

SHORTER GLOBAL VALUE CHAINS HAVE SLOWED TRADE GROWTH

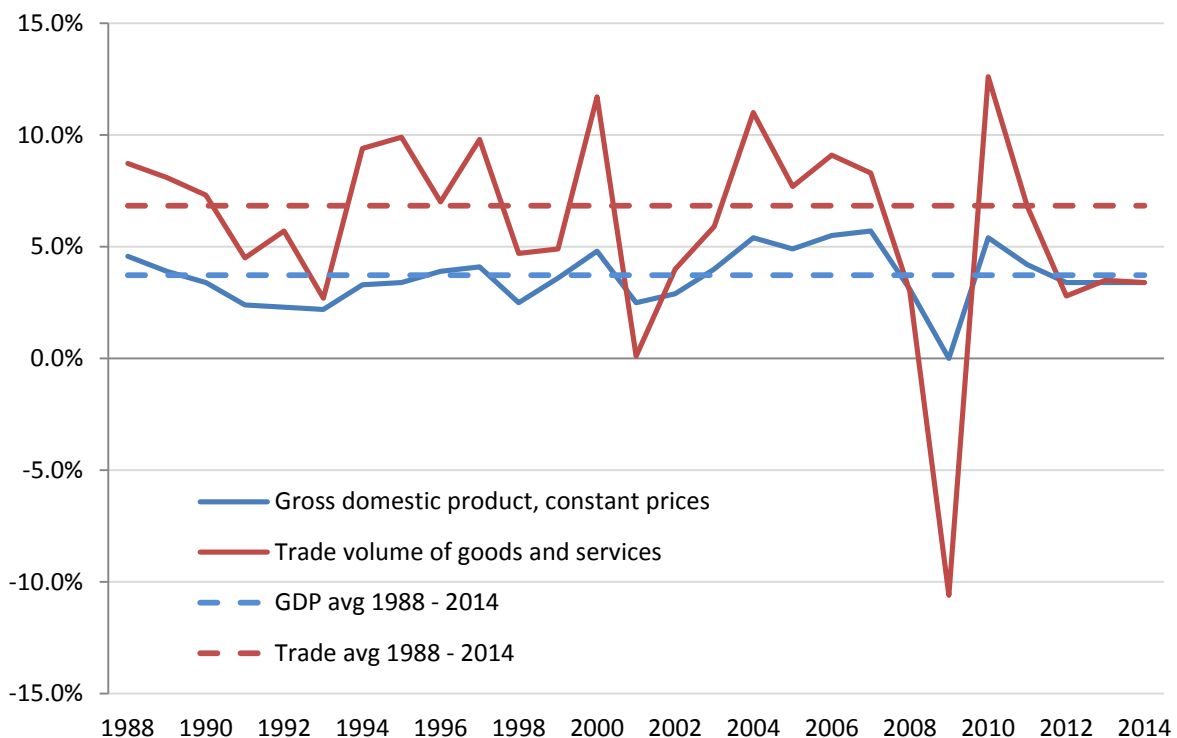
- There has been a marked slowdown in global trade growth following a short lived rebound after the global financial crisis:
 - 2012 to 2014 was the first time in over 30 years that trade expanded at the same pace as GDP for three consecutive years. For most of the post WWII period there has been a 2:1 trade to global GDP growth ratio.
 - Whereas GDP growth is now tracking at close to its long-run average of about 3.5%, global trade growth has almost halved to this same rate.
- The reasons for slow trade growth appear to be at least partially structural, reflecting shortened global value chains (GVCs) in China, ASEAN and North America. In aggregate GVCs, a predominant driver of the rapid trade growth from the mid-1990s to the mid-2000s, are no longer driving trade growth:
 - China is developing and producing more of the intermediate goods and services it used to import, thereby reducing its upstream participation in GVCs.¹
 - The flip side of softer Chinese demand for imported intermediates is less downstream GVC participation elsewhere in Asia and, to a lesser extent North America, as these countries export less intermediates to China for processing.
 - This is a structural change, and we expect further shortening of China's GVCs, as the country develops further.
 - European Union GVCs tend to be regional in nature and have been somewhat insulated from developments in the Chinese economy. EU trade growth has been weak, but this may well be cyclical rather than due to shortening GVCs.
- With the expansion of GVCs since the 1990s having only a limited impact on New Zealand trade, it seems unlikely that a softening of GVC growth will impact significantly on New Zealand trade, or trade growth prospects.
- This analysis does however, highlight a shift towards import substitution in China. This will impact demand, present new opportunities, and influence what we trade with one of our most important trading partners.

¹ Upstream participation is the degree to which imports are incorporated into that country's exports. Downstream participation refers to the extent that a country's exports are then used as inputs in another country's exports.

LOOKING AT THE TRADE DATA: NOT SO HYPER GLOBALISATION

For the first time in over three decades global trade and GDP have expanded at close to the same pace for three consecutive years. The norm leading up to the Global Financial Crisis was for trade to grow at slightly less than 7% per annum, with annual GDP growth averaging about 3.5%. Since 2012 GDP growth has been close to its 30 year average, but trade growth has slowed to about half the pace averaged over the previous three decades (Chart 1).

CHART 1: GDP AND TRADE GROWTH RATES 1988 TO 2014



Data from COMTRADE and IMF WEO

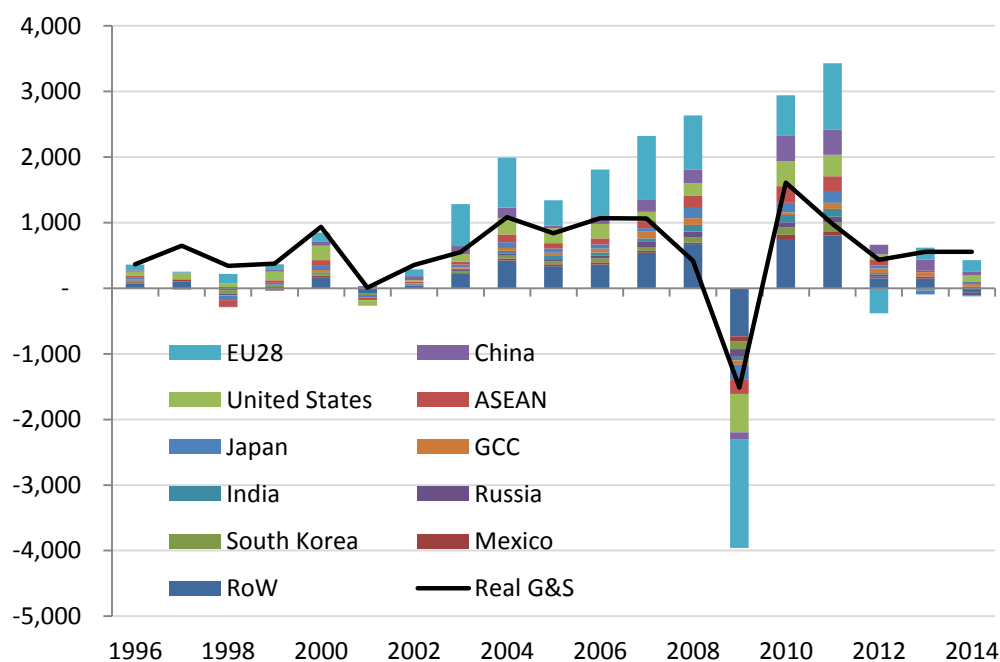
This has sparked interest from economists, at the OECD and elsewhere, with debate focusing on whether the change in the trade GDP growth ratio reflects structural changes in the global economy, or whether cyclical factors are more relevant. Our take of the data suggests that structural changes are at least partially responsible for slowing trade growth. There has been little, and at times negative growth in trade along GVCs in intermediate goods and services. As a consequence global trade has lost a key growth propellant.

Most global trade is centred around regional GVC hubs

GVCs are perhaps better described as regional supply chains, or production networks. A number of distinctive supply chains have emerged over the last 20 years, with three key regional GVC networks,

one centred in Europe, another in East Asia and the third in North America. The principal countries involved in these networks are responsible for most of the world's international trade in goods and services. The European Union, China, ASEAN, Japan and the United States collectively account for over 70% of the world's trade, and about two thirds of the change in global imports over the last 25 years. See Chart 2.

CHART 2: IMPORTED GOODS AND SERVICES; NOMINAL ANNUAL GROWTH IN USD BIL² AND IN CONSTANT 1996 USD (REAL TRADE GROWTH - BLACK LINE)



Data from UNTAD 20/20

As illustrated in chart 2 the pattern of growth has been similar for both nominal and real trade. Oil price inflation explains a significant share of the variance between the two series. Oil prices jumped from less than US\$40 a barrel in 2002 to over US\$140 per barrel in 2008. From 2012 to 2013 oil prices were largely stable, before taking a nose dive in 2014. We are more interested in this note in the real series and what lies behind the observed changes however. The volume of goods and services trade (the real series) grew at about 6.7% per annum from 1996 to 2008; and at 3.2% per annum from 2012 to 2014.

² We report on imports only here, but global imports are almost identical to global exports in aggregate, and roughly equal for a given period for most countries and regions. The GCC is the main exception with very little change in import values as oil prices and export values dropped in 2014. Large foreign reserves in the Gulf avoid the requirement to balance trade in the short term.

Trade restrictions

New trade restrictions may explain part of the slowdown in trade growth. In November 2014 the WTO reported an annual 12% increase in the number of trade restrictive measures put in place by G20 countries, since the end of the Global Financial Crisis (GFC).³ Of the 1,244 new trade restrictions introduced only 282 had been removed. But, while worthy of efforts to remove, trade restrictions are not wide reaching enough to have such a significant impact on global trade volumes as highlighted earlier. In the six months to May 2014 new import restrictive measures applied by G-20 members affected 0.2% of world merchandise imports only.⁴

Government displacing private spending

Another theory for slower trade growth is that government spending grew post the GFC to stimulate demand, whereas private spending declined. Generally a smaller share of government spending goes on imported goods and services relative to private spending. This too may be overstated in terms of influence on trade however. According to World Bank data, central government spending increased in 2009 but for many countries had returned to 2008 levels by 2013.⁵ In the United States (and New Zealand) central government spending made up a smaller share of GDP in 2013 than it did in 2008. In other cases the shift towards government spending has not been substantial. European Union government spending was 21.0% of GDP in 2013 relative to 20.3% in 2008. China went from 13.3% to 14.1% over the same period.

STRUCTURAL CHANGES: THE RISE OF GVCs

The rise of GVCs has contributed enormously to global trade growth since about the mid-1990s. Global Value Chains (GVCs) are created with firms locating different activities for producing a final good or service, in different countries. Goods and services are shifted across borders for value-adding activities such as research and design, manufacturing, and marketing.

The OECD Trade in Value Added database captures the rise of GVCs by estimating, among other variables, trade between countries in intermediate inputs used for further processing and export. The TiVA data show that over the last 20 years a growing number of inputs to production have been

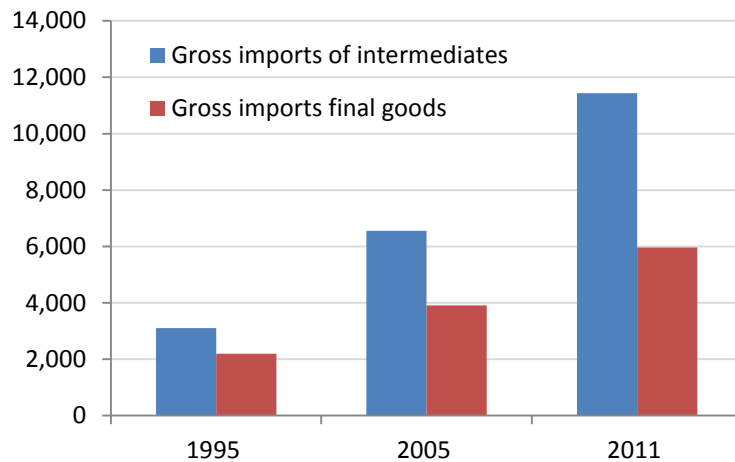
³ https://www.wto.org/english/news_e/news14_e/trdev_05nov14_e.htm

⁴ https://www.wto.org/english/news_e/news14_e/igo_17jun14_e.htm

⁵ <http://data.worldbank.org/indicator/NE.CON.GOVT.ZS>

imported rather than sourced from domestic providers. Intermediate imports grew from 58% of gross imports in 1995 to 65% in 2008, and the value of trade in intermediates grew fourfold.⁶ See Chart 3

CHART 3: GLOBAL TRADE IN INTERMEDIATES US\$ BIL



Data from the OECD TiVA database

GVCs are a positive multiplier of trade. For a start, international trade expands with goods and services criss-crossing borders on the way to becoming a final good or service (rather than simply shifting between processing centres within a country). There is a degree of double counting also. Each time an intermediate input crosses a border its gross value, not solely the additional value added in the last country, is counted towards trade. The original gross value of a good or service gets added to trade statistics multiple times when that product crosses multiple borders, inflating the trade to GDP ratio. This multiplier exaggerates the effect of GVCs on trade when GVCs are expanding, and when they are shortening.

GVCs expanded through the 1990s and 2000s due in part to trade and transport costs declining with technical innovations. The internet, and communication technology advances, made it easier to manage the fragmentation of production across borders. Container shipping and fuel efficiency gains in aircraft lowered transport costs. Trade agreements and groups such as ASEAN and NAFTA, reducing the barriers to shifting goods and services across borders, also helped, as did a common currency in the EU.

The OECD suggests that the benefits from these drivers have now matured, implying that GVCs may have finished their growth spurt.⁷

⁶ The ratio of intermediate to gross imports dropped to 63% in 2009 and has since rebounded to almost 66%.

THE NEW NORMAL GVC GROWTH

As insightfully stated by Herbert Stein, if something cannot go on forever then it will stop.⁸ This is true of GVCs. The benefits of fragmenting production across borders must peak at some level, beyond which further expansion provides negative net benefits. The question then is not if GVCs will stop expanding, but when.

The answer depends on the region. It appears that GVCs in Asian and North America have already stopped expanding. This is a structural change reflecting developments in China, as the country moves from low-wage high-growth to a more sustainable economic model. North America also links into China's GVCs, with the OECD TiVA data suggested about half of US exports to China by value are intermediate products. Europe appears to be somewhat less exposed to changes in China, with indicators suggesting that European trade along GVCs is still expanding, and that there is potential for further growth.

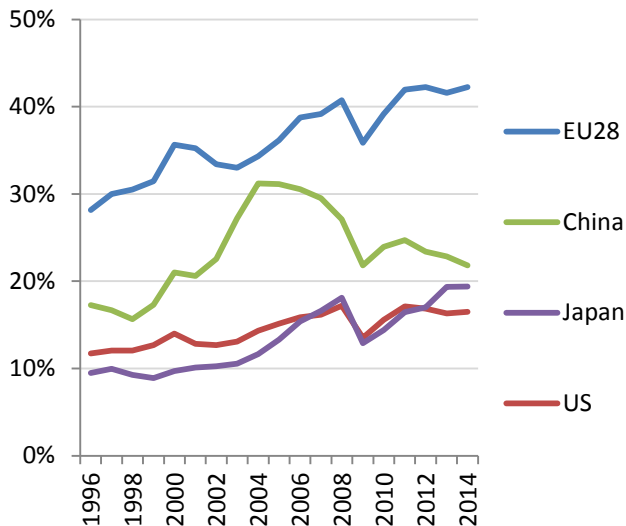
Trade intensity – the ratio of exports and imports to GDP - paints a telling picture of how trade has changed in the world's largest trading economies. Possibly the most striking feature when looking at the data, is the jump in Chinese imports and exports during the early part of this century, and the subsequent and equally rapid drop in Chinese trade intensity before and during the GFC. China's increasing investment share of GDP post the GFC would have changed the trade to GDP ratio (more investment spending increases GDP directly, with smaller changes to trade). China's trade intensity started declining before the GFC however, suggesting other factors are also relevant. See Charts 4 and 5.

⁷ OECD 2015 Explaining the Global Trade slowdown and Re-invigorating Trade's Contribution to Growth

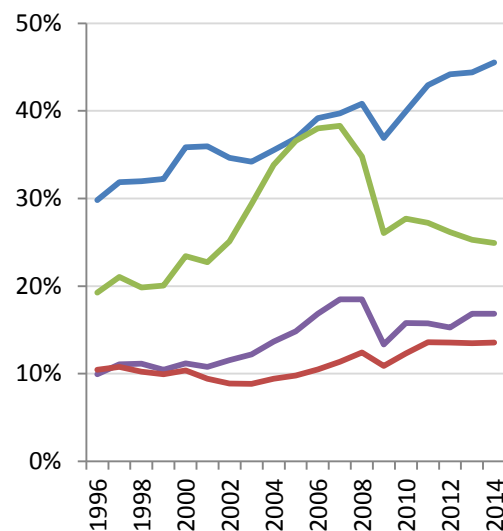
⁸ Herbert Stein's Law. Formulated in reference to balance of payments deficits – "there is no need for action or a program to make it stop, much less to make it stop immediately; it will stop of its own accord."

CHART 4 AND 5: TRADE INTENSITY: IMPORTS AND EXPORTS RELATIVE TO GDP %

Imports



Exports



Data from UNCTAD 20/20 and the World Bank

China's exports to the West grew rapidly with the country's leaders pushing policies encouraging export led economic growth. China rapidly became the "world's factory" - importing parts and components from other countries to be assembled for export, capitalising on abundant and cheap labour. The trade intensity data illustrated in Charts 4 and 5 suggests that this is no longer the case. The OECD TiVA data paints a similar picture, with the foreign value-added share of China's gross exports reaching 37% in 2005, and dipping to 32% by 2008. In 2011, the latest year that TiVA data is available the foreign value-added share of China's gross exports was still about 32%.

China is developing and changing what it produces and trades

China's economy is developing, changing what it produces, and hence what it imports and exports along GVCs. Many of the intermediate goods and services once imported into China are now produced domestically and this import substitution is reducing China's upstream participation in GVCs. Intermediates dropped from making up almost 26% of Chinese imports in 2004 to about 18% in 2013.⁹ The IMF reports that the ratio of computer parts imported to computers exported was about 40% up until 2001, and is now about 15%. The ratio of textile imports to apparel exports, and telephone part imports to telephone exports, have also fallen.¹⁰

⁹ <http://wits.worldbank.org>

¹⁰ IMF 2015 China and the CLMV

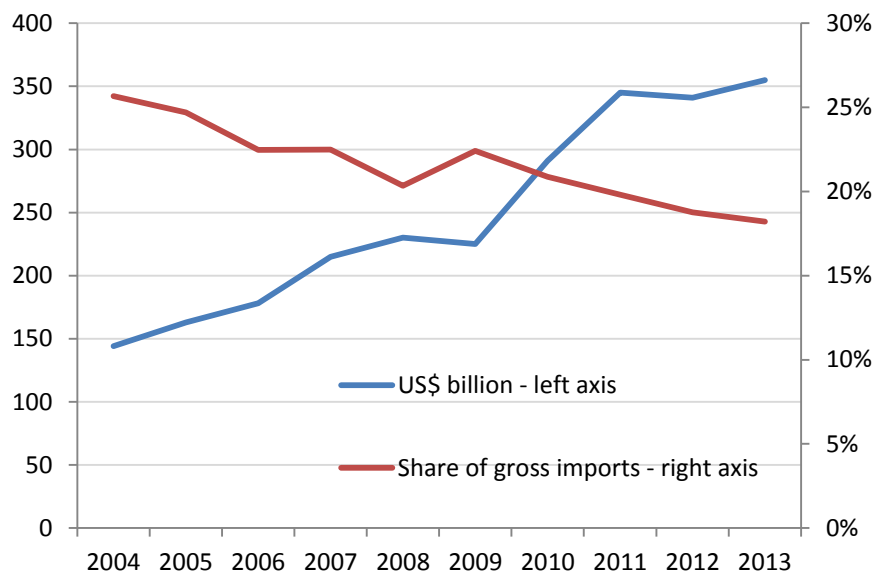
Also possibly chipping away at the length of Chinese GVCs is the growing amount of Chinese capital being invested in lower wage countries. This would be expected to shift Chinese production up the value chain, and possibly cut China out of some GVCs altogether.

Developments in China are changing ASEAN and North American value chains

Exports of intermediates from Japan, Korea, ASEAN, and the United States expanded over the last few decades, due to growing demand from China. As such Chinese import substitution is causing the GVCs linking emerging ASEAN, China and the rest of the world to fade. In 2005 every dollar increase in China's exports to the US and EU, was associated with a 90 cent increase in developing ASEAN exports to China – a 90% correlation. Today the correlation has fallen to 50%.¹¹

Chart 6 illustrates the decline in intermediates as a share of China's gross imports. The flip side to this is other country exports of intermediates to China also declining. ASEAN 5 country exports of intermediates have declined since 2011, in both nominal terms and as a share of trade. The change in US trade of intermediates has been much less pronounced, but is still apparent in the data, with intermediate exports declining to less than 21% of gross exports in 2013 from a high of 22.5% in 2008.

CHART 6: CHINA IMPORTS OF INTERMEDIATE GOODS



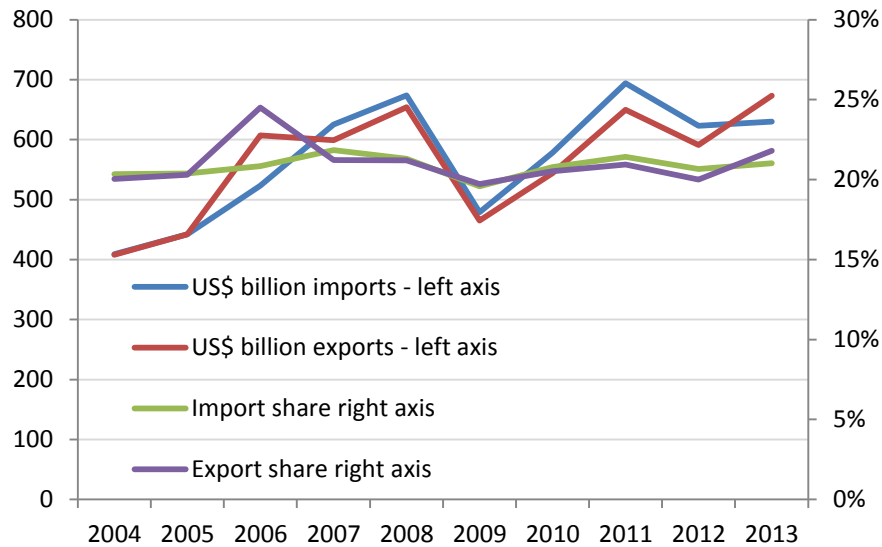
Data from the World Bank World Integrated Trade Solution

¹¹ HSBC 2015 Asia's export stumble

European Union GVCs still on the rise

European Union GVCs appear to be less exposed to developments in China. European Union trade followed the same pattern as trade elsewhere, in that it dropped during the onset of the GFC and bounced immediately after. Since 2012 however, the EU has been unusual in that its trade export intensity has increased, and trade import intensity has flattened, rather than declined.

CHART 7: EU 4 IMPORTS AND EXPORTS OF INTERMEDIATE GOODS



Data from the World Bank World Integrated Trade Solution

Intermediate import data provides little compelling evidence either for or against the theory that EU GVCs are not being hit as hard as GVCs elsewhere by changes in China. Germany, France, the United Kingdom, and Italy show relatively static intermediate share of gross trade values, as illustrated in Chart 7. While hardly conclusive this doesn't contradict the suggestion that cyclical rather than structural factors are more predominant in Europe.

Flat EU import trade intensity over the last few years is consistent with weak economic growth and weak consumer confidence. Whether GVC expansion in the EU has reached a steady state will become more apparent as European economies put the economic fallout from the GFC behind them. Researchers from the IMF suggest that there is potential for supply chains expanding further into eastern and central Europe from Germany and other relatively high-wage Eurozone countries.

SUMMING UP: SHORTER ASIAN AND NORTH AMERICAN GVCs AND SLOWER TRADE GROWTH

GVCs have been a key driving force behind trade growing at twice the pace of GDP for most of the last 30 years. As GVCs have contracted to varying degrees over the last few years, trade growth has slowed. This is structural in China, ASEAN and North America, with further declines in trade intensity possible as China's economy develops further. Changes in the EU are less pronounced suggesting the developing Chinese economy is not impacting as much on European GVCs.

As China's economy develops further, from low-wage high-growth, to a more sustainable economic model, both domestic production capabilities and domestic consumption are likely to expand further. We will therefore see additional declines in Chinese import and export trade intensity. The value of China's imports and exports combined are close to 50% of GDP, considerably higher than the third of GDP seen in large developed economies, such as the US and Japan.

Low wage Asian countries will take up some of the slack left behind with China withdrawing from the low-wage growth model. Viet Nam is already assembling goods for export, with intermediates making up about 40% of the value of imports into the country. Myanmar and Bangladesh have large populations and relatively low wages. As production is shifted around to capitalise on changing competitive advantages, GVCs will expand. The sheer size of China, and the country's extremely rapid trade and GDP growth, suggest this will compensate for some, not all, of China's GVCs shortening.

THE CONSEQUENCES OF GVCs MATURING

GVCs have been instrumental in global productivity improvements. They have allowed countries to specialise and engage in international trade without needing to develop domestic supporting and related industries. With China no longer importing as many intermediate inputs, exporters across Asia particularly will suffer. With GVCs now shorter in Asia and, to a lesser extent North America, the potential for productivity improvements must also have declined. Total factor productivity across Asia is strongly linked to Asian export growth.

There are a large number of developing countries that have yet to engage significantly in GVCs. Trade intensity in some parts of Asia is still low, considering levels of country economic development. India's trade to GDP ratio is lower than China's was at a similar level of GDP per capita. Myanmar with a population of more than 50 million has significant potential to grow trade and engage further in GVCs. South America trade intensity is low by international standards and many African countries have considerable potential to grow trade. GVCs may have exhausted their propulsive energy in parts of the developed world, but they still have considerable potential to expand trade, and productivity, elsewhere.

WHAT THIS MIGHT MEAN FOR NEW ZEALAND

To a large extent New Zealand has not been part of the GVC phenomenon. The OECD TiVA data estimates that the foreign content of New Zealand exports in 2011 was 16.6%, well below the OECD average of 30%. Nor is New Zealand deeply engaged downstream in GVCs. The lack of engagement in GVCs is reflected in New Zealand trade data. Over the last 20 or more years New Zealand's trade to GDP ratio has changed little.

With the expansion of GVCs since the 1990s having only a limited impact on New Zealand trade, it seems unlikely that softening, and in places contracting, GVC growth will impact directly and significantly on New Zealand trade, or trade growth prospects.

The above analysis does throw up two areas of concern however - slower productivity growth in Asia and the shift towards import substitution in China. Slower Asian productivity and income growth may lessen demand growth for some New Zealand exports to the region. Chinese import substitution will have only limited impact in areas of production where we have, hard to replicate, competitive advantages. It seems unlikely that there will be any significant structural changes in demand for dairy and meat, given expectations of expanding Chinese demand relative to domestic supply capabilities (allowing for short-term fluctuations in supply and demand). In other areas however, there may be scope for Chinese producers to capture domestic market share at the expense of New Zealand firms. New Zealand exporters in these sectors will need to continue to innovate to stay ahead of the game.

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