BIS OXFORD ECONOMICS

PORT OF MELBOURNE TRADE FORECASTS

DETAILED OUTLOOK TO 2022

21 APRIL 2021

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MACROECONOMIC OVERVIEW

The External Environment

- Global growth momentum has generally improved, with the growth outlook becoming brighter in the US. Having experienced the worst of the virus first, China is generally ahead of the recovery curve, with industrial activity normalising relatively quickly. However, the Eurozone is facing stronger headwinds.
- Vaccine rollouts will determine growth paths for all economies in 2021. Long-term, there will be a significant loss of output, but we have revised down the extent of economic scarring in some major economies, including China and the US.
- Australian export prices held up over 2020, driven by industrial recovery in China. Longer-term, underlying demand for Australian commodities is expected to grow.
- After a sharp depreciation at the start of the COVID-19 episode, the AUD has been remarkably strong, currently trading around $US 0.78. We expect only a small appreciation over the medium term to $US 0.80.

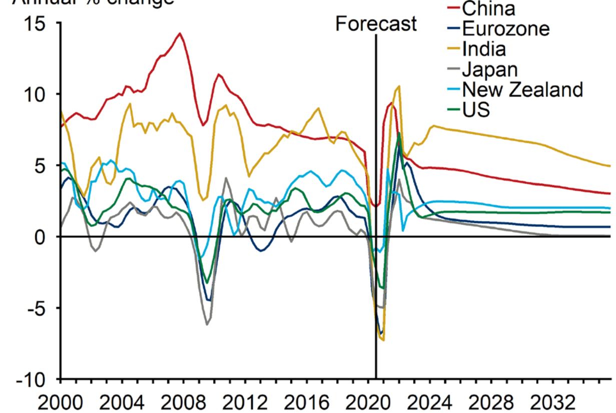
Global GDP Growth
Calendar years*

			Forecast		
	2019	2020	2021-2025	2026-2030	2031-2035
USA	2.2	-3.5	2.7	1.7	1.7
Eurozone	1.3	-6.8	2.7	0.9	0.7
New Zealand	3.0	-1.1	2.4	2.1	2.0
Japan	0.3	-5.0	1.7	0.5	0.1
China	6.0	2.3	5.7	4.1	3.3
India	4.9	-7.1	7.7	6.9	5.5

*Measured in local currency

Real GDP Growth

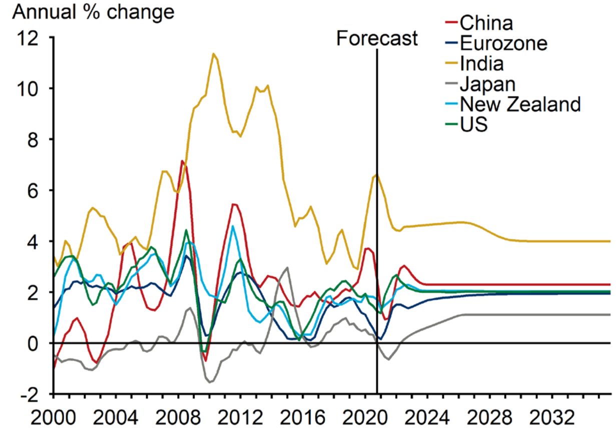
Annual % change



Source: Haver Analytics, BIS Oxford Economics

CPI Inflation

Annual % change



Source: Haver Analytics, BIS Oxford Economics

Executive Summary

Near-term outlook

The Australian economy's recovery from the COVID-19 shock has been swifter than expected. The labour market recovery has outpaced expectations; the initial shock was contained better than expected, and employment has improved steadily since. Nevertheless, government income support to households will be wound back further after Q1, which will provide a further headwind to discretionary spending. Consumer confidence has improved with positive news on the vaccine rollout, but the savings rate remains very elevated, and some pockets of services consumption – mostly travel - remain restricted.

The dwelling investment cycle appears to have turned, with HomeBuilder and complementary state grants driving an upturn in activity. Business investment remains disappointing overall; mining investment has slipped a little, with the outlook for small greenfield projects clouded by uncertainty. Non-mining investment is also very subdued; the government has put strong incentives in place to spur machinery & equipment investment, but with the focus for many firms still on survival, and city lockdowns still generating uncertainty, the near term outlook is weak. Net exports have held up relatively well; earlier expansions in mining capacity and strong demand for steel in China is boosting commodity prices and volumes. Services trade remains severely disrupted, although services exports are set to take another leg down in 2021. Import growth will remain subdued, in line with modest domestic demand growth. Government spending remains supportive; transport infrastructure projects are continuing, while the NDIS rollout and greater education and health spending are boosting government consumption.

City-wide lockdowns and interstate travel disruptions will buffet growth until the vaccine rollout is well underway. These should have a limited impact on hiring intentions if the lockdown durations remain short, although they are a headwind to business confidence. The level of output is expected to reach pre-crisis levels in mid-2021; overall, we expect GDP growth will bounce back to 2.9% in 2021, improving to 3.2% in 2022.

Consumer price inflation remains below the RBA target range: weak wage growth is limiting cost push inflation, while the housing cycle continues to drag on core inflation. The RBA board has cut the cash rate to its floor of 0.1%; we don not expect a change in the cash rate until 2024.

Trend growth

Over the medium term, Australia's trend growth rate is expected to slow to a little over 2.5%. The fall in trend growth is primarily due to a smaller contribution from labour force growth compared to recent history, with the Baby Boomer generation now transitioning into retirement. Capital accumulation is expected to make a steady contribution to trend growth. In recent years, additions to the capital stock were skewed toward the mining industry. But large scale additions in this sector have now been completed.

Going forward, investment growth is expected to come from the non-mining business sector and infrastructure projects. Business investment has been subdued while resources were diverted to other parts of the economy. In the near- and medium-term, we expect there will be some catch up growth. Notwithstanding a structural decline in firms' investment rates, the composition of investment has been shifting toward intellectual property product investment (which includes research & development). Whether these investments are labour-augmenting or labour-saving, they are expected to contribute to solid labour productivity growth in the medium term.

Executive Summary

Outlook for demand

The slowdown in potential output growth will be matched by a slowing in trend consumption growth over the medium term. The structural decline in the share of goods in consumption will continue, with health and other age-related services set to increase their proportion of spending.

Resource exports are expected to face steady increases in demand, although with little new capacity coming online, the pace of growth will slow through the 2020s. We are expecting weaker trend growth in most advanced economies due to ageing populations, but growth is expected to be stronger in Australia's major trading partners. Ongoing improvements in the stock of economic and social infrastructure in China, India and other emerging markets in Asia will provide support to resource exports, while the transition away from nuclear power generation in Japan and South Korea will support LNG demand.

Services exports (primarily tourism and education) will become increasingly important over the medium term, as incomes rise in Australia's neighbouring Asian economies. There was a solid pipeline of investment underway to capture this demand, although it remains to be seen how COVID-19 impacts this.

Underpinned by strong export volumes growth and higher commodity prices of late, Australia's current account position has improved markedly in recent years. The merchandise trade balance has been in surplus for most of the past three years, and we expect this to continue in the near term. In the medium term, we expect goods trade to be roughly balanced, and for the current account deficit to be stable at around 2%-3% of GDP.

The Federal Government's fiscal position was improving prior to the crisis. There has been a strong fiscal response to shore up demand, but borrowing conditions are easy and the Government has been well placed to respond. Over the medium term, the ageing population will put the fiscal position under some pressure, as demand for healthcare outstrips revenue growth.

Monetary policy & financial markets

Monetary policy settings are historically accommodative and will remain so for some time; our expectation is the cash rate target will remain at 0.10% through to 2024, and then the RBA will commence a fairly shallow tightening cycle, with rates settling at 2.5% in the long-run. The RBA has committed to a program of quantitative easing through to Q3 2021; this program could be extended and/or ramped up if additional stimulus is deemed necessary.

The 10-year Australian government bond rate remains historically low, although it has drifted higher of late as investor confidence has improved. It is expected to gradually trend to its long-run level of 2.8% in 2028. Australia's sound economic fundamentals and relatively low debt levels mean we expect the spread to the US government bond rate will remain tight over the medium term.

The AUD depreciated sharply at the onset of the pandemic against both the USD and the broader trade-weighted basket. But since mid-2020, the dollar has staged a strong recovery, boosted by the industrial recovery in China and higher commodity prices. We expect the AUD to gently appreciate against the USD in the medium term as conditions in Australia improve and growth in the US and other developed economies moderates further.

Over the medium term, we expect the AUD to settle at around 80 US cents, our estimate of the equilibrium exchange rate. Australia's relatively robust growth outlook compared to other developed economies will support the currency.

Demand

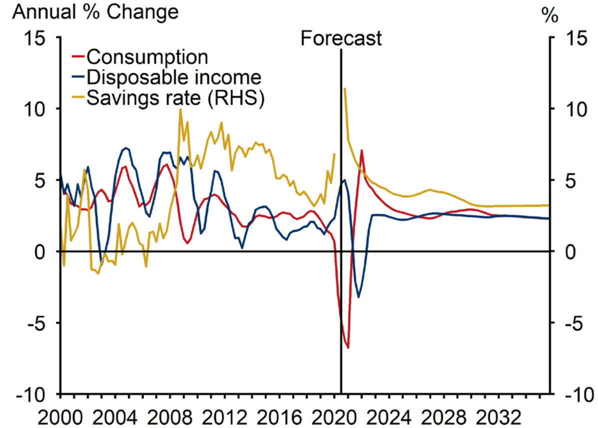
- Household incomes have been well supported through the pandemic by fiscal policy. But with support programs largely scaled back, the near term will be tougher. Income tax cuts will provide some support, but slow wage growth remains the strongest headwind for household incomes.
- Notwithstanding pockets of strength in retail, households remain bearish on the spending front. But confidence has improved, which will help lower the savings rate, which spiked in Q2 2020 and remains elevated.
- Dwelling investment continues to fall, but the outlook has been buttressed by the HomeBuilder program.
- Government spending will be elevated throughout the pandemic, but is expected to be steady as a share of GDP moving forward.
- Demand for resource exports has been resilient through the crisis. But there is limited new mining capacity to come online in the near term, so export growth will slow. But relatively weak domestic demand will weigh on imports, limiting the drag next exports will put on GDP growth.

Demand

Financial years, average annual growth %

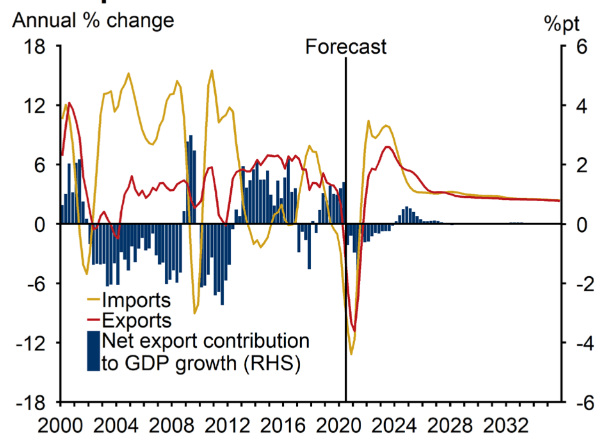
			Forecast		
	2019	2020	2021-2025	2026-2030	2031-2035
Consumption	1.8	-3.0	2.7	2.6	2.5
Disposable Income	1.2	3.7	1.6	2.5	2.4
Imports	0.2	-7.4	4.8	3.1	2.6
Exports	4.0	-1.8	3.2	3.0	2.5

Household Income & Consumption



Source: Haver Analytics, BIS Oxford Economics

Net exports



Source: Haver Analytics, BIS Oxford Economics

COVID-19 Impacts – Consumption

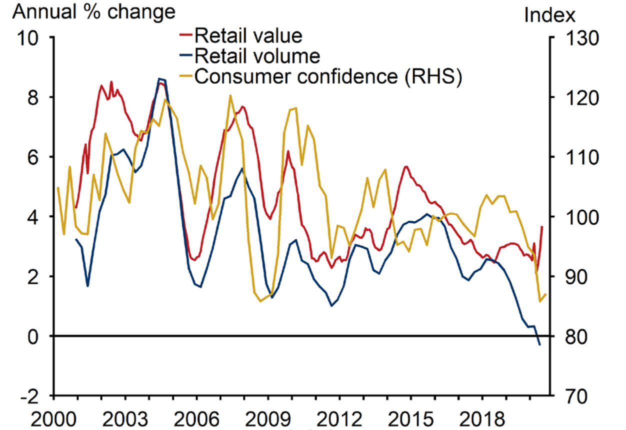
Household consumption will be the primary channel through which the COVID19 shock hits the economy. Discretionary spending has suffered the largest falls to date; health concerns, lockdowns, trading and travel restrictions have curtailed demand and access to many services related to food, accommodation and recreation. Moreover, the shock to incomes and weak consumer confidence has and will lead households to defer or cancel planned purchases of discretionary goods such as motor vehicles, household goods and clothing. Discretionary spending makes up around 45% of household consumption, and our expectation is that spending in these areas fell sharply initially and will remain below normal until the health crisis has been resolved.

The remainder of the consumption basket is made up of essential or core goods (food and medical items) and services (housing, utilities, medical care and education). There is some upside in the food and utilities category as people spend more time at home, but by their nature, these components generally see steady levels of consumption.

Retail trade has been incredibly volatile through the pandemic, with panic buying and lockdowns leading to the sharpest monthly increases and falls on record. And turnover remains well up on a year ago. Some of this strength has come through pent-up demand from consumers who are unable to access services. As a result, there will be a short-term shift in the goods-services consumption split. There has also been an acceleration of inflation for many goods as retailers have responded to stronger consumer demand by scaling back discounting activity. But overall, retail volumes are subdued, meaning the strength in retail trade will not carry over to the GDP measure of consumption. One exception is household goods, where volumes have grown sharply. But due to the one-off nature of many of these purchases, we expect spending will return to trend over the near term.

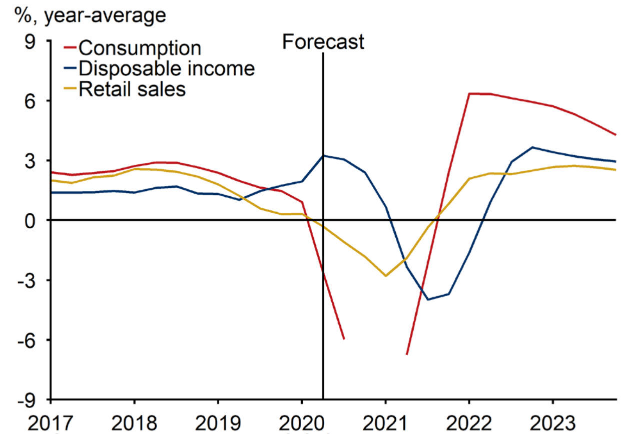
In the medium term, the fundamentals for consumer spending are very weak. Consumer confidence is very subdued. And as Federal income support is wound back, household incomes will come under pressure. The sharp fall in consumption, restrictions on spending, and an element of caution amongst consumers likely saw the savings rate spike in Q2. These spikes typically unwind slowly, and this will weigh on consumption over the next few years.

Retail Turnover & Consumer Confidence



Source: Haver Analytics, BIS Oxford Economics

Household income and spending



Source: Haver Analytics, BIS Oxford Economics

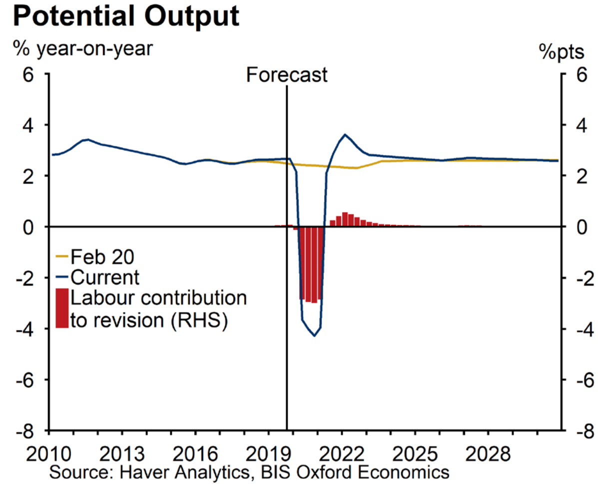
COVID-19 Impacts – Population and migration

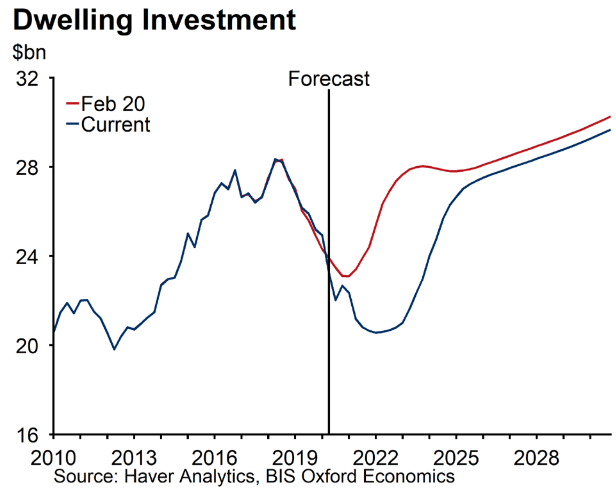
The COVID-19 pandemic has caused a significant downgrade to our population forecasts. International travel has almost ground to a halt. In the very near term there is expected to be a net migration outflow as there have been more temporary migrants leaving Australia than there have been Australian citizens returning home. Travel restrictions are expected to be in place for some time and the repair process will be gradual; net overseas migration is not expected to return to pre-crisis levels until 2024.

Population growth, in particular net overseas migration, has been a key driver of economic growth for decades. The removal of this boost will weigh heavily on the pace of potential output growth, and the recovery in population growth will determine the path for the economy's supply side. Population growth has been revised down to 1% in 2020 and just 0.7% in 2021. Accordingly, we are forecasting a sharp fall in potential output in the near term (albeit a smaller fall than actual output, resulting in a widening of the output gap). Much of our revision to potential GDP is attributable to this reassessment of population growth.

The shock to the supply side of the economy is expected to result in a permanent loss of productive potential, with GDP and many of its components now forecast to be structurally lower. This is particularly noticeable in our outlook for dwelling investment. In the near term, the COVID-19 shock will exacerbate the downturn that was already underway; we now expect the cycle to be deeper and run for longer. But in the medium term, the lower population and less household formation will lead to a permanently lower level of investment.

While a smaller population pulls down the economy's productive potential, it also reduces demand. And simultaneous supply and demand shocks have an ambiguous affect on inflation. In general, we expect the inflationary pressures from the negative supply shock will be more than offset by softness in domestic demand. There will be exceptions in some markets, but overall we expect inflation will be soft in the near term, but our assessment of the long-run or 'equilibrium' inflation rate is unchanged.





COVID-19 Impacts – Building Industry

Total building is forecast to ease back marginally over FY2021 (-1%) and FY2022 (-2%) to $109.81 billion. Considerable divergence is anticipated across the major states, with Victoria taking the biggest step down. This is a stronger outlook than previously forecast, with downside risk subsiding with an improved trajectory for the economy. Nonetheless, it remains until FY2023 that total building activity is anticipated to return to growth.

It is expected that total **residential** commencements will lift 11% to 190,300 dwellings in FY2021. Powered by a fierce response to the HomeBuilder program and other state level incentives, house approvals reached a record level in Q4 2020. This pull forward of activity is forecast to result in dwelling starts scaling back 7% to 177,300 in FY2022. The residential property market has gained considerable momentum in Q1 2021, evident in the return of strong price growth. The core factors currently underpinning strong housing demand, including record low borrowing costs, elevated household savings and preference shifts are expected to be sustained, preventing a greater correction. With the HomeBuilder hangover fading, growth for all build forms is forecast to return in FY2023.

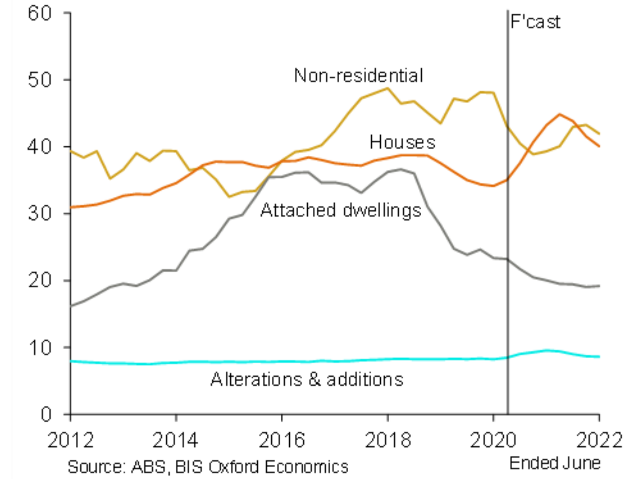
Supercharged by HomeBuilder, **alterations & additions** activity is expected to jump 16% to $9.57 billion in FY2021. The pulling forward of activity caused by the incentive is forecast to see activity normalise to $8.61 billion (-10%) in FY2022. Lead indicators for renovation activity including turnover and prices are favourable. Continued positive momentum in the property market over 2021 and 2022 is set to prevent a steeper fall.

Total **non-residential** building is forecast to fall sharply in FY2021 (-18%), then stabilise at $41.94 billion in FY2022 (+7%) in line with improving economic conditions and business confidence. The pandemic has negatively impacted private investment, especially for retail, accommodation and offices. Support is anticipated from a sizeable pre-existing major public project pipeline across schools, defence, prisons and hospitals.

The downward trend in V**ictoria**'s residential construction sector continued in FY2020, with total starts falling by 6% to 58,487. Ahead of the onset of the pandemic, conditions were improving. This momentum was halted due to a series of lockdowns, particularly in Melbourne. Dwelling commencements are forecast to lift 3% in FY2021 to 60,276, with houses driving the improvement (+17%). Following the weakening of the Melbourne rental market, where the rental vacancy rate has lifted (5% as at Q4 2020) and unit rents are down (-8% y/y to Q4 2020) apartments are set to continue contracting (-19%).

Australia: Building commencements by sector

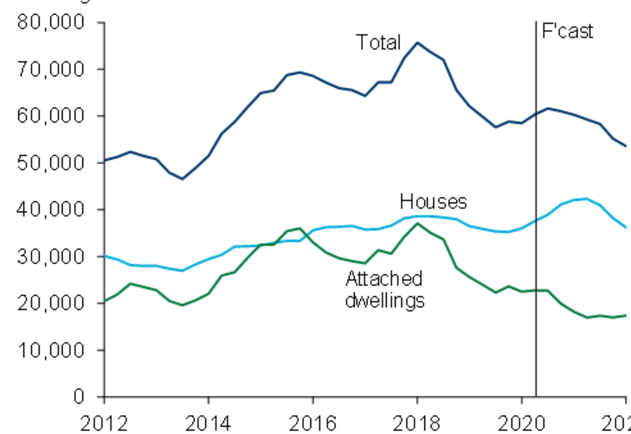
$ billion - constant FY2019 prices



Source: ABS, BIS Oxford Economics

Victoria: Dwelling commencements

Moving annual total



Source: ABS, BIS Oxford Economics

Domestic Productive Capacity

- Australia's potential growth rate is set to take a large hit in the near term due to COVID-19. Weaker net overseas migration and a sustained period of weak investment will result in potential output being lower permanently.
- Over the medium-term, a falling birth rate and slower net overseas migration will weigh on growth in the working age population, while the ageing population will begin to put a drag on the participation rate. Against this, female labour force participation will continue to rise, which will push the total participation rate higher over the next 15 years.
- Infrastructure spending has risen in recent years, with improvements to the transport, communications and electricity networks, which should improve productivity in the medium term.
- Non-mining business investment has disappointed in recent years. Borrowing rates are low and strong government incentives are in place, but uncertainty is holding expenditure back.
- Structurally investment rates are declining, and the composition is shifting towards intellectual products and away from machinery and equipment.
- We are expecting an improvement in labour productivity, in part due to increased investment in intellectual property products.

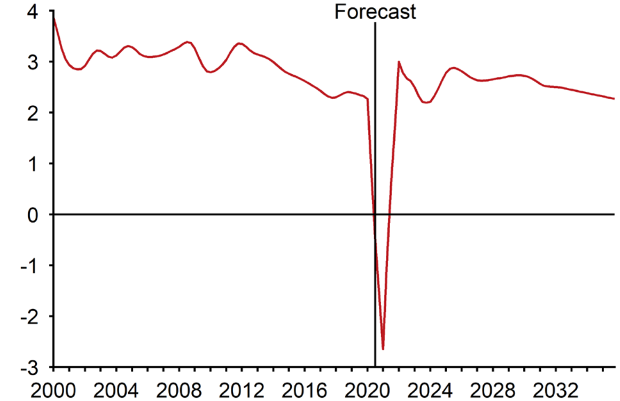
Determinants of GDP Growth

Financial years

	2019	2020	Forecast 2021-2025	Forecast 2026-2030	Forecast 2031-2035
GDP (%)	2.2	-0.2	2.3	2.7	2.4
Contribution from (%pt)					
Labour supply	1.3	0.7	1.1	1.2	1.0
Capital accumulation	0.8	0.7	0.6	0.9	0.9
Total factor productivity	0.1	-1.6	0.6	0.6	0.5

Potential Output

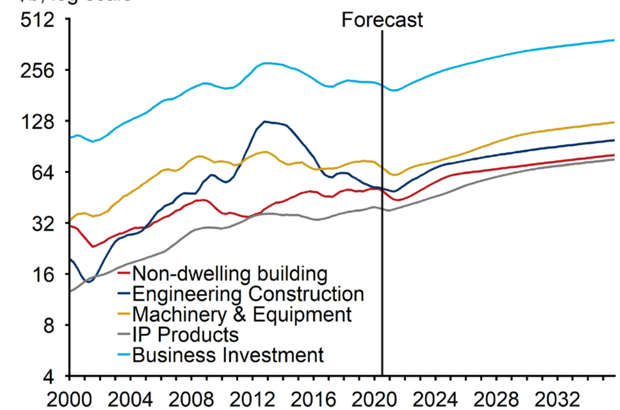
Annual % Change



Source: Haver Analytics, BIS Oxford Economics

Business Investment

$b, log scale



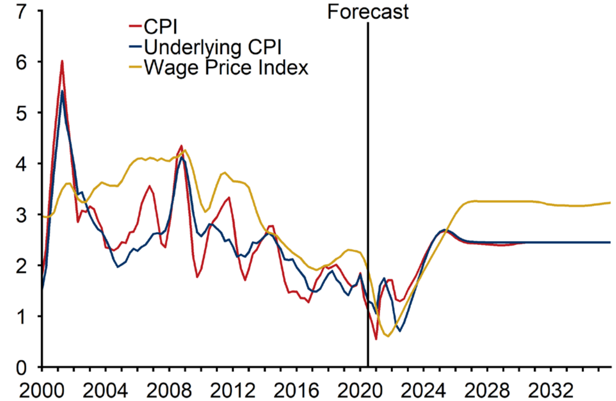
Source: Haver Analytics, BIS Oxford Economics

- Inflation has been remarkably volatile over the past year, with government policies causing large swings in administered prices. Notwithstanding a surge in demand for retail goods, underlying inflation pressures have been weak, and will remain so in the near term; we expect core inflation will remain below the RBA's target range until late-2023.
- Domestically, labour costs pressures are very weak and are expected to pick up only very gradually. Lower migration into Australia will weigh on rents, although the upturn in construction activity will provide some support to non-tradeables inflation.
- Externally, global inflationary pressures remain subdued. Tradeable goods inflation is expected to increase in the near term due to supply disruptions, but this will be transitory.
- With inflation persistently undershooting the RBA's target, inflation expectations are edging lower.
- Wage growth is expected to settle a little above 3% in the long-run, resulting in real wage growth of just under 1%, in line with our modest expectations for labour productivity growth.

Prices Financial years, average annual growth %					
				Forecast	
	2019	2020	2021-2025	2026-2030	2031-2035
Inflation CPI	1.6	1.4	1.9	2.4	2.5
Underlying CPI	1.4	1.5	1.7	2.5	2.5
Wage Price Index	2.3	2.1	1.6	3.2	3.2
Average weekly earnings	2.7	3.6	1.4	3.2	3.3

Wages & Prices

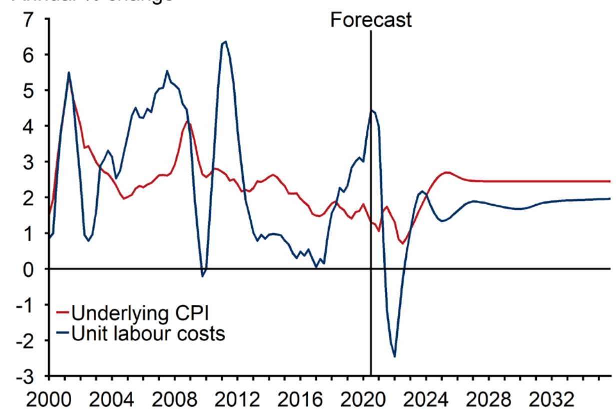
Annual % change



Source: Haver Analytics, BIS Oxford Economics

Unit labour costs

Annual % change



Source: Haver Analytics, BIS Oxford Economics

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CONTAINERISED IMPORTS (EXCL. BASS STRAIT)

Recent Trends and Composition

Short-term change in composition can be explained by cycles (AUD/USD, building activity)

Economic cycles

The strong AUD/USD help boost consumables (both food and non-food), including **motor vehicle parts**, through the mid-2000s, but this unwound as the dollar returned below its long-run average.

The increasing share of **building materials** over the late-2010s reflect the building boom going on in the state, with peaks (in 1999 and 2018) and troughs reflecting the peaks of those building cycles.

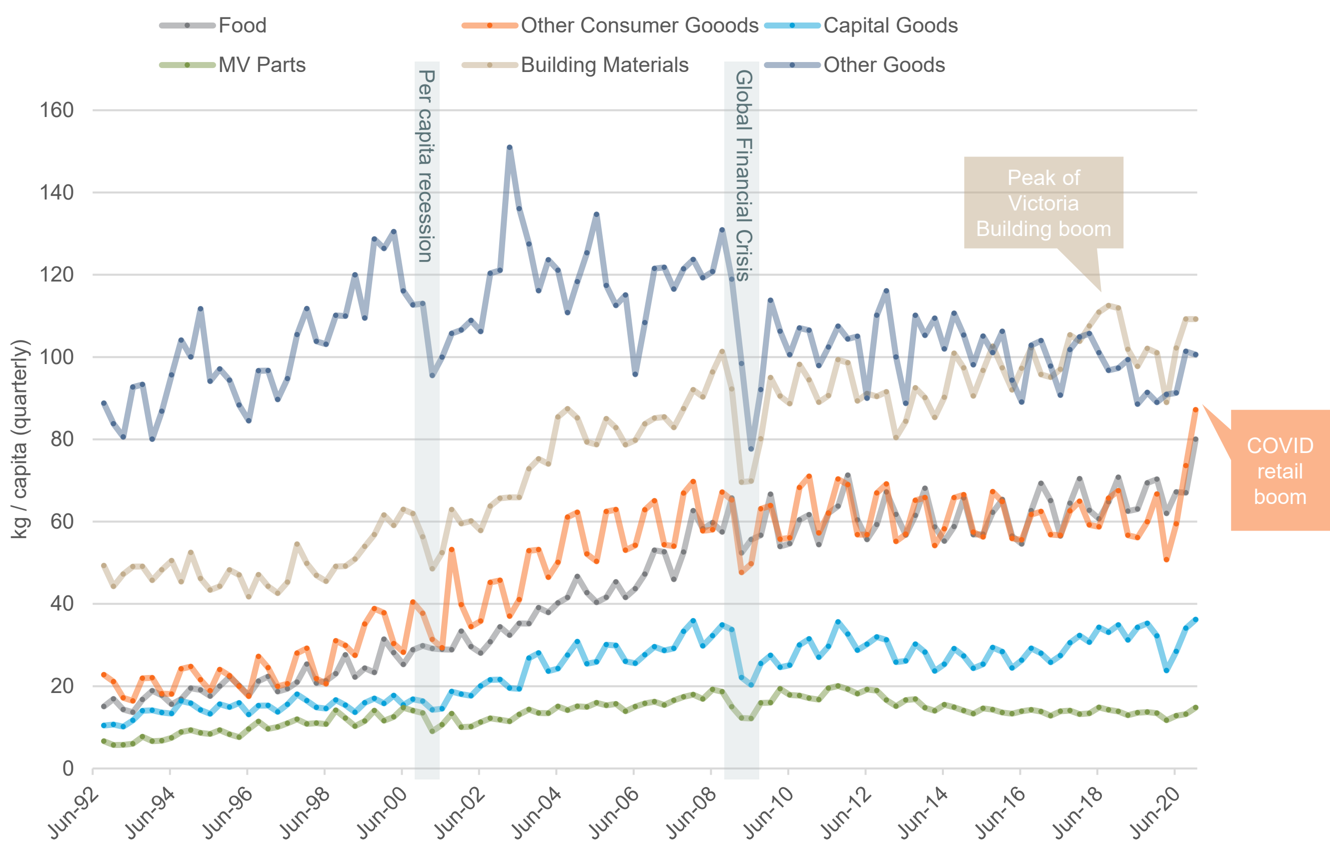
Similarly, boosts in **capital goods** have reflecting investment booms (including in solar panels over the last two years).

Echoing these cycles, **other intermediate goods** have reflected employment booms and busts (2000, 2009 and 2020 representing the busts), but have also declined from first to fourth most common category since the early 2010s.

Structurally, growth in **motor vehicle parts** (mostly consumables such as tyres and lead acid batteries) is the weakest as the stock of vehicles only mildly out-paces population.

Both classes of **consumables** benefit from increasing import penetration over the long-term, but **other consumer goods** outpaces **food** as retail turnover per capita grows.

Historic Import Volumes by Import Category (per capita)



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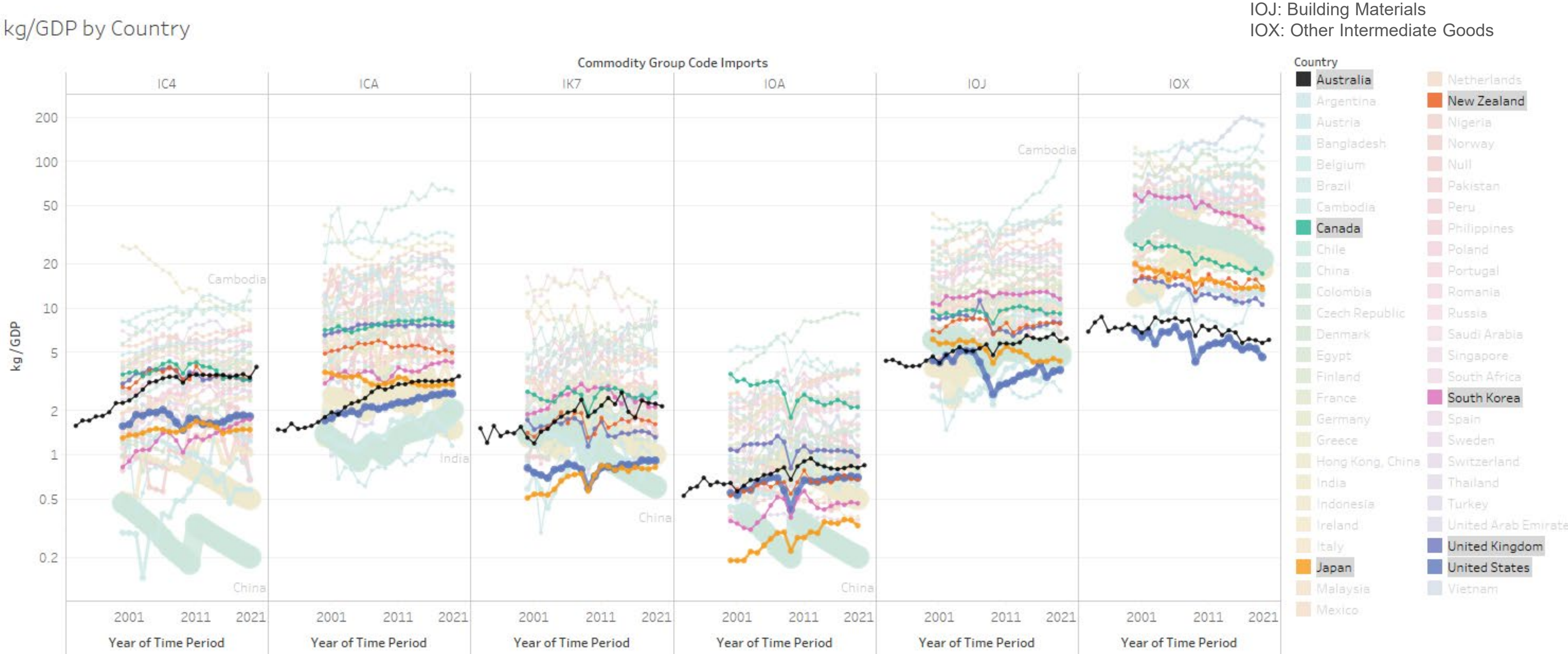
International comparison

The phenomena of generally flat imports per unit of GDP also applies at an individual commodity group level, with deviations (such as falling other intermediate goods) a common feature amongst similar countries.

Annual imports for select countries

Legend
IC4: Consumer Goods (Non-Food)
ICA: Consumer Goods (Food & Beverages)
IK7: Capital Goods (and Parts)
IOA: Parts for Motor Vehicles
IOJ: Building Materials
IOX: Other Intermediate Goods



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Forecast Mass Tonnes of Imports

We use a mix of state and national demographic / industry / macroeconomic drivers to model the import demand in mass tonnes.

Import Class	Cyclical & Structural Drivers	Commentary
Consumer Goods (Food and Beverages)	• AUD/USD (cyclical) • Population (structural)	The current import penetration estimated to be at 172kg per capita (across food and beverages). There is some evidence that the increase in import penetration has coincided with a decline in manufacturing of food and beverage products up to 2008. Continued import substation is assumed to increase at a linear rate over the forecast horizon.
Consumer Goods (Non-Food)	• AUD/USD (cyclical) • Retail Turnover (structural)	This is a more diverse market. While the decline in manufacturing has coincided with an increase in import penetration, this isn't so clear cut as it is for food and beverages. Furniture in particular experienced significant offshoring between 1998 and 2008, with the import penetration largely unchanged since.
Capital Goods (and Parts)	• Machinery and Equipment Expenditure	Historically, the import volumes (in TEUs) of capital goods (which is mostly Machinery and Equipment) track state expenditure on Machinery and Equipment. We use this as both a cyclical and structural driver.
Parts for Motor Vehicles	• AUD/USD (cyclical) • Stock of Motor Vehicles (structural)	Dominated by motor vehicle consumables (like tyres and lead acid batteries), stock of vehicles is the dominant driver. Historically, volumes imported per capita was very dependent upon the exchange rate, but it may no longer be as relevant since the closure of the domestic motor vehicle manufacturing plants and shuttering of many supporting industries.
Building Materials	• State building activity (cyclical) • State final demand (structural)	Dwelling and non-dwelling building requires significant volume of containerised imported building materials. Longer term, we use state final demand of the need for goods.
Other Intermediate Goods	• Employment (cyclical) • State final demand (structural)	Other intermediate goods are used across the manufacturing and service sectors. Historically, import volumes have been highly sensitive to changes in employment (almost 10x) through a cycle, but structurally have grown roughly in line with general economic growth (measured as state final demand for goods).

Forecasting Methodology

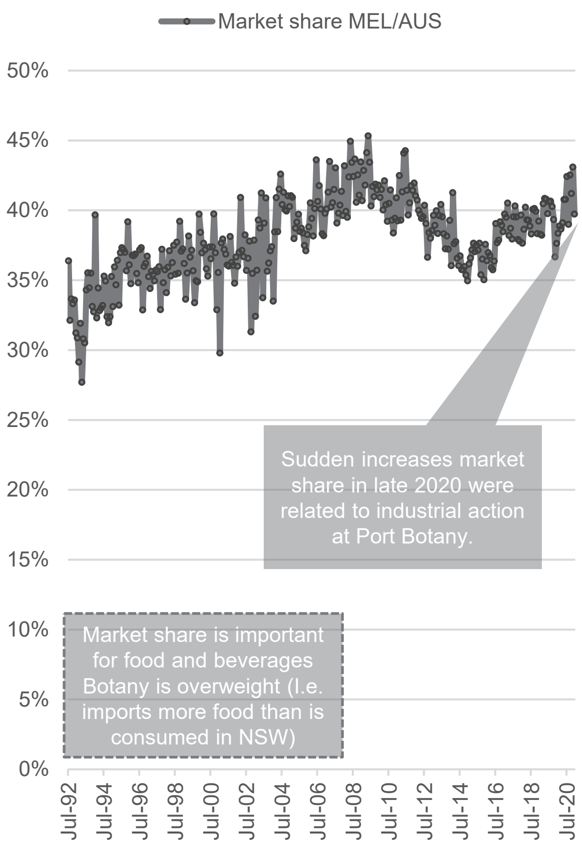
Having generated mass tonnes, we undertake further analysis to undertake projections in TEUs.

1	**Australian tonnes**	Each of the six categories has a cyclical and structural driver which are used over the short/medium term and long-term forecasts respectively. This is assigned to forecasts of mass tonnes.
2	**Port Tonnes**	Historical calculations of the Port of Melbourne's market share use the ABS's definition of the share of tonnes for the BoPBEC subset, with confidential ports statistics allocated to individual ports by BISOE. Forecast tonnes use the Port of Melbourne's own statistics, and grow in line with the forecast market share and national tonnes.
3	**Port Containerised Tonnes**	Cargo is split between containerised and bulk. The forecast for all six major BoPBEC subsets is for the containerised share to remain unchanged over the forecast horizon.
4	**Containerised 20s vs 40s**	Historical share (by mass tonnes) are cargo in 20s is calculated as a share of total containerised cargo by cargo type. The shift away from 20s is most pronounced for consumer goods, and least pronounced (but still material) for intermediate goods. This trend is observed at all east-coast ports.
5	**Tonnes per Container**	When evaluated separately for 20s and for 40s at all east-coast container ports, BISOE does not observe a change in the mass per container over time (by BoPBEC subset). This is in sharp contrast to earlier estimates which examined individual ports in isolation. However, as there is a shift from 20s to 40s in all commodity classes, the average mass per TEU does decline.

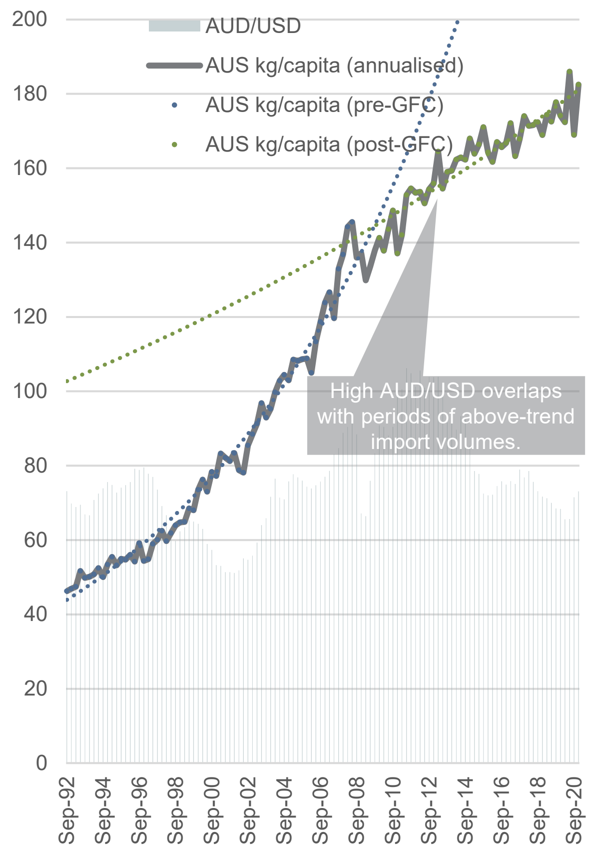
History – Consumer Goods (Food & Beverages)

Food & Beverages make up 12% of import TEUs at the Port of Melbourne (and 16% by mass), and mass per container have remained unchanged since 2005 at 16.2 tonnes

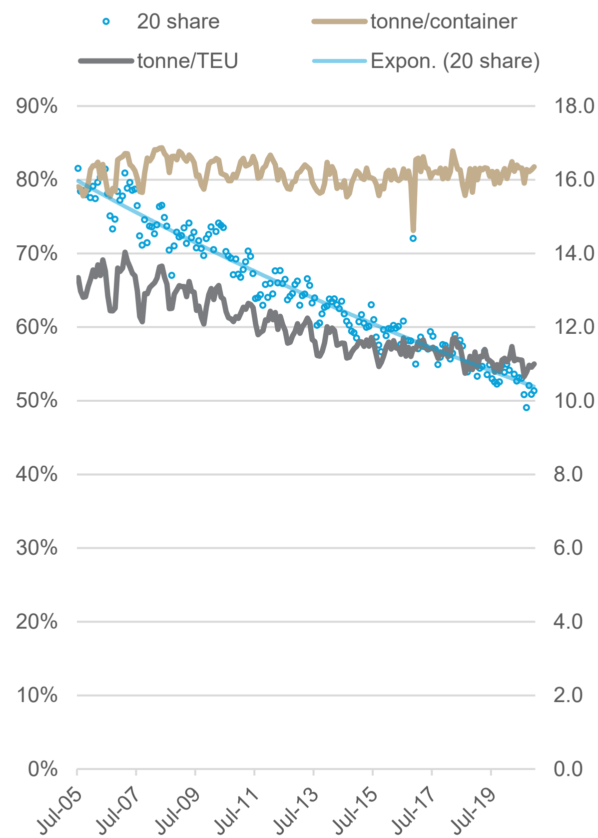
Botany's market share settled in at around 40% for the past 15 years.



Until the GFC, imports per capita were growing at 7.1% p.a., but only 2.0% after



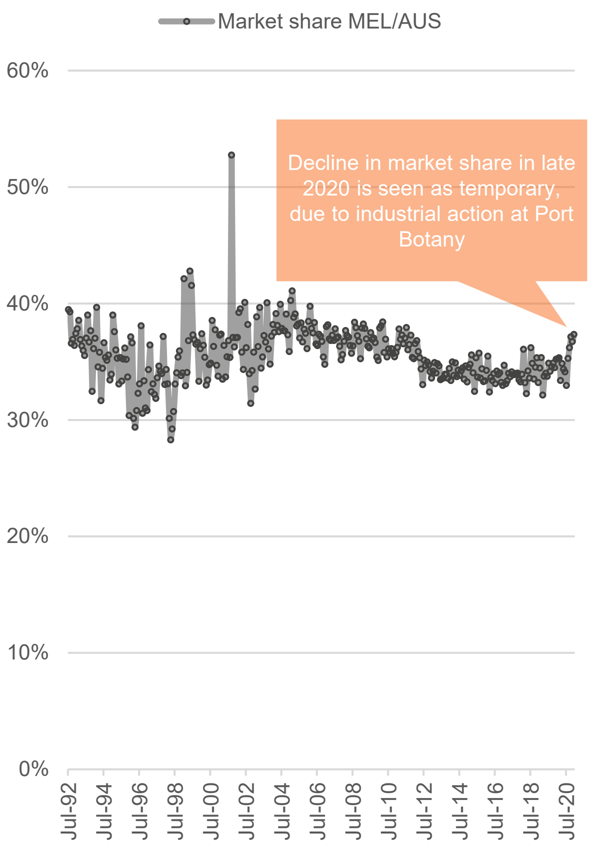
20ft share of containers have been declining by 2.8% p.a. since 2005



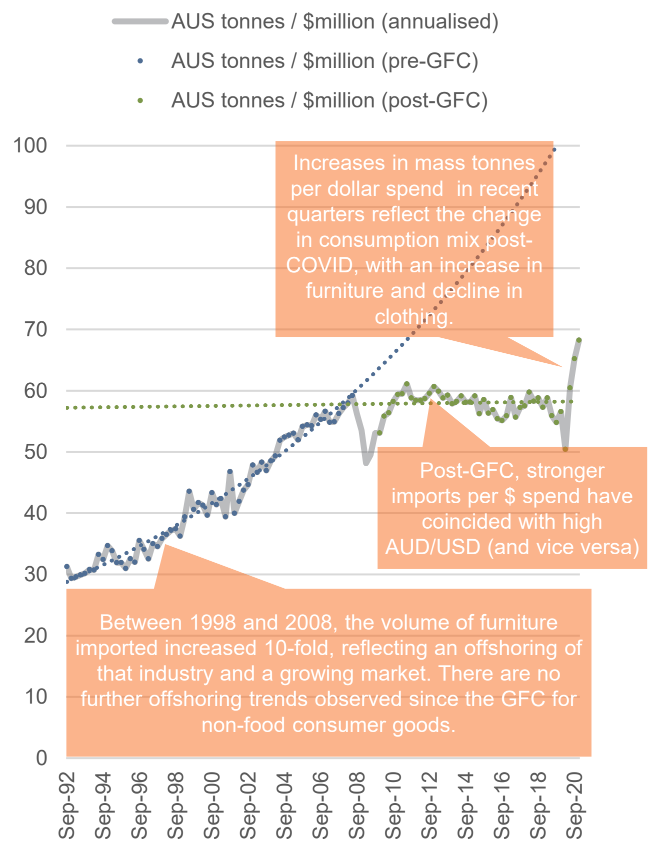
History – Other Consumer Goods

Other consumer goods make up 27% of import TEUs at Port of Melbourne (and 15% by mass). Mass per container have averaged 8.2 tonnes since 2005.

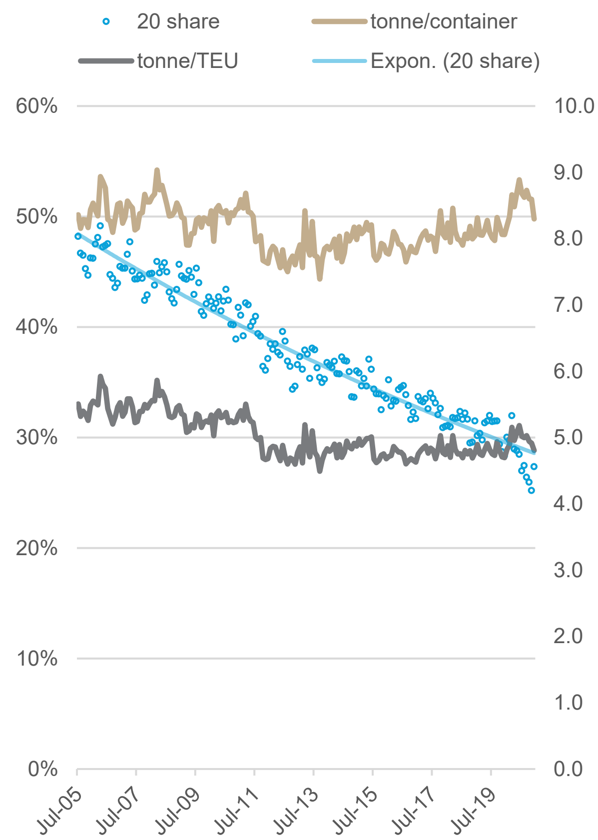
Melbourne's market share settled in at around 34% for the past 9 years.



Until the GFC, imports per retail turnover were growing by 4.7% p.a. (0.1% p.a. after)



20ft share of containers have been falling at an annual rate of 3.4% p.a. (since 2005)



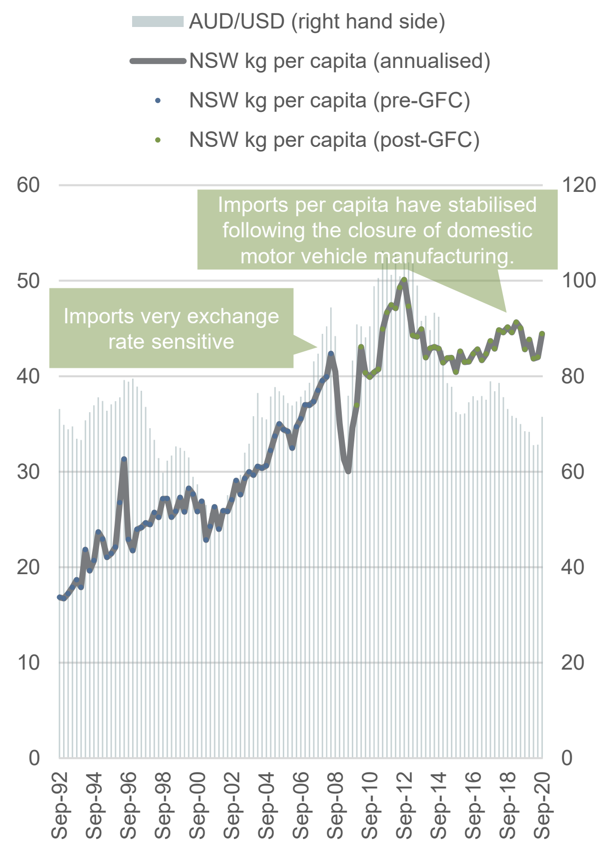
BIS OXFORD ECONOMICS

History – Motor vehicle parts

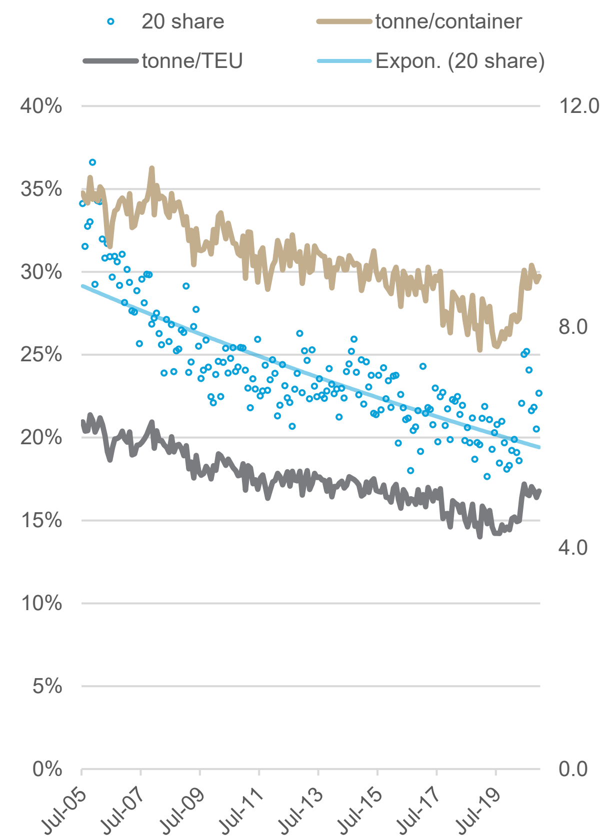
Motor vehicle parts make up 5% of import TEUs at Port of Melbourne (and 3% by mass). Mass per container has trended down, but is assumed to remain FY20 levels (7.9 tonnes).

Melbourne's market share has eased since the closure of domestic manufacturing.

Until the GFC, imports per capita were increasing by 4.6% p.a.



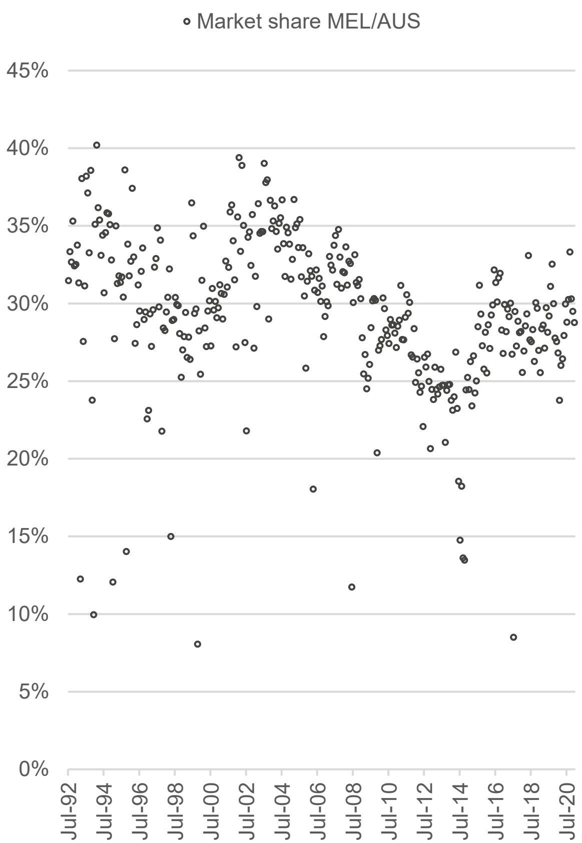
20ft share of containers has been falling by 2.6% p.a. since 2005



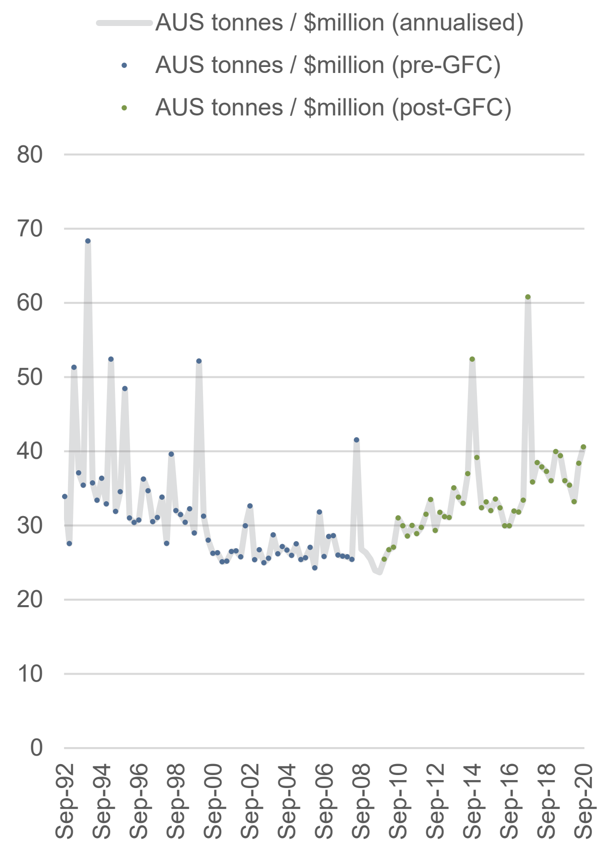
History – Capital Goods & Parts

Capital goods make up 15% of import TEUs at Port of Melbourne (and 9% by mass). Mass per container have averaged 9 tonnes/container since 2005.

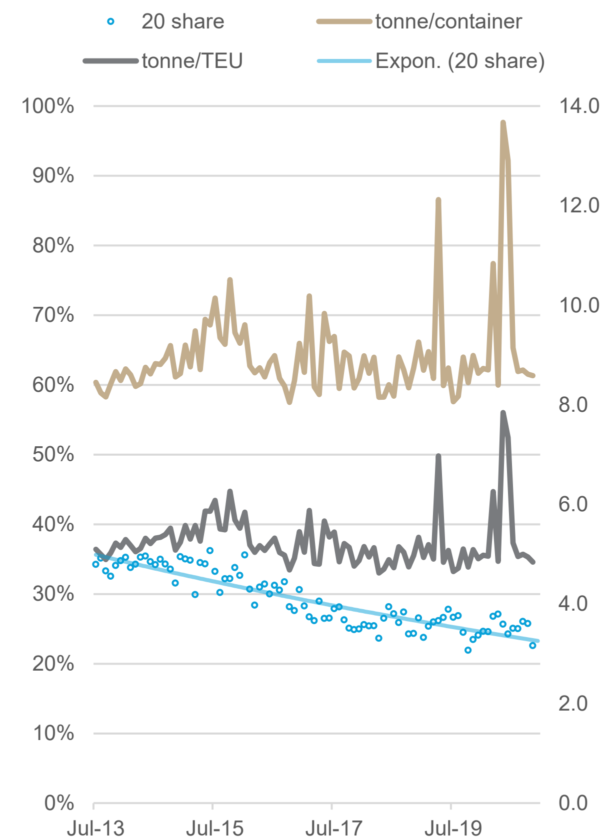
Melbourne's market share has roughly averaged 27% for the past decade.



The ratio of imports to expenditure has increased with large Solar PV installations.



20ft share of containers have been declining by 5.4% p.a.

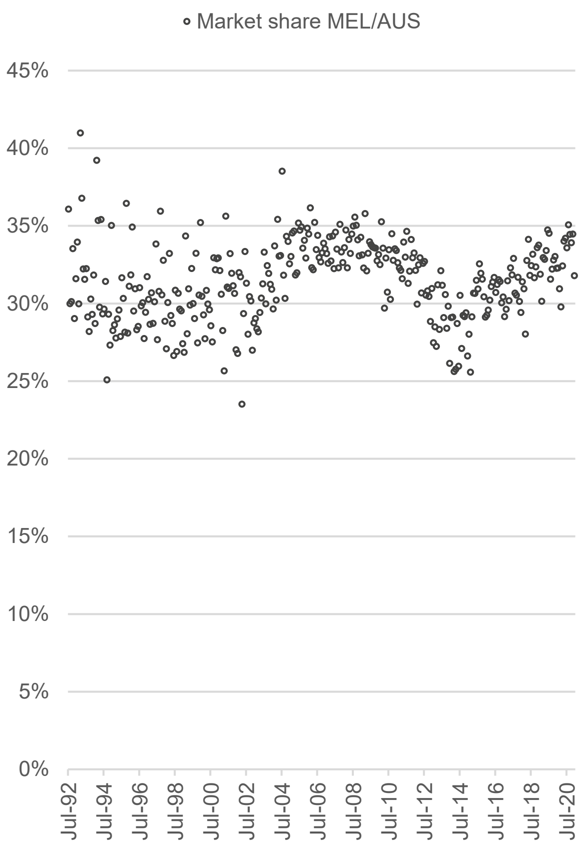


BIS OXFORD ECONOMICS

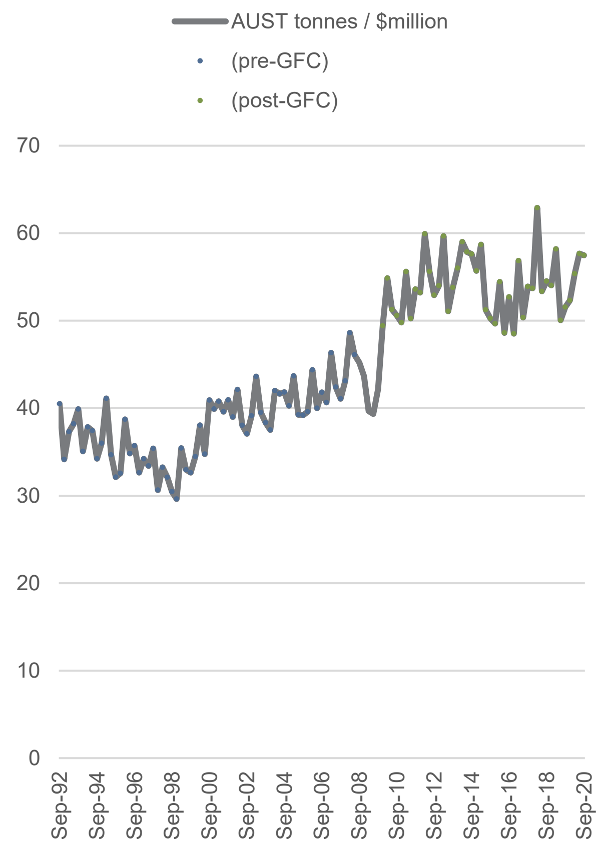
History – Building Materials

Processed Industrial goods make up 18% of import TEUs at Port of Melbourne (and 21% by mass). Mass per container have averaged 14.9 tonnes/container since 2008.

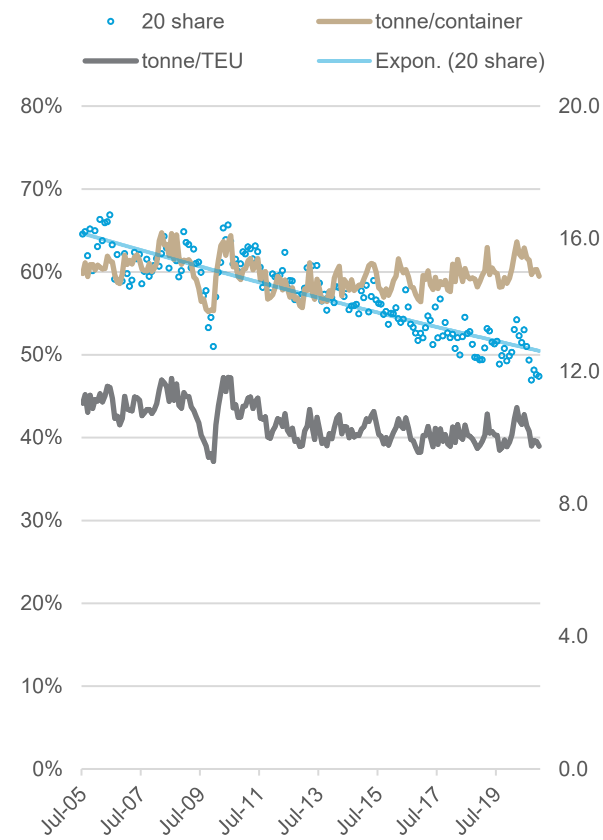
Melbourne's market share has roughly reflected relative building activity



After the GFC, imports averaged 53 tonnes per $million in building activity



20ft share of containers have been declining by 1.6% p.a.

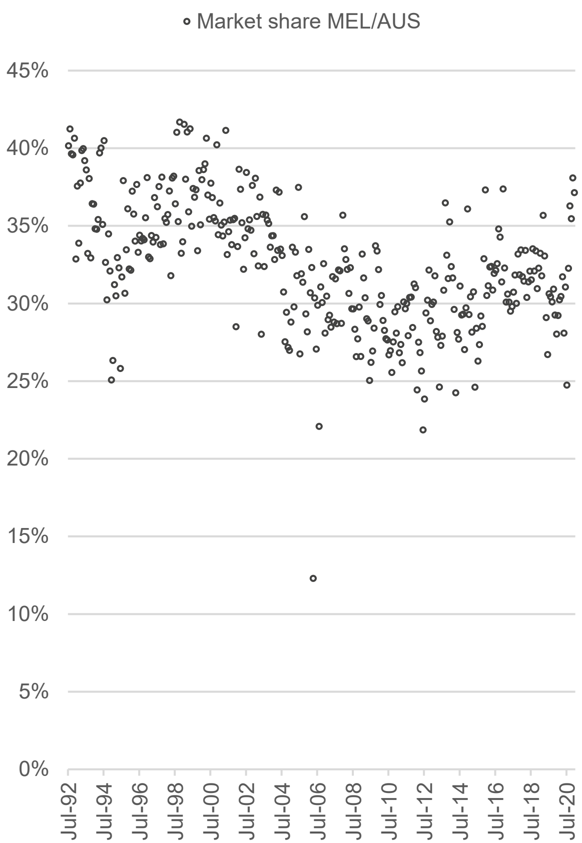


BIS OXFORD ECONOMICS

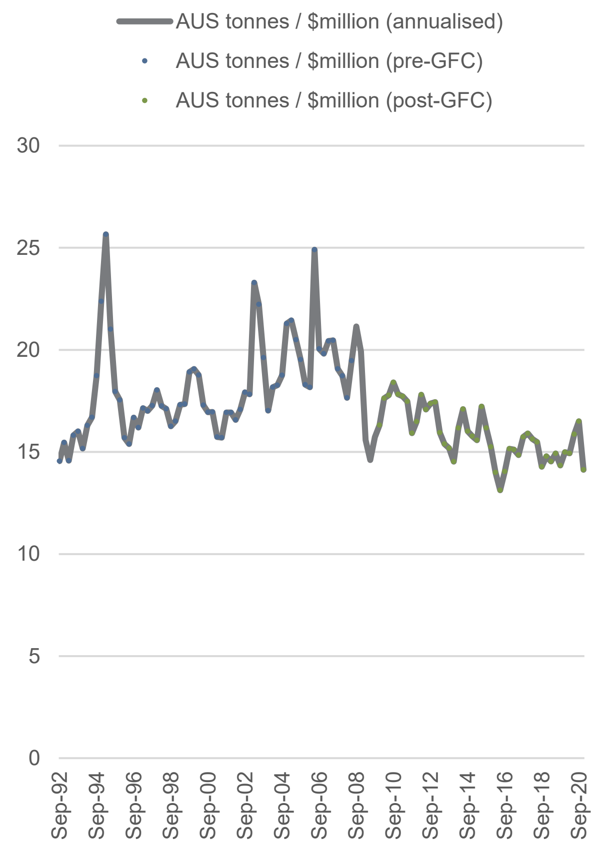
History – Other Intermediate Goods

Other intermediate goods make up 24% of import TEUs at Port of Melbourne (and 33% by mass). Mass per container have averaged 16.3 tonnes/container since 2005.

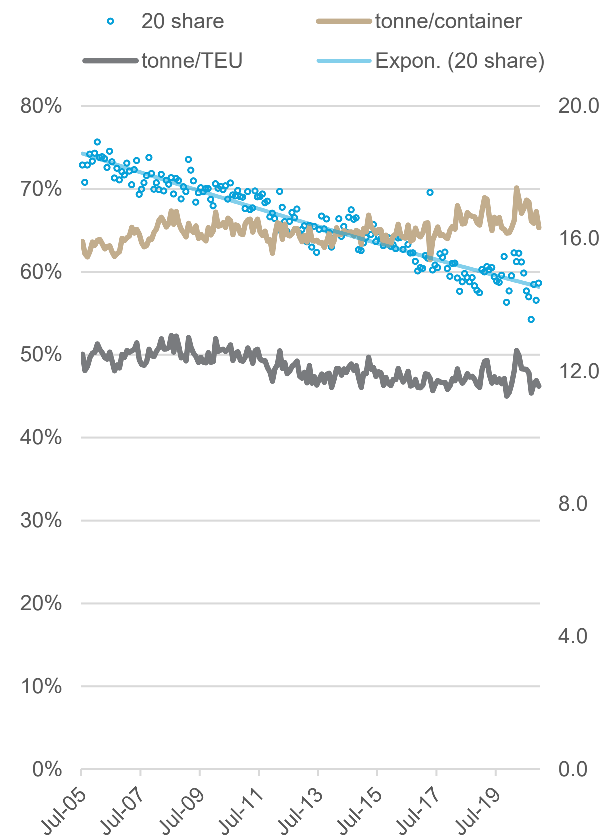
Botany's share of other intermediate goods imports is the lowest of call categories



The ratio of imports to economic activity (non-service) continue to decline



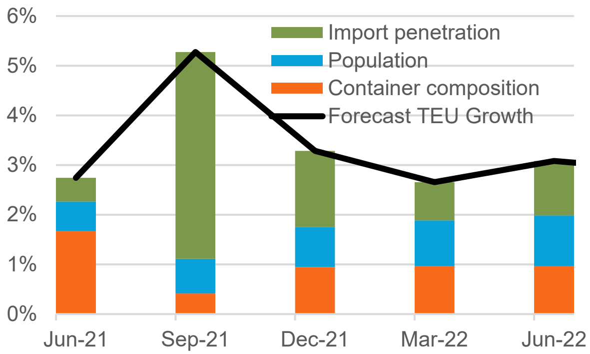
20ft share of containers have been declining by 1.6% p.a. since 2005



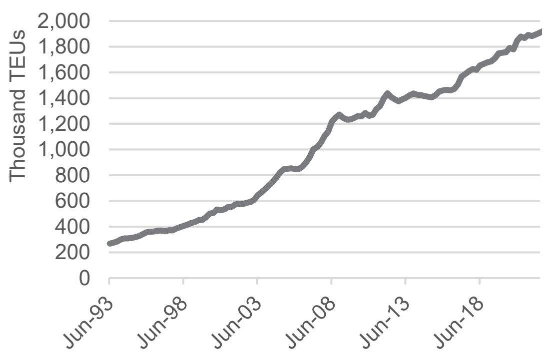
Forecasts – Food & Beverages

Food and Beverage imports are expected to continue to outpace population growth, and the shift from 20s to 40s is projected to add approximately 1.0% to TEU growth p.a.

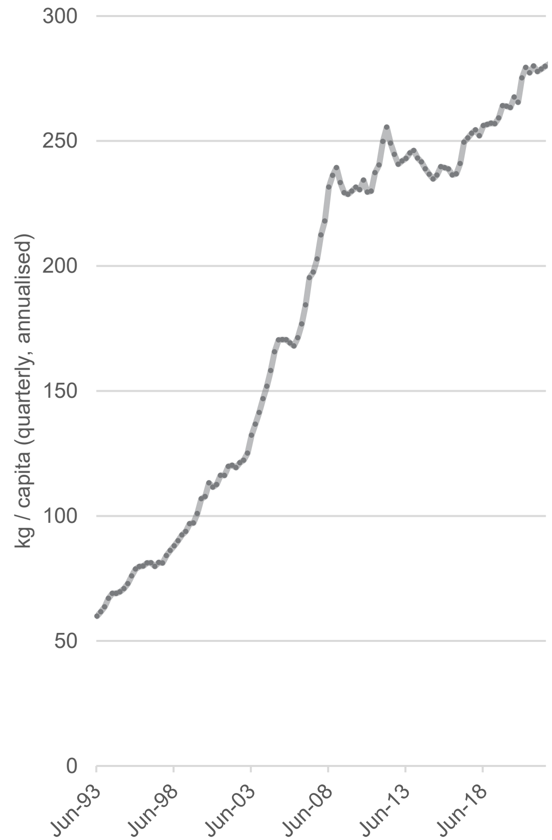
Forecast TEU growth
+ contribution to growth



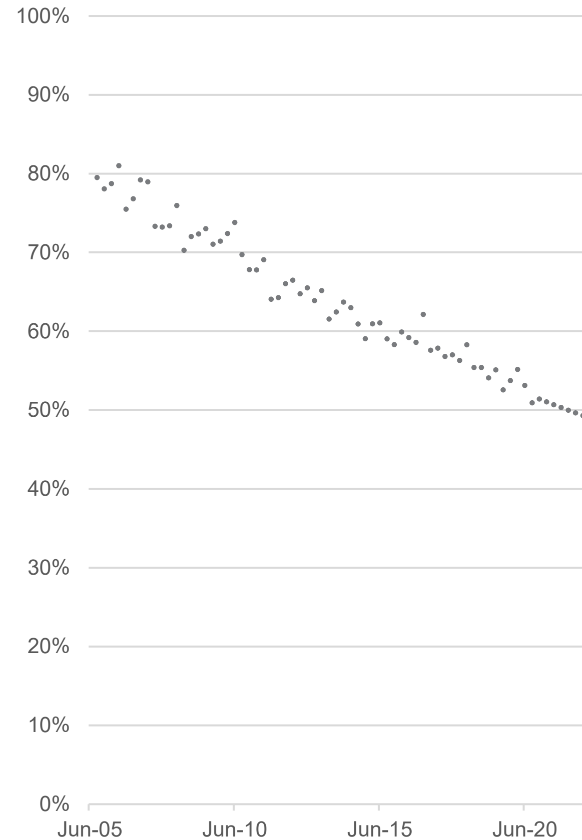
Forecast TEU



Per capita import volumes
(kg, quarterly)



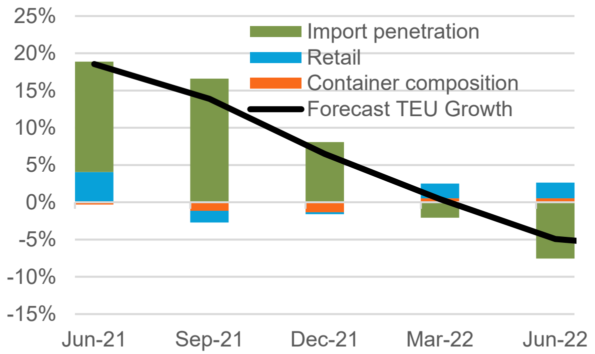
20ft share of containers



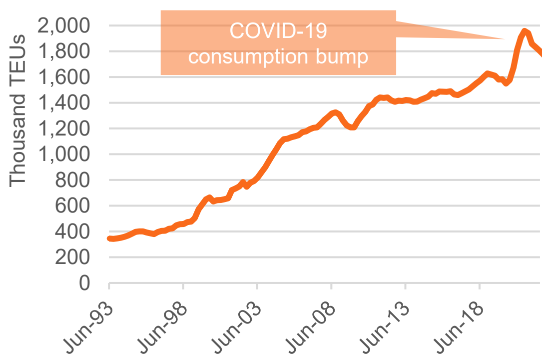
Forecasts – Other Consumer Goods

Other consumer goods imports will be negative in the medium term as the shift away from clothing and footwear to furniture unwinds (declines in the import penetration, i.e. tonnes per $ spend). Consumption basket will take two years to return to its pre-COVID mix.

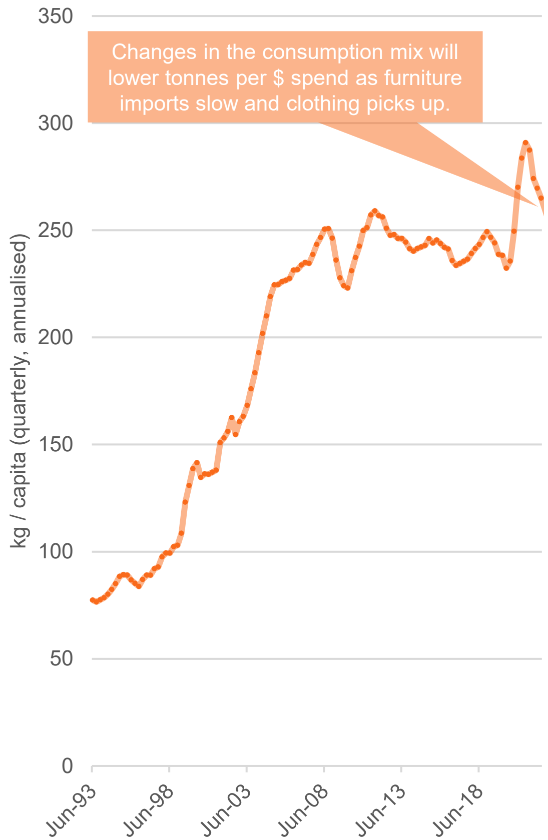
Forecast TEU growth
+ contribution to growth



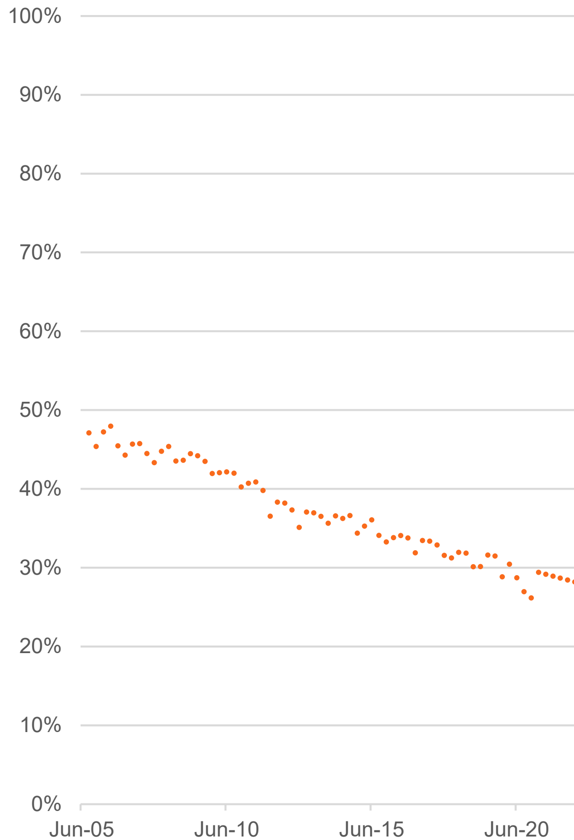
Forecast TEU
(and Historical Tonnes)



Per capita import volumes
(kg, quarterly)



20ft share of containers

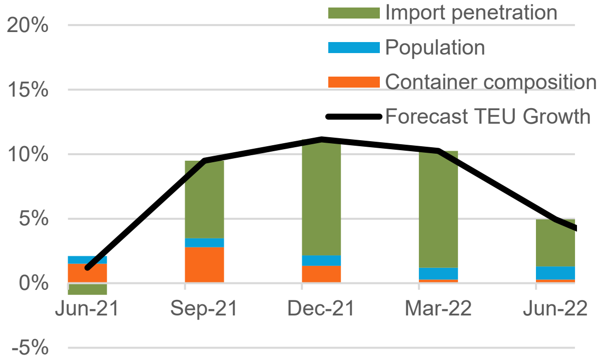


BIS OXFORD ECONOMICS

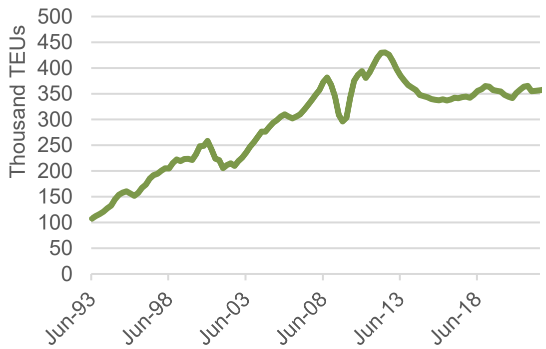
Forecast – Motor vehicle parts

Motor vehicle parts (chiefly lead acid batteries and tyres) are forecast to grow in line with underlying population growth of Australia.

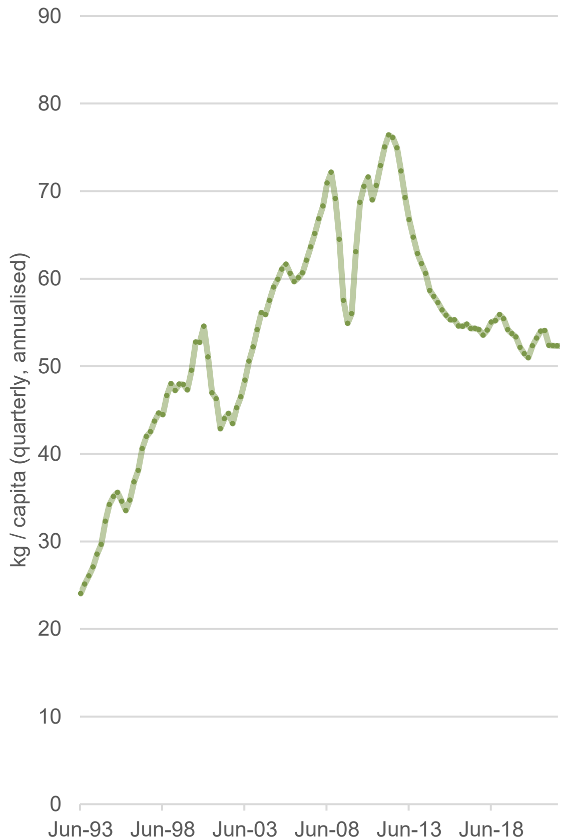
Forecast TEU growth
+ contribution to growth



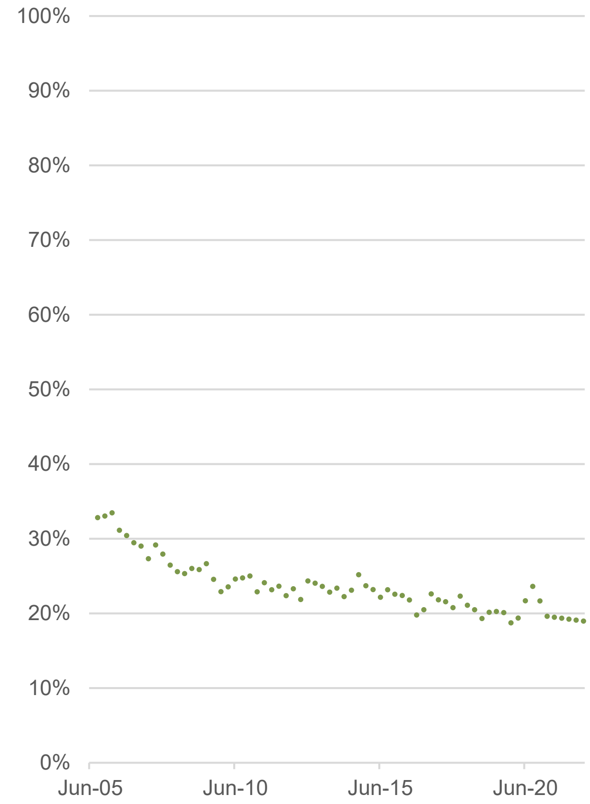
Forecast TEU
(and Historical Tonnes)



Per capita import volumes
(kg, quarterly)



20ft share of containers

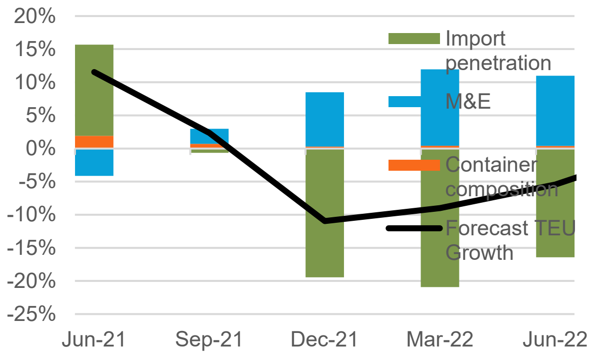


BIS OXFORD ECONOMICS

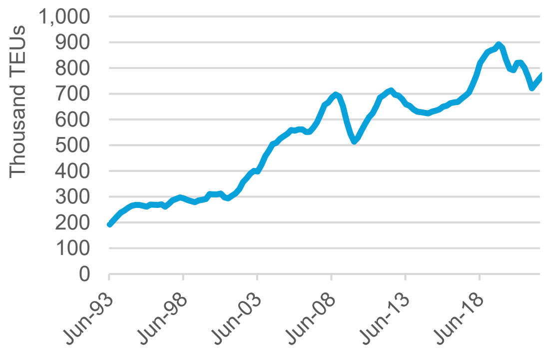
Forecast – Capital Goods & Parts

Capital goods expenditure is expected to rebound over the coming year following the uncertainty of 2020.

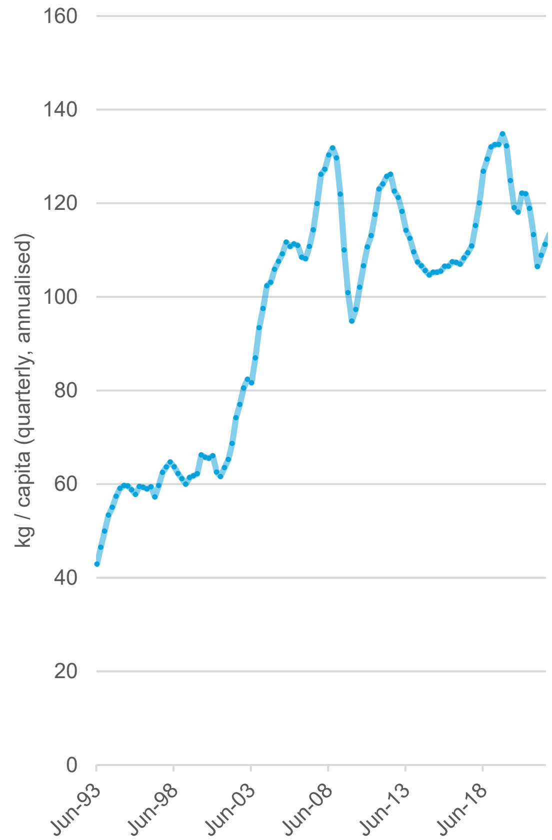
Forecast TEU growth
+ contribution to growth



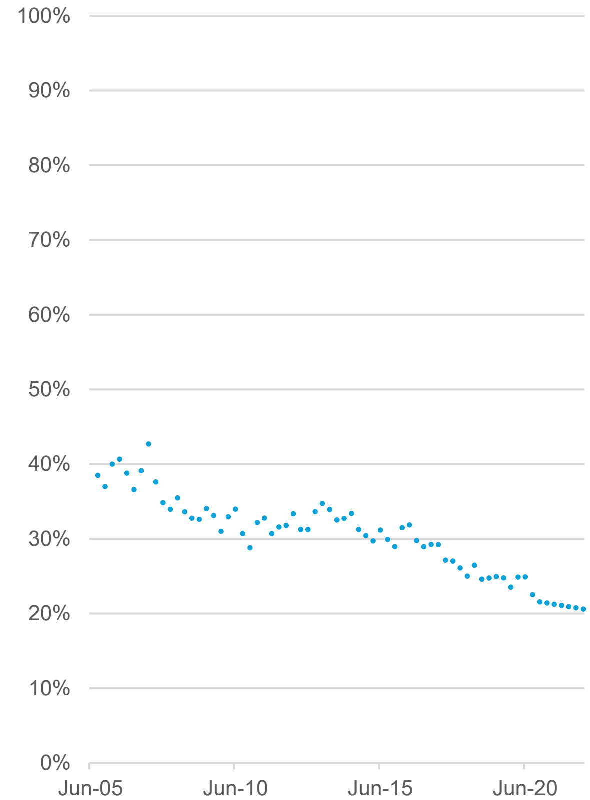
Forecast TEU
(and Historical Tonnes)



Per capita import volumes
(kg, quarterly)



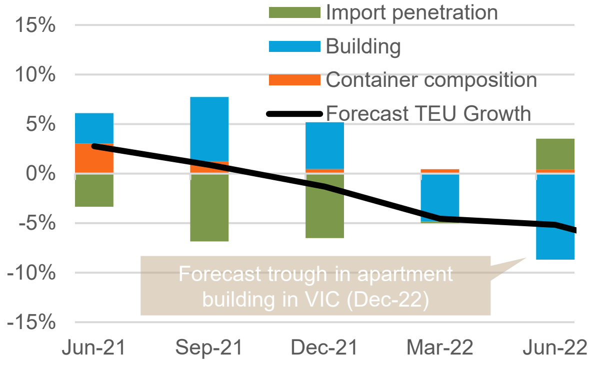
20ft share of containers



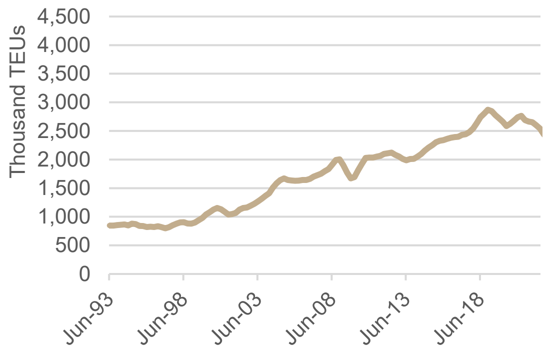
Forecasts – Building Materials

The building market is forecast to have peaked in 2018 in NSW, but continued shifting from 40s to 20s will support TEU growth of about 2% p.a.

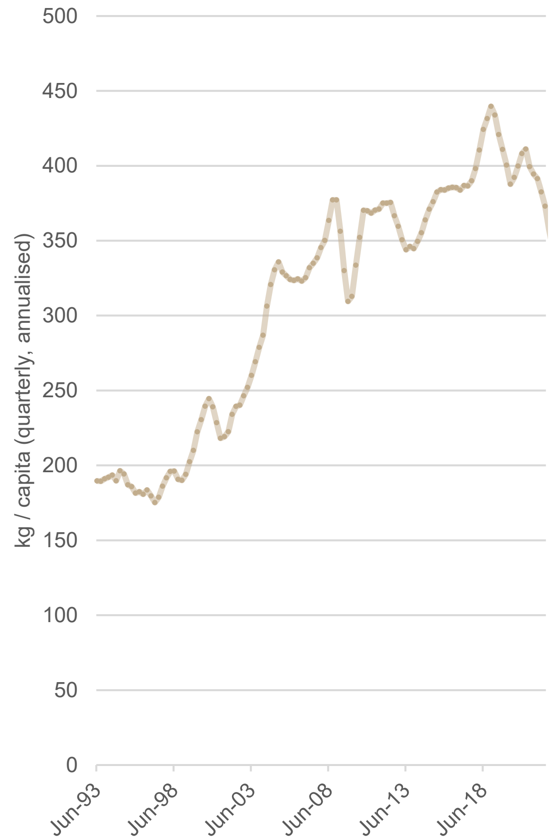
Forecast TEU growth
+ contribution to growth



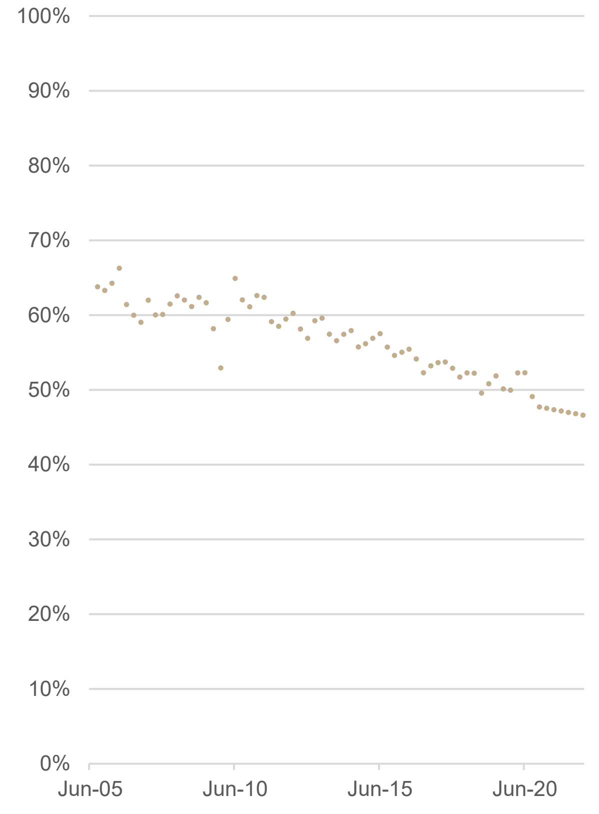
Forecast TEU
(and Historical Tonnes)



Per capita import volumes
(kg, quarterly)



20ft share of containers

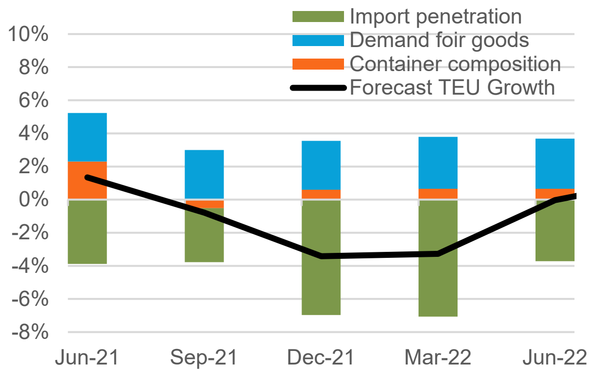


BIS OXFORD ECONOMICS

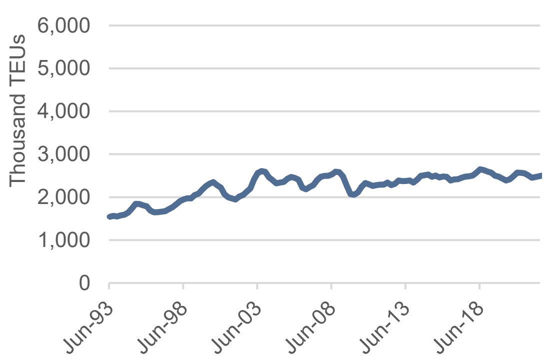
Forecasts – Other Intermediate Goods

Other intermediate goods are projected to mildly outpace population growth in line with the growth of the goods economy.

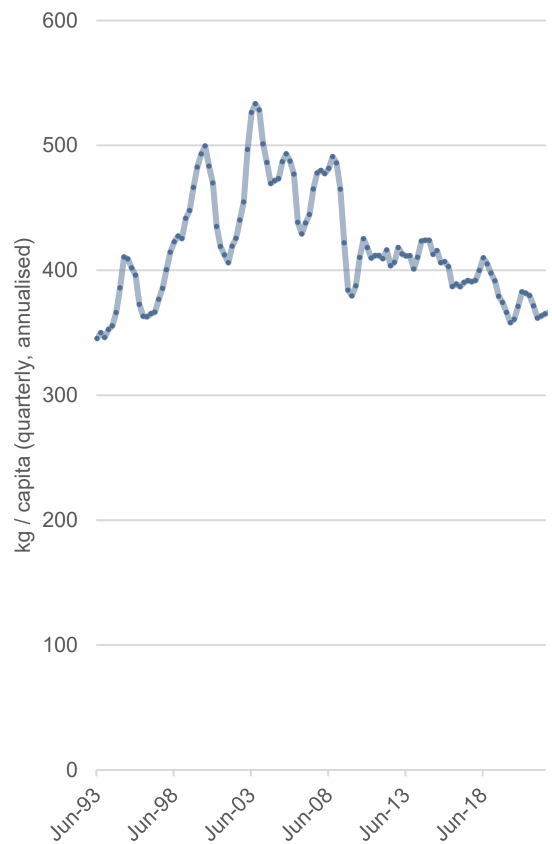
Forecast TEU growth
+ contribution to growth



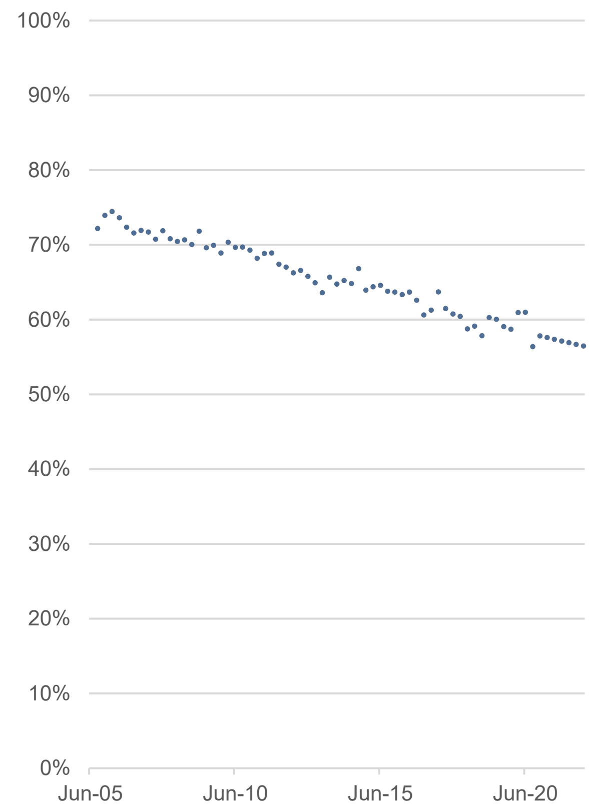
Forecast TEU
(and Historical Tonnes)



Per capita import volumes
(kg, quarterly)



20ft share of containers



Near-term outlook to FY22

FY21 is artificially inflated from fundamentals as volumes in the September quarter have been boosted by industrial action at Port Botany.

Medium-term outlook

Almost all import classes are being impacted by the impacts of COVID-19.

Consumption (Food & Beverages) is escaping unscathed.

Consumption (Non-Food) cannot sustain at current levels as disposable income will fall back and furniture's share of consumption falls back.

Capital Goods are impacted largely by uncertainty and falling demand. This will be slow to recover until COVID-19 is under control.

Parts for Transport Equipment are likely to recover quickly in line with vehicle travel.

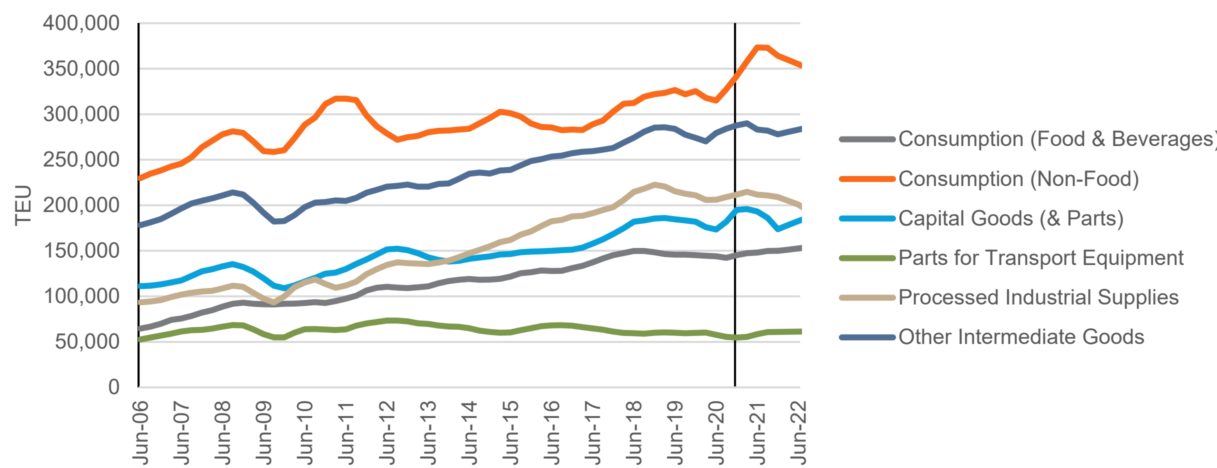
Processed Industrial Goods will fall as the slowdown in construction activity extends additional years.

Other Intermediate Goods are impacted by the slowdown in the service sector, working from home, and slow downs across manufacturing. The sugar from the one-off purchases from plexiglass screens, cleaning liquids, and dispensers / thermometers will unwind over 2021.

Forecast Imported Container Volumes by Class

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Consumption (Food & Beverages)	7.5%	9.1%	-2.7%	-1.1%	6.4%	-0.1%
Consumption (Non-Food)	2.4%	8.8%	4.8%	-3.0%	24.6%	-7.9%
Capital Goods (& Parts)	3.4%	16.0%	-0.4%	-8.9%	22.1%	-14.5%
Parts for Transport Equipment	-4.7%	-8.3%	1.0%	-4.0%	8.0%	-2.5%
Processed Industrial Supplies	4.9%	12.2%	0.4%	-4.3%	7.6%	-12.2%
Other Intermediate Goods	2.3%	5.7%	3.5%	-1.6%	2.9%	-1.2%
Total Imports (excl. Bass Strait)	**3.1%**	**8.5%**	**2.0%**	**-3.3%**	**13.5%**	**-1.7%**

Forecast Imported Container Volumes by Class



02

CONTAINERISED EXPORTS (EXCL. BASS STRAIT)

Classifications and mapping

Similar to how we mapped containerised imports to a BoPBEC, we categorised each of the Port of Melbourne exports into a sets with common drivers

Key Drivers

Sixteen different series are forecast for exports, which are broadly grouped into five broad categories:

1. Agriculture
   - Horticulture
   - Dairy
   - Beef and Veal
   - Cereals
   - Wool
   - Oilseeds
   - Cotton
   - Rice
   - Vegetable Oils
2. Manufacturing
3. Other
   - Energy, Minerals and Metals
   - Rural Exports
   - Machinery
   - Iron & Steel
4. Paper
5. Timber

FY20 Full exports by Category (TEUs)

BIS OXFORD ECONOMICS

Near-term outlook

The agricultural outlook has shifted in 2020 as not only has the drought broke in NSW, but the Bureau of Meteorology has announced the commencement of a La Niña event.

ABARES's crop report is for a stronger winter crop

Below average rainfall during winter is not expected to have substantially reduced crop prospects in Victoria. Above average levels of lower layer soil moisture present at the beginning of winter are expected to have sustained crops. In addition, timely August rainfall in western districts was sufficient to support crops in average to above average condition at the beginning of spring. Root zone soil moisture in August was below average in south western cropping regions. Sufficient and timely spring rainfall will be especially important in these regions to support grain formation.

Spring rainfall is likely to be above average in most cropping regions in Victoria, according to thelatest three-month rainfall outlook (September to November) issued by the Bureau of Meteorology on 3 September 2020.

September and October rainfall is expected to be average to above average in most cropping regions, supporting yield prospects. Yields are expected to be above average in most regions.

Winter crop production in Victoria is forecast to increase by 6% in 2020–21 to around 7.9 million tonnes. This mostly reflects an expected increase in yields, driven by favourable seasonal conditions in autumn and the favourable spring outlook. The forecast increase in production also reflects an estimated 8% increase in planted area to 3.4 million hectares in 2020–21, as a result of favourable seasonal conditions in autumn, particularly in marginal cropping regions. Significant area of wheat and barley crops is not expected to be cut for hay and fodder because of the favourable seasonal conditions expected during spring and low hay prices.

La Niña event announced by BOM in late September

The Bureau of Meteorology has declared that La Niña has developed in the Pacific Ocean, upgrading from a La Niña ALERT status to an active event. This means that recent changes in ocean temperatures and weather patterns over the Pacific are now likely to remain until at least the end of the year.

La Niña is the cool phase of the El Niño Southern Oscillation. It is associated with cooler than average sea surface temperatures (SSTs) in the central and eastern tropical Pacific Ocean.

La Niña events often form in autumn or winter, then decay in late summer. The greatest impact normally occurs during the spring and early summer period. La Niña events normally last for around a year, however they can be shorter, or much longer.

Recent observations and model forecasts show the central tropical Pacific Ocean is now 0.8°C cooler than normal, and that has resulted in changes to Trade Winds and pressure patterns. Climate models suggest these patterns will continue until at least the end of the year.

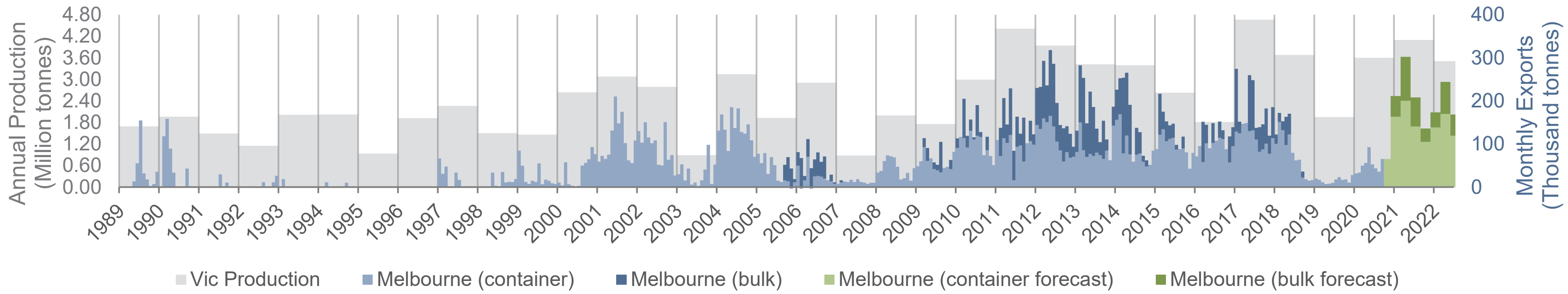
La Niña typically results in above-average spring rainfall for Australia, particularly across eastern, central and northern regions. It can also mean cooler days, more tropical cyclones, and an earlier onset of the first rains of the wet season across the north.

The last La Niña event occurred from 2010-2012 and resulted in one of Australia's wettest two-year periods on record. Widespread flooding occurred in many parts of Australia associated with the record rainfalls.

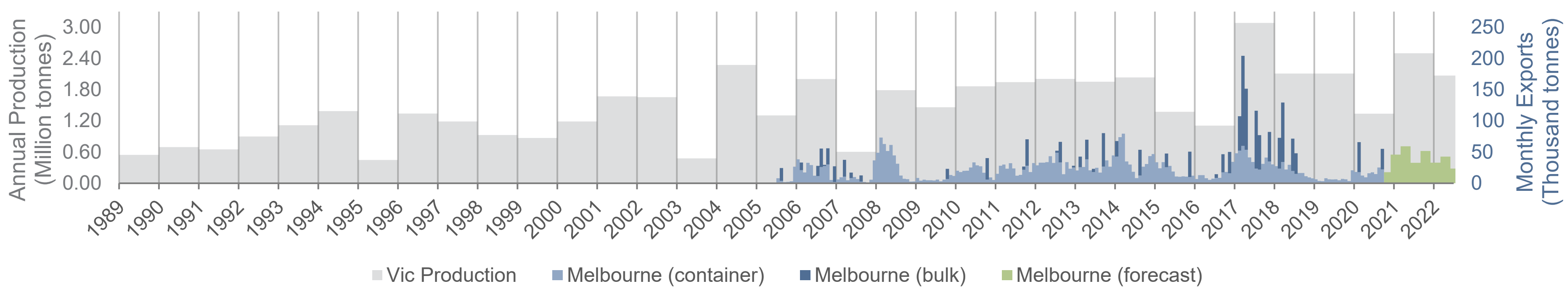
Agricultural Seeds

Agricultural seeds (wheat and barley) are modelled on the basis of the Victorian harvest and the historical tendency to export via bulk and container terminals at the Port of Melbourne. Note that bulk is more common following strong harvests, and is more seasonal.

Victoria **Wheat** Production and Port of Melbourne Exports



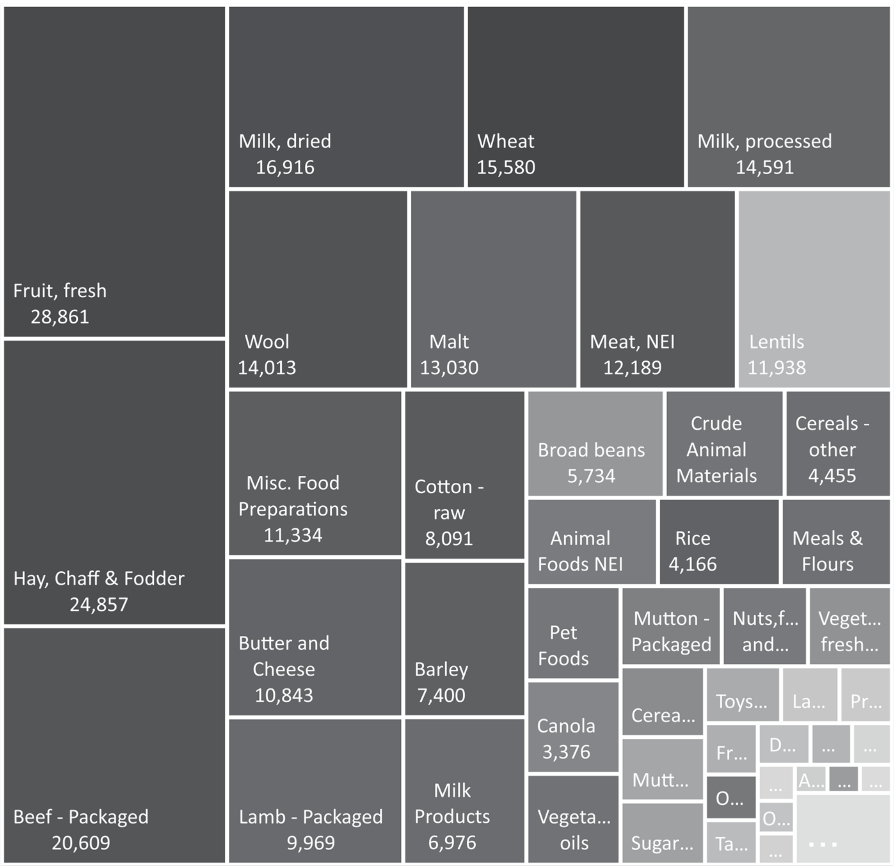
Victoria **Barley** Production and Port of Melbourne Exports



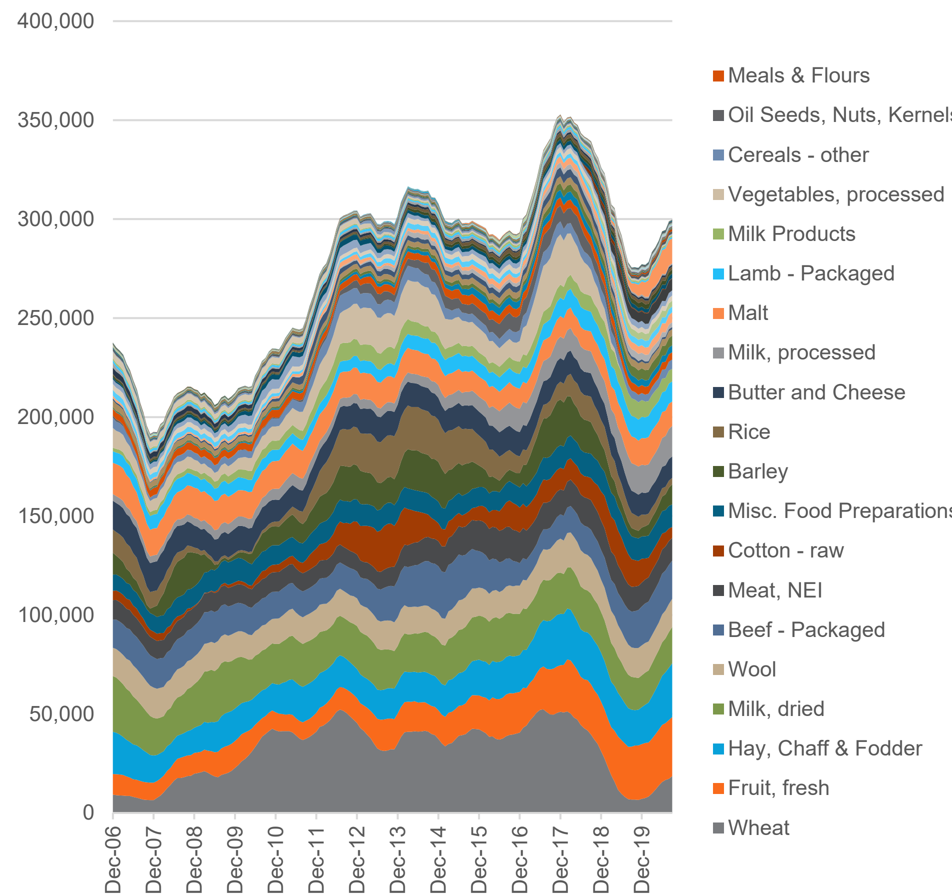
Agricultural Exports – Composition

As the drought breaks, a return to record export TEUs is not out of the question, but will take until FY22 to materialise as a lag of Victorian and NSW wheat, barley, hay, cotton and rice harvests, which are currently only half of their 120,000 TEU potential.

FY20 Agricultural goods - TEUs



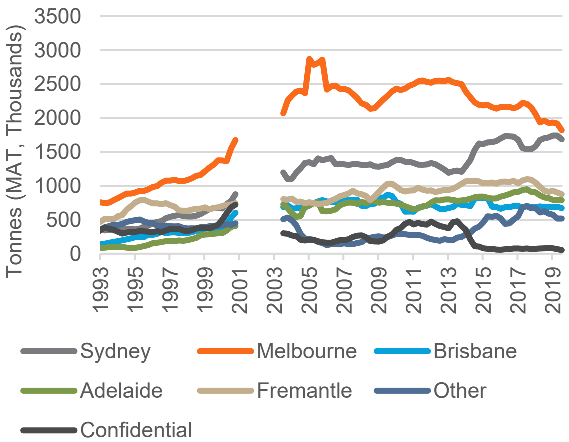
Historical volumes (TEUs)

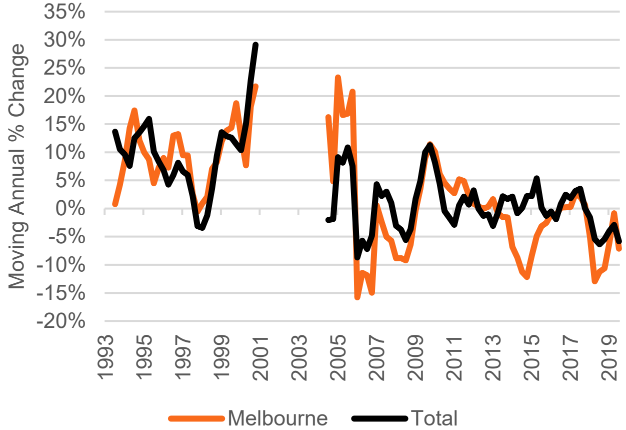


BIS OXFORD ECONOMICS

Manufactured Exports – History

Substantial regional volatility from mining investment, populous industrial bases drive inflow trends





Calendar Year	Q3 2019	Q4 2019	Q1 2020	Q2 2020
Total	-5.5%	-4.0%	-2.9%	-5.8% y/y
	-4.4%	0.0%	-6.2%	-12% q/q
Sydney	11.3%	10.2%	4.0%	-1.0%
	2.6%	7.0%	0.2%	-12.7%
Melbourne	-10.6%	-6.2%	-0.8%	-7.1%
	-6.6%	0.9%	-3.0%	-18.6%
Brisbane	0.7%	0.9%	-0.6%	-1.8%
	6.1%	-2.2%	1.5%	-12.1%
Adelaide	-10.2%	-12.2%	-7.8%	-4.8%
	-5.0%	-10.1%	-1.1%	-1.5%
Fremantle	-16.3%	-11.6%	-8.4%	-5.8%
	-7.0%	6.6%	-10.3%	-11.2%
Other	-11.8%	-14.4%	-14.8%	-17.4%
	-24.0%	-10.7%	-38.2%	-0.6%

Overview

Sydney has been increasing it's share of Manufacturing exports since 2014.

Over this same time, Melbourne has seen a decrease in the volume of Manufacturing exports (which is more than just the lost of Visy paper products).

Declines in the last quarter of 2020 is largely due to a shortage of sailing vessels, as opposed to change in the productive capacity of Australian manufacturing.

Drivers

All states have experienced similar growth paths over the past two decades. However, over the past two years, Sydney has been cannibalizing Melbourne's markets share of Manufacturing exports. This is due to significant manufacturing located in the Riverina and nearby areas which are able to be serviced by both ports.

Changes in market share between Melbourne and Sydney dominate changes on a year-to-year basis as opposed to changes in Australia's productive capacity.

Commentary

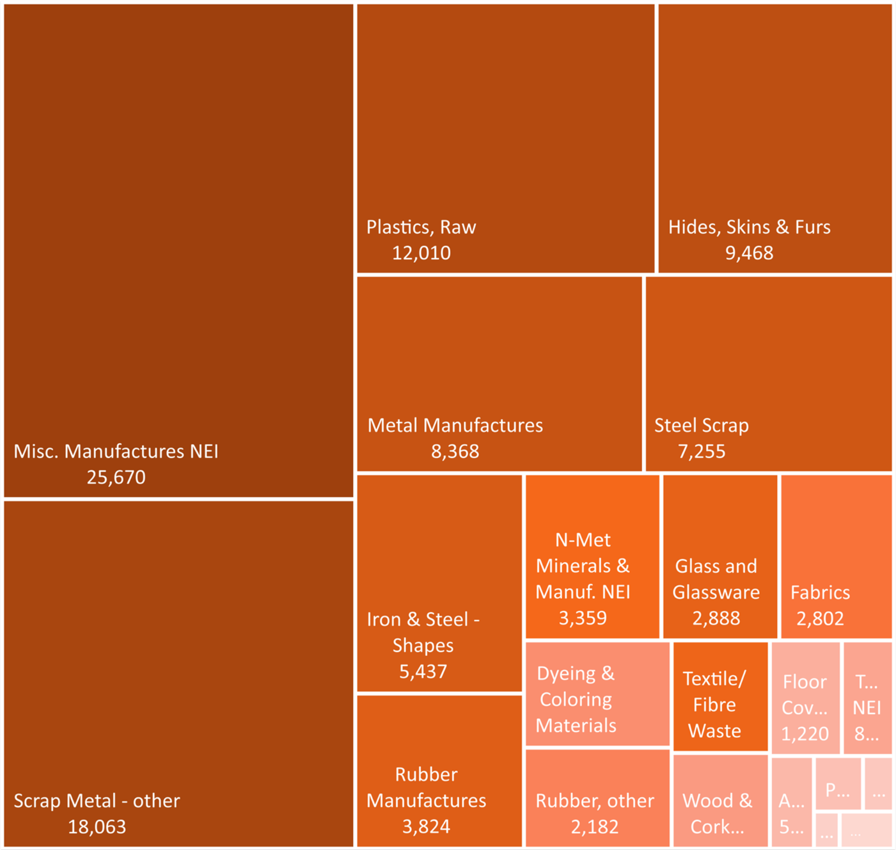
Manufacturing exports have seen a slight weakening over the past two years. This is due to lost market share in the key destinations of China, the US, and New Zealand despite a falling dollar. This is an area of concern and will be monitored.

There has been a tendency for Australian manufacturing to move away from low value bulk items into higher value goods. This may be the underlying cause of the underperformance in TEU volumes against growth in our trading partners.

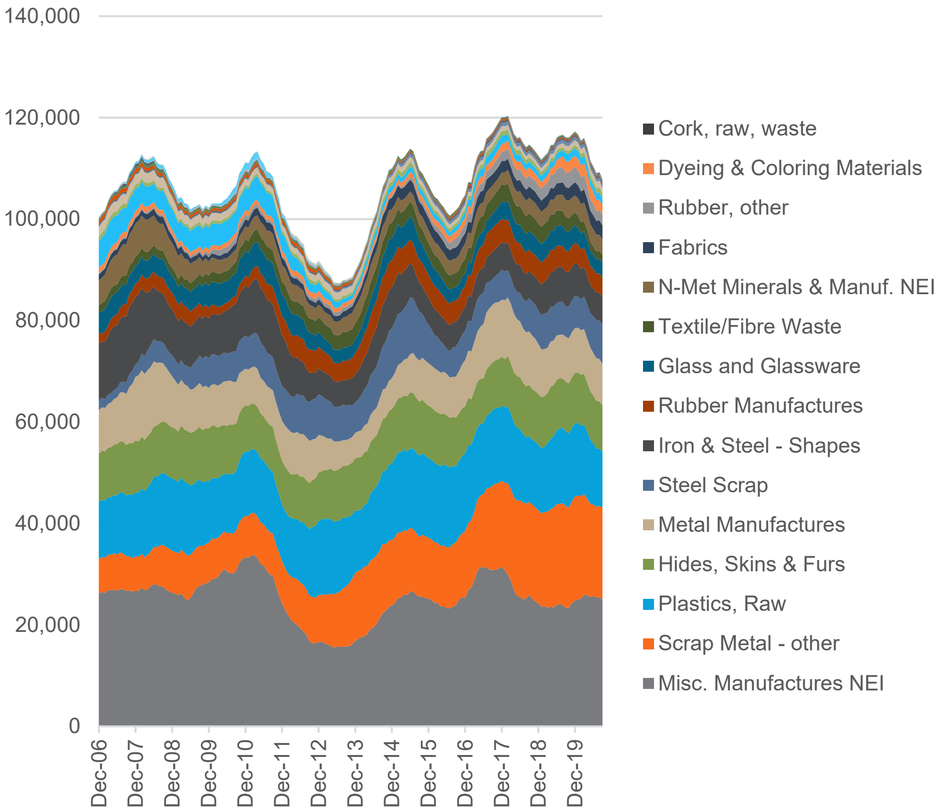
Manufactured Exports – Composition

The recent fall in manufactured exports is primarily due to a decline in plastics, and to a lesser extent, scrap metal. This is attributed to decreased economic activity in Victoria during lockdowns.

FY20 Manufacturing Exports
(Port of Melbourne classifications) TEUs



Historical volumes



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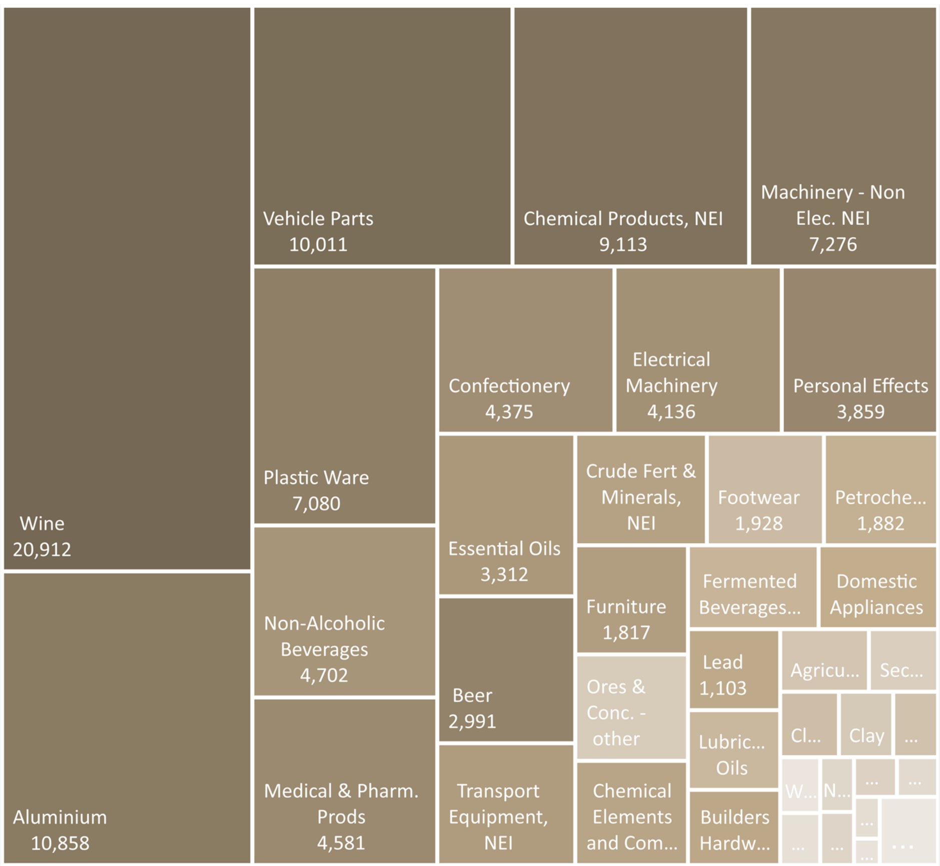
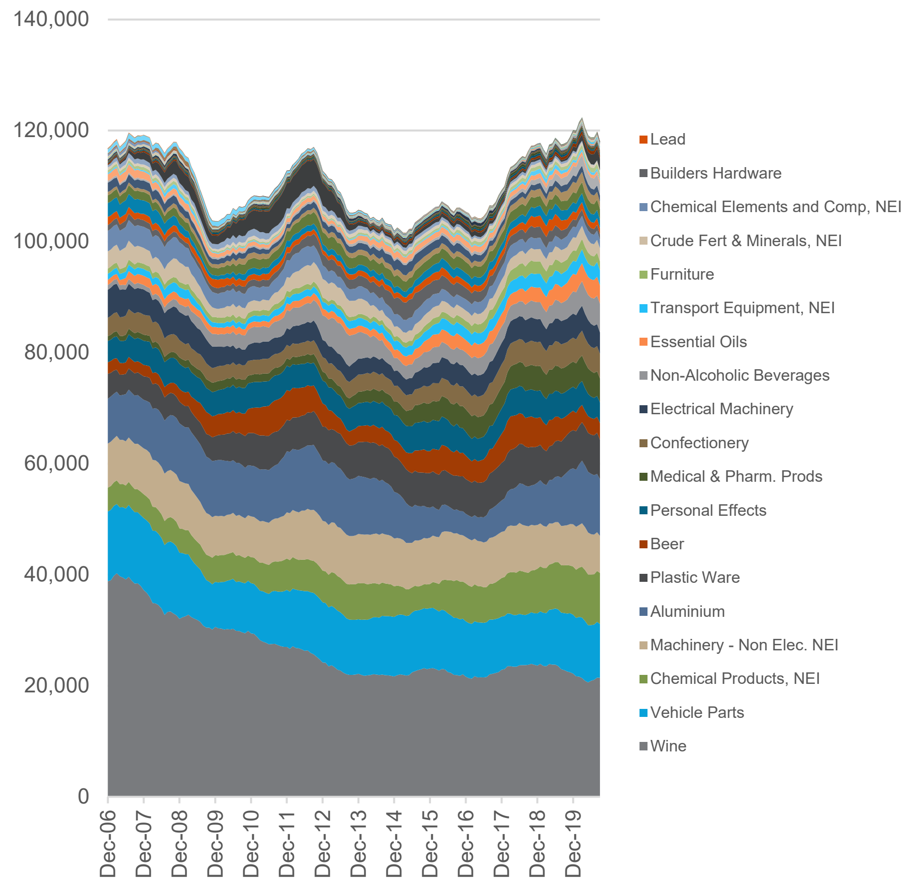
Other Exports – Composition

Wine imports have fallen slightly over the last 12 months while general Other imported have increased since CY17 as they recover from the high Australian dollar

FY20 Rural Exports
(Port of Melbourne classifications) TEUs



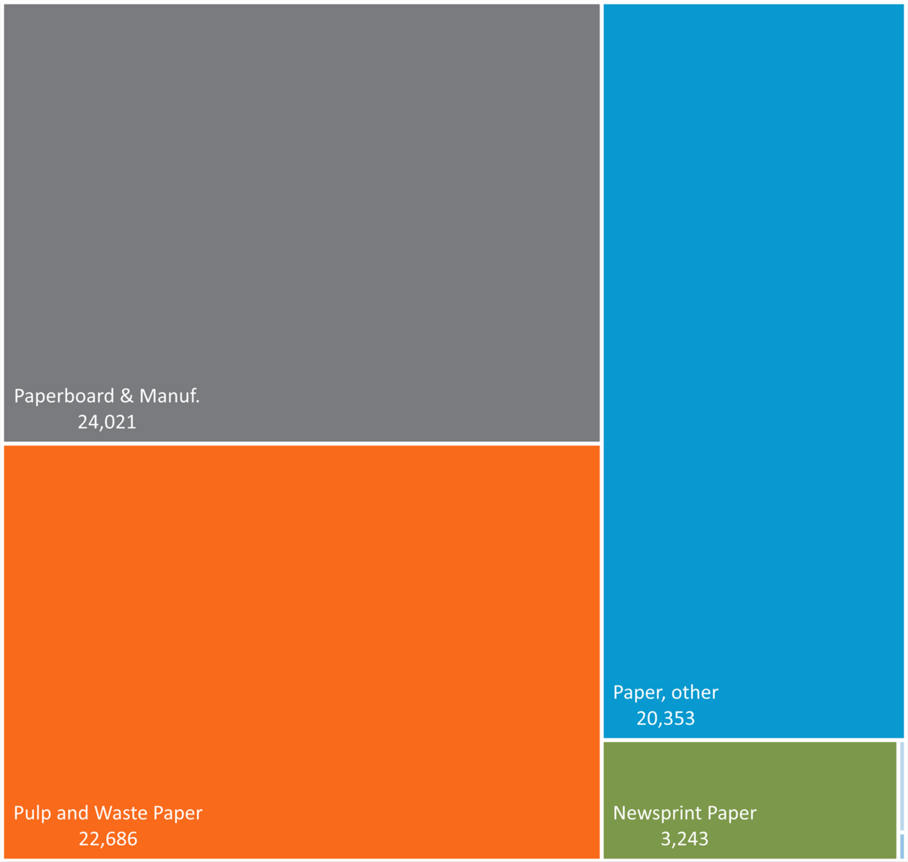
Historical volumes



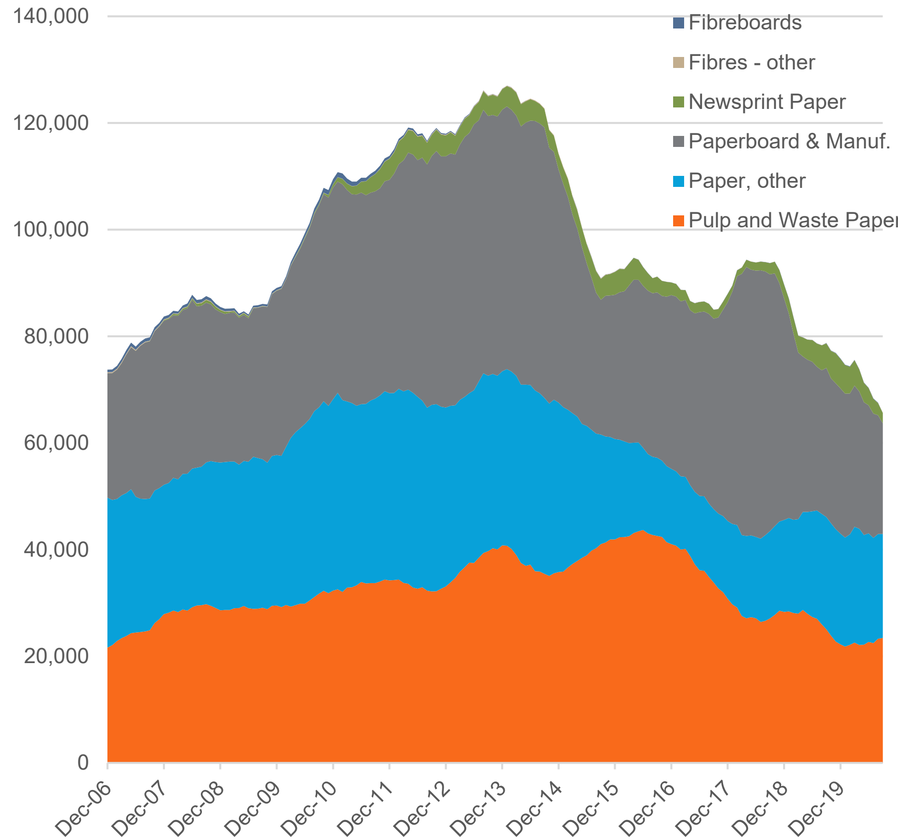
Paper Exports – Composition

Paper exports have fallen to decade lows due to lost market share to competing container ports and a shrinking overseas market for waste paper. Outlook is for maintenance of current volumes.

FY20 Paper exports
(Port of Melbourne classifications) TEUs



Historical volumes



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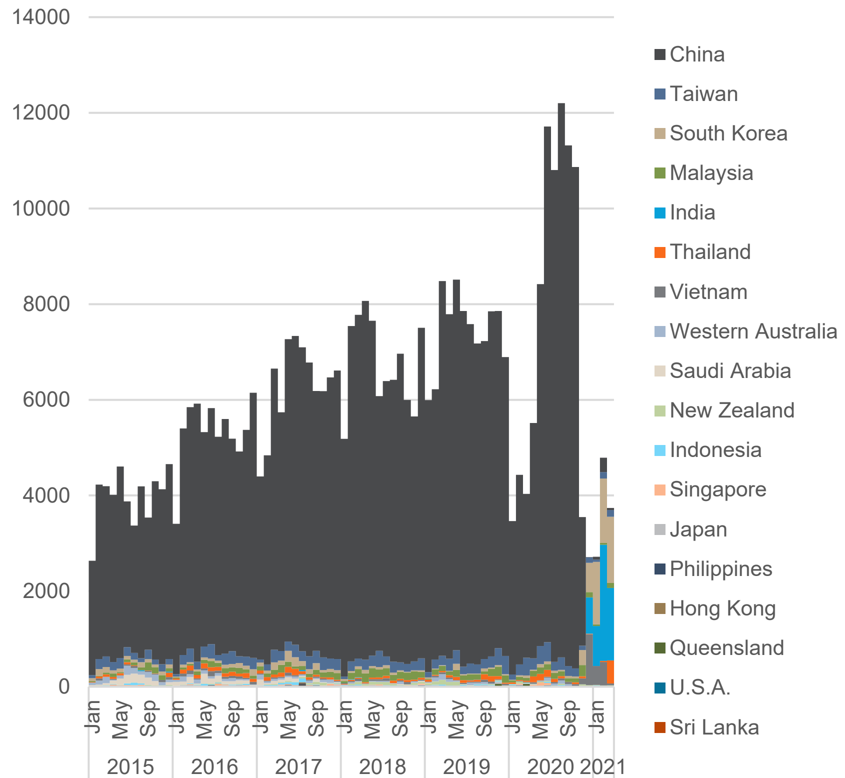
Timber Exports – Composition and History

The decline of timber exports as was expected 12 months ago has not materialised, and has only hit new highs in the most recent quarter.

Exports volumes and ocellated significantly in the aftermath of the 2019 bushfires, with declines in part due to COVID-19 related slowdowns in building activity in China and reduced sailing early in February / March 2020, and then surged from June with record volumes through to October. From November, import restrictions by China plunged exports, falling by 75% between October and December, with South Korea and India now taking the majority of exports (albeit at a lower level). The outlook for FY21 and FY22 is a continuation of the current 5-month average export volumes.

FY20 Timber Exports
(Port of Melbourne classifications) TEUs

Historical volumes



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Outlook

Agricultural exports are expected to rebound from drought conditions over the forecast horizon

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Agriculture	13.9%	5.1%	-19.2%	-0.9%	12.6%	15.5%
Manufacturing	8.1%	3.2%	0.8%	-2.5%	-4.4%	6.2%
Paper	-7.0%	8.5%	-15.5%	-11.3%	-9.7%	0.0%
Timber	22.8%	18.8%	2.6%	-1.9%	-10.9%	14.4%
Other	0.2%	9.9%	2.6%	1.0%	-5.2%	2.9%
Total Exports (excl. Bass Strait)	**7.7%**	**7.3%**	**-7.9%**	**-2.2%**	**-0.5%**	**9.2%**

Sectoral Outlook to 2022

Growth in most sectors is expected to increase over the next five years.

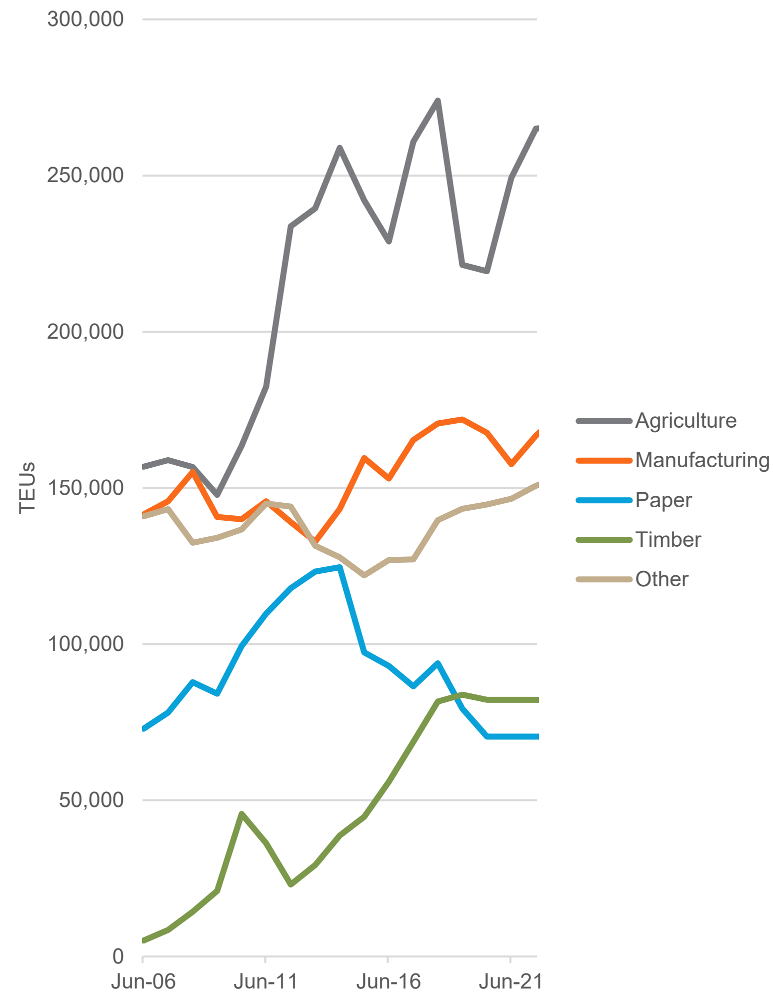
Agriculture is expected to rebound quickly from drought conditions and is expected to approach normal levels of production by 2021-22.

This growth trend is then expected to continue over the long term forecast horizon.

Paper exports are expected to now hold flat (a downgrade from earlier forecasts).

Timber exports will maintain current low levels through to the end of FY22, and then incrementally improve thereafter.

Manufactured and **Other** goods exports have not explicitly been impacted by COVID-19, and will continue to be monitored.



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03

BASS STRAIT TRADE

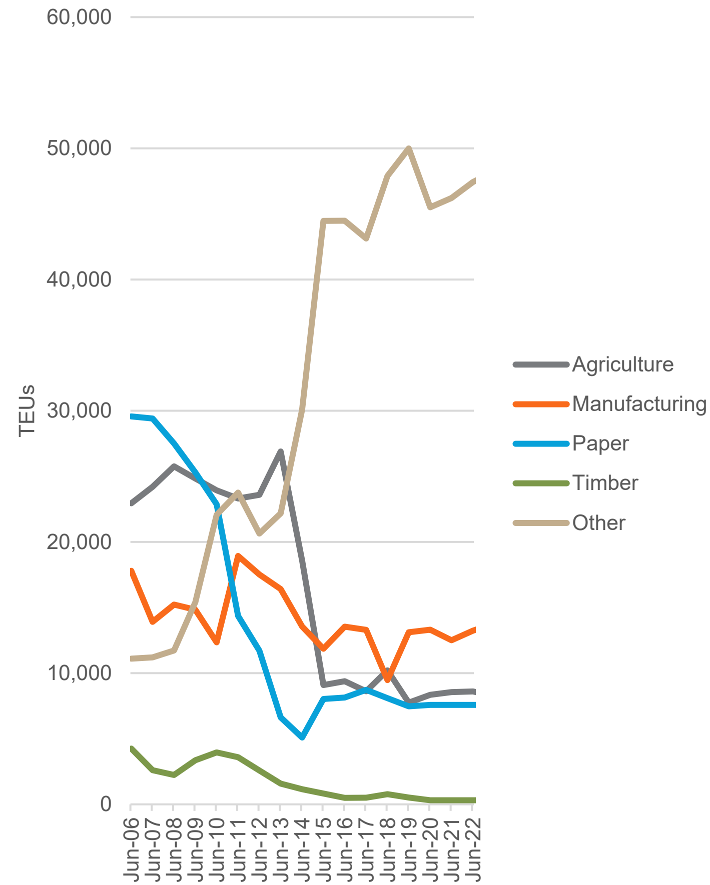
Bass Strait – Outlook

Bass Strait exports are constrained by population growth, which is expected to weaken over the long-term. Imports have been modelled on a similar basis as the Port of Melbourne's international exports

Annual changes and CAGRs

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Agriculture	-8.3%	18.5%	-24.0%	7.6%	-10.7%	0.4%
Manufacturing	-1.7%	-28.8%	38.4%	1.5%	11.5%	6.2%
Paper	7.2%	-7.3%	-7.6%	1.4%	55.9%	0.0%
Timber	3.8%	51.4%	-33.2%	-38.7%	4.9%	14.4%
Other	-3.1%	11.1%	4.4%	-9.0%	4.3%	3.3%
Bass Strait Imports	-2.3%	2.9%	3.1%	-4.8%	9.1%	3.1%
Bass Strait Exports	-2.7%	5.5%	0.8%	3.4%	9.4%	-5.9%
Bass Strait (Full)	-2.6%	4.5%	1.7%	0.2%	9.3%	-2.5%

Bass Strait Imports



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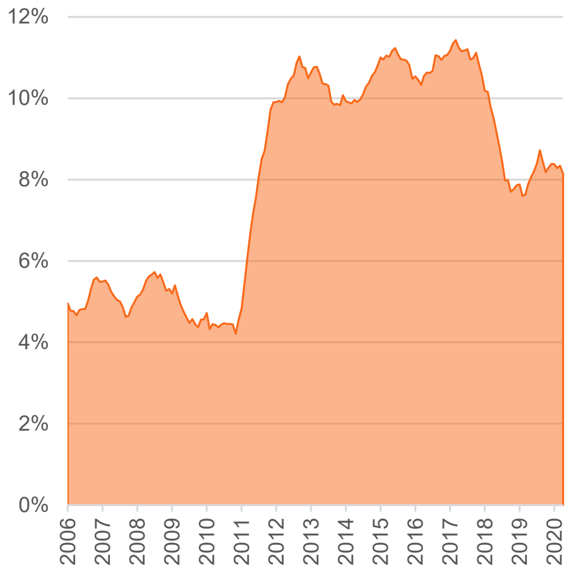
04

EMPTIES AND TRANSHIPMENTS

Transhipments

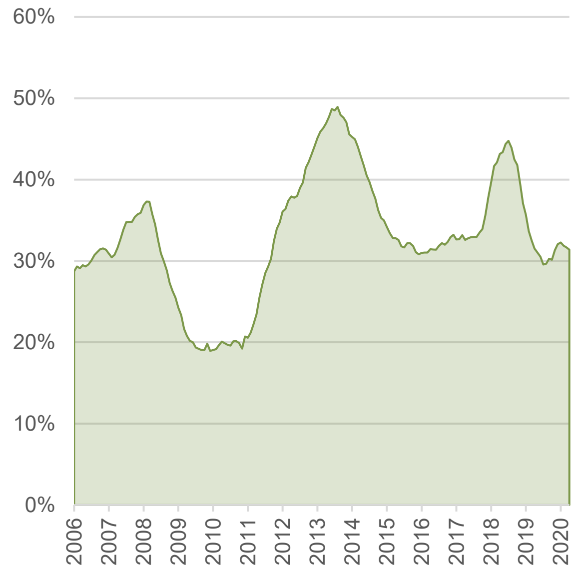
Transhipments are modelled on the basis of % of full TEU holding constant over the forward outlook.

Outbound Transhipments
Bass Strait, Share of Full Bass Strait Exports



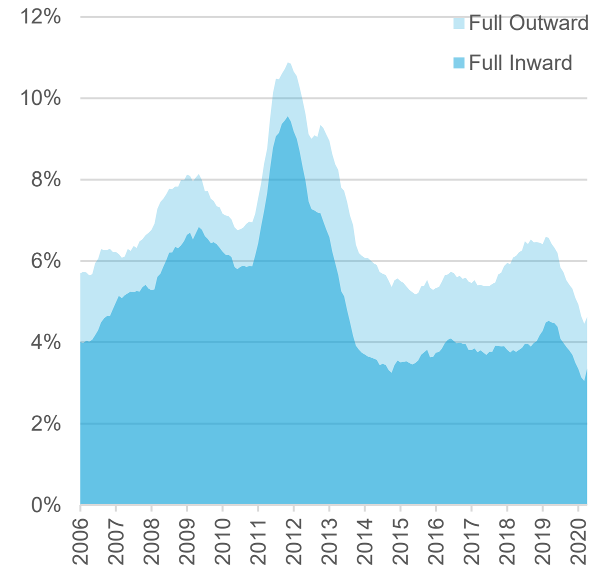
Transhipments to Tasmania account for approximately 8% of full exports. This has declined form the 11% of total exports in 2017.

Inbound Transhipments
Bass Strait, Share Full Imports



Transhipments from Tasmania are approximately 30% of full imports.

Mainland and International
Share Full Imports



Transship imports make up approximately 3% of full mainland and international imports.

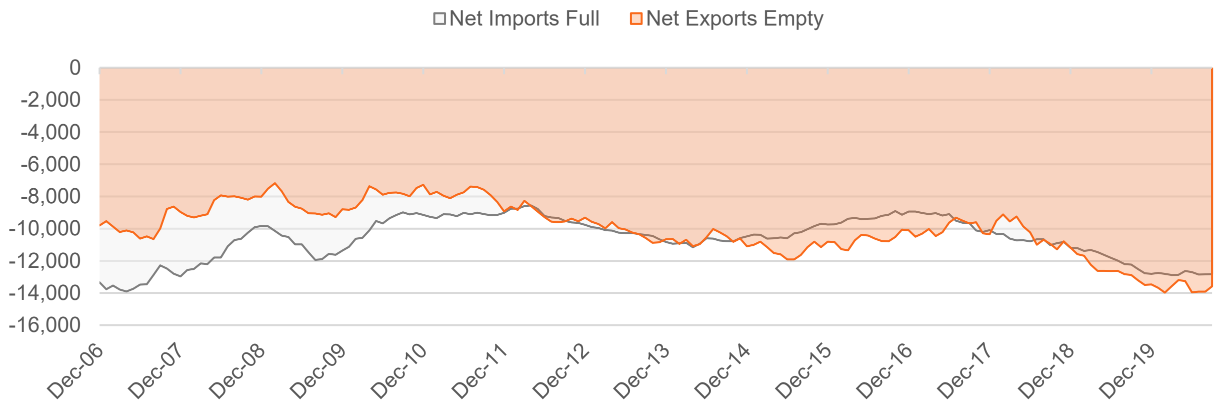
Empties – Reefers

The Port of Melbourne is exporting increasing number of empty reefers – both 20’ and 40’.

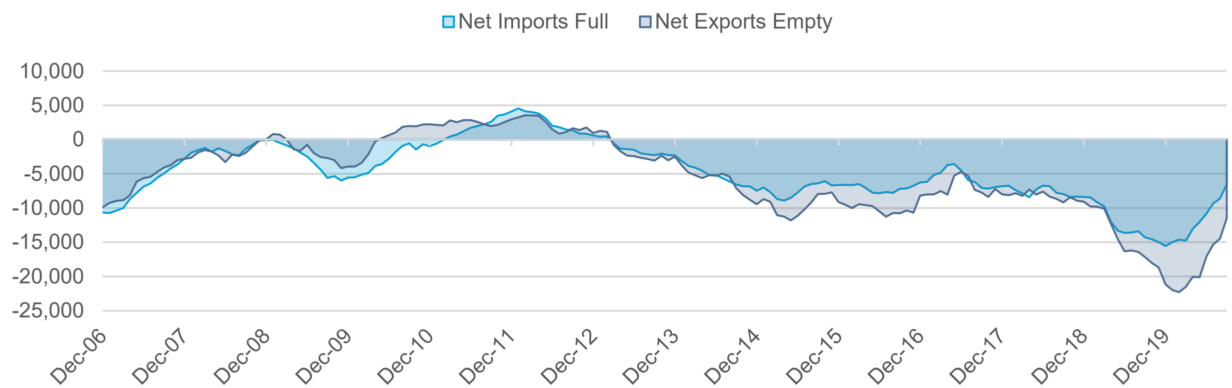
The net export of full reefers is slightly higher than the empties for both 20’ and 40’. This implies higher levels of containers being exported than imported. As previously, this can be explained by reefers being sourced in other import terminals (e.g. Port Botany) and being loaded for export through Port of Melbourne.

Agricultural exports are largely responsible for this trend.

20’ Reefer – Net Trade Flows



40’ Reefer – Net Trade Flows



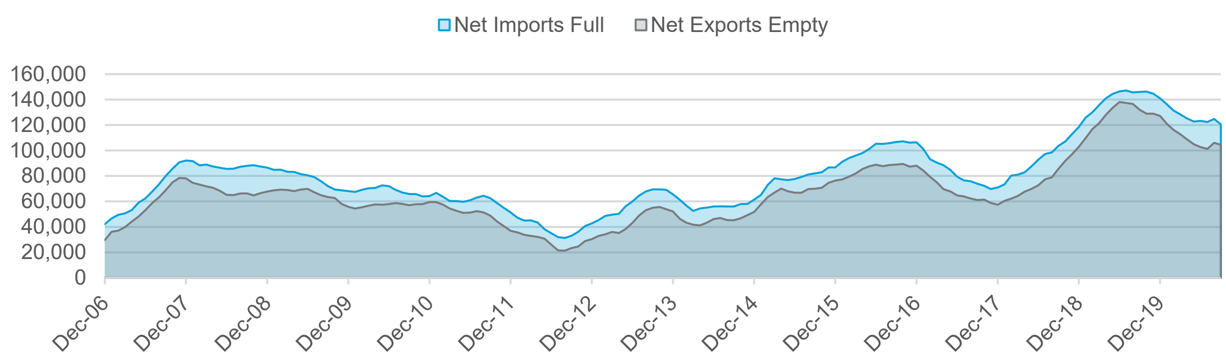
Empties – Dry

Commentary

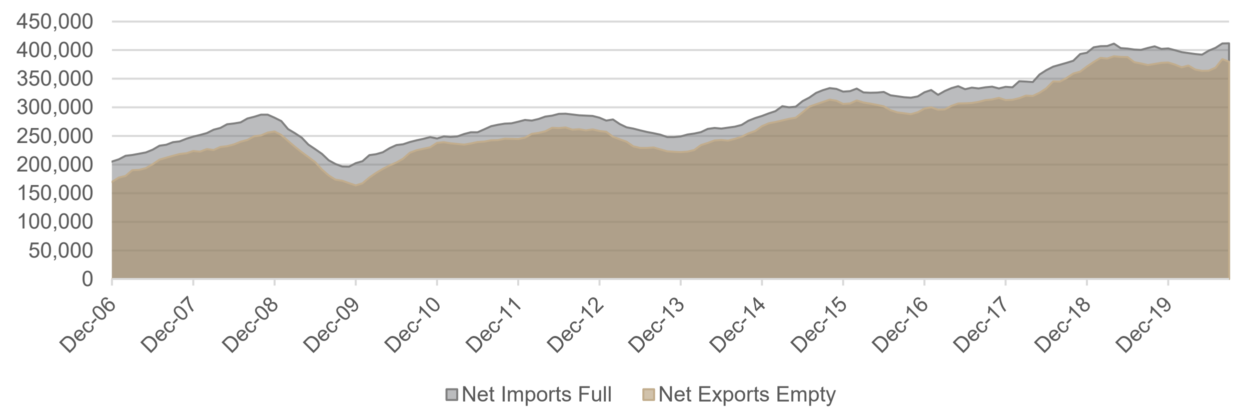
The major container ports in Australia import more full containers than they export. This is particularly the case for 40ft containers, which are ideal for the consumer and light-weight intermediate goods imported from overseas, but sub-optimal for the heavier (denser) items that Australia tends to exports (preferring instead 20ft containers, which are being generally phased out along most trade routes.

Over the forecast period, BISOE maintains the difference between full and empty containers as observed in 2019 and maintains this over the forward outlook, running it off of the modelled full exports and imports.

20' Dry Containers – Net Trade Flows



40' Dry Containers – Net Trade Flows



Empties – Forecasts (excl. Bass Strait)

Stronger forecast growth in full imports vs full exports means than empty exports must grow at a faster rate.

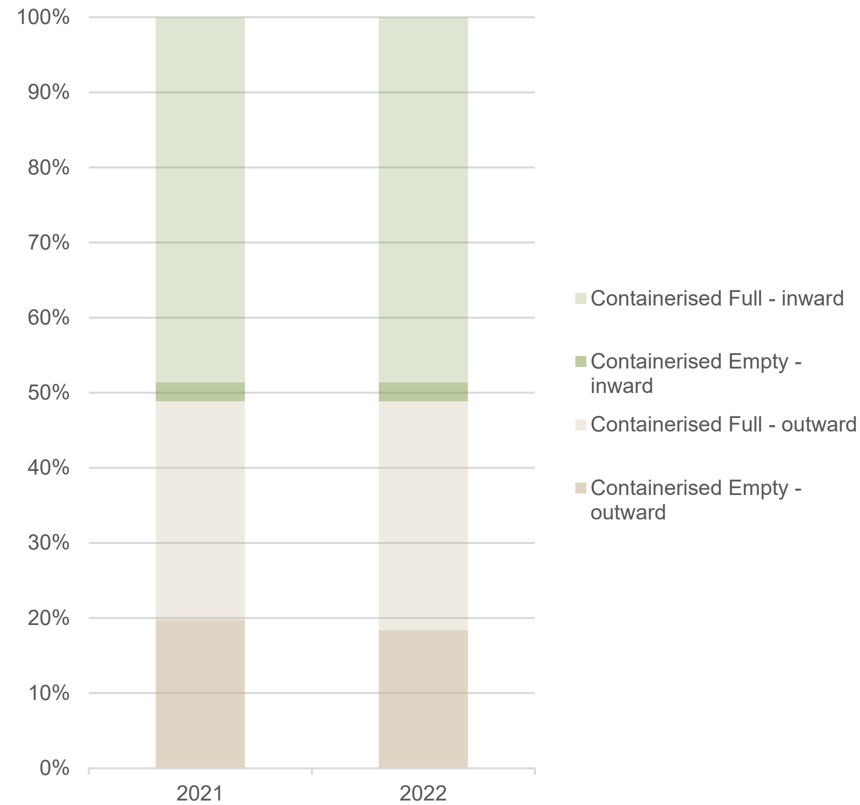
Commentary

Modelling of empties is undertaken using the following logic:

- Net imports = total imports less total exports
- Net imports over the forward outlook remains unchanged from the most recent 12-month total
- Empty imports are calculated as a percentage of full imports, calculated at the most recent 12-month total and held constant over the forward outlook
- Empty exports are calculated using the full imports, full exports, empty imports and net imports.

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Transhipment Imports	4.8%	8.8%	14.4%	-24.4%	46.0%	-0.6%
Transhipment Exports	5.5%	18.2%	9.9%	-25.6%	25.6%	-3.3%
Transhipment Empties	6.3%	-0.7%	18.1%	-20.5%	-11.2%	-0.6%
Empty Imports	-12.0%	10.3%	8.5%	10.7%	-15.6%	-1.3%
Empty Exports	-4.3%	8.9%	25.8%	-9.9%	29.4%	-9.1%

Forecast Composition of Trade (excl. Bass Strait)



BIS OXFORD ECONOMICS

05

BULK LIQUID

Bulk Liquid Demand – History and Forecast by Type

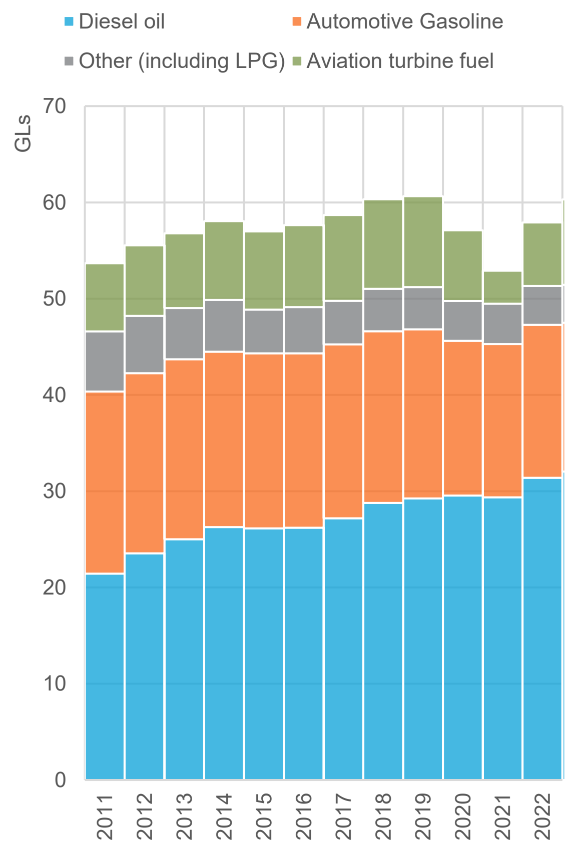
Beyond the near-term shocks, we are reverting to our long-term trends from 2022 (2023 for Jet Fuel)

Commentary

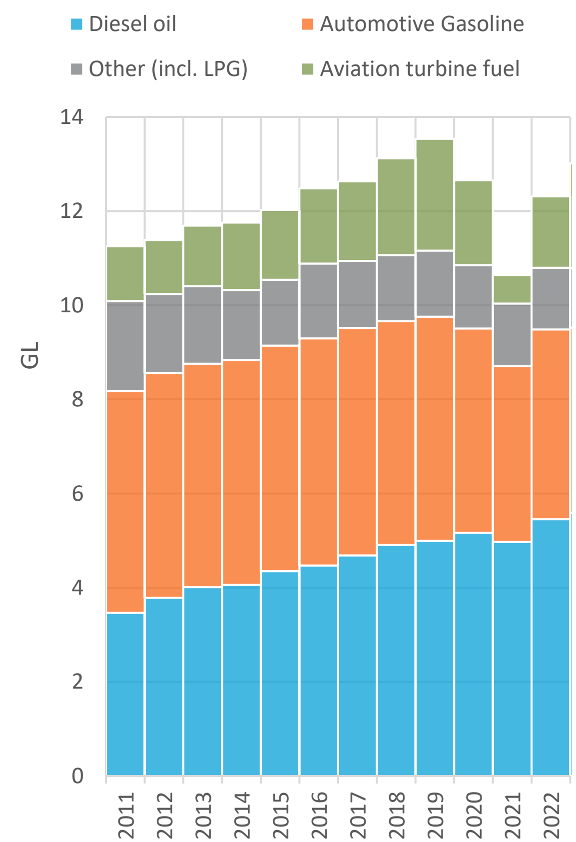
Both the Victorian and Australian trade markets for bulk liquid are expected to exhibit similar distributional transitions.

Aviation fuels continue to be impacted by international border closures, but the recovery in domestic aviation will support volumes through 2022.

Sales of Petroleum Products (Australia)



Sales of Petroleum Products (Victoria)



Diesel vs Petrol

It is noteworthy that in the European markets, the aftereffects of Volkswagen's diesel-gate were a rapid decline in the share of diesel vehicles sold. That doesn't seem to have impacted purchasers in Australia.

Commentary

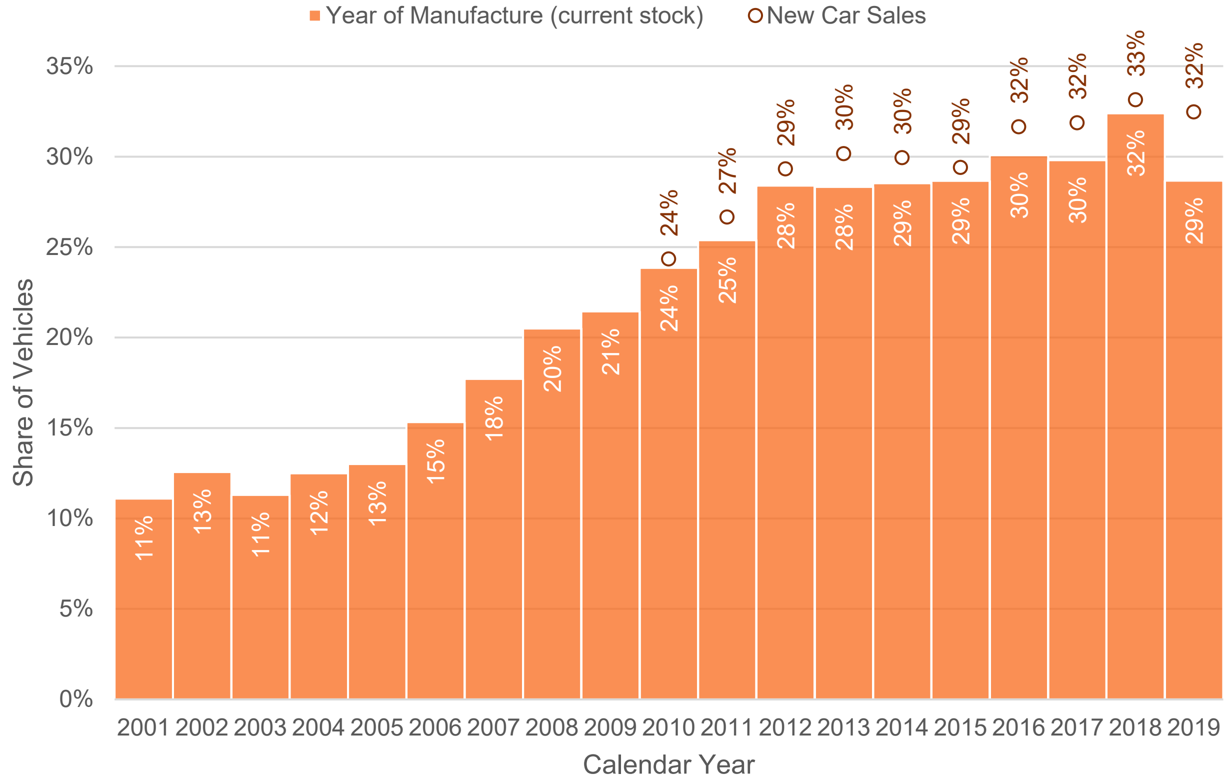
The share of new vehicles which use diesel will mean that the share of the fleet using diesel is expected to trend upwards for the next decade, as the average age of retiring stock 18 years.

Fuel efficiency improvements over the forward outlook will be dwarfed by the change in the fleet composition.

However, for petrol cars, both of these changes compound to drive demand lower each year over the forecast horizon.

A current outstanding area of uncertainty is the future of the CAFE standards in the US, which tend to drive our new vehicle fuel efficiency (as Australia has no policy regarding fuel economy or composition). This was expected to rapidly improve the fuel economy over the forward outlook, and remains the base case for modelling purposes.

Diesel Motor Vehicle Fleet - Victoria



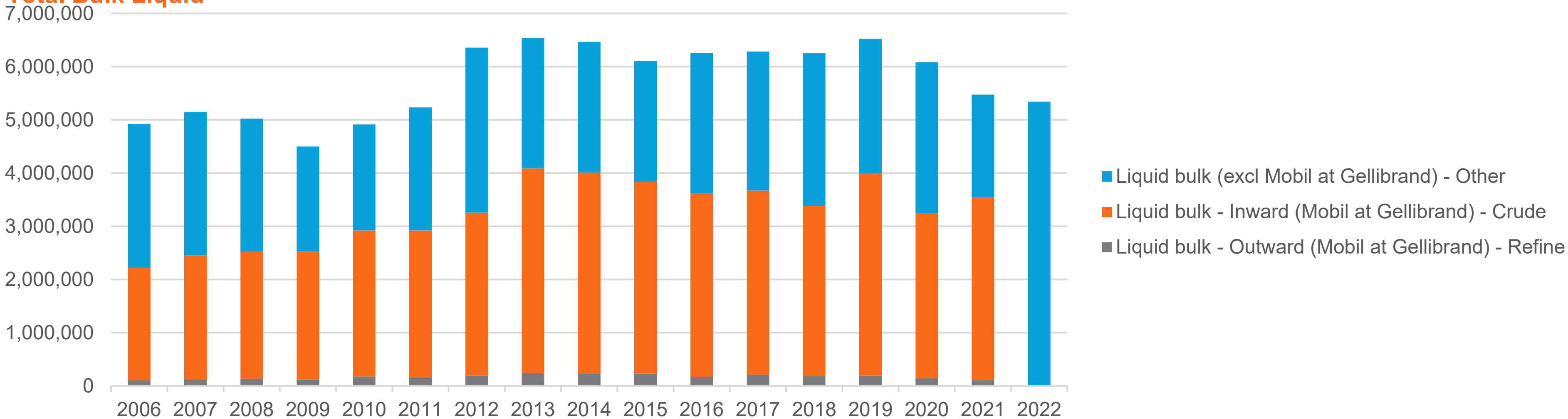
Forecast Outlook

We are using Port Management's view that there will be a 15% loss in volume due to the forthcoming closure of the Altona refinery, with the outlook thereafter based on total Victoria demand profiles.

Annual Change and CAGRs

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Crude Oil	0.4%	-7.6%	18.9%	-18.3%	10.6%	-100%
Diesel	35.9%	9.7%	-1.6%	16.9%	-32.3%	297%
Petrol	-17.8%	96.7%	-52.5%	72.5%	-86.9%	6368%
Kerosene	-3.1%	-7.8%	-6.2%	-10.2%	-100.0%	
Total Bulk Liquid Imports	3.8%	-0.3%	5.9%	-8.4%	-13.5%	51.5%

Total Bulk Liquid



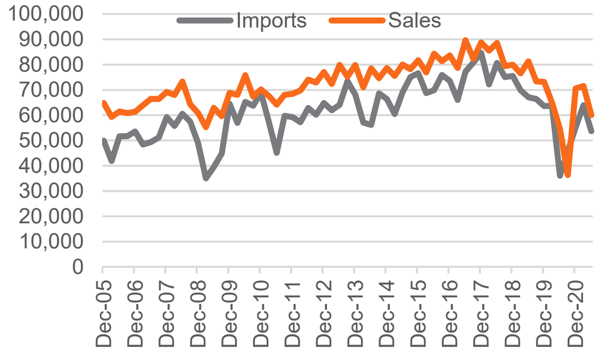
06

BREAK BULK, WHEELED UNITISED, MOTOR VEHICLES

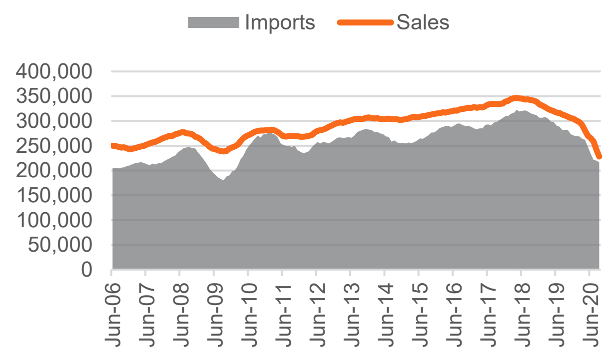
Motor Vehicles – COVID-19 Impact

A bad year just got worse. Downside risks from downgraded population projections remain.

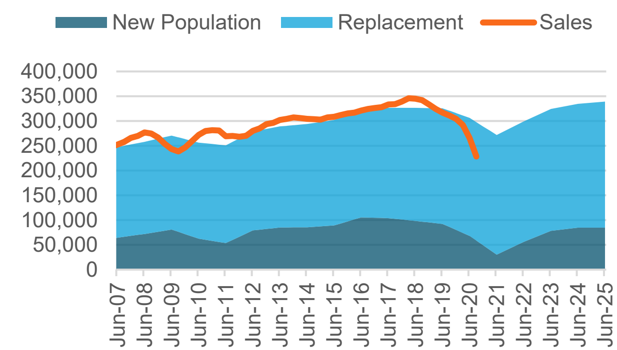
Melbourne Motor Vehicle Imports and Victoria Sales (Units, quarterly)



Melbourne Motor Vehicle Imports and Victoria Sales (Units, Moving Annual Total)



Victoria sales (actuals) **and modelled** (using population) – Moving Annual Total



Victoria Motor Vehicle Sales

The last time Victorian sales were stronger than the same month the previous year was April 2018, with declines recorded ever since (total Australian sales have been similar, with the last positive result in March 2018).

Over the 12 months to Sept-2020, sales have been down 27%, and with imports down a similar amount (23%).

This has reversed with positive sales now coming through from November 2020, and a strong recovery expected for the remainder of the financial year.

Port of Melbourne

The Port of Melbourne receives about 90% of Victoria's total sales, a figure which has largely held up through the pandemic.

Our estimates are that stock levels of unsold vehicles are roughly at their historic averages, suggesting that a turnaround in sales will rapidly translate to an increase in import units.

Fundamentals

With motor vehicles per capita holding at 0.7 in Victoria, most new car sales have been replacement of existing stock.

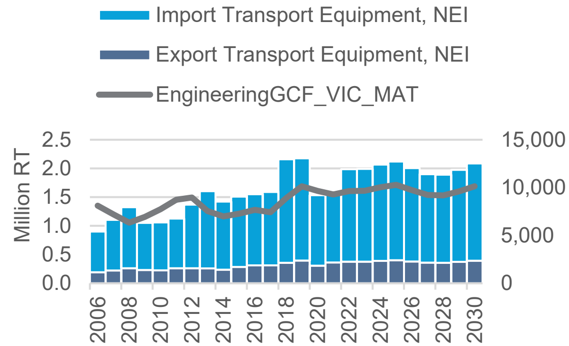
While the fall in overseas migration is expected to weight on sales through FY21, sales are currently under-performing fundamentals, and will support a recovery over the medium term.

Vehicles are expected to be held for a longer through the pandemic, lowering the replacement rate, until confidence returns.

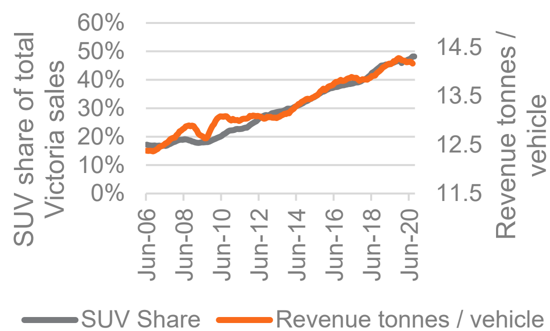
Break Bulk – Motor Vehicles, Machinery, Iron & Steel

Sales of motor vehicles have collapsed. Machinery and Equipment and Iron and Steel will likely follow the forecast growth in Engineering and Construction.

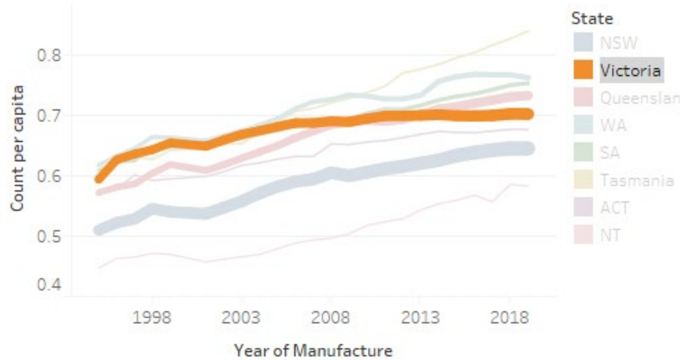
Engineering Trade and Engineering Work Done



Melbourne Motor Vehicle Imports and Victoria Sales (Moving Annual Total)



Long-term growth outlook for Motor Vehicles driven by population



Overview

Excluding oil and gas, total Australian engineering construction activity has trended upwards since FY16. We expect this growth to continue through to FY24, to reach a peak of $95.9bn. Transport construction activity continues to boom, driven by a strong pipeline of major projects, particularly in the eastern states.

This boom is forecast to offset near term downturns in electricity and telecoms construction.

Drivers

Tonnes/vehicle have been increasing in line with growth in the SUV share, which will likely max out by mid-decade at current growth rates.

Commentary

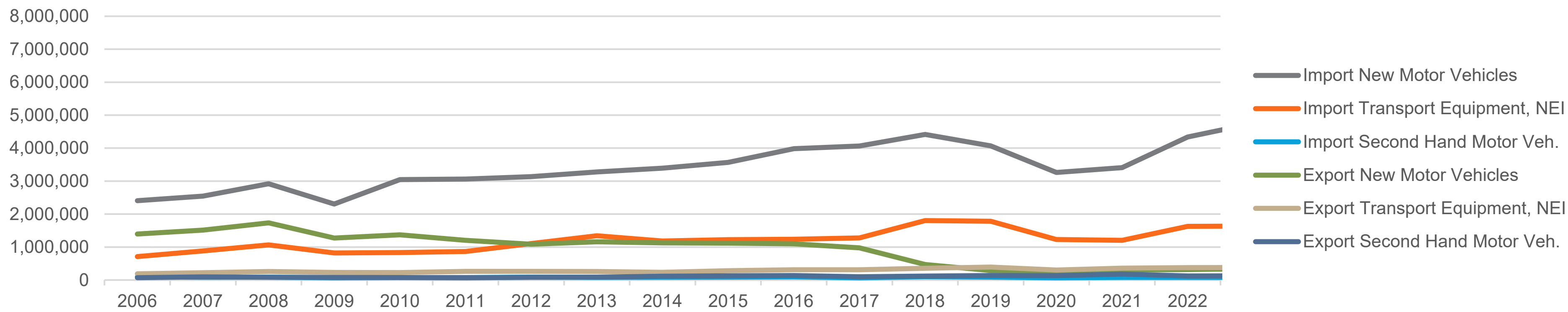
BISOE’s analysis is based on the current depreciation schedule. We expect that sales to replace retired stock will grow faster than sales due to net increase in stock (driven by population and motor vehicles per capita) for the next decade. From the beginning of the next decade this relationship is expected to reverse.

Long-term, motor vehicle sales are modelled as 3.6% of the population (stock turnover) plus change in population (at 0.7 cars per capita).

Roll-on Roll-off Imports and Exports

Motor vehicle imports run off of forecast sales (itself a function of population growth and stock replacement), whereas transport equipment is a function of engineering construction.

Roll-on Roll-off Import and Export Volumes (revenue tonnes)



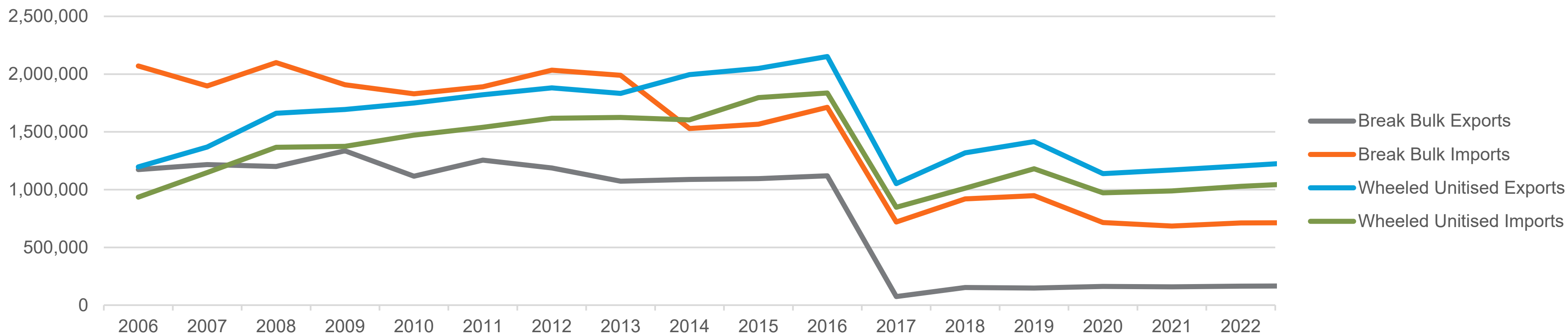
Annual Changes and CAGRs for Roll-on Roll-off Imports and Exports

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Import New Motor Vehicles	2.0%	8.6%	-7.8%	-19.9%	-6.5%	17.0%
Import Transport Equipment, NEI	3.2%	41.1%	-1.2%	-31.0%	-2.1%	33.9%
Import Second Hand Motor Veh.	-28.5%	48.1%	-12.6%	-23.3%	36.9%	2.3%
Export New Motor Vehicles	-11.1%	-51.6%	-39.4%	-14.0%	12.8%	-7.1%
Export Transport Equipment, NEI	0.5%	13.9%	10.7%	-22.6%	18.7%	3.4%
Export Second Hand Motor Veh.	-26.8%	19.0%	14.9%	-4.0%	39.9%	-33.2%
Total Motor Vehicles	**-0.9%**	**6.9%**	**-7.0%**	**-22.5%**	**-1.4%**	**16.6%**

Non-containerised / General cargo

Moving forward, BISOE is forecasting the volumes of Wheel Unitised to roughly track containerised Bass Strait volumes, and for Break Bulk Exports volumes to imports of the same products. The Port of Melbourne has lost about 13% of its market share since April 2019, with a gradual return projected.

Non-containerised/ General Cargo Import and Export Volumes to FY68



Annual Changes and CAGRs for Import and Export Volumes

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Break Bulk Exports	-93.4%	106.6%	-2.9%	9.3%	29.2%	1.8%
Break Bulk Imports	-57.9%	27.7%	3.1%	-24.5%	44.0%	3.9%
Wheeled Unitised Exports	-51.2%	25.5%	7.3%	-19.6%	8.5%	-4.5%
Wheeled Unitised Imports	-53.9%	19.5%	16.6%	-17.6%	-5.4%	4.7%
Total Non-containerised/General	**-60.5%**	**26.4%**	**8.5%**	**-19.0%**	**13.6%**	**0.9%**

07

DRY BULK

Dry Bulk Imports – Historical

Three of the top dry bulk imports are inputs into the building industry. As a demand driver, the fall in dwelling building will more than offset the boom in road construction over the next three years.

End use sectors

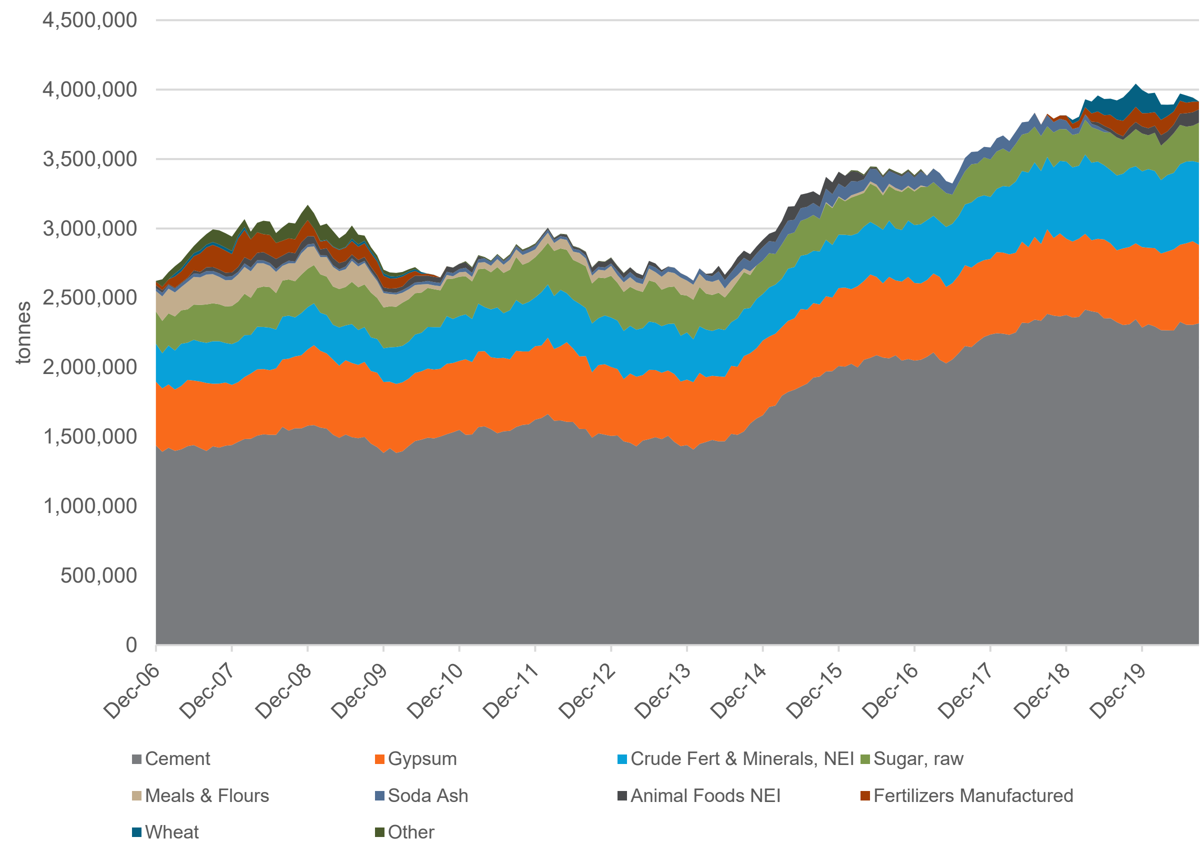
Cement clinker, fly ash and slag (reported as **cement** and **crude fertilizer & minerals** in the trade statistics) are all used to make concrete.

We have estimated the end use sectors for concrete based on an intensity factor (tonnes per million spend), as well as for **gypsum**. While gypsum is used as a binding agent in concrete, our estimates suggest that as much as 90% is used to create plasterboard for use in buildings.

Sugar volumes have been generally flat for over a decade with a regular shipment of 30,000 tonnes arriving roughly every five weeks, and **soda ash** volumes (used in the manufacturing of glass) has been diverted to the Port of Geelong in recent years.

Wheat imports which were brought in during the 2018-19 drought ceased in late 2019 just before the winter harvest (which was a return to an average yield).

Port of Melbourne Dry Bulk Imports



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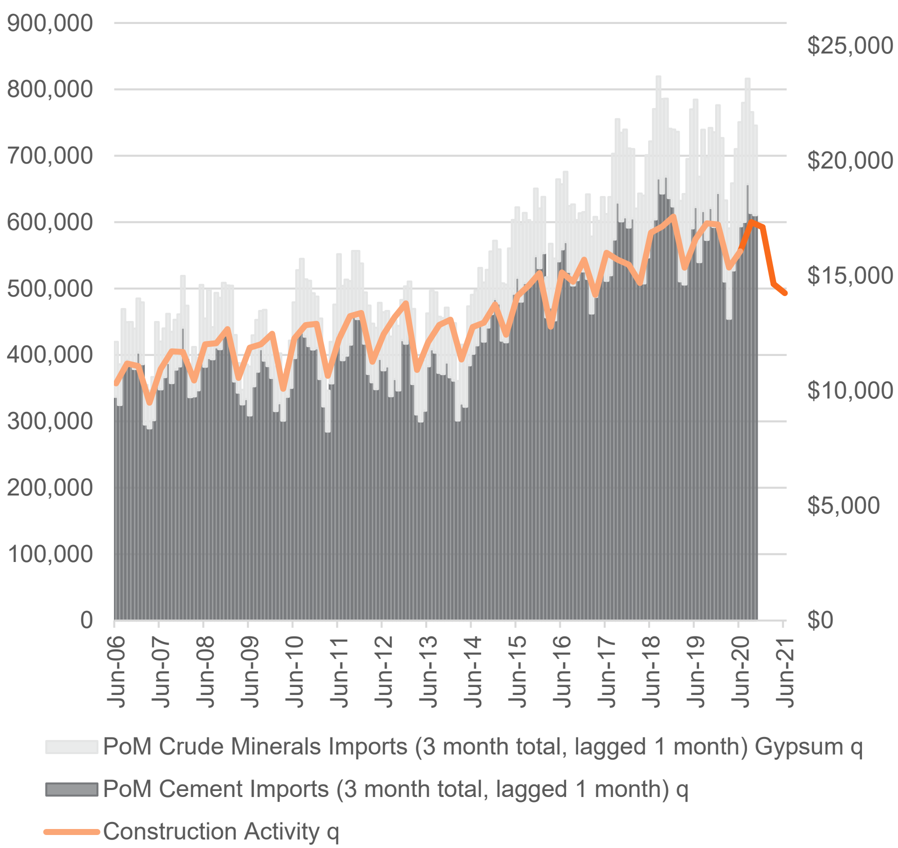
Dry Bulk Imports – Cement

Even before COVID-19, the construction boom was expecting to continue to ease, bottoming out in 2021. The slowdown is now accelerating and will be deeper, with a recovery not expected to exceed the 2018 peak until after 2022.

Quarterly cement imports (tonnes) and Construction activity



For our models of cement demand, we use quarterly estimates of construction activity, measured as the sum of:

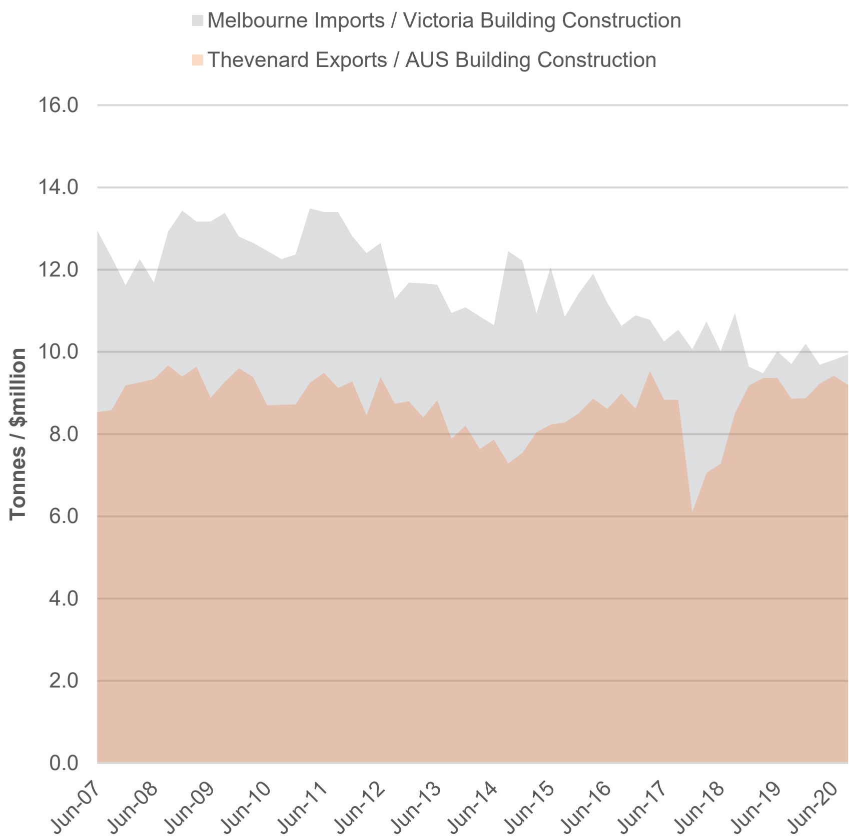
- Victoria gross capital formation of dwelling building;
- Victoria gross capital formation of alternations and additions;
- Victoria gross capital formation of non-dwelling building; and
- Victoria gross capital formation of engineering construction.

We have a break in the historical data when Warun Pond near Geelong ceased its kiln and became an import only facility.

Dry Bulk Imports – Gypsum

Even before COVID-19, the building boom was expecting to continue to ease, bottoming out in 2021. The slowdown is now accelerating and will be deeper, with a recovery not expected to exceed the 2018 peak until after 2022..

Historic demand intensity for Gypsum
(tonnes per $million in building activity)



For our models of gypsum demand, we use quarterly estimates of building activity, measured as the sum of:

- Victoria gross capital formation of dwelling building;
- Victoria gross capital formation of alternations and additions;
- Victoria gross capital formation of non-dwelling building; and

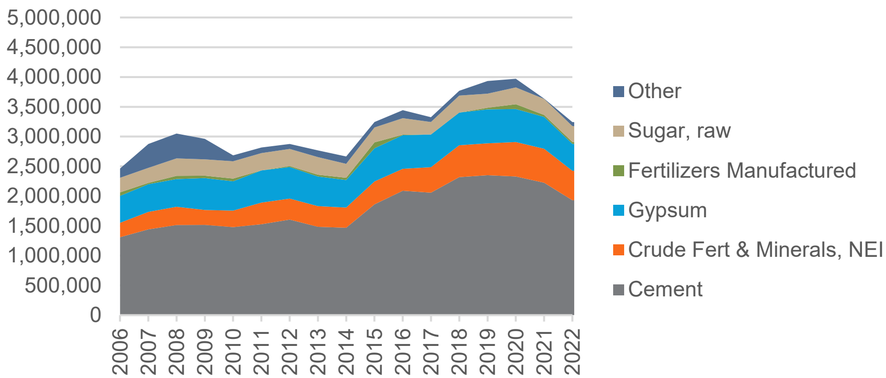
While the historic ratio of imports through PoM to building activity have been trending downwards, it is approaching the national ratio of gypsum to building activity, which has been stable since at least 2006.

The national bulk gypsum demand has been approximated by using exports from Thevenard which supplies nearly all of the dry bulk gypsum for Australia (and generally only Australia).

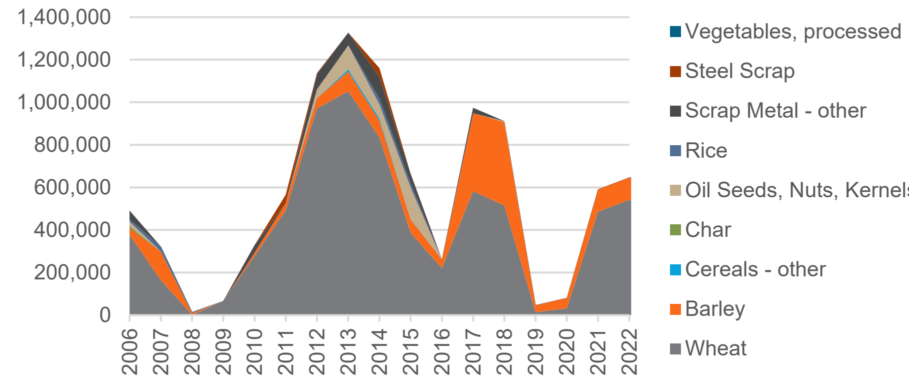
Dry Bulk Forecasts

Dry bulk imports predominantly relate to the building industry. Crude Fertilizers and Minerals mostly consist of slag (from Japan) and fly ash (from Gladstone). Both are used to make cement. Bulk wheat and barley exports are not expected to be exported in large volumes until Dec-2020.

Dry Bulk – Import Volumes



Dry Bulk – Export Volumes



Annual changes and CAGRs

Annual % Change	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Cement	-1.5%	12.7%	1.4%	-1.0%	-3.6%	-7.5%
Crude Fert & Minerals, NEI	15.3%	25.6%	-0.4%	8.3%	6.8%	-7.5%
Gypsum	-2.5%	-0.3%	4.1%	-2.5%	4.5%	-9.8%
Sugar, raw	-24.1%	36.2%	-17.2%	19.8%	-5.9%	0.0%
Total Dry Bulk Imports	**-3.5%**	**13.4%**	**4.3%**	**1.0%**	**-5.8%**	**-5.4%**
Total Dry Bulk Exports	272.2%	-6.3%	-94.8%	71.4%	797.1%	16.7%

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