world economy

The integration of China and other developing economies in the Asian region into the global economy has had profound consequences not only for these countries themselves, but also for the very structure of the global economy. Emerging Asia's share of world trade has doubled since 1970 (IMF 2006b, p 77). At 6.6 percent of the global total, China is now the third-largest exporting nation behind the US and Germany. In terms of the global share of output, China's performance is even more impressive. China is now the second-largest individual economy in the world measured on a purchasing power parity (PPP) basis. China's share of global GDP has increased from 3 percent in 1980 to 16 percent in 2006 (figure 1).[3]

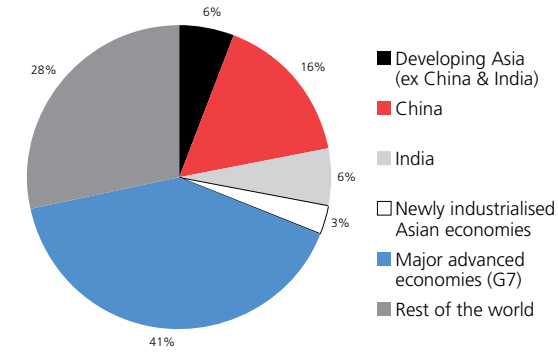
Not surprisingly, given this dramatic increase in the share of world output, it is emerging Asia in general and China in particular that has driven world growth (table 1). Just over a quarter of the increase in world growth since 2000 has come from China alone.

Figure 1
Composition of world GDP

Share of global GDP (PPP-based) – 1980




Share of global GDP (PPP-based) – 2006




Source: IMF World Economic Outlook, Sept 2006.

A corollary of emerging Asia's enhanced role in world trade has been that a greater share of the imports of advanced economies are now sourced from this region as well as other emerging markets. According to the Organisation for Economic Cooperation and Development, OECD (2006a), imports to OECD countries from non-OECD countries doubled to 6 percent of GDP between 1990 and 2005 (p 6). In addition, the overall level of imports-to-GDP for advanced economies has increased markedly over the last decade (figure 2). New Zealand's import-penetration ratio increased 13 percentage points to 37 percent of GDP between 1990 and 2006.[4] The finished goods New Zealand consumes

[2] 'Emerging Asia' is defined loosely here as the group of Asian economies that have begun rapid convergence towards the level of incomes associated with more mature economies – China and India are the key examples. They are distinct from the NIEs, or newly industrialised economies of Asia: Hong Kong, Singapore, South Korea, and Taiwan.

[3] Data for 2006 are estimates. The US is the world's largest economy with 20 percent of global GDP.

[4] The penetration ratio for *goods* imports has increased from 17 percent in 1990 to 29 percent in 2006.

Table 1

Contribution to world growth

| | Contribution to growth 1980-1990 | Contribution to growth 1990-2000 | Contribution to growth 2000-2006* | Share of world GDP 2006* | Average annual growth rate 1990-2006 |
|---|---|---|---|---|---|
| World | 100 | 100 | 100 | 100 | 5.8 |
| Major advanced Economies (G7) | 47.2 | 40.6 | 29.5 | 40.4 | 4.6 |
| Developing Asia | 19.0 | 33.6 | 40.2 | 28.0 | 9.8 |
| China | 8.5 | 20.3 | 25.9 | 16.2 | 12.1 |
| Newly industrialised Asian economies | 3.3 | 4.4 | 3.2 | 3.3 | 7.8 |

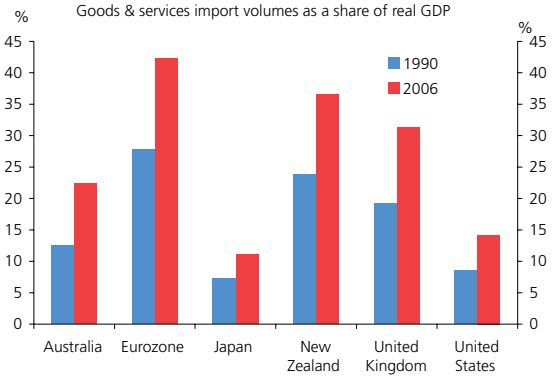
* Data for 2006 are estimates.
Source: IMF World Economic Outlook, Sept 2006, RBNZ calculations.

are increasingly sourced from abroad, while the import content of goods and services produced in New Zealand and elsewhere has also increased.[5]

As the next section will highlight, the higher share of imported low-cost manufactured goods in the consumption basket of the advanced economies is an obvious channel for emerging Asia to impact global inflation. Another important channel is the cost of intermediate inputs into the production process. New Zealand, like many other advanced economies, imports most of the raw materials necessary for production. The rapid growth of China and emerging Asia has placed significant upward pressure on commodity prices in recent years.

Figure 2

Import penetration



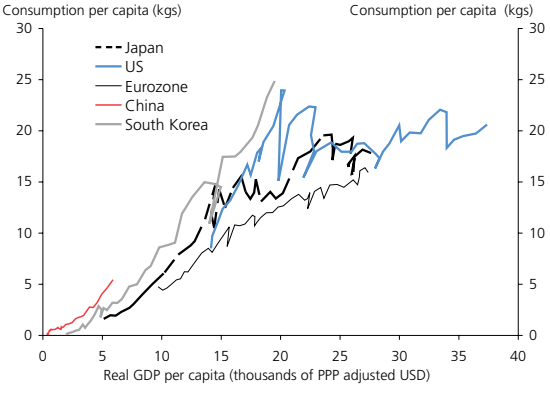

Source: Datastream, Statistics New Zealand.

[5] Rising import penetration ratios across the developed world reflect both trade liberalisation – the lowering of tariffs and quotas on imported goods – and the shift in consumer preferences towards relatively cheaper goods produced elsewhere.

All economies require inputs to grow, and economies at earlier stages in the development process tend to be more resource-intensive in the composition of their output. China's rapid industrialisation, massive infrastructure development and ongoing urbanisation have created a massive demand for energy and other raw material resources. The Asian Development Bank notes that the intensity of resource use starts to slow at GDP per-capita rates between USD 15,000-20,000 (PPP-basis) as an economy becomes more service oriented (Park and Zhai 2006). With GDP per capita currently standing at USD 6,400 in PPP terms, China has some way yet to go along its development path. China's consumption of raw materials is tracking the earlier industrialisation profile of Japan and South Korea (IMF 2006b, p. 143). This is shown below for aluminium and copper in figures 3 and 4 respectively.

Figure 3

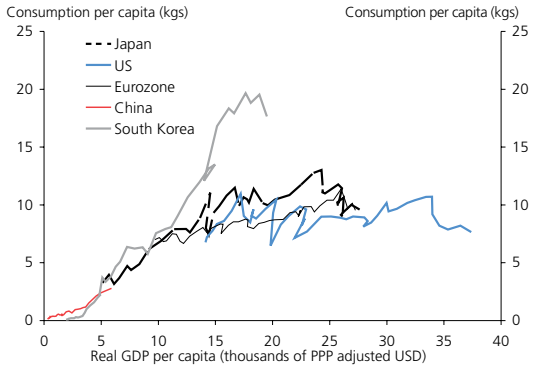
Per-capita consumption of aluminium




Source: IMF 2006 World Economic Outlook, September 2006.

## Figure 4

### Per-capita consumption of copper

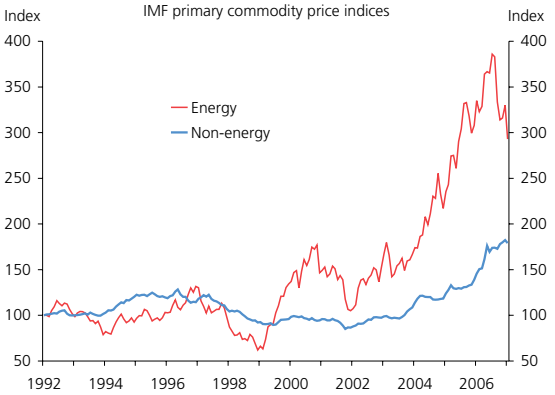



Source: IMF 2006 World Economic Outlook September

The current demand pressure on global resources relative to supply has seen a range of commodity prices increase over the past few years. The IMF's primary commodity price indices (figures 5 and 6) are indicative in this regard. The energy index (crude oil, natural gas and coal) has increased 170 percent since the beginning of 2002, while the non-energy index has doubled.[6] Within the non-energy sub-index, metals prices (copper, aluminium, iron ore, tin, nickel, zinc, lead, and uranium) have increased 230 percent over the same period, reflecting in part, the impact of emerging Asia's industrialisation.

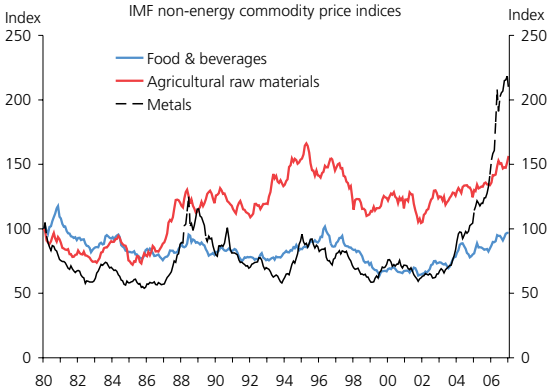
## Figure 5

### Commodity prices




## Figure 6

### Non-energy commodity prices




The Asian Development Bank (ADB) calculates that emerging Asia was responsible for 60 percent of the growth in the world demand for oil between 1990 and 2005, while the Group of 7 (G7) advanced economies contributed just 13 percent (Park and Zhai 2006, p 5). The region's share of total global demand for oil now stands at 22 percent and this is expected to increase to 27 percent by 2015. Much of this demand comes from China, which is currently the second-largest consumer of oil behind the US with 8 percent of the global total. China is also now the world's largest consumer of aluminium, copper and nickel.

The growing demand for commodities described above suggests that Asia has been an important driver of the prices of oil and other raw materials recently. The OECD (2006a) calculate that if the world trade share of emerging economies had been held constant from 2000 to 2005, and their GDP growth had been no higher than the OECD average over this period, then real oil prices would have been 40 percent *lower* than the level actually prevailing at the end of 2005. This would have removed most, but not all, of the price gains over this period (p 13). It is estimated that real metals prices would have been 10 percent lower, explaining a much smaller fraction of the price gains.[7]

Going forward, it is likely that Asia will command a growing share of the world's resources as industrialisation continues. The ADB forecasts that Asia will be responsible for 61 percent of the increase in demand for *all commodities* between now

[6] Note, higher energy prices have also contributed to the increases in non-energy commodities, given the energy-intensive nature of production of many of the commodities that constitute the sub-index.

[7] This suggests factors other than Asian economic growth explain the price increases in metals, such as demand from other parts of the world, or speculative behaviour.

and 2015.[8] However, both the ADB and the IMF expect some softening in commodity prices from the current high levels over the medium term despite this continued robust demand growth. The IMF argues that rising supply will meet higher demand across a number of commodities as infrastructure investment will result in increased capacity. In addition, there is likely to be a gradual rebalancing in China toward domestic consumption from the currently high levels of investment underpinning growth.

## 3 Emerging Asia and global inflation

The integration of emerging Asia into the global economy described in the previous section has two opposing effects on global inflation. Higher commodity prices have exerted upward pressure on inflation, while the decline in the price of imported manufactured goods has imparted downward pressure. International *trade* is the key channel that links emerging Asia and domestic inflation in the advanced economies. Increased competition from emerging markets can also have important effects on *labour markets* in advanced economies. A third channel that has been identified is the enhanced sensitivity of domestic inflation to *global output conditions*.

### Trade

The most obvious avenue for the influence of emerging economies on global inflation is via imports. This direct effect has two elements: firstly, the *price of imports* will affect both producer prices and final consumer prices; and secondly, the *relative share of imports* from emerging Asia will affect average import prices.

The influence of import prices on a country's inflation rate depends on a number of factors, including the foreign currency prices of the goods and services in the import basket, the exchange rate, and local market conditions in the sectors selling those imports or transforming them into finished goods. Exchange rate fluctuations will tend to have a significant bearing on the local currency price of imports.[9] However, the transmission of import prices to producer and consumer prices will be affected by the nature of the competitive environment and whether domestic goods and services are competing with imports. For example, oil has few close substitutes, so oil price fluctuations in New Zealand dollars (NZD) terms tend to be quickly reflected in the pump price New Zealanders pay.[10]

This imported price effect will be present even if import shares remain constant – although downward and upward price pressures may potentially offset each other depending on the import basket. This import price effect will, of course, tend to be stronger if the level of imports increases relative to GDP.[11] As noted in the previous section, import penetration rates have increased for most advanced economies, including New Zealand. So how open an economy is will partly determine how much deflation or inflation is imported from emerging Asia.

Looking at both export price indices from emerging Asia and the import prices indices of advanced economies can give an initial sense of the magnitude of the direct import price effect. Figure 5 shows the secular decline in China's export prices as proxied by re-exports from Hong Kong (in Hong Kong dollars). The aggregate export index has fallen 11 percent since the mid-1990s. Chinese export prices have increased 5 percent since the middle of 2003,

[8] While outside the scope of this article, current and future Asian demand for commodities has implications for both New Zealand's overall terms of trade (ratio of export prices to import prices) and export volume growth, given the commodity character of our export basket. Industrialisation and higher per-capita incomes have historically been connected with changing dietary patterns, with a greater proportion of protein and fats in the diets as a country becomes wealthier. However, aside from productivity improvements, agricultural production is supply constrained to a degree, suggesting there are biological limits to New Zealand export volume growth to the region.

[9] In reference to the US experience, Kohn (2006) and Yellen (2006) both note that exchange-rate fluctuations are possibly more influential in lowering US import prices and hence US inflation than cheaper goods from China per se. Note, however, that the sensitivity of import prices (measured in domestic currency) to movements in the exchange rate appears to have declined in many countries over the past two decades.

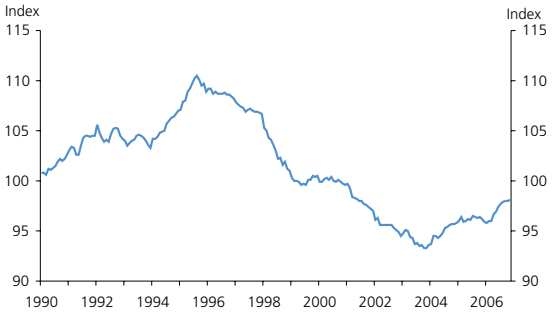
[10] In terms of CPI inflation, the effect of import price changes will be influenced by the weight of any item in the regimen, and whether the central bank accommodates the price changes by not tightening or loosening policy.

[11] Conversely, even if the relative price of imported goods from emerging Asia to domestically produced goods stopped declining, for example, a rising share of imports from the region could still exert a downward influence on inflation, as the price level of these imports is still likely to be lower than domestically produced goods.

however, reflecting in part the higher cost of oil and other raw material inputs into production, together with some localised capacity constraints.[12]

## Figure 7

## China export prices (re-exports from Hong Kong)

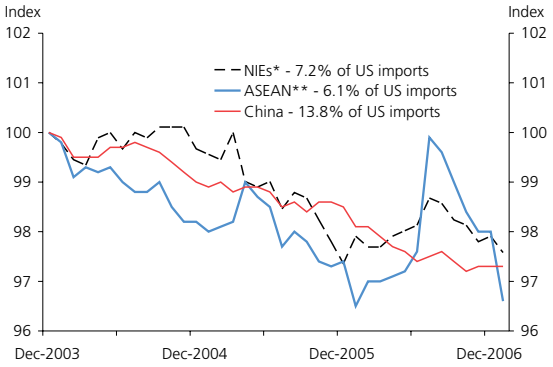



Source: Hong Kong Census & Statistics Department.

New Zealand import price data for goods imported from China and emerging Asia is not available. However, the US Bureau of Labor Statistics does produce import price indices for the US's imports from Asia, starting in 2003 (figures 8 and 9). In USD terms, import prices from Asia have fallen since 2003, albeit modestly by around 2-4 percent. By contrast, import prices from the Middle East have increased 60 percent over the past three years on the back of oil price increases, while the prices of imports from other industrialised countries have increased 16 percent.

## Figure 8

## US import price indices - Asia

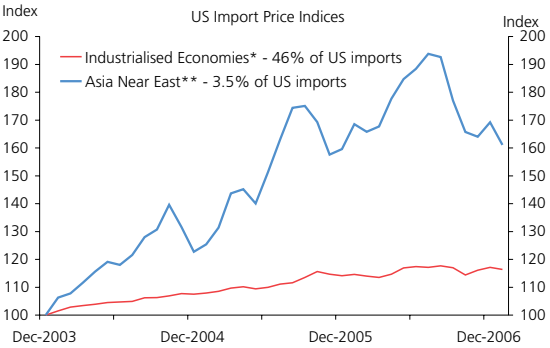



* Hong Kong, Singapore, South Korea, and Taiwan..
** Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

[12] China's export price index could also be masking subtle changes to its own export basket as more and more high-value-added and higher-quality goods are being exported over time. So the mere fact that there are no longer large downward movements in the index is not necessarily a sign that China isn't still creating downward pressure on prices.

## Figure 9

## US import price indices – other




Source: US Bureau of Labor Statistics.
* Western Europe, Canada, Japan, Australia, NZ, and South Africa
** Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen.

The OECD (2006a) estimates that increasing levels of imports from low-cost producers has reduced 'non-commodity' import prices by 1-2 percent per annum in most OECD countries between 1995 and 2005.[13] In relation to the impact on consumer prices, it calculates that higher penetration rates and the imported inflation effect from emerging Asia shaved 0.1 percentage points off US inflation between 2000 and 2005, up from 0.03 percentage points between 1990 and 1995. Estimates for the euro zone are higher, given higher import penetration, with CPI inflation estimated to be 0.3 percentage points per annum lower on average, between 2000 and 2005 (p. 8).

The results do not take into account the effect of lower import prices on domestic firm behaviour. Indeed, there are *indirect* effects associated with the trade channel. Enhanced integration with emerging market economies can increase competition in advanced economies as domestically produced goods and services now compete with low-cost imports.[14] This can reduce mark-ups for domestic firms or lead to productivity increases, thereby mitigating the pass-through of cost pressures into final product prices. Therefore, the OECD's mechanical calculations of the impact

[13] It also notes that this effect is also present in services imports albeit to a lesser degree than in non-commodity goods imports via services offshoring. For example, the US import price deflator for business services has stagnated relative to other services.

[14] Domestic wage growth may also be restrained as labour market behaviour adjusts to greater competitive pressures. This is discussed later.

of lower non-commodity import prices may be somewhat understated.[15]

The net impact of Asia's integration into the global economy must also take into account higher commodity prices. The OECD provides further evidence in this regard. Higher commodity prices are estimated to have increased the CPI by 0.1 percentage points per annum on average for the OECD as a whole (OECD (2006a), p 17). The net effect – combining both the upward pressure from commodity prices and the downward pressure from non-commodity import prices – is that average OECD inflation would have been 0-0.2 percentage points per annum higher *without* the integration of China and other emerging economies into the global economy. The impact on individual OECD economies varies with the degree of import penetration and differences in the speed of pass-through from import prices to consumer prices.[16]

## Labour markets

Another means by which emerging Asia affects domestic inflation in the advanced economies may be via the competitive pressures imparted on labour markets. This can occur if domestic firms close down and/or relocate overseas ('offshoring') where factor inputs are relatively less expensive.[17] Any resulting unemployment will moderate wage cost demands and ultimately domestic inflation pressures. Wage moderation can also potentially occur from the threat of relocating overseas, therein reducing the bargaining power of workers. Offshoring may occur whether or not domestic firms are in direct competition with low-cost imported goods in the home market. It does not automatically follow that real wages in advanced economies are lower — indeed, the loss of wages from these competitive effects may be offset by the real wage gain from cheaper imports. Moreover, with unskilled tasks potentially relocated abroad, the premium for skilled workers in the areas in which the economy specialises could potentially increase and, along with it, the wages of skilled workers. It is perhaps too early to tell the ultimate impact of 'globalisation' on the labour markets of advanced economies. Nevertheless, it is likely that in the short run there could be significant adjustment costs.

The IMF ((2006a), p. 118) has produced some evidence to suggest that wages in developed economies have been restrained due to the integration of China and other emerging markets. It notes that sectors with greater exposure to globalisation (and a higher import-to-production ratio) have tended to see smaller producer price increases. For some manufacturing industries, it finds that a 1 percentage point increase in the import ratio decreases relative producer prices by 0.1 percent.[18] For the manufacturing sector as a whole, trade openness has reduced producer prices by 0.3 percentage points per annum, on average, over the last 15 years (p. 121).[19]

The moderation in producer prices identified by the IMF can be largely explained by declining 'unit labour costs' relative to overall producer price inflation, implying the labour share of producer costs has declined (p. 121).[20] It notes an increase in a sector's import ratio directly reduces wages and salaries. While increased openness also increases productivity for a sector, the negative relationship between openness and wages/salaries remains even if allowing for the positive effects of openness on productivity.

## Sensitivity to global output conditions

A number of commentators have remarked on the increasingly global character of domestic inflation (BIS 2006, p. 17). While this is implicit in the discussion above, in practice it suggests that domestic inflation is becoming less sensitive to traditional measures of domestic capacity constraints such

15 The OECD calculations also do not take into account any change in the stance of monetary policy. Deflationary impulses on the general price level can, in principle, be offset by looser policy, thereby increasing the prices of 'non-traded' goods.

16 Unfortunately, New Zealand is not included in the OECD's estimates.

17 Less expensive factor inputs, such as labour are an important reason for offshoring or outsourcing, but not the only one. Firms may relocate to be closer to potential markets for example.

18 The IMF argues there is a similar elasticity for services. But given there is a far lower import-to-production ratio for this sector, there remains substantial scope for further trade integration to have a substantial impact on producer prices.

19 The IMF results are based on a selected number of advanced economies.

20 Unit labour costs are defined as total compensation of employees (wage and salaries) minus productivity growth.

as unemployment, capacity utilisation, or the output gap.[21] Econometric evidence from the IMF (2006a) shows that inflation has become less sensitive to the domestic output gap for a cross-section of eight advanced economies.[22]

The IMF results suggest that if output were 2 percentage points above trend for one year, inflation would be 0.4 percentage points higher. Twenty years ago, inflation would have been 0.6 percentage points higher (p. 106).[23] The IMF attributes half this decline in the sensitivity of prices to domestic output to greater openness, and the remainder to greater monetary policy credibility which has anchored inflation expectations at a low level.

The flip side to this declining sensitivity of inflation to domestic conditions is that domestic inflation has become relatively more sensitive to global measures of excess capacity. There is little agreement, however, whether this implies that a global output gap measure, for example, is now more important than domestic capacity measures in forecasting cyclical inflation pressures (Rogoff 2006). At the very least, it suggests that central banks need to increasingly take broad global demand and supply developments into account when setting policy.

## 4 The inflation process in New Zealand

The IMF conclusion that the domestic inflation process has become less sensitive to domestic excess demand pressures may also be evident in the New Zealand context. Hodgetts (2006) notes that the sensitivity of inflation to the output gap in New Zealand (the so-called Phillips curve relationship) has fallen along with the fall in inflation since the early 1990s (p. 19). Hodgetts discusses the way in which the anchoring of inflation expectations following the adoption of the Reserve Bank's inflation targeting regime in 1989 may have contributed to the lower and flatter Phillips curve, together with a number of other candidate explanations such as lower exchange rate pass-through, the breakdown of the wage/cost dynamic in the inflation process, competitive pressures in the retail sector, and globalisation associated with lower imported inflation.

To understand the relationship between import prices and domestic consumer inflation in New Zealand, it is useful to distinguish 'tradable' inflation from 'non-tradable' inflation.[24] In the CPI regimen, the former includes those goods and services that New Zealand imports, together with a smaller proportion of goods and services that are produced locally but face significant international competition. Tradables inflation is therefore largely imported and heavily influenced by the inflation rates of our major trading partners and exchange rate fluctuations. Domestic demand and supply conditions also play a role via distribution networks linking wholesale prices to final retail prices.

By contrast, non-tradable inflation covers those goods and services that face little international competition, including construction and housing-related costs and some utilities such as electricity. Non-tradable inflation can still be influenced by foreign inflation, as non-traded goods and services still use many imported intermediate inputs.[25]

Table 2 summarises non-tradable and tradable inflation developments since the beginning of the inflation-targeting era. Non-tradable inflation has clearly outpaced tradable

[21] In technical parlance, the 'Phillips curve' has become flatter. The Phillips curve links current inflation with a measure of excess demand such as unemployment or the output gap, together with lags in inflation (previous period inflation rates). The lags of inflation indicate how persistent inflation is from period to period.

[22] The output gap is the difference between actual output and an economy's trend/potential rate of output, and is used to indicate the degree of slack (or lack thereof) in an economy. This degree of slack is traditionally used to indicate inflation pressures. See also Yellen (2006) and Kohn (2006) for evidence on a flatter Phillips curve for the US.

[23] The lag or persistence in the inflation process has also declined. In the example above, inflation in the second year would be expected to be 0.2 percentage points higher following the output increase, compared to 0.45 percentage points 20 years ago. Declining persistence may be credited to the improved conduct of monetary policy.

[24] Despite the fact that New Zealand is importing more of its consumption basket over time, the weight of tradable goods and services in the CPI regimen has actually fallen from 55 percent in December 1988 to 46.3 percent currently (June 2006 re-weighting). This lower weight arises because the weights are derived from consumer *expenditure* on the respective goods and services. Since consumers have to pay less for a given imported good (or its domestically produced substitute), their total expenditure on traded goods and services has fallen overall despite consuming more traded goods in volume terms.

[25] That said, there is still a relatively tight relationship between non-tradable inflation and the output gap in New Zealand, indicating that fluctuations in non-tradable inflation are still predominately determined by domestic factors. See Hargreaves, Kite, and Hodgetts (2006).

Table 2:

New Zealand inflation

| | Headline CPI inflation | Non-tradable CPI inflation | Tradable CPI inflation | Import price inflation (NZD) | Import price inflation ('world') | Ex-oil import price inflation (NZD) | Ex-oil import price inflation ('world') |
|---|---|---|---|---|---|---|---|
| Average annual growth 1990-2006 | 2.3 | 3.6 | 1.2 | 0.6 | 1.1 | -0.2 | 0.3 |

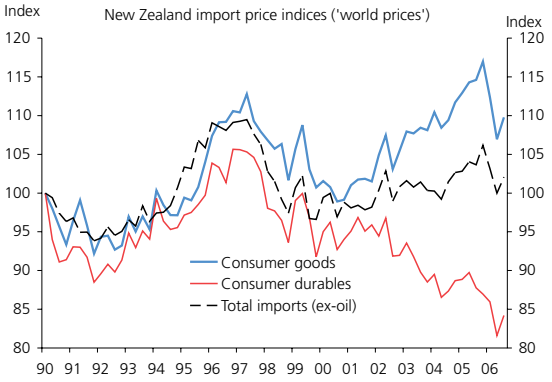
Source: Statistics New Zealand and RBNZ.

inflation over this 16-year period. The relatively subdued tradable component of headline inflation reflects low rates of imported inflation both in NZD and 'world' terms. The difference between the NZD import price growth and 'world' import inflation reflects the impact of the exchange rate.[26] The fact that imported inflation in NZD terms is lower than the world price implies that our exchange rate has appreciated against the trade weighted index basket of currencies over the period.

Imported inflation has essentially been zero, on average, since 1990, once oil prices are taken into account. Figure 10 shows that this is, in large part, a function of falling prices for consumer durable goods – implicitly from China and emerging Asia. The world price of imported consumer durables has fallen just over 15 percent since 1990. As highlighted in the previous section, this decline in consumer durable import prices is a global phenomenon and has been passed through into final consumer prices.[27]

Figure 10

Major components of NZ import price index




Source: Statistics New Zealand.

We cannot directly attribute the absolute declines in consumer durable prices to China and emerging Asia, as Statistics New Zealand does not construct a separate import price index for the goods we buy from China. However, China's own export index from section 3 suggests that low-cost exports from China are likely to be a primary driver. The declines in import prices seen at New Zealand docks will have been amplified by the growing share of Chinese imports in New Zealand's import basket (figure 11).[28]

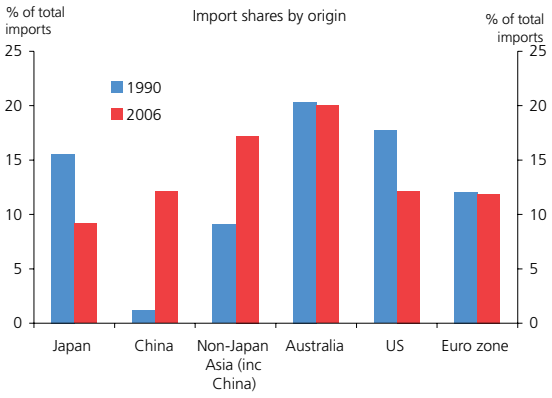
[26] There are no official price indices for New Zealand imports in foreign currency terms. The world price has been proxied by multiplying the NZD price with the trade weighted index (TWI).

[27] In contrast, world prices for New Zealand's imports of non-durable consumer goods appear to have increased moderately over the same period.

[28] Note: this data on import shares is based on import *values* rather than volumes – we do not have import volume data for China.

Figure 11

New Zealand import values – shares

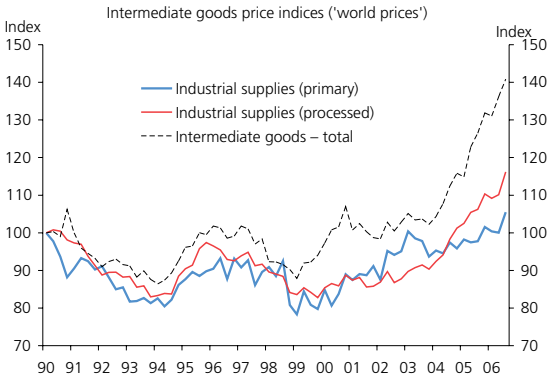



Source: Statistics New Zealand.

China and other emerging Asia's demand for industrial inputs, and the associated surge in commodity prices, has also been reflected in the higher world prices we face for intermediate imports. Aggregate intermediate import prices have increased 40 percent since 1990, with most of this increase since 2000 (figure 12). Obviously, the increase in import prices is being driven by the dramatic growth in fuel prices, but industrial prices excluding fuel have also increased significantly. Since 2000, the fuel subcomponent of intermediate goods has increased 160 percent, while primary and processed industrial supplies have increased 24 and 36 percent respectively. The upward pressure from world intermediate prices to New Zealand producer prices has been mitigated somewhat by the strong NZD over the past few years. In addition, competitive pressures in individual sectors will have influenced the extent of pass-through to both producer and consumer prices.

Figure 12

Intermediate import prices




Source: Statistics New Zealand.

# 5 Conclusion

There is broad agreement that the integration of emerging markets into the global economy is having an effect on the inflation process in the advanced economies. Globalisation is one factor that has been identified in contributing to the disinflation characterising both advanced and developing economies since the early 1990s.

Monetary policy makers have benefited from the protracted deflationary impulse from lower import prices, which may have made domestic inflation objectives easier to achieve than might otherwise have been the case. However, this positive supply shock has more recently been matched by the headwinds of higher commodity prices. In an environment of growing global interdependence, monetary policy needs to increasingly take account of the structural changes to the domestic economy induced by globalisation.

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