Throughput projections

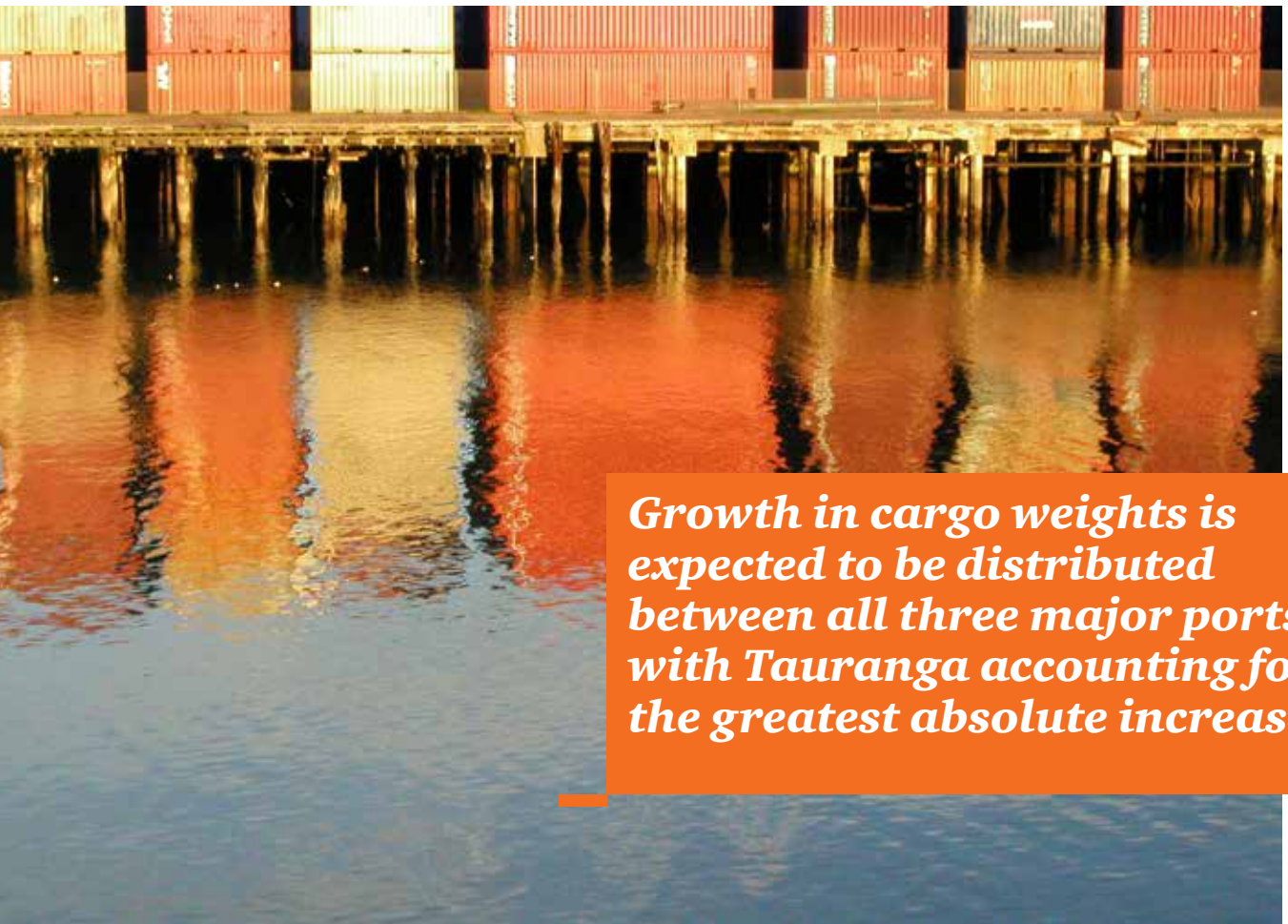
We project total throughput growth forecast to 2041 between 22m and 31m tonnes or 1.7% to 2.3% per annum. Growth in cargo weights is expected to be distributed between all three major ports, with Tauranga accounting for the greatest absolute increase.

Outside-port cargo projections

We project trade growth to 2041 of an extra 16m-22m tonnes or 1.4% to 1.8% per annum. This is expected to be lower than throughput growth due to the fact that international trade weights have grown less rapidly than other categories of cargo movement over the last decade, a trend we expect to continue.

The majority of trade volumes are comprised of international imports and exports. Domestic coastal freight makes up a smaller share of the total. We project international merchandise trade growth as follows:

- Exports 23.5m tonnes in 2041, reflecting total growth of 8.9m or 1.7% per annum
- Imports 18.8m tonnes in 2041, reflecting total growth of 5.5m, or 1.2% per annum.



Growth in cargo weights is expected to be distributed between all three major ports, with Tauranga accounting for the greatest absolute increases.

4.3 Key assumptions and drivers of demand

We have taken a long-term view that projects average growth over the study period rather than attempting to account for spikes in demand. We believe that this will be more reliable for three reasons. First, we expect much of the growth in cargo weights through the Upper North Island ports to be driven by a few key commodities – logs, dairy, and oil – for which production and demand patterns will be relatively predictable. Second, it is not possible to accurately predict when such spikes will take place, nor for which types of cargo. An attempt to pick the timing and magnitude of a spike in demand is not likely to provide a reliable basis for investment decisions.

Third, and perhaps most importantly, investments in port infrastructure and the associated land transport infrastructure are long-term propositions that must produce an economic return over a long period of time. As a result, investing in response to spikes in demand rather than in response to long-term growth rates may result in excess capacity or stranded assets.

We combined two different data sources to make our estimates:

- Statistics NZ/Customs data on weight of cargo imports and exports, by port
- Data from POA and POT on container movements (measured in weight and TEUs) and breakbulk movements (measured in revenue tonnes).

These two data series were not consistent with each other and as a result it was necessary to make some assumptions and adjustments to the data in order to ensure consistency between categories of cargo movements and units of measurement. These adjustments are explained in Appendix C, "Technical notes on trade task projections by port".

Our projections, and the assumptions and data we used to compile them are summarised in Table 9. We expect growth rates to vary between different categories of cargo movements. Because there is greater uncertainty about projections for domestic coastal movements and transhipments, we have included several scenarios for growth in each of those areas. Projections for international trade are relatively more robust and tested against the plans of major importers and exporters.

Table 7: Basis for port task projections

Cargo movement	Base data	Historical growth	High growth scenario	Low growth scenario
International trade (imports, exports)	Customs/Statistics NZ data on export and import weights and values, 2002-2012	3.1% per annum (2002-2012)	1.5% per annum; more rapid growth in first decades	(Single scenario only)
Domestic coastal (inward, outward)	POT/POA data on container and breakbulk movements, 2007-2012, plus some assumptions based on MoT container monitoring data	4.5% (Container cargo at POA, 2006-2012)	4.8% (NFDS + 50%)	1.6% (half NFDS)
Import/export transhipments	Customs/Statistics NZ data on export and import weights and values, 2002-2012 Plus assumptions about share of LNI and SI trade moved through UNI	Above 10% (2008-2012; both domestic and international transhipments of container cargo at POA and POT)	About 4% Based on assumption that UNI draws 60% of LNI and 20% of SI container-based trade	About 3% Based on assumption that UNI draws 40% of LNI and 13% of SI container based trade
International transhipments	POA/PoT data on re-exports, plus some assumptions based on MoT container monitoring data	Above 10% (2008-2012; both domestic and international transhipments of container cargo at POA and POT)	8% growth from 2012-21, then based on international trade projections	Based on international trade projections – 1.5% per annum over period

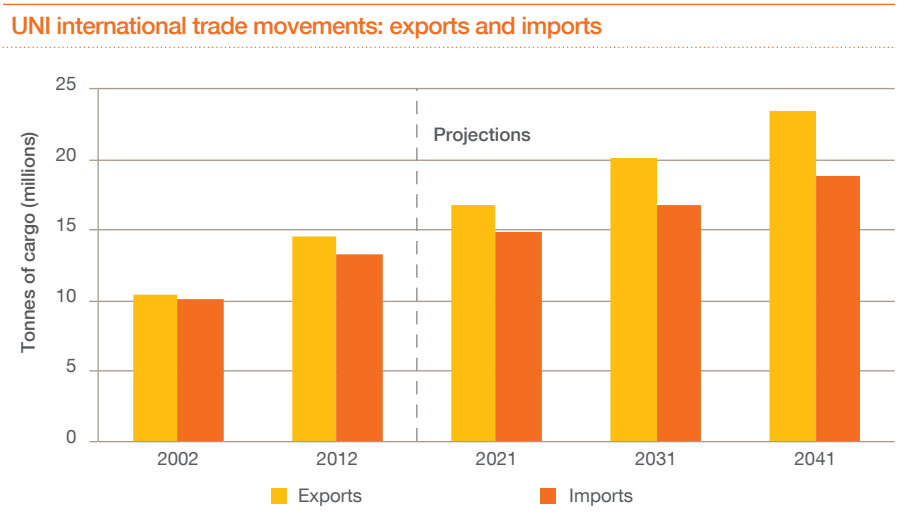
4.4 Import and export growth

4.4.1 Summary of projections

Our projections for the UNI's international trade are summarised in Figure 36. We project exports to grow by 8.9m tonnes to total 23.5m tonnes in 2041. This equates to 1.7% growth per annum. Imports are projected to grow by 5.5m tonnes to total 18.8 million tonnes in 2041. This equates to 1.2% growth per annum. These projections are summarised in Figure 35.

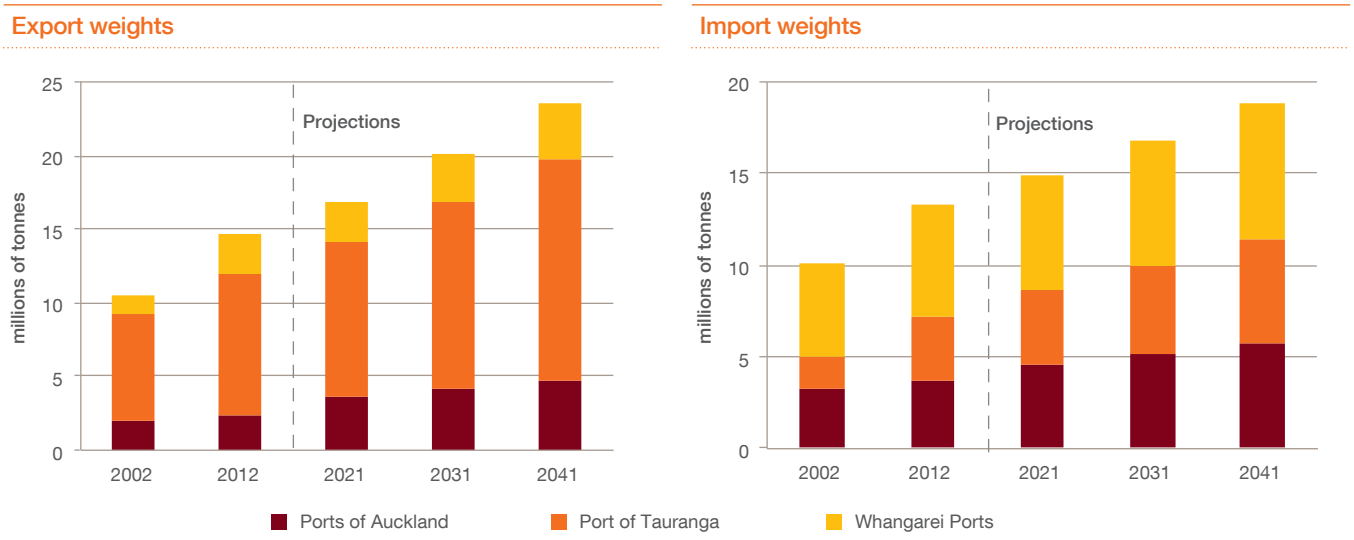
As Figure 35 indicates, growth is expected to be fastest in the first decade before moderating in subsequent decades. This reflects slowing population growth (which will reduce growth in demand for imports) and constraints on further production of some of the main export commodities such as dairy and timber. Figure 36 breaks down international trade projections by port – showing that volumes through all three ports are expected to be considerable.

Figure 35: Projected import and export growth at UNI ports



Source: PwC analysis

Figure 36: Import and export weight projections, by port



Source: PwC analysis

Projections for UNI imports and exports are more robust than projections for other categories of cargo movement. More and better information was available on which to base these projections, including Statistics New Zealand/Customs Service data and discussions with major importers and exporters. Due to the fact that overseas trade accounts for the most important component of port task – the 'backbone', so to speak – this is appropriate.

Projections for UNI imports and exports are more robust than projections for other categories of cargo movement.

4.4.2 Detailed projections

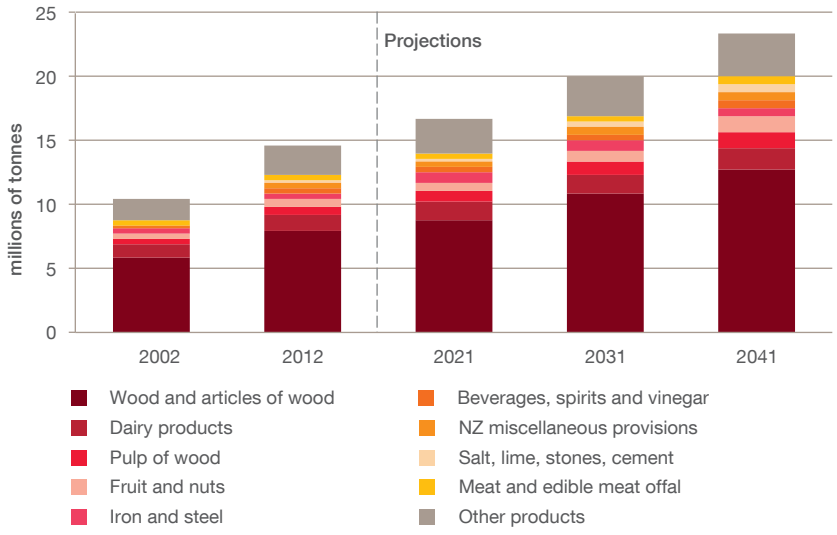
Figure 37 presents historical and projected changes in exports by commodity out to 2041.

Over the 29 years to 2041, exports are expected to grow by around 1.7% per year, reaching 23.5m tonnes. The composition of major products in weight terms is not expected to be dramatically different, with wood and pulp products continuing to dominate, and dairy products accounting for a further 7% of export weights.

We have cross-checked these projections with industry leaders and data on capacity for growth, particularly for wood and dairy products, to ensure they are realistic.

Figure 37: Exports wil continue to be dominated by wood products

UNI export weights



Source: PwC analysis

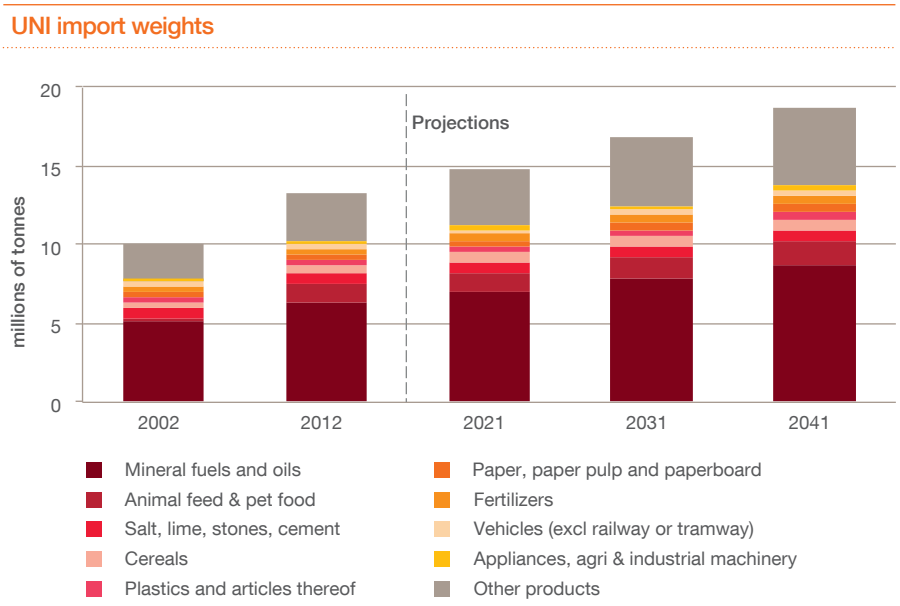

LOADING

Figure 38 presents historical and projected changes in imports by commodity out to 2041.

Fuel will continue to be the most important import through the UNI. Since 2002, fuel imports into the UNI ports have grown at 2.1% a year, and while that trend is expected to moderate, overall fuel imports will remain strong.

Animal feed and cereals imports are expected to grow sharply as imports of Palm Kernel Extract (PKE) and other products for feeding to dairy cattle continues to rise sharply. These two categories are expected to be the second and fourth largest import categories by weight by 2041.

Figure 38: Imports will be dominated by fuel

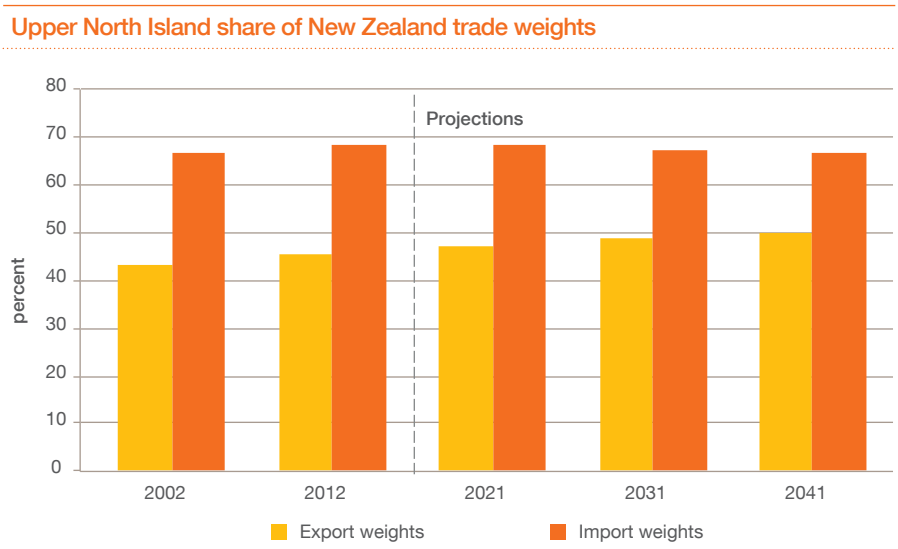


Source: PwC analysis

Figure 39 shows how the role of the UNI ports is expected to increase over time.

The UNI ports' share of New Zealand export weights is expected to grow to 50% from 46% in 2012 on the back of strong forestry and dairy growth. On the imports side, the UNI ports are expected to account for around 67% of weights in 2041, a similar value to the 68% in 2012.

Figure 39: The Upper North Island ports will play a larger role in exports



Source: PwC analysis

The UNI ports' share of New Zealand export weights is expected to grow to 50% from 46% in 2012.

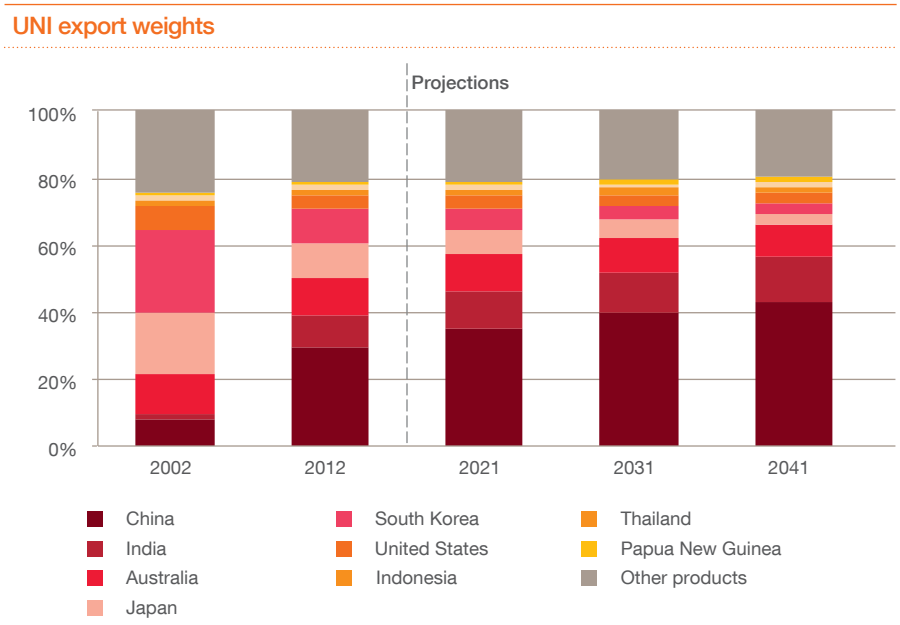
Projections by key trading partners

Figure 40 shows how the role played by major export trading partners is projected to change out to 2041.

Over the ten years to 2012, the share of exports through UNI ports bound for China has grown from 8.1% to 30%. Growth to 2041 is expected to be more moderate, but China is still expected to account for 43% of export weights by 2041, based on its strong demand for New Zealand wood and dairy products.

India, which took just 1.7% of UNI port export weights in 2002, and 9.2% in 2012, is expected to account for 14% by 2041, moving ahead of Australia, which will account for around 9.5% of export weights.

Figure 40: China and India are expected to be our main export partners



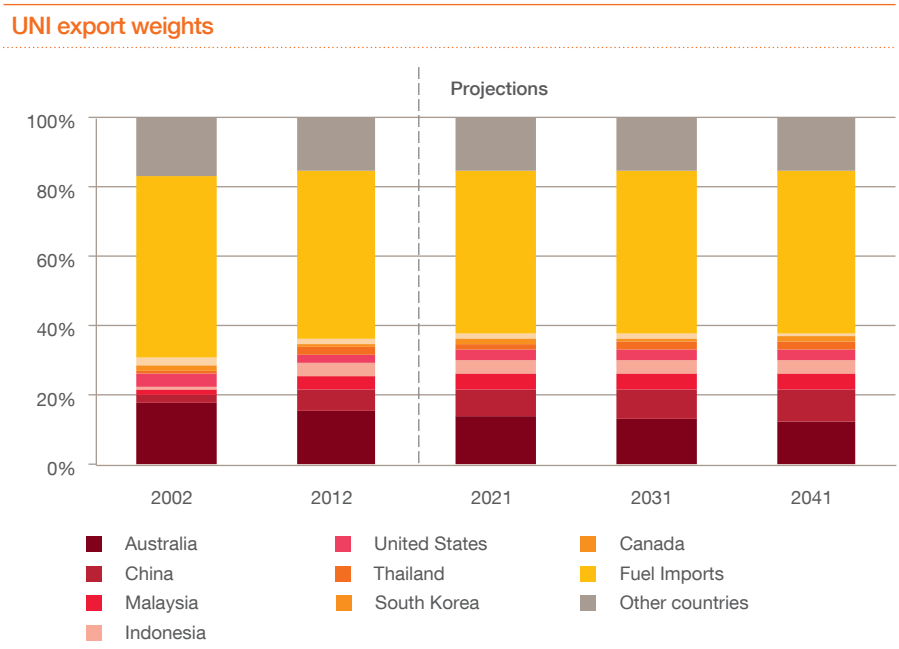
Source: PwC analysis

Figure 41 shows how the role played by major import trading partners is projected to change out to 2041.

New Zealand, with the UNI leading, will continue to import fuel from wherever the correct grades are available at the best price. Trade partners will vary from year to year, which is why rather than showing specific countries for fuel imports, we have grouped 'Fuel imports' together. Oil products will still account for 37% of import weights by 2041.

Animal feed is likely to be sourced mostly from Indonesia and Malaysia, while cereals will be sourced from Australia.

Figure 41: Oil exporters will dominate the list of import trading partners



Source: PwC analysis

Animal feed is likely to be sourced mostly from Indonesia and Malaysia, while cereals will be sourced from Australia.

Trading partner-commodity pairs

Table 8 displays merchandise export projections for 2041 at the level of major export commodities and trading partners. Major exports are expected to be of wood and pulp to China and India; dairy products to China and a range of other countries; and fruit to Japan, South Korea and Hong Kong.

Table 9 displays merchandise import projections for 2041 at the level of major export commodities and trading partners. We have excluded mineral fuel imports from any of the countries listed in the table and lumped all mineral fuel imports together under 'Fuel imports', as the actual countries these come from will vary depending on where fuel can be sourced at the right price.

Animal feed will be the most important import other than fuel. Nearly 670,000 tonnes of cereals are likely to be imported from Australia each year by 2041.

Table 8: Half of all export weights are expected to be wood products to China and India

Upper North Island Ports Exports 2041 (000 tonnes)	China	India	Aust -ralia	Japan	South Korea	United States	Indo -nesia	Thai-land	PNG	Other coun-tries	Grand Total
Wood and articles of wood	8,499	2,786	112	475	178	16	98	119	3	504	**12,789**
Dairy products	380	17	97	43	44	5	13	26	8	1,009	**1,642**
Pulp of wood	602	52	15	0	240	0	172	81	0	96	**1,259**
Fruit and nuts	102	16	116	202	79	26	13	26	4	590	**1,174**
Iron and steel	2	23	217	8	27	162	5	3	35	225	**707**
Beverages, spirits and vinegar	6	0	278	3	9	135	0	0	4	227	**662**
NZ miscellaneous provisions	13	223	241	1	1	0	4	1	11	139	**635**
Salt, lime, stones, cement	1	3	30	0	18	12	3	5	177	310	**559**
Meat and edible meat offal	30	0	8	34	48	102	28	2	7	287	**546**
Paper, paper pulp and paperboard	24	18	82	0	36	47	16	23	0	279	**524**
Mineral fuels and oils	0	0	384	4	0	0	0	0	0	25	**414**
Cereals, flour, starch & milk preparations	44	0	107	0	5	0	6	21	0	72	**256**
Fish & aquatic invertebrates	79	0	1	4	4	10	0	2	3	124	**226**
Vegetables and certain roots (edible)	1	0	30	16	11	8	5	0	5	102	**177**
Plastics and articles thereof	33	5	27	0	2	2	0	3	5	97	**173**
Other products	227	47	483	91	62	135	56	19	68	579	**1,767**
Grand Total	**10,043**	**3,189**	**2,225**	**881**	**762**	**659**	**421**	**332**	**329**	**4,667**	**23,509**

Source: PwC analysis

Major exports are expected to be of wood and pulp to China and India; dairy products to China and a range of other countries; and fruit to Japan, South Korea and Hong Kong.

Table 9: Energy and animal feed imports will determine our largest import partners

Upper North Island Ports Exports 2012 (000 tonnes)	Aust -ralia	China	Mala -ysia	Indo -nesia	United States	Thai- land	South Korea	Canada	Fuel imports	Other coun- tries	Grand Total
Mineral fuels and oils	0	0	0	0	0	0	0	0	8,793	0	**8,793**
Animal feed & pet food	215	1	558	553	3	6	0	9	0	138	**1,485**
Salt, lime, stones, cement	210	45	2	7	12	14	1	75	0	310	**676**
Cereals	636	0	0	0	7	17	0	0	0	13	**673**
Plastics and articles thereof	66	106	45	1	9	95	8	8	0	175	**513**
Paper, paper pulp and paperboard	167	84	14	17	42	3	35	6	0	139	**506**
Fertilizers	86	66	0	47	5	0	2	59	0	207	**472**
Vehicles (excl railway or tramway)	14	42	0	0	46	41	48	0	0	166	**357**
Appliances, agri & industrial machinery	2	112	8	2	71	30	28	1	0	70	**324**
Beverages, spirits and vinegar	111	8	3	0	36	3	8	1	0	123	**293**
Glass and glassware	41	65	0	13	3	1	0	0	0	164	**288**
Iron or steel articles	9	198	8	0	2	2	6	0	0	35	**260**
Cereals, flour, starch & milk preparations	145	17	6	8	5	23	6	1	0	37	**250**
Fruit and nuts	24	6	0	2	67	1	0	1	0	144	**245**
Iron and steel	15	46	0	16	0	23	4	7	0	110	**222**
Other products	581	1,016	180	69	236	192	136	72	0	949	**3,431**
Grand Total	**2,322**	**1,813**	**825**	**736**	**544**	**451**	**283**	**240**	**8,793**	**2,781**	**18,788**

Source: PwC analysis

4.4.3 Basis for projections

Projections of import and export growth were made on the basis of 2002 and 2012 weights of overseas cargo, by commodity and country. Growth rates over this period were projected into the future, with some adjustments made in order to correct for implausibly high growth rates.

The projections presented here are based on analysis that includes:

- Historical trends in product trade growth and in trading partner bilateral trade
- Capacity constraints for the production of New Zealand primary products such as wood and dairy
- High-level growth expectations for New Zealand's trading partners
- High-level economic growth trends in the UNI and New Zealand
- UNI and New Zealand population projections to 2041
- Discussions with more than 20 freight forwarders, shipping lines, and major industry leaders.

Headline drivers of growth

As discussed in Section 2.4, "Recent economic and population trends in the UNI", future trade in the region will be driven by population growth, economic growth, and industry composition. The UNI accounts for a large share of New Zealand's overall GDP, population and international merchandise trade. The UNI's growth exceeded that of New Zealand as a whole from 2002 to 2012. This is expected to continue in the medium- to long-term, meaning that the region will increase its share of national GDP, population, and international merchandise trade.

In 2012, the UNI accounted for 53 percent of New Zealand's GDP and population, 68 percent of import weights, and 46 percent of export weights. Based on Statistics New Zealand population projections, we expect it to grow to 59% of national population by 2041. Its shares of overall economic activity and trade are likely to increase along with population.

The UNI imports and exports a diverse range of goods. However, total trade weights are heavily affected by a few individual commodities: wood exports, dairy exports, and crude oil imports. These goods are relatively heavy and are moved in large quantities. Consequently, we provide a more in-depth analysis of their prospects for trade growth.

Likewise, a large and increasing share of New Zealand's trade is destined for or originated from rapidly-growing Asian economies. Trends in these markets will influence trade growth over the longer term. We will discuss the prospects for Asian economies in this report.

Future trade in the region will be driven by population growth, economic growth, and industry composition.


SHIPPING
&
RECEIVING

The UNI wood industry

The wood industry[44] plays a major role in New Zealand exports, currently representing over 62% of total exports by sea in weight terms. Therefore, changes in the production, productivity and capability to satisfy the international demand for wood will have a substantial impact on overall New Zealand exports.

As Figure 42 shows, over the last ten years, the industry has experienced average annual growth of 1.7%, with total growth of nearly 20% for the 10-year period. Moreover, wood industry production capacity is projected to continue to increase over the next 30 years. Our projections assume that wood exports will continue to be exported primarily as unprocessed logs. While this assumption may not continue to hold throughout the study period, any significant changes are likely to result from large investments in processing facilities, which are not possible to predict in advance.

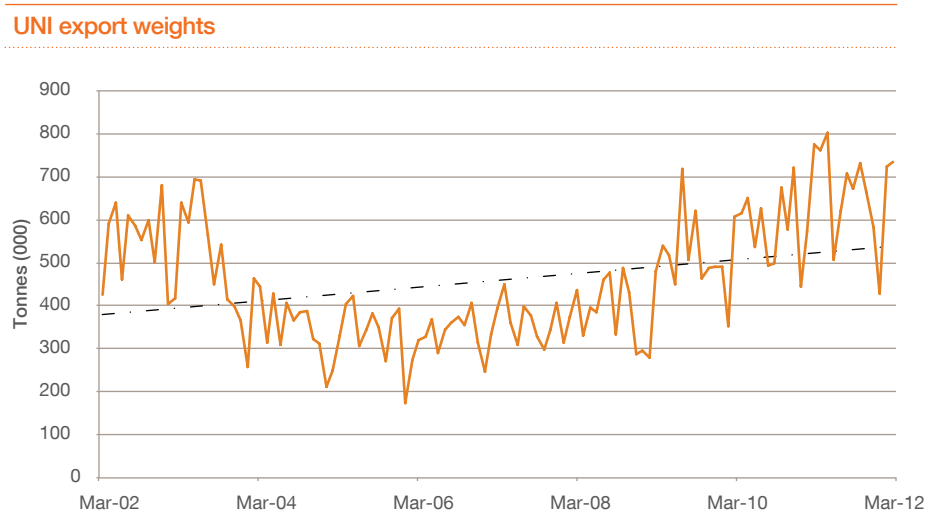
Moreover, increased domestic processing would raise the value of wood exports but not necessarily reduce their weight as sawn timber or pulp are comparable in weight to unprocessed logs. The main effect would be to increase the share of wood that is exported as containerised rather than bulk cargo.

According to the latest Forest Industry and Wood Availability Forecast Report produced by the Ministry for Primary Industries (MPI), wood availability is projected to continue to grow over the next several years.

The MPI modelled five different scenarios for each of New Zealand's Regions, depending on harvesting options and market conditions. For the purpose of analysing the natural catchment area of the UNI ports, we have used the estimates in their reports for the North Island Region only.

As Figure 43 shows, under a supply controlled scenario[45], wood availability is expected to grow from 17 million m^3 to 25 million m^3 in the next 10 years, representing an increase of 46% in wood availability. After 2021, volumes are modelled to stay constant.

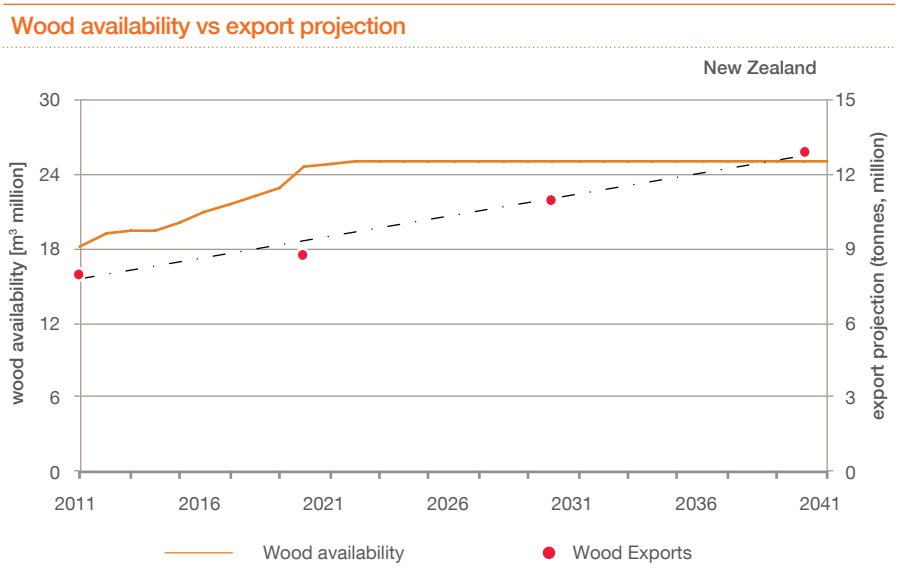
Figure 42: Wood industry exports, 2002-12



Source: MPI

44. The Wood industry is made of the industries of wood and articles of wood, cork, pulp, paper, printed books and other derivatives. In New Zealand, the majority of the exports (in weight terms) are wood and articles of wood such as wood in logs, chips, charcoal or rough shape.
45. Scenario modelled on radiata pine production. Out of the five proposed scenarios, we have selected the scenario where availability is controlled to reduce the volatility. Under all scenarios total growth is in similar ranges. For full report refer to http://www.mpi.govt.nz/news-resources/publications.aspx?title=Forest%20Industry%20and%20Wood%20Availability%20Forecasts.

Figure 43: Wood availability forecast vs PwC export projections, 2011-41



Source: MPI, PwC

The wood industry has experienced steady growth of 1.7% a year, with total growth of nearly 20% for the 10-year period.

North Island Dairy

New Zealand's Dairy exports have experienced remarkable growth over the last 10 years. In total, UNI ports' exports increased 27% for the period, and currently the industry represents the second largest export in weight terms with approximately 8.6% of the total in 2012.

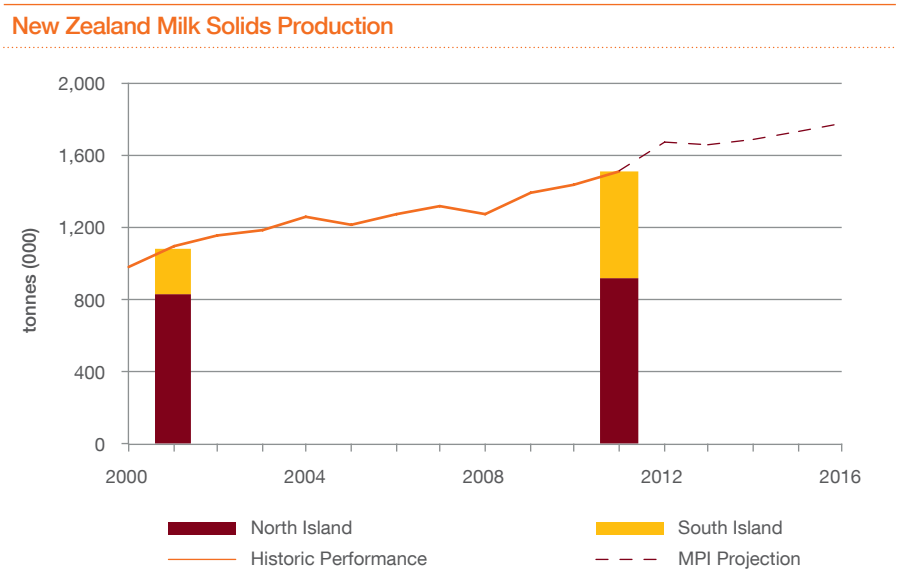
According to the MPI[46], although the sector currently faces weakening international prices as a result of the European debt crisis, the long-term outlook is positive, with steady growth in domestic production and increasing prices as a result of good demand from emerging markets, and an economic recovery in developed countries.

As shown in Figure 44, New Zealand's milk solids production has been consistently increasing in recent years and the trend is projected to continue. Total production increased from 1.1 million to over 1.5 million tonnes over the last 10 years, a 38% change in weight terms. In addition, MPI projects that total production will be in the order of 1.8 million tonnes by 2016, an average increase of 3.8% per annum over the 16 years.

However, most of this recent growth has taken place in the South Island. As shown in Figure 44, milk solids production in the region has boomed from 250,000 to near 590,000 tonnes over the last ten years, due to farm conversions and productivity gains.

Looking forward, dairy growth will predominantly be from increases in milk solids production rather than increase in productivity. This means we adopt a relatively conservative growth rate for the UNI ports, of 0.9% for the 2012-2041 period.

Figure 44: Milk solids production, 2000-16



Source: MPI

46. Situation and Outlook for Primary Industries. The Ministry for Primary Industries, 2012.

The last 10 years have experienced a remarkable growth in New Zealand's Dairy exports.

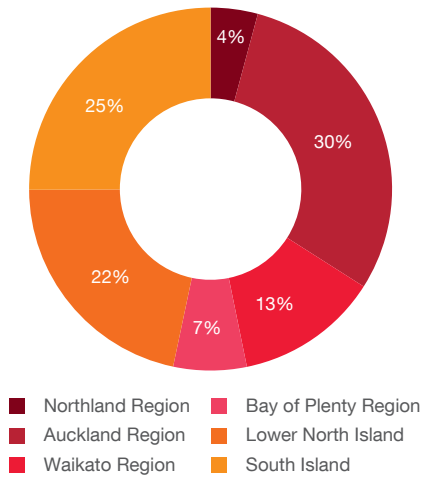
Mineral fuel imports

New Zealand's imports have historically been dominated by mineral fuels and oils and the trend is projected to continue. Currently, the industry represents 48% of the total weight imported through the UNI Ports, of which over 90% is imported through Marsden Point[47].

The country's mineral fuels imports are largely driven by the domestic consumption of petrol, which is dominated by household transport. However, diesel vehicles are becoming an increasingly popular choice, used heavily by the commercial transport sector, and in off-road applications such as primary industry and construction.

vehicle kilometres travelled, 2010/11

Regional share of national vehicle kilometres travelled



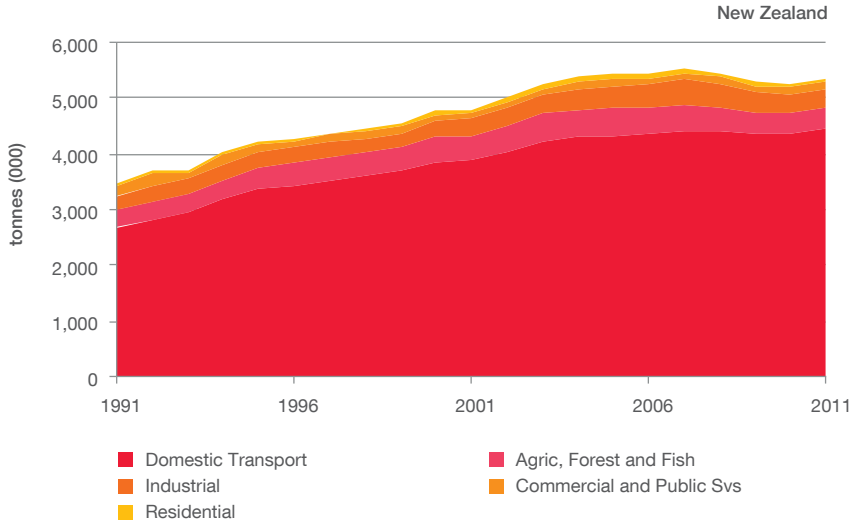
Source: MoT Transport Volume statistics

The UNI region plays an important role in both production and consumption of petroleum products. On the one hand, the Marsden Point refinery uses imported crude oil to meet the majority of the country's demand for petroleum, diesel, and other products. On the other hand, the UNI region consumes roughly half of the country's total petroleum products. For example, as shown in Figure 45, the UNI accounts for 53% of national vehicle kilometres travelled (VKT). Auckland alone accounted for 30% of national VKT. This is similar to its share of national population. Because oil consumption is closely related to land transport usage, it is likely that the UNI's share of total oil consumption will be similar to its share of national population, or slightly higher as a result of industrial uses.

As shown in Figure 46, domestic transport has driven the increase in the country's oil consumption for the past 20 years, representing 80% of total oil consumption. Consequently, it is the main driver of increased oil consumption. Consumption of oil for domestic transport increased at approximately 3% per annum between the years 1991 and 2006. However, consumption has stayed flat over the past five years.

Figure 46: New Zealand's oil consumption, 1991-2011

Oil consumption



Source: MED

47. The Port of Whangarei currently imports over 75% of New Zealand's mineral fuels.

By contrast, growth in oil consumption for purposes other than land transportation has been negligible or immaterial to overall oil import projections. Total consumption for agriculture, industry, and other means of domestic transport has decreased slightly over the last decade.

The main drivers of domestic oil use are population growth, light passenger vehicle use, and road freight growth. New Zealand's domestic oil consumption rose by 18% from 2001 to 2011[48]. Over the same period, national population grew by 13%[49] and total VKT by road increased 14%[50]. However, oil use increased more rapidly on the back of faster growth in heavy vehicles, which are more fuel-intensive. VKT by diesel vehicles rose 38% from 2001 to 2011, while diesel consumption rose by 37% over the same period.

There are other factors that have affected domestic demand for oil, such as rapid oil price increases in the years leading up to 2008, increasing fuel efficiency in new cars, increasing engine sizes for new cars, an increase in the average age of New Zealand's vehicle fleet and increasing traffic congestion.

This analysis suggests that our projected total increase in mineral fuel imports of 37% for the period from 2011 to 2041 is reasonable given current trends. New Zealand's population is expected to be 27% larger by 2041[51], and it is likely that its oil use will continue to increase at a slightly faster rate.

New Zealand's population is expected to be 27% larger by 2041, and it is likely that its oil use will continue to increase at a slightly faster rate.

48. Ministry of Economic Development, Oil supply, transformation and demand tables.
49. Statistics New Zealand.
50. Ministry of Transport. Note that vehicle kilometres travelled per capita have been falling since 2005, contributing to flat overall traffic volumes.
51. Statistics New Zealand and PwC analysis.

Motor vehicle imports

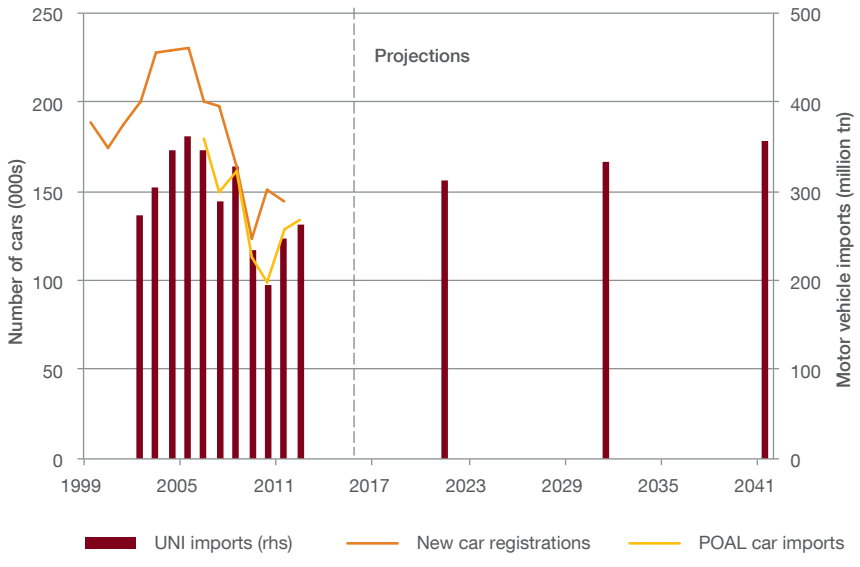
Imports of cars are an important driver of growth at POA. Motor vehicles are carried as breakbulk cargo and stored at the port while awaiting removal by wholesalers and vehicle refurbishers. As a result, they have significant space requirements.

As Figure 47 shows, new car registrations in New Zealand have fluctuated significantly over the last decade, rising to a peak in 2005 before falling considerably in subsequent years. Car imports through POA have followed a similar trend, reflecting the port's national role in the industry. The same pattern is apparent in motor vehicle import data from Statistics New Zealand.

We project that motor vehicle import weights in the UNI will grow by a total of 8.8% over the study period. This is likely to be relatively conservative relative to Statistics New Zealand's forecast population growth of 27% over the same period. This is due to the fact that motor vehicle import weights fell over the 2002-2012 period. However, it is important to note that motor vehicle imports are likely to vary considerably from year to year. Recent fluctuations in demand for imported cars are illustrated in Figure 48, which shows new car registrations in New Zealand. Because New Zealand has no significant domestic car assembly capability, future spikes in demand may place short term pressures on port infrastructure above and beyond what is indicated by our projections.

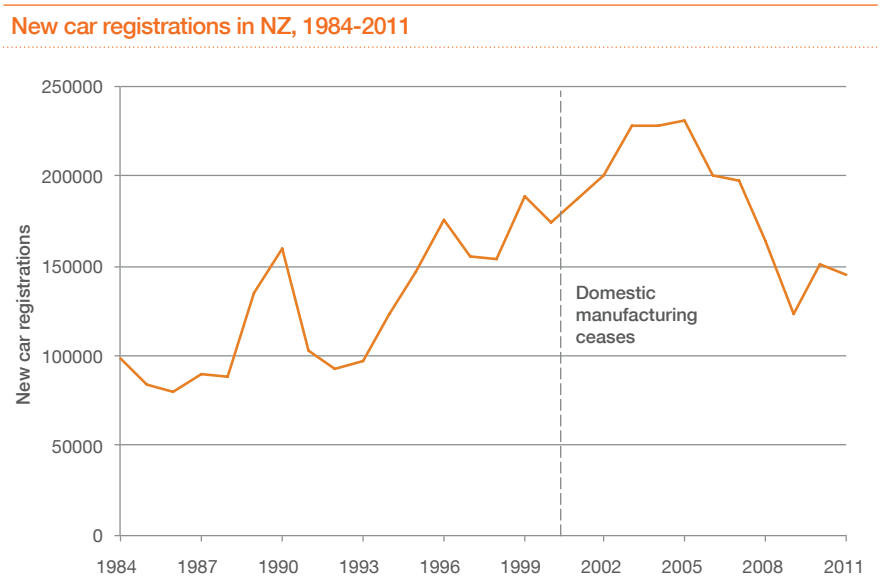
Figure 47: Motor vehicle imports - historical and projected growth

Motor vehicle imports, historical and projected



Source: NZTA, POAL, Stats NZ, PwC calculations

Figure 48: New car registration in New Zealand, 1984-2011



Source: NZTA

Future spikes in demand may place short term pressures on port infrastructure above and beyond what is indicated by our projections.

Emerging Asia

The emerging economies from Asia are driving New Zealand's export growth. Specifically, exports to China, India, Indonesia, Vietnam and Thailand have increased 410% in weight terms over the last ten years and currently account for 43% of total exports out of the UNI ports. The economic activity in these countries, supported by strategic trade agreements, will continue to play a key role in New Zealand's international trade.

The latest global economic prospects for the region show that growth is slowing slightly, partly reflecting an easing of stimulus in China and a shift toward domestic sources of demand.

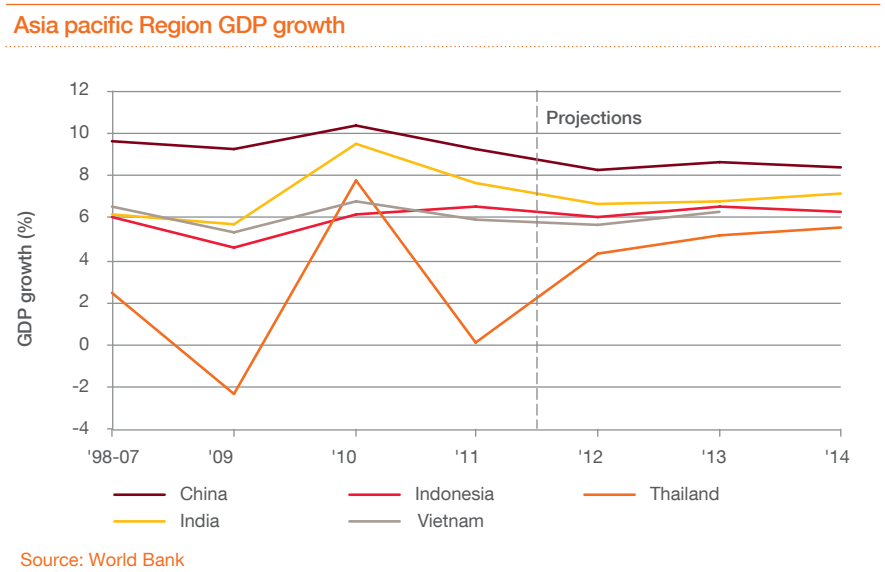
According to World Bank Reports[52], capital flows, which were resilient during the first half of 2011, slowed markedly in the second half of the year in response to increased risk aversion and new global banking regulations that accelerated deleveraging by Euro Area banks. Foreign direct investment (FDI) inflows increased by $45 billion (largely to China), partly offset by declines in portfolio equity flows (IPOs and fund investments in regional exchanges).

Nevertheless, relative to the stagnation in western economies, emerging Asia remains very strong, as highlighted by the forecast growth rates shown in Figure 49.

All these countries have maintained strong growth rates of over 6% with the exception of Thailand, which has experienced some volatility over recent years, linked to political changes there. Economic growth in the region, although slowing in China and India, is projected to remain strong. China is expected to grow at rates over 8% for the next several years, with India's growth rates positioned at just over 7%. Vietnam, Indonesia and Thailand are expected to grow at around 6% per year.

This means there is massive untapped potential for New Zealand to drive export trade growth with Asian emerging economies.

Figure 49: GDP growth for Asia emerging countries, 1998-2014



Source: World Bank

52. Global Economic Prospects June 2012, East Asia and the Pacific Annex. The World Bank.

There is massive untapped potential for New Zealand to grow trade with Asian emerging economies as a key driver of exports.

4.5 Domestic coastal freight

Domestic coastal shipping of containers to and from UNI ports has grown at a faster rate than overseas cargo over the past half-decade. We expect coastal freight to continue growing throughout the study period. We have defined scenarios in which it continues to grow at the rates experienced over the last half-decade and in which it grows at roughly the same rate as overseas trade.

These projections include both containerised coastal freight and bulk cargo. At present, bulk cargo – primarily petroleum products and cement – makes up the majority of cargo weights carried. However, this category of freight is likely to grow less rapidly than containerised cargo over the period.

4.5.1 Summary of projections

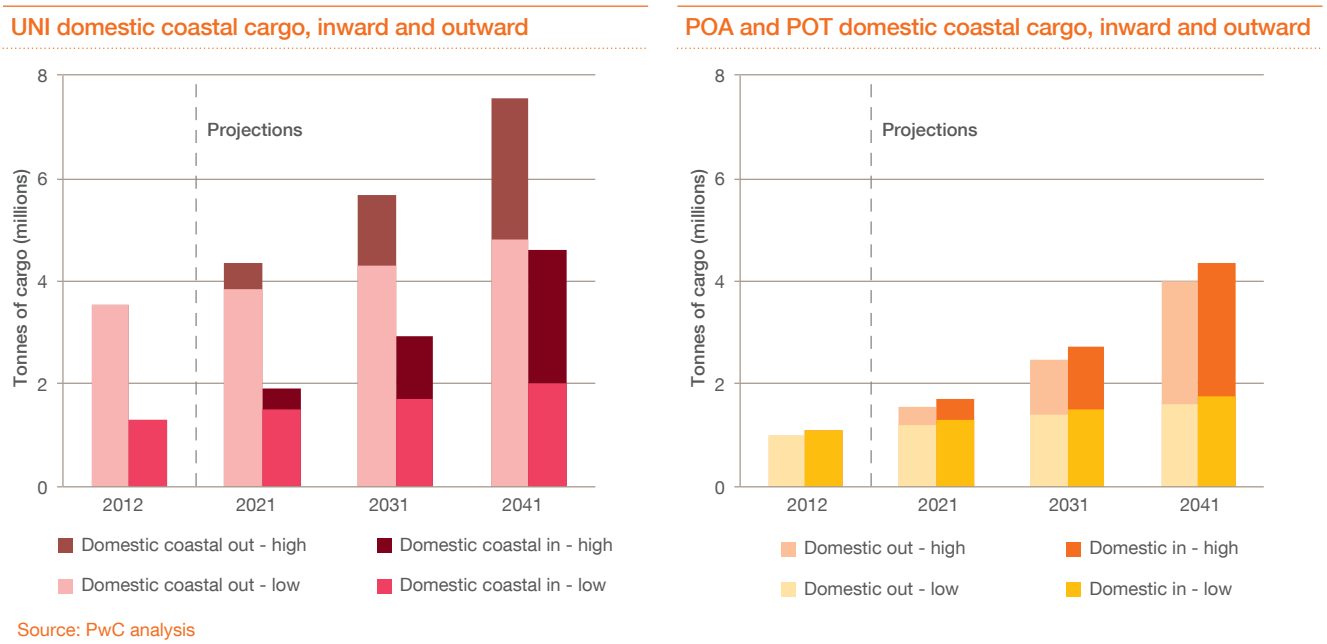
Our projections for domestic coastal freight are summarised in Figure 50. We expect that containerised cargo moving in and out of POA and POT will be the primary driver of demand over the study period. However, outward coastal freight from the region is dominated by movements of petroleum products and cement from Whangarei.

All in all, we expect domestic coastal cargo to grow at an annual rate of between 1.2% and 3.3% during the study period.

4.5.2 Basis for projections

We used three primary data sources to form our projections. First, we used data from POA and POT to estimate the magnitude of the domestic coastal freight task at those ports in 2012. Second, we used data from the 2008 NFDS to estimate the current magnitude of coastal shipping movements to and from Whangarei. Third, we used the National Freight Demand Study, which forecast 3.0% to 3.2% annual growth in coastal shipping over the 2007-2031 period, to develop scenarios for domestic coastal freight growth.

Figure 50: Growth projections for domestic coastal cargo



Source: PwC analysis

We considered several scenarios for domestic coastal freight growth at POA and POT. The base scenario was the NFDS forecast of 3.2% growth per annum. We added high and low growth scenarios of 4.8% growth and 1.6% growth, respectively.

Container freight is likely to grow faster than bulk cargo due to the fact that growth in shipments of the main bulk cargoes – petroleum products and cement – is constrained by production capacity at three sites (Marsden Point refinery and two cement plants). Consequently, we have made separate assumptions about growth rates for bulk cargo to and from the Whangarei ports. We assumed that coastal shipping of refined petroleum products from Whangarei would grow at the same rate as imports of mineral fuels (ie crude oil) to Whangarei – a reasonable assumption given the fact that Whangarei imports crude oil in order to refine it for domestic consumption. We assumed that coastal shipping of cement would either remain flat over the study period (in our low scenario) or increase at an annual rate of 1.6% (in our high scenario). These are likely to be reasonable assumptions due to the fact that significant increases to coastal shipping of cement from Whangarei would entail considerable investments in additional production capacity at Golden Bay Cement.

Finally, it is necessary to note that coastal shipping growth during the study period may be affected by policy changes, such as the emissions trading scheme and choices of land transport infrastructure investment. Because coastal shipping is a relatively minor transport mode, the impact of these changes may be large and is hard to predict.

4.6 Import and export transhipment

Over the last half-decade, POA and POT have handled an increasing amount of import and export transhipment cargo destined for or originated from other New Zealand regions. This has, in effect, meant that throughput at POA and PoT has increased without a corresponding increase in trade volumes.

We expect this trend to continue throughout the study period. There are some limits to the ability to transhipment Lower North Island and South Island cargo through UNI ports – particularly for bulk cargoes (and in particular log exports) and time-sensitive refrigerated cargoes such as chilled meat. However, trends in the shipping market towards larger ships and fewer port calls in New Zealand make it likely that containerised cargo will increasingly be transhipped through the UNI.

Transhipment has some implications for the overall efficiency of NZ's port sector. Concentrating overseas shipments through the UNI ports may enable NZ to achieve greater returns to scale from larger ships. However, these efficiency gains may be partially offset by increased supply chain costs for regional importers and exporters, as transhipment may increase time to market or handling costs.

Over the last half-decade, POA and POT have handled an increasing amount of import and export transhipment cargo destined for or originated from other New Zealand regions.

4.6.1 Summary of projections

Our projections for import and export transhipment are summarised in Figure 51. We expect that the primary driver of growth in this category will be the increasing transhipment of Lower North Island (LNI) and South Island (SI) containerised imports and exports through POA and POT. As the LNI and SI export more cargo than they import, we expect overall export transhipments to be much higher than import transhipments. This does not have any bearing on the port task, however, as each transhipment entails both a load and a discharge of cargo regardless of its ultimate origin or destination.

As we do not have any comparable base year data for this category, it is not possible to provide projected growth rates over the whole period. However, these projections imply annual growth of 6% over the 2021-2041 period regardless of scenario, albeit from a higher starting point in the high growth scenario.

4.6.2 Basis for projections

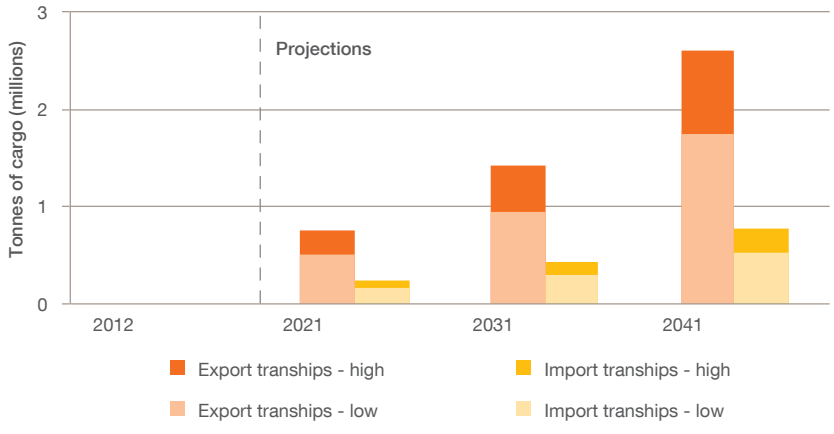
Our projections for import and export transhipment were based on projections for overseas cargo growth in the Lower North Island and South Island and assumptions about the share of this cargo that will be transhipped through the UNI in the future.

In order to project the overseas freight task of the Lower North Island and South Island, we used the same method as for the UNI trade projections. This involved projecting future growth on the basis of historical growth for individual commodity/country pairs over the 2002-2012 period. We moderated our growth forecasts on the basis of information from interviews with major importers and exporters and an analysis of supply or demand constraints in key markets.

We assumed that an increasing share of Lower North Island and South Island overseas freight would be transhipped through Auckland and Tauranga. We constructed two scenarios for transhipment growth. In the high growth scenario, the UNI ports will tranship 60% of the Lower North Island's cargo and 20% of the South Island's cargo by 2041. In the low growth scenario, 40% of Lower North Island cargo and 13% of South Island cargo will be transhipped through the UNI by 2041. We have excluded bulk cargoes such as logs and bulk liquids, as is it unlikely that it will be cost-effective to tranship them.

Figure 51: Growth projections for import and export transhipment

UNI import and export transhipments



Source: PwC analysis

4.7 International transhipment (re-exports)

Comprehensive and reliable data on international transhipments is not available. However, the available data from POA indicates that this category of cargo movement has grown rapidly over the last half-decade. Supplementary information from POT also indicates significant growth. International transhipments are predominantly if not entirely containerised cargo.

Based on information from shipping lines, UNI ports serve two main transhipment markets:

- Pacific Island trade, which is serviced through Auckland. Low cargo volumes on these routes mean that it is more efficient to operate feeder services from Auckland than to provide direct shipping lines. The long-term growth of these transhipments will be driven by economic and population growth in the Pacific Islands.
- Trade between Australia and the United States. Auckland currently handles some trade between Brisbane and the US, while Tauranga transhipps wine exports from Australia to the US. Broadly speaking, transhipment of Australian trade will increase as a result of specific market opportunities rather than a longer-term trend. (Conversely, this means that some New Zealand trade may be transhipped through Australian ports when and if opportunities arise.)

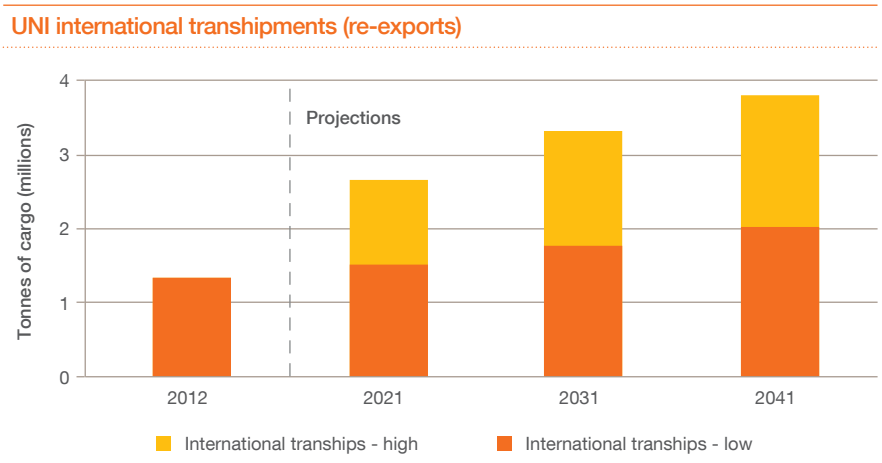
In the longer term, the scope for growth in international transhipments will be limited by growth in New Zealand's own overseas trade. If existing trade volumes are not large enough to justify service on a given shipping line, re-exports can easily move to different routes instead. In the short term, however, growth in this category of cargo movement can allow ports to increase their throughput more rapidly than trade.

4.7.1 Summary of projections

Our projections for international transhipment are summarised in Figure 52. We expect that the primary driver of growth in this category will be increases in transhipment of containerised trade to the Pacific Islands and between Australia and the United States.

We expect international transhipments to grow at an annual rate of between 1.5% and 3.7% over the study period. In the high growth scenario, however, we expect international transhipments to continue recent rapid growth rates over the next decade before slowing growth.

Figure 52: Growth projections for international transhipments



Source: PwC analysis

4.7.2 Basis for projections

Our projections for international transhipments were based on 2012 container movement data provided by POA and POT and assumptions about future growth. We assumed that no bulk cargo was re-exported through UNI ports, due to the fact that bulk carriers are more specialised and flexible in size and that bulk goods (eg logs) are often more complex to load and unload.

Based on data from POA, we expect that re-exports for the UNI as a whole will have grown rapidly over the last half-decade or decade. They are likely to continue growing rapidly in the near future. However, in the long run growth of re-exports is likely to be limited by overall international trade growth. If re-export growth exceeds international trade growth over a sustained period, re-exports will begin to either displace New Zealand's trade or require shipping lines to add capacity to service the re-export trade alone. It would make more sense for shipping lines to add direct routes instead.

We constructed two scenarios for re-export growth along these lines. In the low growth scenario, re-exports grow at the same rate as overall UNI imports and exports throughout the 2012-2041 period. In the high growth scenario, re-exports grow at 8% per annum from 2012-2021 before slowing down to match the growth rate of UNI imports and exports from 2021 to 2041.

We moderated our growth forecasts on the basis of information from interviews with major importers and exporters and an analysis of supply or demand constraints in key markets.

4.8 Allocating aggregate UNI growth by port and by container and non-container

Our main projections of future port task have been made for the UNI region as a whole. However, we recognise that there is some use to breaking down these projections to the level of individual ports. In this section, we provide indicative estimates of trade and throughput growth for Northport (and Whangarei ports more generally), POA, and POT. In addition, we provide indicative estimates of container cargo and breakbulk cargo growth at each port.

In order to break down projections for total cargo across the whole UNI region, we have had to make certain assumptions. Broadly speaking, we have assumed that the ports' share of overall UNI growth within each category of cargo movement will be similar to their historical shares, and that the share of cargo weight moving in containers will remain constant at 2012 levels. These assumptions will not necessarily hold true, but they were necessary in order to disaggregate our projections.

With the obvious exception of heavy bulk cargoes such as logs and petroleum products, POA and POT compete for much of the freight task of the UNI. This is especially true for (dry) containerised cargo. Although land transport costs will factor into importers' and exporters' decisions about which port to use, the two container ports are close substitutes for overseas cargo.

As a consequence, the shares of cargo carried through Auckland and Tauranga are likely to depend upon the ports' capacity to move additional containers, and the marginal cost of doing so. If, for example, POA reaches capacity while POT still has spare capacity, it is likely that POA will have to raise its prices. This will, in turn, encourage some shippers to divert cargo to POT instead. As long as spare capacity exists within the UNI ports, changing prices will encourage shippers to shift traffic away from congested ports.

4.8.1 Summary of projections

Our projections of the future port task for the UNI's individual ports are as follows:

- At POA, container throughput is expected to grow by between 2.3% and 3.2% per annum over the period, while bulk throughput is projected to grow at between 1.9% and 2.2% per annum.
- At POT, container throughput is expected to grow by between 2.5% and 3.1% per annum over the period. Bulk throughput will also grow, but at a slower projected rate of between 1.7% and 2.3% per annum.
- Trade growth at Northport (1.0% per annum) and the Whangarei ports in general (0.7% to 0.8% per annum) is expected to be slower than growth at the other UNI ports. This is because the faster growing transhipping element is not expected to be a feature for the Whangarei ports due to the dominance of bulk cargo. Furthermore, growth in Northport's main cargo, unprocessed logs, is expected to be flat after 2020 due to the fact that log availability is projected to level off[53]. Northport may be able to grow more rapidly if it is able to attract other types of cargo.

Table 10 summarises our projections to 2041, for each port by cargo type and category of cargo movement. These figures contained within should be considered to be indicative only as the underlying assumptions will not necessarily hold.

53. Forme Forest Industry Consultants (2012), "Desktop Review of Log Exporter and Processor Intentions March 2012", confidential report to Northport.

Table 10: UNI port task projections broken down by port and type of cargo 2012-2041 growth projections by port, container and breakbulk

Categories		Northport	Whangarei ports	POA	POT	Total UNI
Outside-port growth:						
Container	Per annum	-	-	2.0% to 2.5%	1.7% to 2.0%	1.8% to 2.2%
	Total	-	-	77% to 105%	62% to 76%	68% to 89%
Bulk	Per annum	1.0% to 1.0%	0.7% to 0.8%	1.7% to 1.9%	1.7% to 2.3%	1.7% to 2.2%
	Total	33% to 33%	22% to 26%	61% to 74%	62% to 91%	62% to 88%
Total	Per annum	1.0% to 1.0%	0.7% to 0.8%	1.9% to 2.4%	1.7% to 2.1%	1.4% to 1.8%
	Total	33% to 33%	22% to 26%	73% to 98%	62% to 84%	50% to 67%
Exchange growth						
Container (2021-2041)	Per annum	-	-	3.3% to 3.3%	5.0% to 5.1%	4.2% to 4.2%
	Total	-	-	90% to 91%	167% to 171%	126% to 128%
Bulk (2021-2041)	Per annum	-	-	6.2%	6.3%	6.3%
	Total	-	-	236%	240%	237%
Total (2021-2041)	Per annum	-	-	3.4% to 3.4%	5.1% to 5.1%	4.2% to 4.3%
	Total	-	-	94% to 95%	168% to 172%	128% to 131%
Total throughput growth						
Container	Per annum	-	-	2.3% to 3.2%	2.5% to 3.1%	2.4% to 3.2%
	Total	-	-	95% to 151%	104% to 146%	100% to 148%
Bulk	Per annum	1.0% to 1.0%	0.7% to 0.8%	1.9% to 2.2%	1.7% to 2.3%	1.7% to 2.3%
	Total	33% to 33%	29% to 33%	71% to 88%	62% to 92%	64% to 92%
Total	Per annum	1.0% to 1.0%	0.7% to 0.8%	2.2% to 3.0%	2.1% to 2.7%	1.7% to 2.3%
	Total	33% to 33%	29% to 33%	90% to 138%	82% to 117%	64% to 91%

Source: PwC analysis

4.8.2 Basis for allocations

Allocating UNI trade growth between ports

We made projections for the UNI as a whole and for individual ports. In order to do so, we had to make some assumptions about growth rates at individual ports. This was more salient for POA and POT than for Whangarei, as all categories of trade except international cargo were negligible at Northport.

In order to split out projections by individual ports, we had to make several assumptions. First, we allocated projected UNI import and export growth to individual ports. In order to do so, we used the method discussed in Section 4.4 to project growth for each individual port based on 2002 and 2011 data[54]. We then used these projections to allocate overall UNI growth to individual ports. The assumptions we made in order to do so – eg around maximum growth rates for individual commodity/country pairs – were consistent with those that we made in our main projections of overseas cargo growth.

We assumed that import and export transhipments from the Lower North Island and South Island would be split between POA and POT according to those ports' 2012 share of UNI import/export transhipments of containers. This was done under the assumptions that (a) most if not all transhipments would be containerised (and hence best understood using data on container movements only) and that (b) the share of transhipments going through POA and POT would not significantly change over the projection period. While the latter assumption may not hold throughout the projection period, we have no strong basis for making an alternative estimate.

We allocated international transhipment and domestic coastal shipping growth between POA and POT according to those ports' 2012 share of UNI international transhipment and domestic coastal shipping. In other words, we assumed that growth rates for POA and POT would be identical in these categories. We made separate estimates for the Whangarei ports based on the assumptions that (a) they would handle no re-export cargo and (b) all coastal shipping in and out of Whangarei would be related to oil and cement products. While these assumptions may not hold throughout the projection period, we have no strong basis for making an alternative estimate.

We recognise breaking down these projections to individual ports is important in the context of understanding the constraints faced by these ports.

54. We chose 2011 as an end year rather than 2012 due to the fact that an industrial dispute at POA diverted a large quantity of overseas trade from POA to POT.

Allocating growth by container and non-containerised cargo

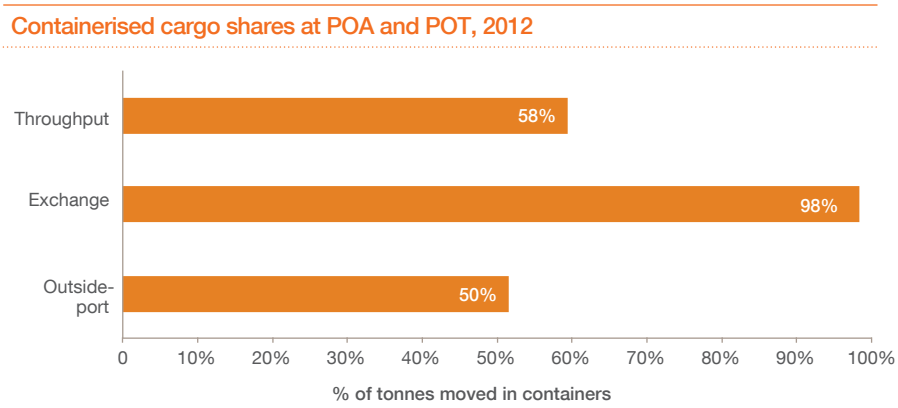
Our high-level projections were made in terms of total cargo weight. In order to understand individual components of the port task, we needed to estimate the share of total cargo that would be containerised or moved as non-containerised cargo.

We assumed that the share of cargo moved in containers, within each category of cargo movement, would remain relatively constant over the 2012-2041 period. We used 2012 data from the ports in order to estimate the share of cargo weight that was containerised. We did so by comparing net weight of containerised cargo with estimated weight of bulk cargo within each category of cargo movement. Estimated container shares varied considerably – for example, in 2012 90% of POA's export weight was carried in containers, while only 47% of POT's export weight was containerised. (See Figure 53 for a summary of containerisation rates for traffic through POA and POT.)

The share of overall cargo carried in containers has not changed significantly in recent years. It is likely that most of the easy opportunities to containerise trade have now been taken up, meaning that container trade will increase its share of total cargo only incrementally. The ability of the ports to pursue further containerisation is likely to be constrained by the mix of products that they handle (eg log exports from Tauranga, car imports through Auckland).

After estimating projected container and bulk cargo weights, we used 2012 data from the ports to estimate total TEUs. We did so by calculating the ratio between the net weight of container cargo and total (full+empty) TEUs for each category of cargo movement. We then multiplied these ratios by the estimated weight of container trade to obtain an estimate of total TEUs.

Figure 53: Share of international trade cargo shipped in containers



Source: PwC analysis

4.8.3 An alternative allocation: Higher growth at POT

In our base case allocation, we project POT to grow at a similar rate as POA over the study period, or slightly slower. These estimates used 2002-2011 data on international cargo growth to estimate the share of growth that would occur at individual ports. We did not include 2012 to avoid picking up the temporary effects of the industrial action at POA. However, it is possible that the shifts that occurred in 2012 reflect an emerging long-term trend rather than a brief disruption. In this case, we may have under-predicted growth at POT.

As a result, we have constructed an alternative growth scenario on the basis of relative growth at these two ports from 2002 to 2012 data. We have not used these results in our analysis of future infrastructure needs. In this case, growth at POT is considerably greater than growth at POA. Overall growth forecasts are summarised in Table 11, which is comparable to Table 10 earlier in this section. In the base scenario, cargo throughput at POT was projected to grow 82% to 117% over the study period, with comparable or slightly higher growth at POA. In the alternative scenario, cargo throughput at POT is expected to grow 94% to 130% over the period – considerably higher than POA.

(This also has an impact on projected growth at Northport, reducing it due to the fact that trend growth was lower for 2002-2012 than for 2002-2011.)

It is possible that the shifts that occurred in 2012 reflect an emerging long-term trend rather than a brief disruption.

Table 11: 2012-2041 alternative growth projections by port and cargo type

Categories		Northport	Whangarei ports	POA	POT	Total UNI
UNI Outside-port growth:						
Container	Per annum	-	-	1.0% to 1.7%	2.0% to 2.2%	1.6% to 2.0%
	total	-	-	35% to 63%	76% to 90%	58% to 78%
Breakbulk	Per annum	0.4% to 0.4%	0.9% to 1.0%	1.0% to 1.3%	1.9% to 2.5%	1.8% to 2.3%
	total	14% to 14%	29% to 32%	35% to 47%	73% to 103%	67% to 94%
Total	Per annum	0.4% to 0.4%	0.9% to 1.0%	1.0% to 1.6%	1.9% to 2.4%	1.4% to 1.8%
	total	14% to 14%	29% to 32%	35% to 59%	75% to 97%	50% to 67%
Exchange growth						
Container (2021-2041)	Per annum	-	-	3.3% to 3.3%	5.0% to 5.1%	4.2% to 4.2%
	total	-	-	90% to 91%	167% to 171%	126% to 128%
Bulk (2021-2041)	Per annum	-	-	6.2%	6.3%	6.3%
	total	-	-	236%	240%	237%
Total (2021-2041)	Per annum	-	-	3.4% to 3.4%	5.1% to 5.1%	4.2% to 4.3%
	total	-	-	94% to 95%	168% to 172%	128% to 131%
Total throughput growth						
Container	Per annum	-	-	1.6% to 2.7%	2.7% to 3.3%	2.2% to 3.0%
	total	-	-	60% to 115%	117% to 159%	90% to 138%
Bulk	Per annum	0.4% to 0.4%	0.9% to 1.0%	1.3% to 1.7%	1.9% to 2.5%	1.8% to 2.4%
	total	14% to 14%	29% to 33%	44% to 62%	74% to 104%	69% to 97%
Total	Per annum	0.4% to 0.4%	0.9% to 1.0%	1.6% to 2.5%	2.3% to 2.9%	1.7% to 2.3%
	total	14% to 14%	29% to 33%	56% to 104%	94% to 130%	64% to 91%

Source: PwC analysis

The difference between the base scenario and this one is particularly significant for containerised cargo. In the base scenario, POA is expected to continue handling more containers than POT throughout the study period. In the alternative scenario, POT is likely to have considerably higher container growth than POA, reflecting the increasing role that it plays for handling cargo for the whole UNI region.

This alternative scenario should not have a significant impact on our analysis of infrastructure shortfalls and options for meeting that supply. The principal effect is to reduce the share of growth occurring at POA, where port and port-related infrastructure is most constrained, and reallocate it to POT, which has considerably more room to expand. If anything, POT's response to the industrial action at POA suggests that it is efficient enough and has enough spare capacity to handle rapid growth diverted from elsewhere in the UNI.

5

The ability of the Upper North Island ports to cater for the future trade task

The ability of the Upper North Island ports to cater for the future trade task

In this section, we analyse the ability of each UNI port to cater for our projected growth in volumes, firstly by using its current infrastructure, and then by either making operational efficiencies or investing in new infrastructure.

- ***In Section 5.1***, we outline the current UNI port and port-related infrastructure
- ***In Section 5.2***, we describe how we assess whether the current infrastructure can cater for a given level of growth
- ***In Sections 5.3 to 5.5***, going through each UNI port in turn, we consider each port's ability to cater for our projected growth in volumes – we assess the ability of current infrastructure to cope with growth, and where this is difficult, we outline options for addressing it
- ***In Section 5.6***, we discuss the role of markets and prices in allocating capacity.

A note on terminology

It should be noted that we loosely use the term 'bulk' throughout this report to describe all non-container cargo. Strictly speaking bulk cargo is cargo that is transported unpackaged in large quantities. It refers to material in either liquid or granular, form such as petroleum, grains, or coal typically dropped or poured, directly into a bulk ship's hold. Smaller quantities can be boxed (or drummed) and palletised. Bulk cargo is classified as liquid or dry. Break bulk (or general) cargo covers the variety of goods that must be loaded individually, and not in containers nor in bulk as with oil or grain[55].

55. Adapted from Wikipedia, see http://en.wikipedia.org/wiki/Bulk_cargo and http://en.wikipedia.org/wiki/Break_bulk_cargo.

5.1 The current infrastructure

We have looked at infrastructure across three categories:

- access for ships, including channel and berth depth
- port infrastructure, most importantly including berthage and storage capacity
- distribution, including road and rail access to or from the port.

5.1.1 Access arrangements

Table 12 outlines the current access arrangements across the UNI.

Table 12: Current access arrangements across the UNI

Port	Current arrangements	Consented or under development
Northport	• Berth depths of 13, 13, & 14.5 metres • Channel depth of 14.8 metres • Harbour can only accommodate 275-300 metre length vessels max, to allow sufficient room for turning	• Has consent for a new berth, which will have a depth of 14.5 metres • Ability to dredge to 14.5 metres at existing berths
Refining NZ	• Deep water berths • Approach is very deep, but limited by the 14.8 metre shoal patch	
Ports of Auckland	• Channel depth of 12.5 metres (chart datum) • Tides in channel allow for ships of up to 13.9 metres draught at high tides • Container berth depths of 12.5, 13, & 13.5 metres • Various bulk berth depths	• Container berth under development has consent for a depth of 13.5 metres • Consent for dredging of 1 existing berth to 15.5 metres
Port of Tauranga	• Channel depth of 12.9 metres (chart datum) inside harbour entrance; 14.1 metres outside • Various berth depths, of up to 14.5 metres for containers, and up to 12.9 metres for bulk • Tidal restrictions apply to larger ships at mid-tides due to the volume of water flowing through the entrance channel	• Consent for channel and berth dredging have recently been granted by the Environment Court[56]. These consents permit dredging of the outer channel to 17.4 metres, and inner channel and berths to 16 metres

56. The consents still need to be approved by the Minister of Conservation and they have been appealed to the Court of Appeal.

5.1.2 Port infrastructure

Table 13 outlines the current port infrastructure across the UNI ports.

Table 13: Current port infrastructure across the UNI ports

Port	Current infrastructure	Infrastructure consented or under development
Northport – Berthage	• 3 berths, of 570 metres total	• Consent for 1 berth of 270 metres
Northport – Storage	• 34ha of formed storage landh	• An additional 14ha within port boundary • Consent for additional 2.3ha
Refining NZ – Berthage	• 2 jetties, of 134 metres total, which can accommodate ships of up to 275 and 200 metres length respectively	
Refining NZ – Storage	• Some storage at refinery	
Ports of Auckland – Berthage	• 3 container berths, of 870 metres total • Bulk berths of 1,637 metres total; in practice POA have 5 operable bulk berths	• 1 container berth of 306 meters consented (at edge of new storage) • Possible loss of 1 operable bulk berth if Captain Cook wharf is released
Ports of Auckland – Storage	• 46ha of container terminal land • 25.3ha of bulk storage land • Further 15ha storage area at Wiri inland port	• 3.6ha under development for container terminal • Possible loss of 3ha of land for bulk storage if Captain Cook and Marsden wharfs are released
Port of Tauranga – Berthage	• 3 container berths, of 600 metres total • Bulk berths of 2,055 metres total • 1 dolphin berth for cement and bulk liquids	• Container berth extension of 170 metres under development
Port of Tauranga – Storage	• 72ha of container terminal land, of which 41 is currently used • 112ha of bulk storage land • Further 3.5ha storage area at Metroport	
Total UNI – Berthage	• 6 container berths, of 1,470m total • Bulk berthage of 4,262m total	• 2 container berths of 476m under development • Possible loss of one bulk berth if Captain Cook and Marsden wharfs are released
Total UNI – Storage	• 118ha of container terminal land • 171ha of bulk storage land • 18.5ha container storage area at 2 inland ports	• 3.6ha under development for container storage • Possible loss of 3ha of land for bulk storage if Captain Cook and Marsden wharfs are released