SHORT TERM OUTLOOK TO FY23

Port of Melbourne

5 May, 2022

Disclaimer

5 May 2022

The modelling and results presented here are based on information provided by third parties, upon which BIS Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further please contact:

Darren Anderson: danderson@bisoxfordeconomics.com.au

BIS Oxford Economics

Level 6, 7 Macquarie Place, Sydney, 2000, NSW

Tel: +61 2 8458 4200

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Growth Summary

Annual Growth – Full Container Imports, Transhipments, Empties

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Consumption (Food & Beverages)	2.2%	-2.2%	0.0%	-0.5%	1.6%	4.4%
Consumption (Non-Food)	6.5%	1.4%	7.3%	11.3%	0.3%	-1.8%
Capital Goods (& Parts)	11.1%	-4.1%	1.8%	19.4%	-1.6%	5.7%
Parts for Transport Equipment	-2.0%	-0.3%	-8.5%	25.3%	3.4%	1.8%
Processed Industrial Supplies	12.4%	-5.2%	0.3%	5.9%	4.1%	7.7%
Iron and Steel	4.9%	-4.2%	-10.6%	-6.5%	-5.9%	4.7%
Other Intermediate Goods	8.7%	-3.7%	6.4%	0.2%	5.8%	1.5%
Model 4 Total Imports	**8.5%**	**2.0%**	**-3.3%**	**14.6%**	**-0.3%**	**2.2%**
Model 1 - Past Trends						3.7%
Model 2 - Peer Analysis						2.3%
Model 3 - Previous Model						3.5%
Model 5 - Port Management						2.5%
Ensemble Model (Average 1-5)	**8.5%**	**2.0%**	**-3.3%**	**14.6%**	**-0.3%**	**2.9%**

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Transhipment Imports	8.8%	14.4%	-24.4%	73.2%	-3.8%	2.1%
Transhipment Exports	18.2%	9.9%	-25.6%	34.3%	-11.1%	2.4%
Transhipment Empties	-0.7%	18.1%	-20.5%	8.6%	49.7%	-3.6%
Empty Imports	10.3%	8.5%	10.7%	-21.2%	8.9%	2.9%
Empty Exports	8.9%	25.8%	-9.9%	32.6%	3.4%	-4.1%

Annual Growth – Full Exports & Bass Strait

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Other Exports	5.2%	2.3%	-1.1%	-1.3%	-1.7%	3.8%
Sawnwood	19.1%	2.3%	-1.8%	-11.0%	-82.4%	95.8%
Paper and paperboard	32.6%	-22.2%	-8.2%	-22.4%	-10.1%	0.1%
Pulp	-24.9%	0.9%	-17.1%	8.3%	11.6%	0.1%
Other Agriculture	5.8%	-13.2%	-0.8%	10.1%	12.0%	11.7%
Total Exports (excl. Bass Strait)	**7.3%**	**-7.9%**	**-2.2%**	**2.0%**	**-2.8%**	**10.0%**

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Other Imports	-3.2%	24.4%	-0.5%	21.1%	-3.8%	3.8%
Paper and paperboard	-6.7%	-7.7%	1.6%	58.9%	-0.7%	0.1%
Vegetables	0.9%	-82.7%	196.6%	49.7%	18.2%	5.0%
Sawnwood	51.2%	-33.1%	-38.7%	-2.5%	-1.9%	4.9%
Other Agriculture	7.5%	-1.2%	-9.1%	-4.7%	25.1%	-2.6%
Bass Strait Imports	2.9%	3.1%	-4.8%	11.2%	10.4%	0.0%
Bass Strait Exports	5.5%	0.8%	3.4%	7.7%	2.4%	0.4%
Bass Strait (Full)	4.5%	1.7%	0.2%	9.0%	5.4%	0.2%

Annual Growth – Motor Vehicles, Non-Containerised General Cargo

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Import New Motor Vehicles	8.6%	-7.8%	-19.9%	2.5%	11.5%	14.5%
Import Transport Equipment, NEI	41.1%	-1.2%	-31.0%	27.5%	8.7%	-13.0%
Import Second Hand Motor Veh.	48.1%	-12.6%	-23.3%	80.3%	27.5%	3.7%
Export New Motor Vehicles	-51.6%	-39.4%	-14.0%	18.2%	8.8%	0.3%
Export Transport Equipment, NEI	13.9%	10.7%	-22.6%	48.7%	17.9%	-31.4%
Export Second Hand Motor Veh.	19.0%	14.9%	-4.0%	44.0%	-7.2%	-26.8%
Total Motor Vehicles	**6.9%**	**-7.0%**	**-22.5%**	**13.9%**	**10.9%**	**1.7%**

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Break Bulk Exports	106.6%	-2.9%	9.3%	46.2%	3.9%	0.8%
Break Bulk Imports	27.7%	3.1%	-24.5%	52.9%	3.9%	0.5%
Wheeled Unitised Exports	25.5%	7.3%	-19.6%	8.5%	3.9%	1.9%
Wheeled Unitised Imports	19.5%	16.6%	-17.6%	-0.8%	4.2%	2.1%
Total Non-containerised/General	**26.4%**	**8.5%**	**-19.0%**	**18.2%**	**4.0%**	**1.4%**

Annual Growth – Liquid Bulk, Dry Bulk

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Cement	12.7%	1.4%	-1.0%	-0.4%	1.6%	3.1%
Crude Fert & Minerals, NEI	25.6%	-0.4%	8.3%	4.9%	3.2%	3.1%
Gypsum	-0.3%	4.1%	-2.5%	0.0%	-1.1%	3.6%
Sugar, raw	36.2%	-17.2%	19.8%	-1.8%	-3.3%	0.0%
Total Dry Bulk Imports	**13.4%**	**4.3%**	**1.0%**	**-3.2%**	**1.3%**	**2.9%**
Total Dry Bulk Exports	-6.3%	-94.8%	71.4%	956.7%	53.8%	-27.5%

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Crude Oil	-7.6%	18.9%	-18.3%	6.4%	-85%	-100%
Diesel	9.7%	-1.6%	16.9%	-25.8%	154%	3%
Petrol	96.7%	-52.5%	72.5%	-92.3%	7008%	-2%
Kerosene	-7.8%	-6.2%	-10.2%	-95.1%	2478%	10%
Total Bulk Liquid Imports	-0.3%	5.9%	-8.4%	-15.9%	20.8%	-7.7%

Macroeconomic Outlook

Introduction

Australia has weathered the pandemic well with robust growth expected for 2022, but risks remain

The last two years has been a period of unprecedented uncertainty for the global and Australian economy. The recent run of economic data has surprised to the upside, suggesting that the Australian economy ended calendar 2021 on a stronger footing than we had anticipated. Spending on goods has continued its very strong run, while services growth was very brisk as it continues to catch up to its pre-pandemic level. The savings rate ticked down sharply in Q4, but with further to fall over 2022, which will provide a steady tailwind to consumption growth. Looking ahead, much of the uncertainty about the outlook has receded. The COVID-19 Omicron outbreak peaked in mid-January, without the need to reimpose strict lockdowns, while much of the disruption to labour markets is dissipating relatively quickly. Recent announcements about Australia's international border allowing fully vaccinated visa holders to travel to Australia without a travel exemption has reduced some of the uncertainty surrounding the timing of the return of migration, although risks around the speed of the return remain salient.

There are downside risks to the investment outlook. Investment ticked down in Q4 2021, with most components tracking lower. There is a strong pipeline of work to be done in both dwellings and non-residential construction. The fall in investment signals some disruption from the Delta-driven lockdowns, but more significantly it points to the emergence of capacity constraints due to labour and materials shortages.

Headline labour indicators improved in February, with the labour market bouncing back from the worst of the Omicron disruption in January. Both participation and employment increased, while the unemployment rate fell to 4.0% - the lowest level since 2008. Hours worked rebounded strongly, correcting after a sharp fall in January. The preservation of employment through these disruptions will allow a rebound in activity through the rest of Q1, while the strength of forward-looking indicators of labour demand point to robust employment growth through 2022.

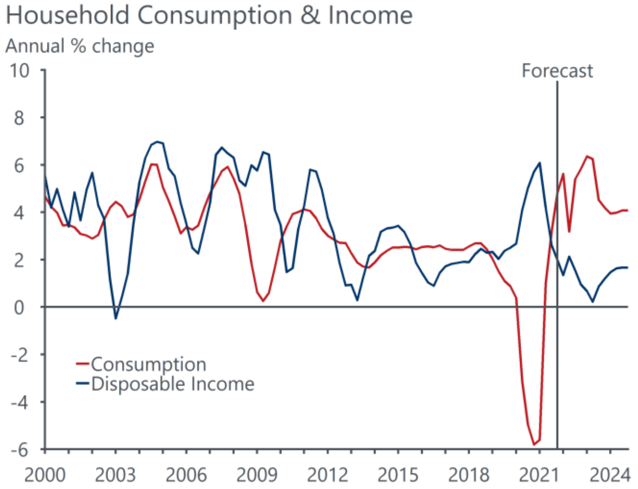
The outlook for headline inflation in H1 2022 has been lifted due to higher energy prices caused by the war in Ukraine. There is upside risk here with oil highly volatile. The recent flooding in Queensland and New South Wales will also add upward pressure on food prices at the margin. The RBA has previously signalled it would look through supply-driven inflation and tolerate an overshoot of their target range. The higher inflation environment means policy will need to be tighter in 2023 for the RBA to achieve its objectives. Baseline expectations are for the first rate hike in Q4 2022, and end 2023 at 1.25%.

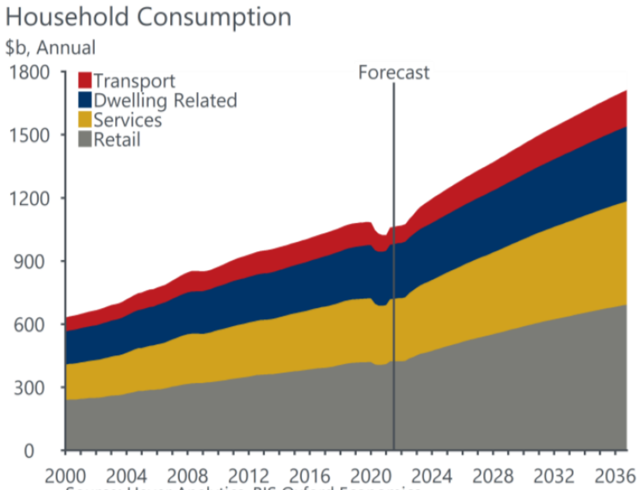
Consumption

Household consumption growth is determined by income growth and households' decisions around how much of this income they choose to save or spend. Through the pandemic, services consumption has been severely curtailed by trading and social distancing restrictions. Incomes have been well supported by government transfers to households, but other sources of income have been weak. As government support has now been tapered, households will need to run down their savings in order to support their spending.

Retail sales were very strong in Q4, with the realisation of pent-up demand spurring sales. Nominal turnover grew by 8.7% q/q, while volumes were up 8.2% q/q – indicating very strong household consumption in Q4. The outlook for the start of 2022 is more challenging for retail. The outbreak of Omicron cases dented consumer confidence in January, which will have restricted foot traffic and retail sales. Moreover, discretionary spending on services will also face strong headwinds at the start of Q1. We expect spending will rebalance toward services through 2022 – posing another headwind for retailers.

Overall, we are predicting strong consumption growth of 4.8% in 2022. We continue to expect consumption will rebalance toward services and away from goods –this process has tentatively started on a couple of occasions, only to be thwarted by lockdowns. High vaccination rates have now ameliorated some of this risk. Domestic services consumption stands to gain as restrictions ease further. But the timing of these developments is uncertain and will depend largely on the resilience of consumer confidence. The recovery in consumption over the medium term will be very gradual, and dependent on how quickly the spike in the savings rate unwinds.





Source: Haver Analytics, BIS Oxford Economics

Building

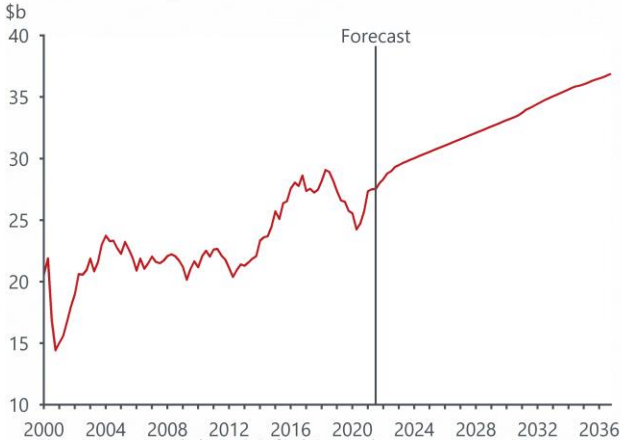
Australia has experienced a considerable dwelling investment cycle over the past decade. After several years of stagnant levels of dwelling investment, faster population growth and a sluggish supply response led to large increases in house prices in the major cities on the east coast. In response to higher prices, dwelling investment increased sharply and has remained elevated over the past six years.

The government's HomeBuilder program drove another upturn in the dwelling investment cycle. Initial take-up of the scheme was concentrated in the smaller states due to eligibility requirements. But an increase in the upper limit for the property value enabled more households in NSW to take advantage of the scheme. Higher rates of owner-occupier household formation –spurred by HomeBuilder and other state level incentives improving affordability –and biting capacity constraints will keep activity elevated for an extended period. Accordingly, we have prolonged, but dampened the cycle relative to six months ago. Dwelling investment is set to make a positive contribution to GDP growth in 2022.

Prior to COVID-19, established dwelling prices had increased quite sharply in Sydney and Melbourne, with low interest rates and relaxed borrowing conditions boosting prices. Prices held up well through the pandemic and gained additional momentum in the detached housing market; national dwelling prices are estimated to have increased by 16.6% in 2021. This cycle will cool over 2022, but we are still expecting growth of 1.8% before prices stagnate in 2023. The apartment market will remain relatively subdued (although prices are still rebounding) until the resumption of net inward overseas migration gathers pace following changes to the border restrictions in February.

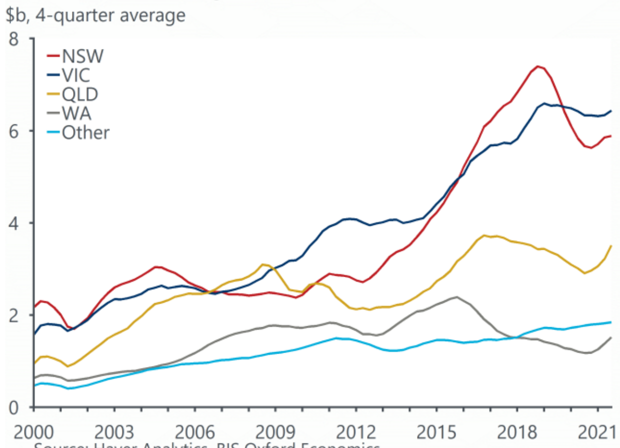
In the longer term, dwelling construction is driven by population growth and household formation (the number of people per dwelling). Our expectations for household formation have increased from a year earlier, while our population forecasts have been revised slightly higher from six months ago, supporting a higher level of activity.

Private Dwelling Investment



Source: Haver Analytics, BIS Oxford Economics

Residential Building Work Done



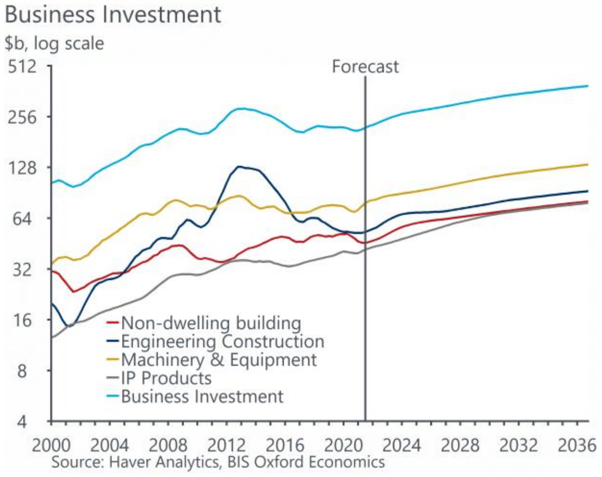
Source: Haver Analytics, BIS Oxford Economics

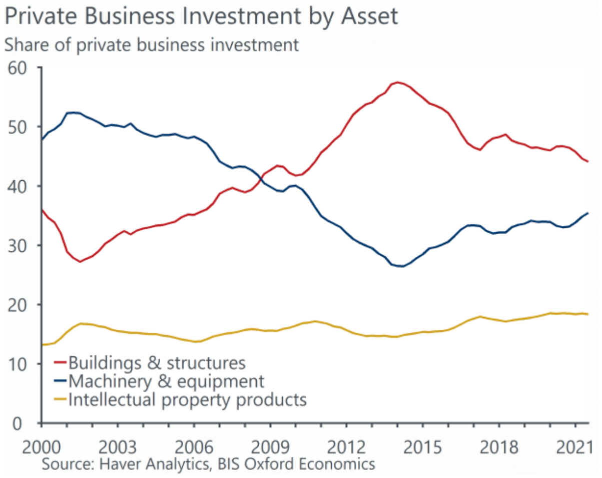
Capital

As with total private business investment, machinery & equipment investment initially fell in response to the pandemic. The federal government has given firms strong incentives to undertake this type of investment in the near term; the instant asset write-off scheme allows firms to deduct the entire cost of qualifying assets. This policy has had a clear impact on machinery and equipment spending, driving growth through FY21.

Through the 2000s and early 2010s there was a shift in the composition of non-mining business investment away from machinery & equipment investment toward spending on buildings & structures and intellectual property products. However, this trend has reversed over the past few years, with the pandemic exacerbating the weakness in buildings and structures investment. This rebalancing looks to have largely run its course, with these shares expected to stabilize in the near term.

Firms across all non-mining sectors are investing less than in the past. As such, over the longer term we expect to see structurally weaker growth in non-mining capital expenditure. Part of the fall in investment rates can be explained by the type of investment firms are undertaking and behind this, the transition of the economy towards services; this has led production processes to become generally less reliant on machinery & equipment.





Trade – Goods Exports

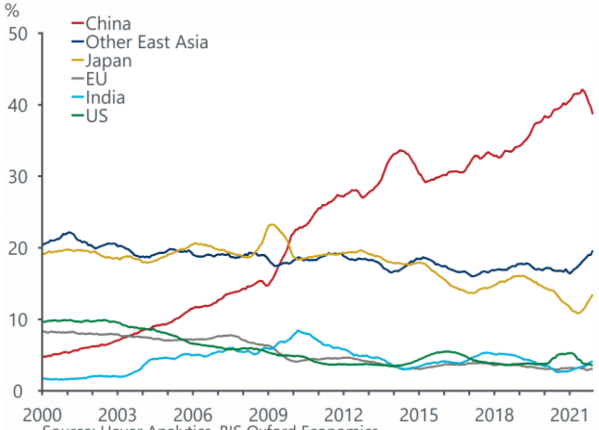
Goods exports have tracked a little lower since their peak in Q2 2019 in volumes terms. However, very strong commodity prices have boosted nominal trade to a record level. The simmering trade dispute with China does not appear to have had a material impact on exports in the aggregate; disrupted shipping to China appears to have been mitigated by shipments to other destinations. We expect growth in goods exports will settle at a trend pace of around 2.5% y/y in real terms.

Growth in resource export volumes has stagnated over the past year. LNG exports have been a driver of growth in recent years but have now plateaued. Outside of LNG, there are few large greenfield projects underway, limiting the upside for resource exports in the near term. Nevertheless, export volumes should remain steady; exports are largely determined by capacity as the marginal costs of production are very low relative to fixed costs. The outlook for coal remains very subdued, with strength in coking coal exports more than offset by weaker demand for thermal coal. Export prices have been much stronger than volumes, spurred by strong demand for steel-making inputs in China; despite concerns over emissions, policy support in China still presents some upside to prices.

China remains the largest consumer of commodities globally, but over the medium term, India looms as an important source of demand for Australia's resource exports. Despite impressive growth over the past decade, the stock of economic and social infrastructure in China and India remains well below that of advanced economies. Infrastructure investment is steel intensive, with Australian iron ore and coking coal exporters standing to gain from this demand over the medium term.

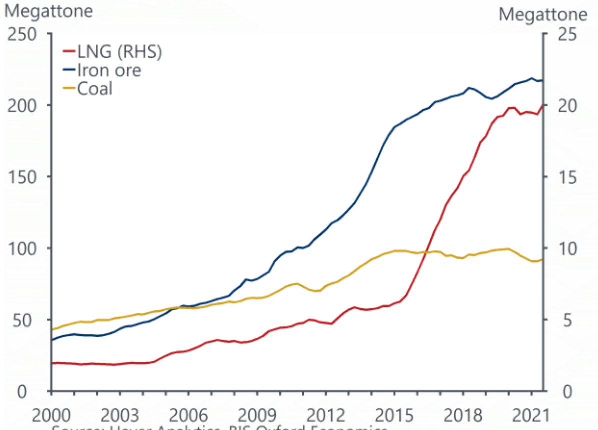
Growth in non-resource merchandise exports is expected to be modest. Rural goods exports have rebounded strongly over the past year, benefitting from greater rainfall. The upside for meat exports will be limited due to herd restocking efforts. In the longer-term, there is some upside for food and beverage exports as neighbouring Asian economies move toward more consumption-led growth as incomes increase.

Share of Merchandise Exports



Source: Haver Analytics, BIS Oxford Economics

Commodity Exports



Source: Haver Analytics, BIS Oxford Economics

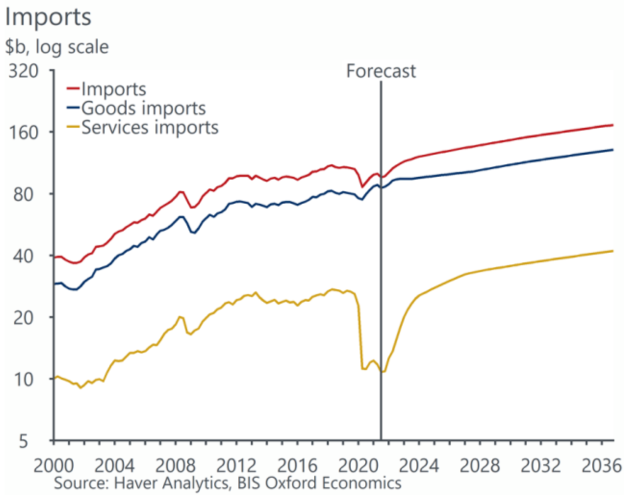
Trade – Imports

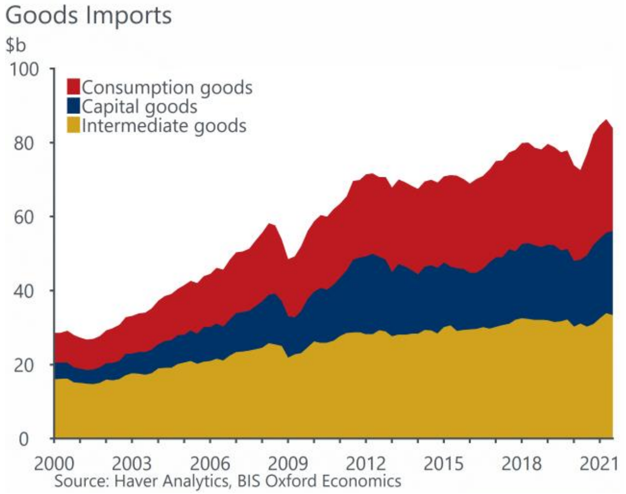
Import growth has been quite subdued in recent years due to sluggish domestic demand. In the early 2010s, import growth was driven by capital investment in the mining sector, but this phase of the mining cycle has well and truly passed.

Elevated retail sales through the pandemic led to a sharp destocking of retail inventories. In order to rebuild these inventories, consumer goods imports have picked up very sharply over the past year. But supply disruption has hampered this process in recent quarters and import growth will soften once retail demand subsides. Supply chain bottlenecks still pose a downside risk to import growth in the near term, but the risks have diminished from six months ago. Any supply impact that affects import volumes will coincide with sharp price growth.

The strong uptick in machinery & equipment investment has supported capital goods imports, which recovered to their highest level since 2012. Supply issues are weighing on growth in this segment also, and with fiscal support set to be wound back there is likely to be a period of subdued demand for capital goods imports. Further, the shift in business investment away from import-reliant machinery & equipment investment and toward intellectual property products will weigh on goods imports in the longer run.

Services imports were enormously disrupted by the pandemic, although they have now picked up from their nadir. Consumer hesitancy around travelling abroad and government incentives to support domestic industries will also weigh on imports. In the longer run, services imports will recover, although the import penetration rate for services will remain lower than the import penetration rate for goods because domestic substitutes are more readily available. In the medium term, we see annual import growth settling at around 2.5%.



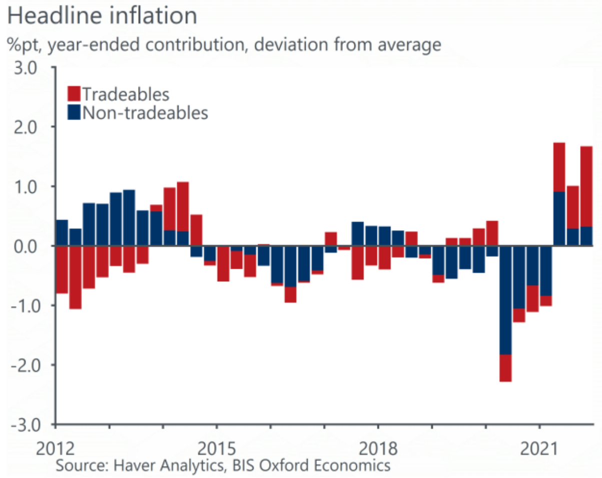


Prices

Consumer price inflation rose to 1.3% q/q in Q4 2021, driven by dwelling purchase costs and fuel price inflation; year-on-year inflation rose to 3.5%. Underlying inflation picked up for the third consecutive quarter, with the trimmed-mean measure increasing to 2.6% y/y. We expect headline inflation will peak at 4.1% y/y in Q1 and remain above 3% y/y through 2022, with the RBA willing to tolerate some overshoot of the price target to spur wage growth. Inflation is expected to return to near 2.5% in 2023, where it will settle in the longer term in line with the RBA's target range.

Tradeable inflation has picked up considerably, driven by record-high oil prices. We expect oil prices will take another step up in Q1 2022, and tensions between Russia and Ukraine add considerable upside risk to the outlook. Supply chain disruption has also boosted tradeables inflation, while shipping costs remain very high. But labour and physical material shortages are also boosting prices, exacerbated by labour force shortages due to the Omicron variant both domestically and abroad. Supply chain disruptions will keep goods prices elevated despite pent –up demand having largely been released. But we expect price inflation for retail goods will come off the boil, presenting a notable headwind for headline inflation over 2022. Our expectation is for the AUD to be broadly steady, resulting in a limited impact on inflation.

Low levels of inward migration due to the pandemic continue to weigh heavily on rents in inner city areas of Sydney and Melbourne. But markets are adjusting, with advertised rents starting to increase –although pass through to the CPI measure will be slow. Increased migration into Brisbane, Perth, Adelaide and the other capital cities has resulted is sharper rent inflation in these regions, broadly offsetting the drag from Sydney and Melbourne.

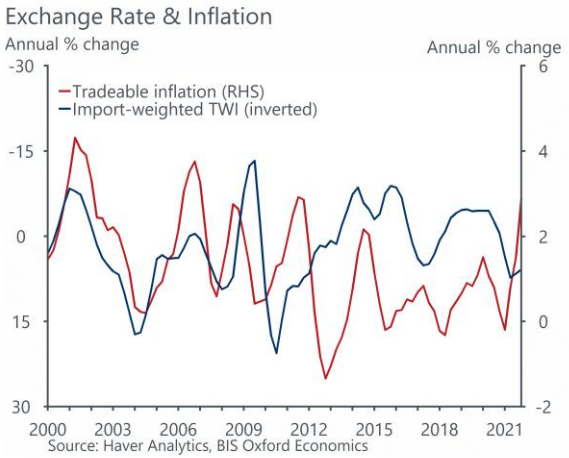


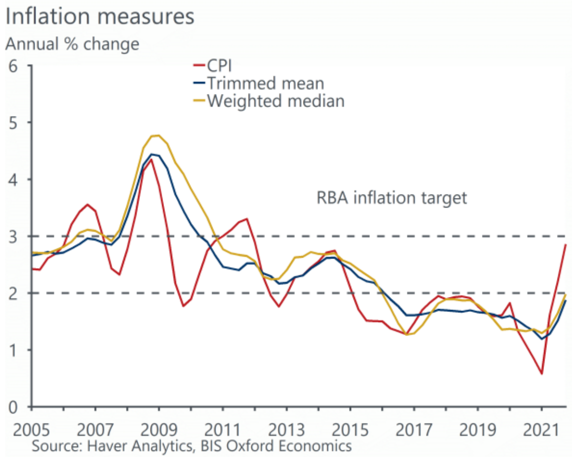
Prices

The HomeBuilder program generated a strong pipeline of new dwelling construction activity. Although approvals have since tailed off, there is still a considerable amount of work to be done. Due to the heightened demand, parts of the construction sector have met capacity constraints, causing sharp cost inflation is more than offsetting benign conditions elsewhere in the housing group. HomeBuilder grants lowered the out-of-pocket cost for consumers, mitigating cost inflation for several quarters. But with the number of grants paid per quarter having substantially decreased, cost inflation is being reflected in the CPI, and will continue to do so moving forward.

Inflation expectations play an important role in wage negotiations and firms' pricing decisions. The sustained period of low inflation prior to the pandemic weighed on expectations and in turn, inflation outcomes. Notwithstanding COVID-19 policy responses, administered price inflation has been generally been weak, with several decisions pre-pandemic sighting weak inflation and lower cost of living pressures as reasons for soft outcomes. Most measures of expectations are starting to pick-up however, with consumer expectations leading the way (these are particularly sensitive to moves in fuel and food prices). The pickup in expectations will be welcome by the RBA to an extent –expectations had been worryingly low for some time. But they will be mindful not to let this self-fulfilling channel overshoot target by too much, especially in light of their very dovish messaging of late.

Broad-based inflationary pressures are emerging. Supply side factors are expected to continue to place upward pressure on prices in H1 2022. However, the RBA remains dovish and has signaled that they are willing to tolerate some overshoot of the inflation target to accommodate a broader recovery in wage growth. We expect the unemployment rate to fall below 4% in 2022, which will aid wage growth, but the process will be gradual. Accordingly, we expect the first cash rate rises to come in Q4 2022.





Key risks to the macroeconomic outlook

Strength of the expected wage growth recovery

- With the unemployment rate approaching 4%, there is an expectation that wage growth will pick up over 2022. But given wage growth has disappointed for so long, the level of the unemployment rate required to generate faster wage growth is still uncertain. Moreover, there is very little historic experience to draw on to inform how wage growth will behave when the unemployment rate is at or below 4%.
- There is risk in both directions, as wage growth may continue to disappoint, or it may pick up quicker than policymakers expect. These uncertainties and risks have been highlighted repeatedly by the RBA.
- Wage growth to the upside would likely bode well for container imports, particularly non-food consumer goods. However much depends on how significantly consumers rebalance their consumption towards services as the reopening economy gathers steam. Lower wage growth would likely drag on volumes, although similar uncertainties persist regarding how consumer behaviour evolves and the context under which wage growth underwhelms.

Downside risks to the investment outlook

- Investment ticked down in Q4 2021, with most components tracking lower. There is a strong pipeline of work to be done in both dwellings and non-residential construction. The fall in investment signals some disruption from the Delta-driven lockdowns, but more significantly it points to the emergence of capacity constraints due to labour and materials shortages. Machinery and equipment investment has also been patchy despite a strong read from survey measures, again due to supply disruptions.
- We have delayed the realisation of some investments in our forecasts, but the higher cost environment is raising downside risks to the outlook. Although house construction costs saw the largest increases in the latest producer price index, attached dwellings, non-residential building and engineering construction are also facing a higher cost environment.
- The realisation of downside risks would certainly drag on container imports, mainly capital goods and processed industrial supplies, as companies reassess the viability of investment plans amidst the higher cost environment. Even under this environment, many firms with pricing power and/or favourable market pricing (e.g., commodities for miners) would be expected to continue their investment, albeit with plans potentially scaled down.

Key risks to the macroeconomic outlook

Trade dislocations and/or imposed trade barriers

- The war in Ukraine will raise export and import prices substantially and ultimately deliver a brief, but sharp spike up in the terms of trade. But the impact on trade volumes will be much more muted. Exports are mostly capped by capacity, and largely cannot respond to higher prices. Import demand is set to increase steadily over 2022, in line with the improvement in domestic demand. But higher prices may still dull some of this demand and supply disruptions will make growth in volumes sporadic and patchy.
- Although trade dislocations and supply chains disruptions have shown early, incremental signs of improvements in some areas (e.g. shipping costs easing), there is some way to go before system pressures abate fully with a risk that recent developments threaten to undo the progress in easing.
- High, volatile oil prices alongside other important commodities (coal, gas) impacted by the war in Ukraine is a key concern, with both risks to the upside (de-escalating tensions) and downside (escalation of war and sanctions). The risks of new COVID-19 variants running into China's COVID-zero policy poses a key risk for trade, particularly given its salient role in the exports of many exported products at all stages of the supply chain. Although some Chinese ports have escaped full-scale closures, loading capacity has been reduced in some and queues to the dock lengthening.
- It's a highly uncertain period, but it has exposed some of the frailties in such a complex system. As upside risk in the medium-to-longer term, there are promising signs of government and private sector investment in supply chain capacity and resilience.

Capacity constraints in the building industry

- While new housing demand remains very strong, builders are struggling to get through the work, with both material and labour shortages in play. The total value of new residential building work done fell a further 2.3% q/q in volume terms in Q4 2021. The backlog continues to swell in response, with the value of work commenced but not yet done expanding to $20.61 billion for houses – more than double the pandemic onset level. Material and labour shortages are set to extend through to 2023, sustaining a high rate of construction cost inflation.
- Domestically, high rates of COVID-19 absenteeism have carried into Q2, while flood related supply disruptions and rebuild efforts will amplify shortages in affected areas. Globally, conflict in Ukraine is expected to sustain key commodity prices at a high base. Meanwhile, mass lockdowns are playing through in China. With a sizeable volume of construction inputs imported from China, the prospect of rolling COVID-zero restrictions in coming months represent a growing supply-side risk.
- While rising interest rates and build costs represent strengthening headwinds, their relay to activity is anticipated more into 2023. It is a risk that the backlog of work takes longer to work through, which would act to flatten the peak and extend the upswing in processed industrial supplies container imports. Risks are tilted towards to the downside.

Container Imports

Methodology

BISOE has only made minor changes in the import methodology

For container imports, BISOE looked at seven distinct import classes which cover almost all TEU volumes. Of these, three are considered to be consumables, one as a capital good, and the remainder intermediate goods.

The three consumer categories are:

- **ICA –** food and beverages predominately for household consumption,
- **IC4 –** non-food household consumables,
- **IOA –** parts required for the continued operation of motor vehicles (mostly tyres).

The capital goods category include:

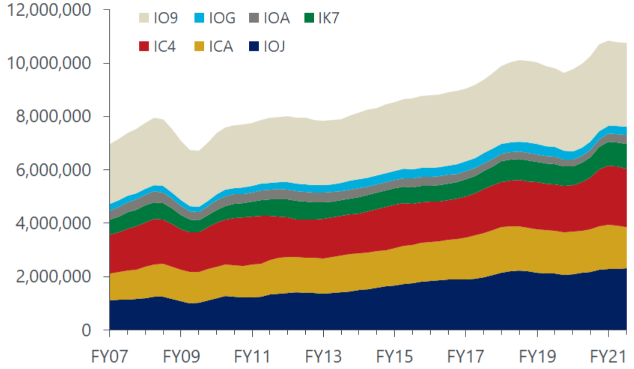
- **IK7 –** containerised machinery and equipment and select intermediate goods (parts for machinery and equipment, and heavy motor vehicles requiring final assembly).

The intermediate goods include:

- **IOJ –** building materials
- **IOG –** steel
- **IO9 –** other intermediate goods.

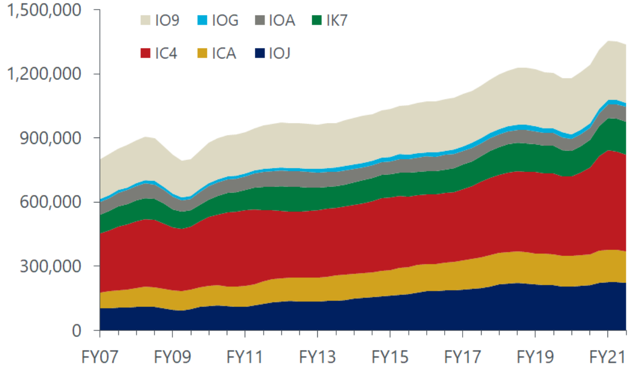
For each of these commodity groupings, BISOE has estimated the long run relationship between the dominant macroeconomic or demographic factor and the mass of imports at a national level, with further consideration given to the trends in the composition of imported cargo by container sizes and the implications of this will have on TEU volumes distinct from that of the mass of the cargo itself. Furthermore, as the distribution of trade into the country can evolve over time, an assessment of the prospects at each port is considered incorporating trends in dispersion/ concentration among ports for that trade and the demand outlook in the hinterland vis-a-vis the national profile.

Container Imports (mass tonnes), Port of Melbourne
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

Container Imports (TEUs), Port of Melbourne
TEUs, MAT



Source: BIS Oxford Economics/PoM

Note: MAT refers to moving annual total (rolling 12-month sum).

Recent Trends

FY22 are estimated to have eased back marginally from FY21

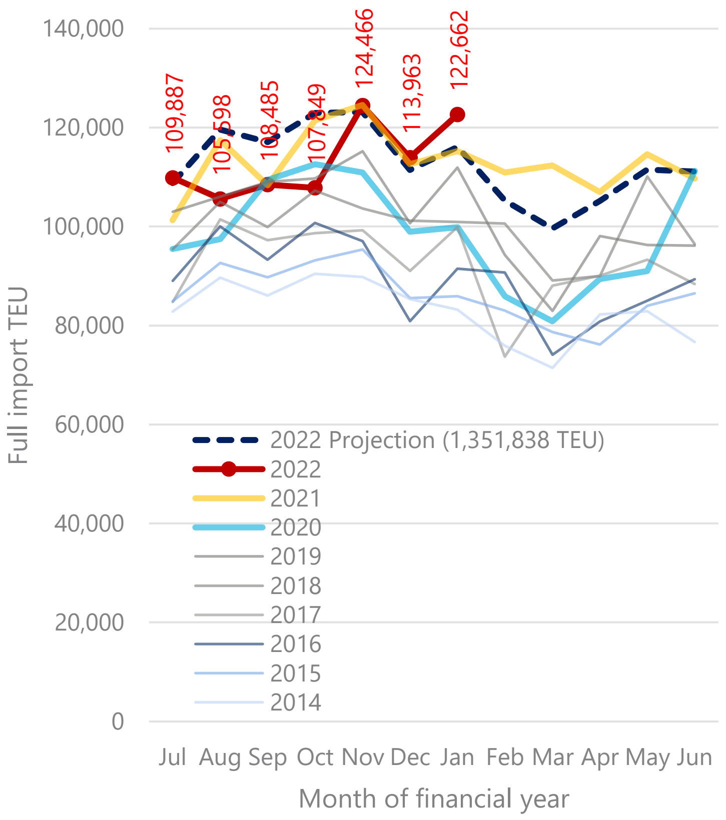
YTD data support a slightly weaker YTD outlook

Full container import volumes have eased back marginally in FY22 after the very strong performance of FY21.

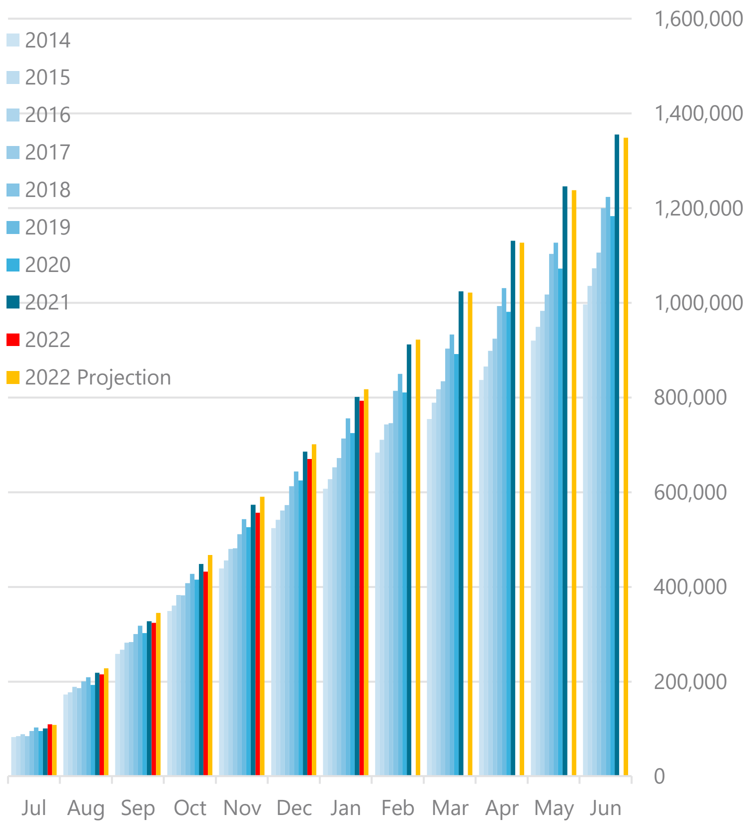
BISOE forecasts of a full year of 1,351,838 TEU for FY22 are broadly consistent with the profile of imports observed so for this year.

Based on historical seasonality patterns, volumes through H1 FY22 underperformed the monthly estimates (based on the full year forecast), while the actuals outperformed over November to January. This may reflect the impacts of extended lockdowns over this period.

Monthly Inbound (FY) full TEU



Cumulative Inbound (FY) full TEU



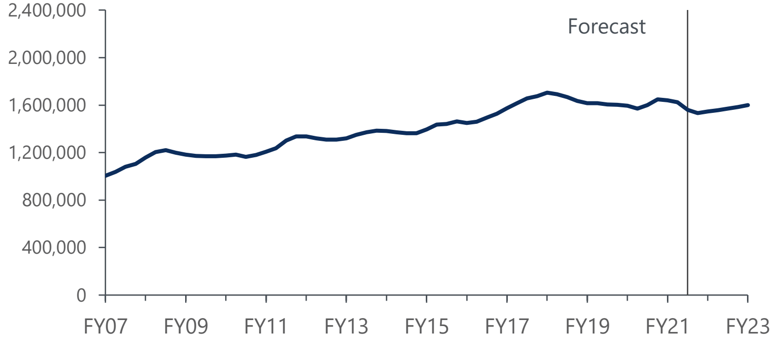
ICA – Food and Beverages

In calendar year 2021, Food and Beverages were 11% of full container imports.

- The Port of Melbourne's market share has gradually declined from 41% in 2009 to 35% in 2021. Its market share is projected to slowly rise back to 37% by FY50 as Victoria's share of population increases.
- Post-GFC, imports of food and beverage per capita nationally (in mass tonnes) have increased around 2% p.a. Imports per capita is projected to continue increasing over the forward outlook at a similar pace.
- The 20ft share of containers has declined by around 3% p.a. since 2009. This shift is maintained over the forecasts, although with the pace of declines moderating. Ultimately, the continued shift adds to growth in TEUs.
- Key drivers of forecast are:
  - 2% CAGR increase in mass tonne imports per capita to FY50
  - Population growth
  - Continued shift towards 40ft containers increases TEU growth
  - Melbourne's market share marginally increases to 37%

ICA - Food & Beverage, Port of Melbourne

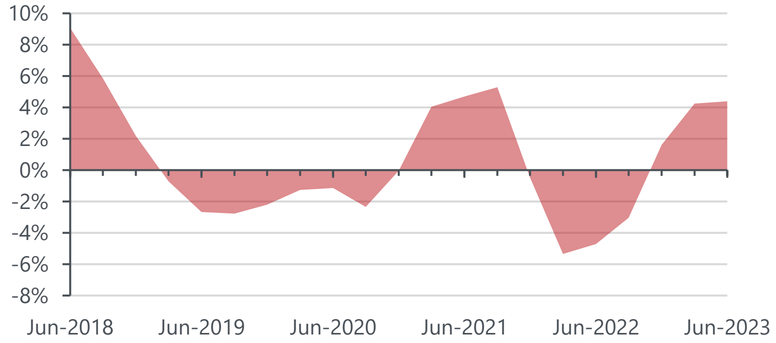
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

ICA - Food & Beverage, Port of Melbourne

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

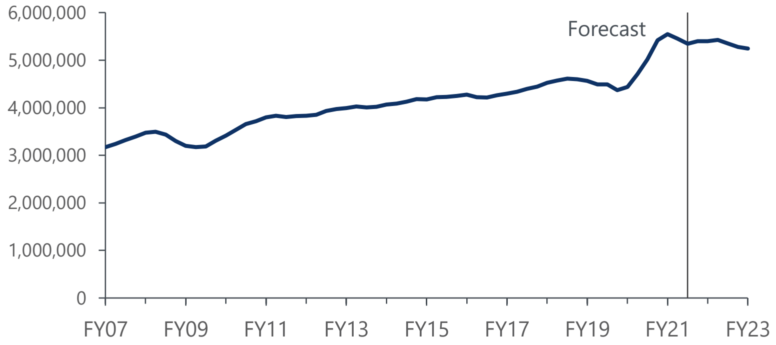
IC4 – Consumer Goods (excl. food)

In calendar year 2021, Consumer Goods (excl. food) were 34% of full container imports.

- At the national level, imports (*mass tonnes*) per million dollars of non-food retail turnover has flatlined post-GFC. However, through COVID-19, mass tonnes per dollar spend has increased sharply as the consumption mix has shifted towards goods (clothing, footwear, furniture, electronics) while overseas travel and social activities has been curtailed.
- This shift towards goods consumption will be temporary, and we expect consumption will rebalance toward services. This process has tentatively started on a couple of occasions, only to be thwarted by lockdowns. High vaccination rates and a booster program well underway has ameliorated some of the risk of returning to strict lockdowns that could undermine this rebalancing.
- In the near-term, imports per dollar of retail turnover is expected to hold at the current level through FY22 before slowly returning to pre-COVID levels by December 2023. The rebalancing in the intensity factor appears to be moving more slowly than first anticipated, likely impacted by lockdowns, recovering inventories and still disrupted supply chain.
- Melbourne’s market share for consumer goods imports has drifted up gradually from 35% to 41% since FY16. Port of Melbourne’s market share to remain at its current levels over the forward outlook, having lifted in recent years.
- Key drivers of forecast:
    - Retail turnover (non-food)
    - Consumption rebalances away from goods to services
    - Shift towards 40ft containers contributes to TEU growth
    - Melbourne’s market share to remain at its current levels.

IC4 - Consumer Goods, Port of Melbourne

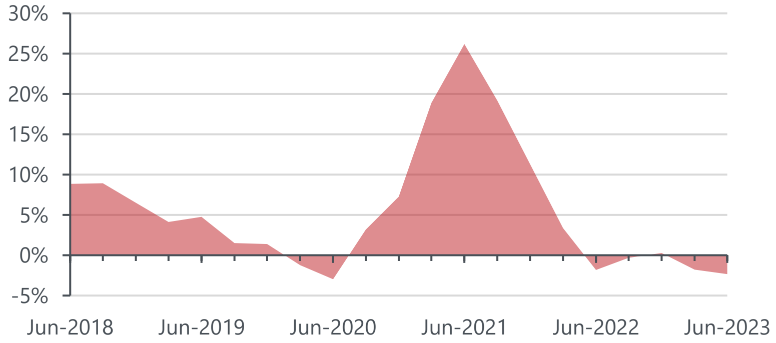
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IC4 - Consumer Goods, Port of Melbourne

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

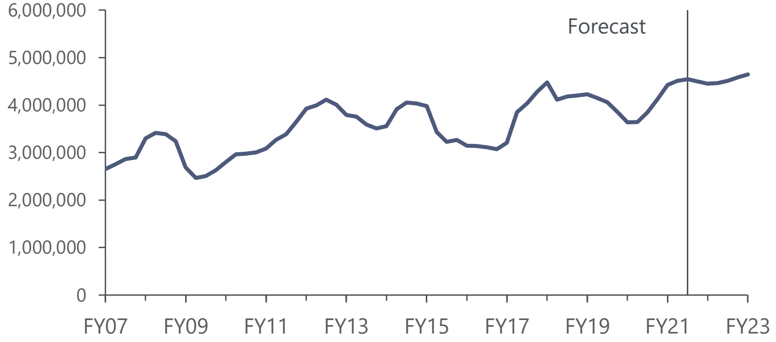
IK7 – Capital Goods

In calendar year 2021, Capital Goods were 12% of full container imports.

- Capital good imports have grown sharply through the COVID-19 pandemic. Strong incentives from the Federal Government provided firms with strong incentives to undertake machinery and equipment investment (M&E), given the expanded instant asset write-off scheme allows firms to deduct the entire cost of qualifying assets.
- After a stronger period for M&E expenditure and weaker period for building and structures, the near-term is expected to see investment rebalance towards more normal share of investment. This is confirmed in firms' estimates of forward CAPEX for FY22 (after adjusting for historical realisation rates). This is expected to translate into slower growth in capital goods imports, following eighteen months of robust growth. Beyond FY22, growth is expected readjust back towards more balanced growth profile for Victorian M&E expenditure.
- The 20ft share of containers has been declining, which will continue over the forward outlook albeit at a slower rate. This contributes positively to TEU growth over the outlook.
- After gradually declining post-GFC, Melbourne's market share has climbed from a low of 15% in FY15 to just above 20% at the end of the 2021, although with a moderate degree of volatility. Over the outlook, its market share is forecast to increase marginally to 21% by FY50.
- Key drivers of forecast:
  - Investment in machinery and equipment
  - Investment rebalances after period of strong machinery and equipment expenditure
  - Shift towards 40ft containers contributes to TEU growth
  - Melbourne's market share to sit around 20-21%.

IK7 - Capital Goods, Port of Melbourne

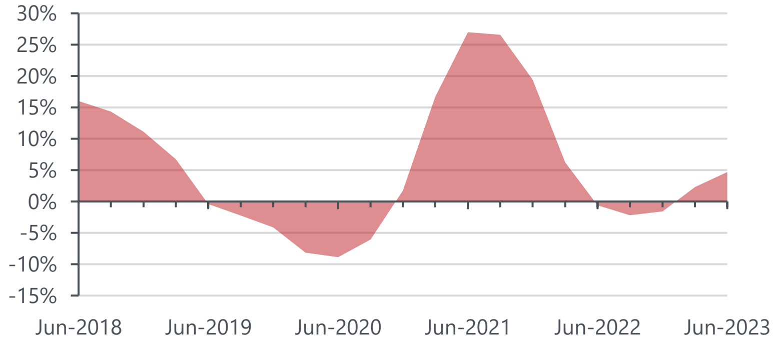
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IK7 - Capital Goods, Port of Melbourne

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

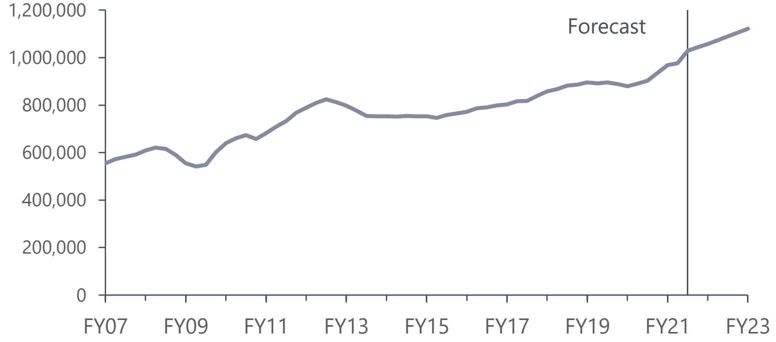
IOA – Parts for Transport Equipment

In calendar year 2021, Parts for Transport Equipment were 5% of full container imports.

- Forecasts for motor vehicle parts (chiefly lead acid batteries and tyres) are forecast to grow in line with underlying population growth of Australia, as the stock per capita is projected to hold at approximately the same level.
- National imports rose through the pandemic. Disrupted supply chains of motor vehicles globally impeded households ability to purchase new cars. Sharply rising imports of parts may reflect running their current cars for longer as a result and thereby requiring new components (particularly those conducive to wear i.e. tyres).
- In the ten years preceding the COVID-19 pandemic, Melbourne consistently lost market share of motor vehicle parts imports from 56% in 2009. Since 2019, market share has lifted marginally from 30% to 31%, where it is expected to gradually lift to 33% by FY50 as Victoria's share of the population increases.
- Key drivers of forecast:
  - Population growth
  - Shift towards 40ft containers contributes to TEU growth
  - Melbourne's market share to increase slowly 33% by FY50.
  - Average age of motor vehicle fleet (expected to peak in 2023)

IOA - Parts for Transport Equipment, Port of Mel.

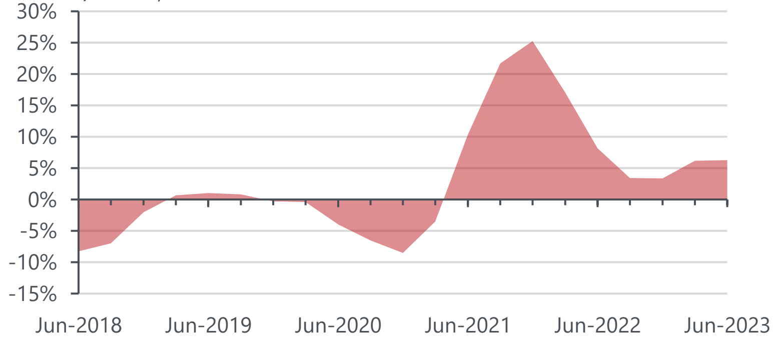
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IOA - Parts for Transport Equipment, Port of Mel.

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

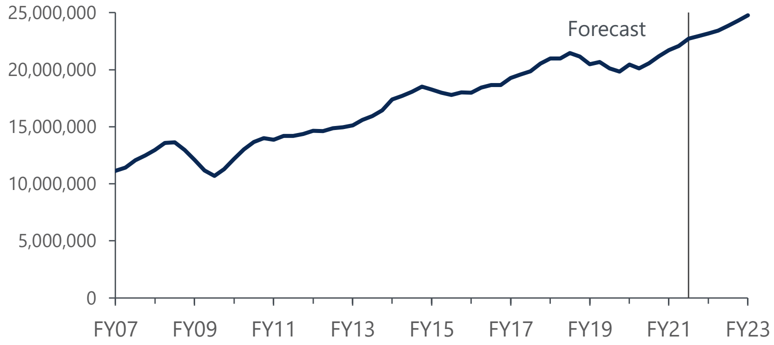
IOJ – Processed Industrial Supplies

In calendar year 2021, Processed Industrial Supplies were 17% of full container imports.

- Imports of processed industrial supplies, largely reflecting building materials, has lifted sharply through the pandemic. This largely reflects an upturn in the residential investment cycle, induced by HomeBuilder and other incentives. However, acute material and labour shortages are set to persist all the way through 2022, causing project delays and sustaining a high rate of construction cost inflation. This means that the activity is anticipated to hold at an elevated level for an extended period, as builders work through the substantial backlog of work to be done.
- A second smaller peak in growth in building material imports is anticipated around FY23 as apartment construction growth begins to gather pace while the backlog of detached housing investment is worked through.
- Longer term, processed industrial supply imports now includes a trend component, with growth in mass tonnes per dollar spent on building construction activity growing at around 0.8% p.a. CAGR with pace gradually slowing over time. This trend was externally validated against the international experience of processed industrial supply import relative to dollar spend in building activity.
- After increasing through FY14 and FY15, the Port of Melbourne's share of national imports has broadly stabilised since 2016. Given the current residential investment upturn is widespread across the nation, we expect similar stability over the outlook with Melbourne's market share increasing only half a percent by FY50.
- Key drivers of the forecast are:
  - Prolonged residential investment upswing
  - Growth in mass tonnes per dollar spent on building construction activity growing at around 0.8% p.a.
  - Shift towards 40ft containers contributes to TEU growth
  - Melbourne's market share remains broadly steady over the forward outlook at 10-11%.

IOJ - Processed Industrial Supplies, Port of Mel.

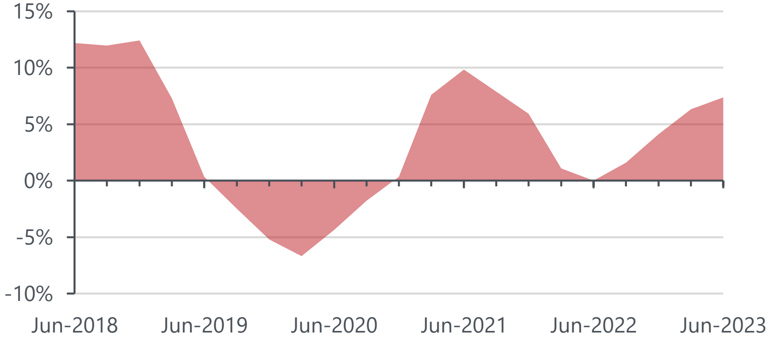
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IOJ - Processed Industrial Supplies, Port of Mel.

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

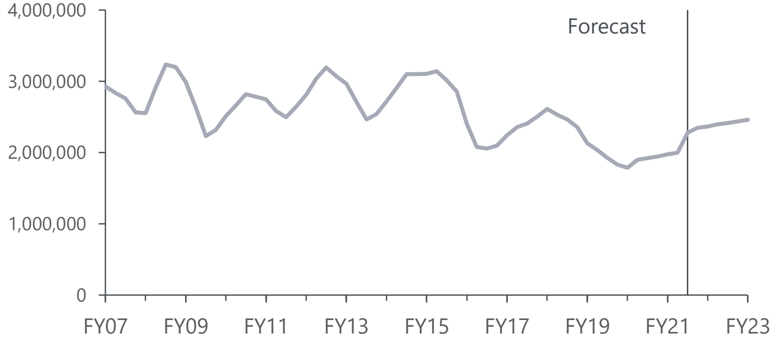
IOG – Iron and Steel

In calendar year 2021, Iron and Steel were 1% of full container imports.

- Iron and steel imports have been pulled out of other intermediate goods, and are now driven by a combination of Gross Value Added (GVA) in manufacturing and construction due to its respective roles as intermediate goods in the production process.
- Melbourne's share of iron and steel imports is relatively small at around 2%. In the decade preceding the pandemic, its market share steadily climbed from 1.5% to as high as 3%. Subsequently, it has pulled back through the pandemic to 2.3% as of end of 2021, where it is forecast to remain over the forecast period.
- Key drivers of the forecast are:
  - Iron and steel imports driven GVA in manufacturing and construction
  - Melbourne's market share flat at 2%.

IOG - Iron and Steel, Port of Melbourne

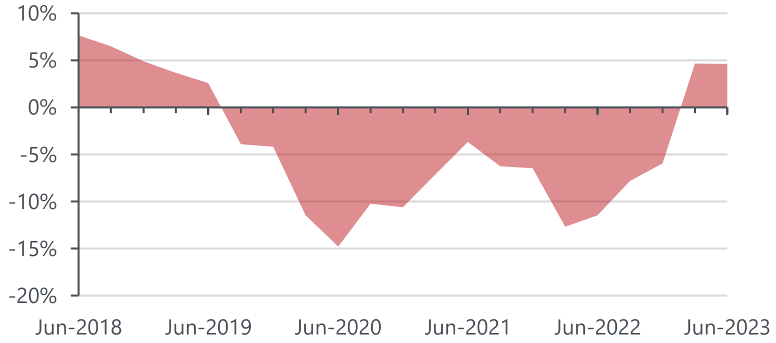
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IOG - Iron and Steel, Port of Melbourne

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

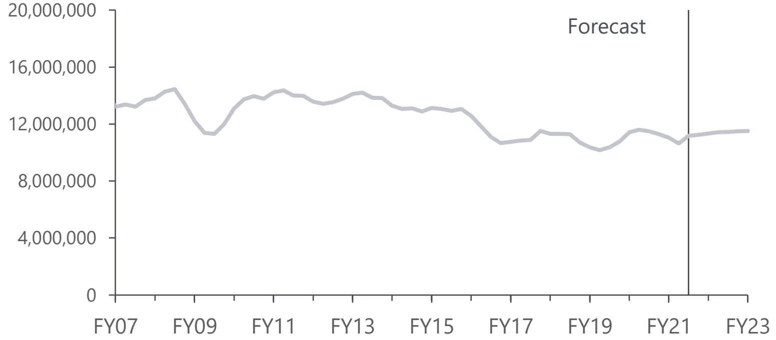
IO9 – Other Intermediate Goods

In calendar year 2021, Other Intermediate Goods were 20% of full container imports.

- Other intermediate goods has exhibited low growth over the last three decades, with mass tonnes per unit of GDP declining consistently. Although the intensity factor has declined in recent years, it is projected to remain flat over the forward period.
- The Port of Melbourne's market share has steadily climbed since its low in 2011 at 17%, reaching 28% in by the end of 2021. Over the forward outlook, its share is expected to increase modestly as Victoria's share of population rises, reaching 30% by 2050.
- Key drivers of the forecast are:
  - Driven by GDP
  - Melbourne's market is projected to increase to 30%.

IO9 - Other Intermediate Goods, Port of Melbourne

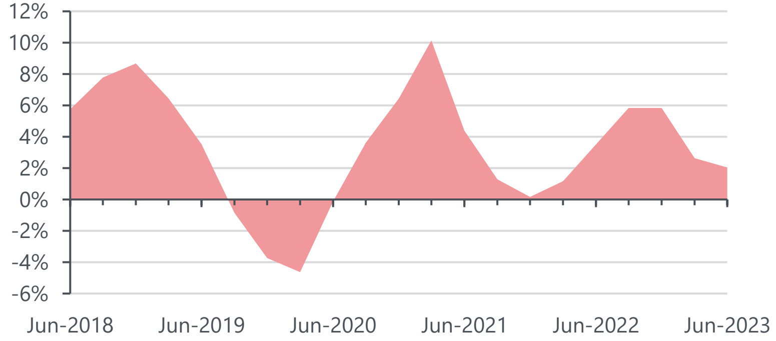
Mass tonnes, MAT



Source: BIS Oxford Economics/Port of Melbourne

IO9 - Other Intermediate Goods. Port of Melbourne

TEU Y/Y %ch, MAT



Source: BIS Oxford Economics/Port of Melbourne

Full Container Imports – Near-Term Outlook to FY23

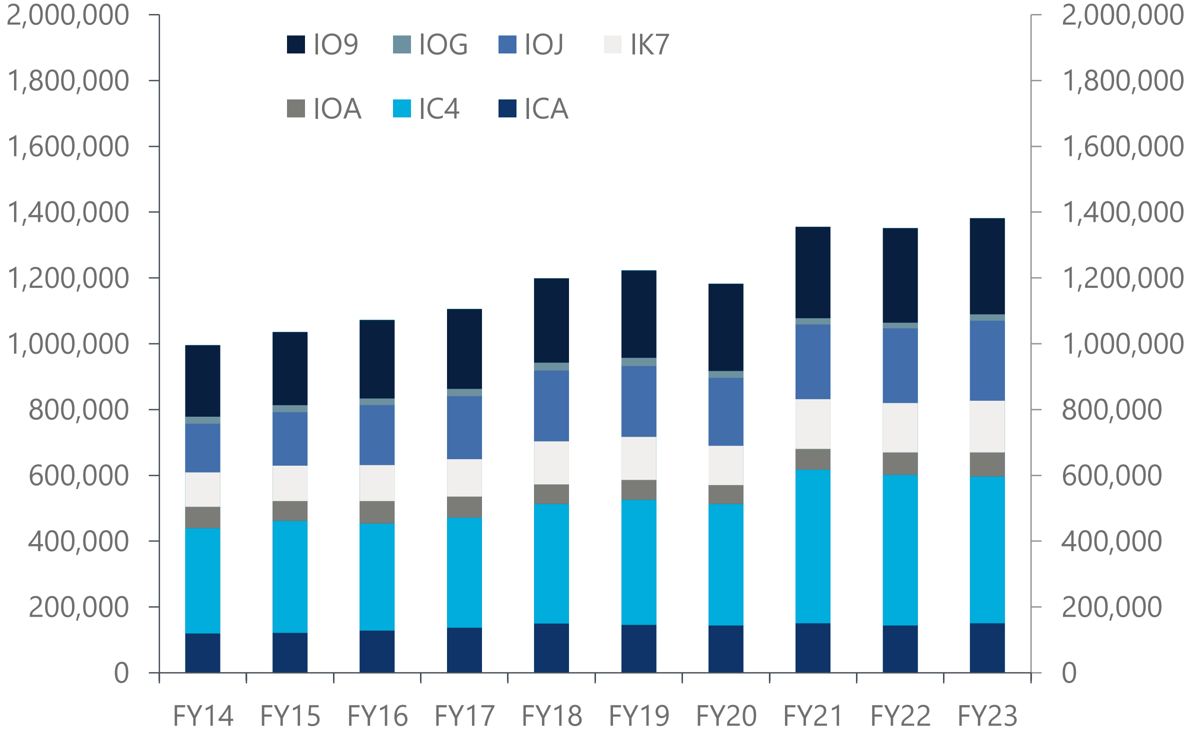
Volumes are projected to increase modestly in FY23

- Growth is projected to be mixed in FY22. Consumer goods are expected to decline by a modest 0.3% respectively, while capital goods are set to fall 1.6%. Processed industrial supplies is expected to hold at a high base, as the prolonged residential investment upswing keeps imports of building supplies elevated.
- FY23 is expected to see a modest lift in container import volumes, up 2.2%, driven by continued strength in processed industrial supplies. Consumer goods are anticipated to ease back gradually off a high base.

Annual % Change	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Consumption (Food & Beverages)	2.2%	-2.2%	0.0%	-0.5%	1.6%	4.4%
Consumption (Non-Food)	6.5%	1.4%	7.3%	11.3%	0.3%	-1.8%
Capital Goods (& Parts)	11.1%	-4.1%	1.8%	19.4%	-1.6%	5.7%
Parts for Transport Equipment	-2.0%	-0.3%	-8.5%	25.3%	3.4%	1.8%
Processed Industrial Supplies	12.4%	-5.2%	0.3%	5.9%	4.1%	7.7%
Iron and Steel	4.9%	-4.2%	-10.6%	-6.5%	-5.9%	4.7%
Other Intermediate Goods	8.7%	-3.7%	6.4%	0.2%	5.8%	1.5%
Model 4 Total Imports	**8.5%**	**2.0%**	**-3.3%**	**14.6%**	**-0.3%**	**2.2%**
Model 1 - Past Trends						3.7%
Model 2 - Peer Analysis						2.3%
Model 3 - Previous Model						3.5%
Model 5 - Port Management						2.5%
Ensemble Model (Average 1-5)	**8.5%**	**2.0%**	**-3.3%**	**14.6%**	**-0.3%**	**2.9%**

Container Imports (TEUs), Port of Melbourne

TEUs, MAT



Source: BIS Oxford Economics/ABS

Container Exports

Methodology

For container exports, a different approach is required.

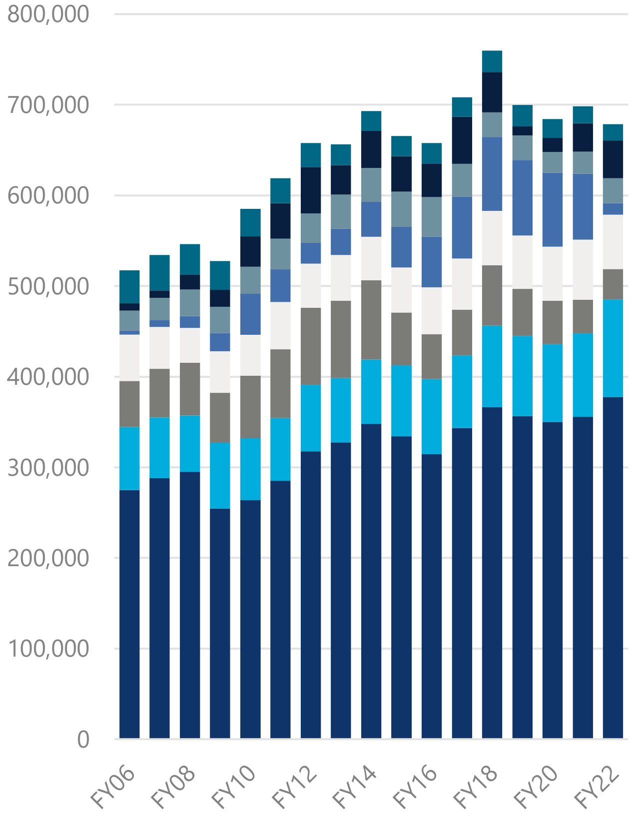
The dominant driver of year-to-year volatility is generally agricultural production and other rural products, which in some instances is also exported via competing bulk terminals. Third party industry specialists and government agencies often provide near- and medium-term outlooks at a state or national level for production and/or exports. BISOE utilises this information to project trade volumes those commodities taking into account historic lags between production and export.

For all other commodities, and rural goods beyond the period for which third party information is available, container exports are anchored to the macroeconomic forecasts of non-fuel goods exports (derived through our Australia In Detail model and its companion, the Global Economic Model).

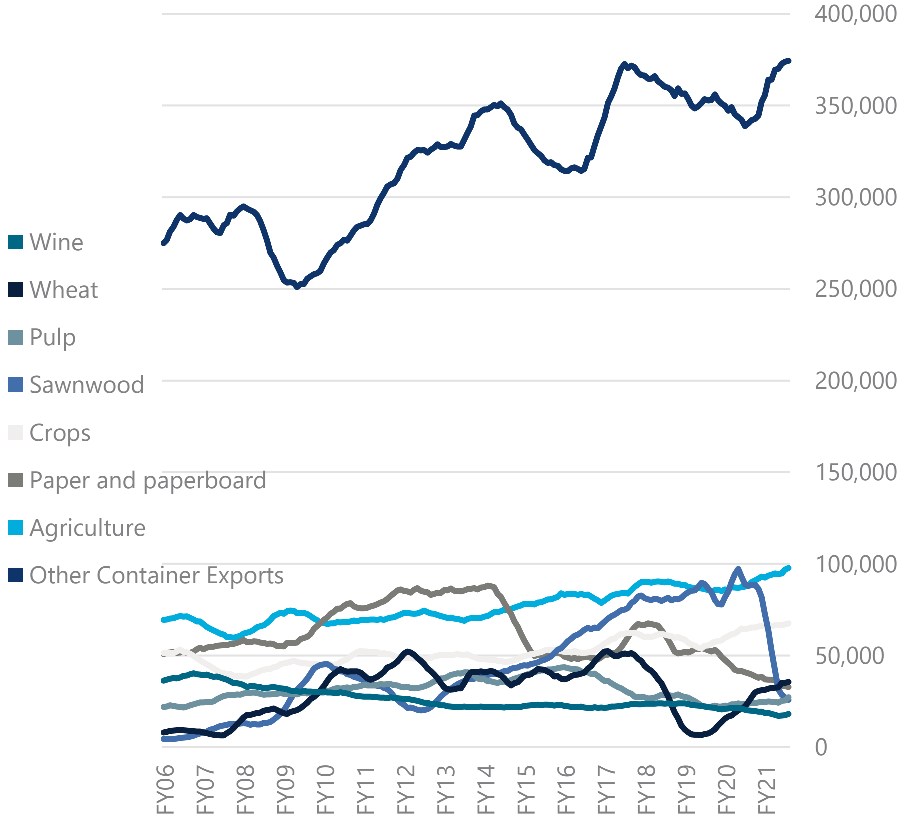
ABARES forecasts for select agricultural commodities are now available out to 2027, and have been incorporated into the outlook for each commodity group. Matching of export codes with ABARES categories have been done for 60 distinct commodity groupings. This report has detailed commentary for the three most volatile exports groupings:

- **wheat**
- **forestry**
- **other agriculture**

Annual container exports (FY22 is a forecast)



Rolling-12 month total



According to ABARES, 'Crops' includes commodities such as maize, oats, other grains, rice, chickpeas, lupins, other pulses.

Recent Trends

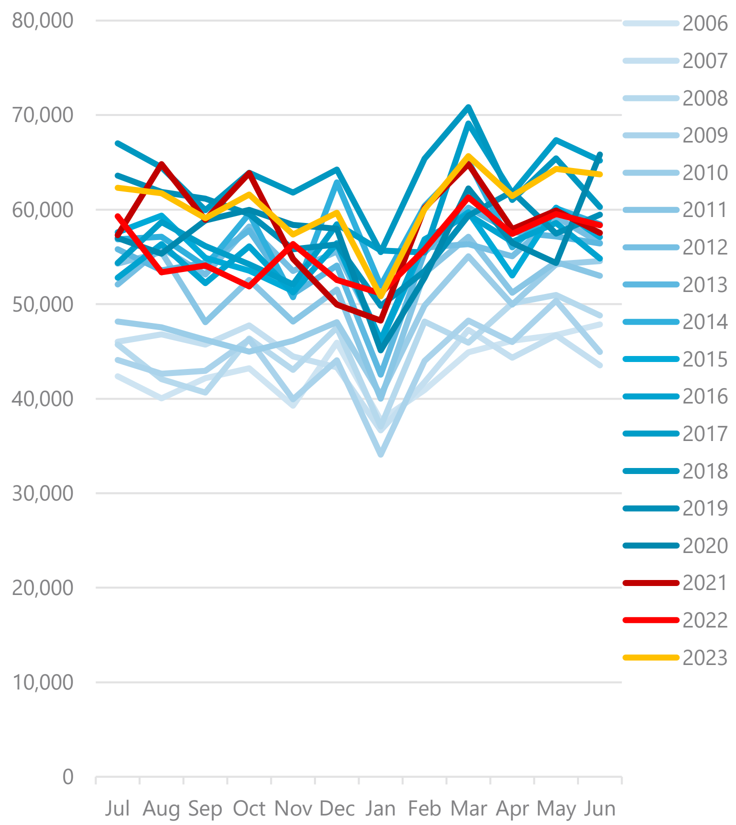
A strong agricultural harvest does not offset declines due to reduced timber exports.

Full container exports are strongly impacted by performance of key agricultural crops, chiefly wheat and other broadacre agricultural products and derivatives.

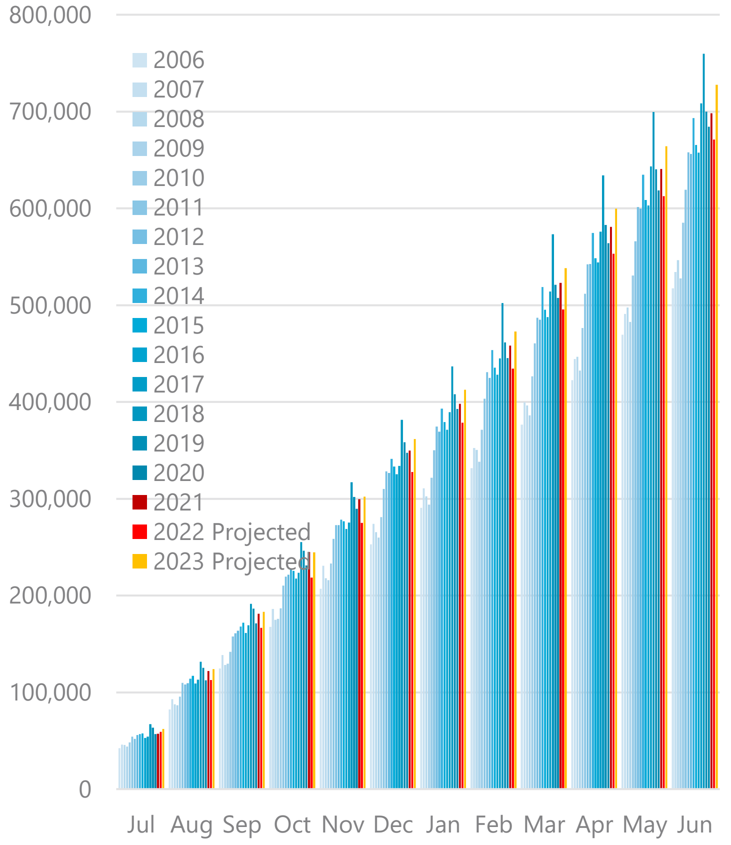
However, the reduction in sawn timber exports between FY21 and FY22 are project to be 60,000 TEU, which more than offset the bumper harvest.

BISOE expects that it will take a full five years to recover export markets for timber at levels recently seen.

Monthly (FY) Outbound full TEU



Cumulative (FY) Outbound full TEU



Note that the Forecasts are based on the 12-year typical seasonal variation.

Forestry and Sawnwood

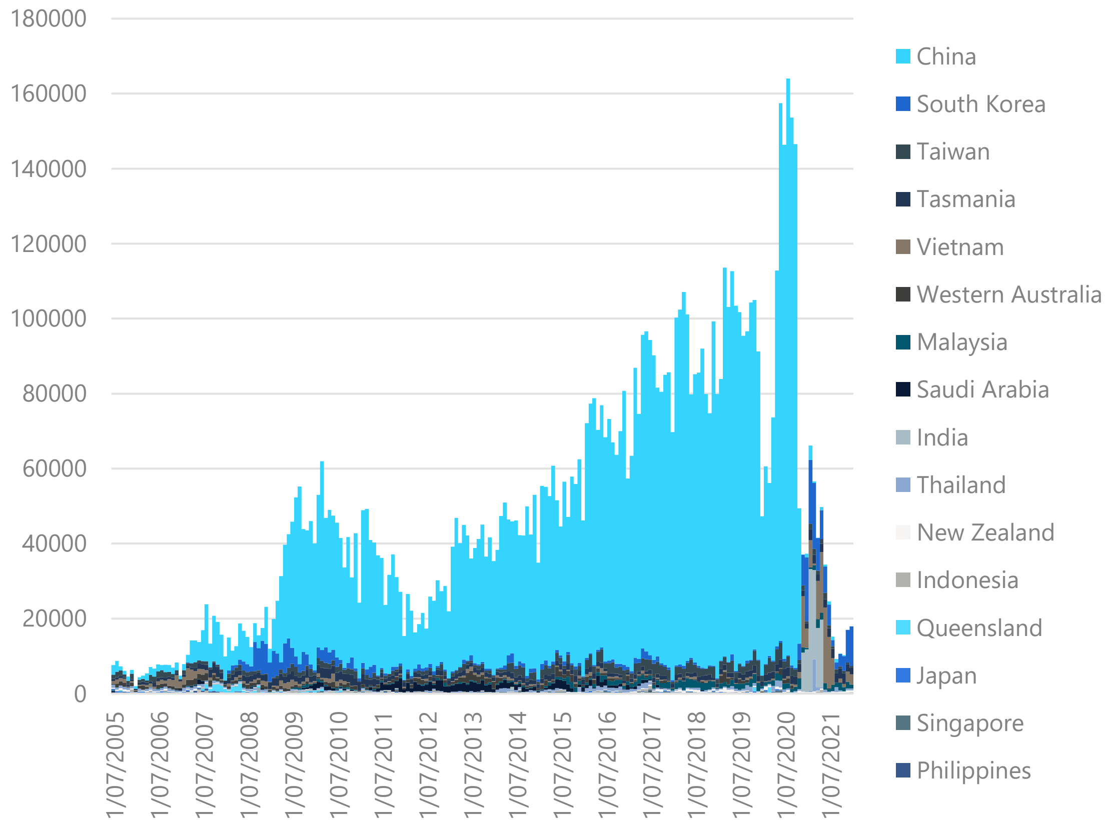
Exports have been decimated by import restrictions by China

Starting in the December quarter of 2020, export volumes have been a shadow of their former strength.

While there has been a diversification of exports into other markets, a lack of success in this space may be due to the strength of the domestic housing market and a decision to pivot by former exporters. Continued timber shortages in the domestic market and accompanying high prices in the near term should provide a solid alternative target market for producers, weighing on export volumes.

While the detached building boom will ease over FY23, we have assumed a full recovery of exports by FY27.

Monthly timber exports by destination country



Other Agricultural Exports

Diversified agricultural products have strengthened through 2021

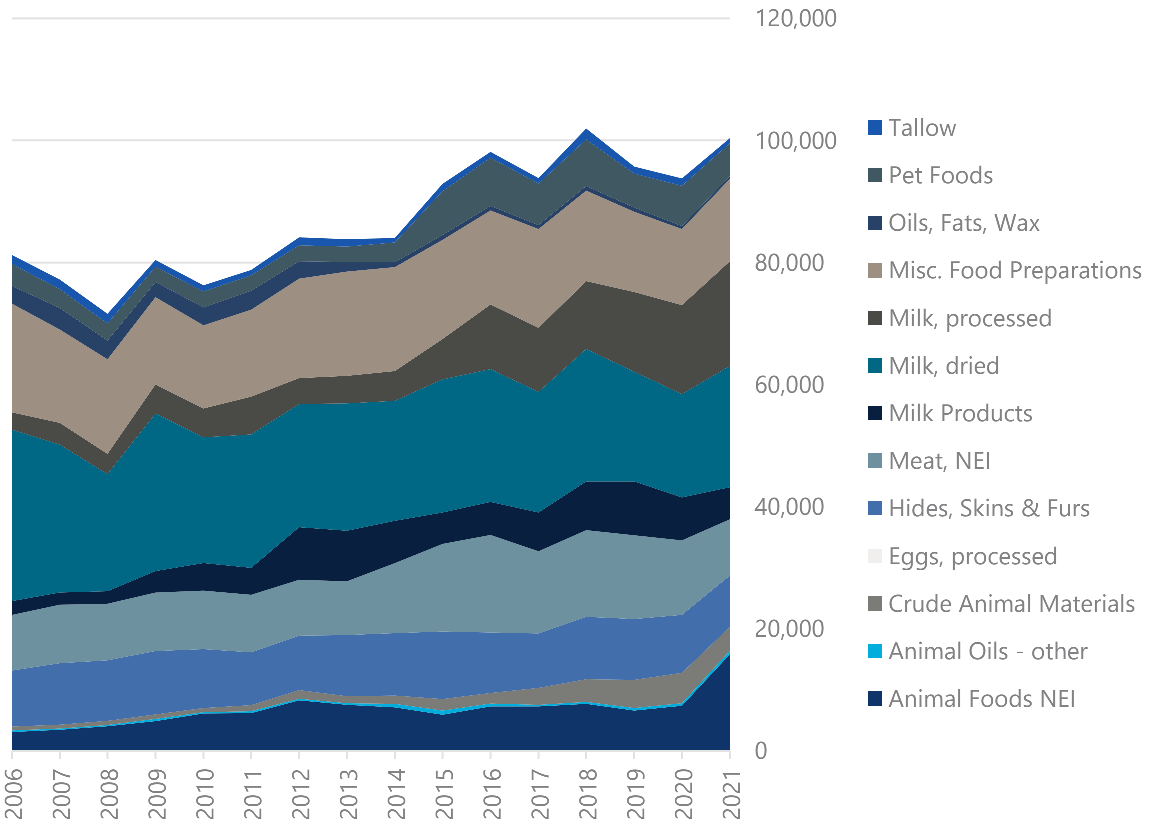
But the outlook is more mixed

Through the outlook period, increasing beef production will result in greater export volumes, with falling domestic cattle prices expected to make Australian beef more competitive against other beef exporters.

The medium-term outlook for the value of exports will be influenced by the speed of clearing supply chain bottlenecks, income levels in Australia's export markets and the recovery in global milk supply due to easing input cost pressures.

The cost of producing milk in China has been at historic highs due to the high cost of corn and soybeans which are used for feed in intensive animal production systems. The high cost of domestic milk improves the competitiveness of dairy imports compared to domestic manufacturing in China. This has been a major factor in the strong demand for Australia's dairy product exports in 2020–21 and 2021–22.

Outbound full TEU



Source: ABARES

Wheat

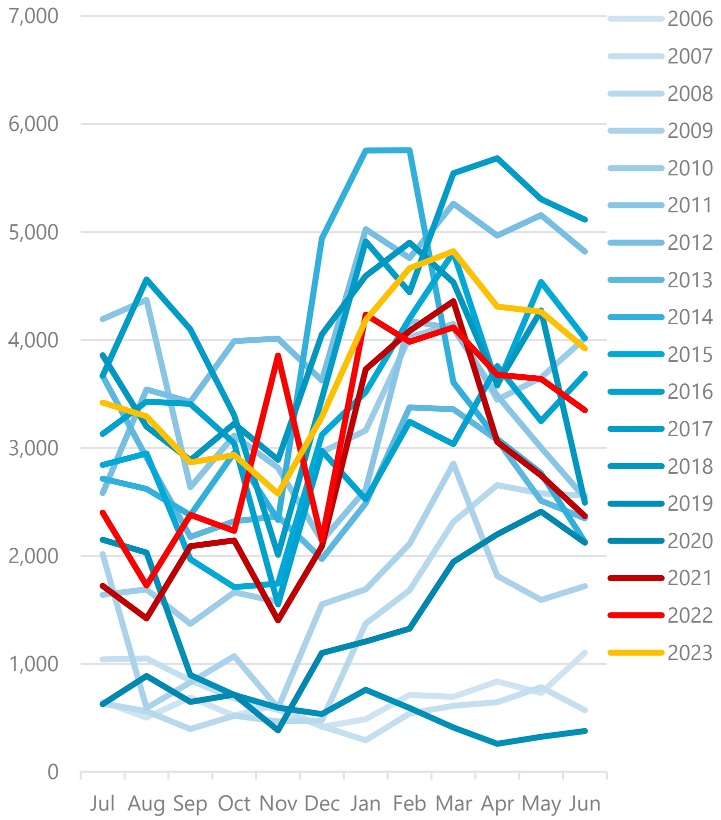
Strong exports YTD will be further buoyed by a robust FY22 harvest

Strong Harvest outlook

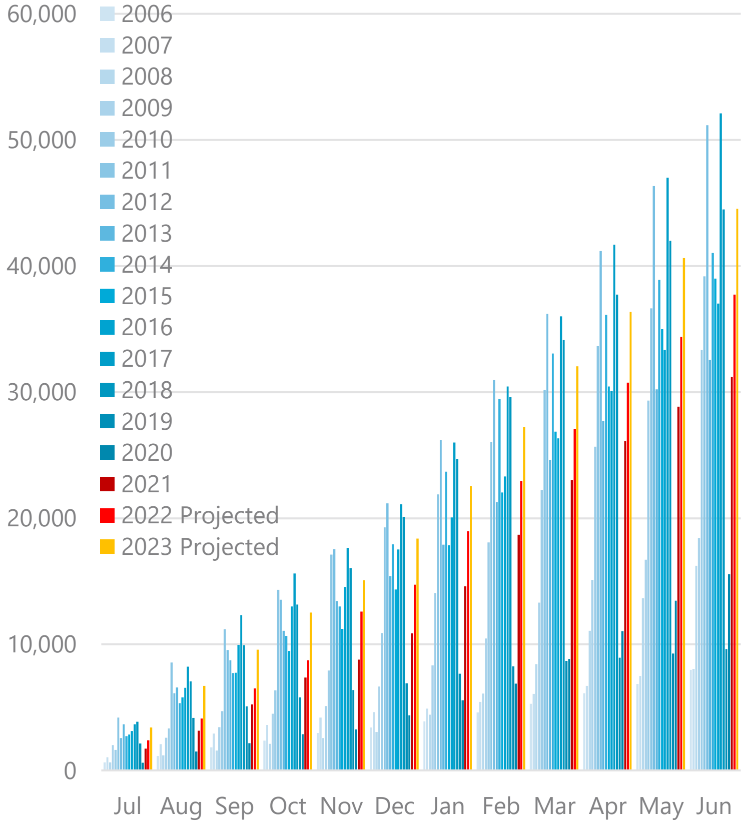
Winter crop production in Victoria is forecast to decrease by 11% in 2021–22 to 8.7 million tonnes, 25% above the 10-year average to 2020–21. Above average production is driven by high winter crop yields which are the third highest on record. High yields resulted from ideal spring growing conditions and dry weather during harvest.

Crop prospects in Victoria were supported by ideal conditions during spring, more than offsetting less favourable conditions earlier in the season. Following the late start to the winter cropping season, yield prospects were hindered by below average rainfall during late winter. Yield prospects improved substantially following average to above average rainfall over spring that assisted grain filling. Crop harvest in Victoria was supported by below average rainfall during December, following rain late in the growing season. Reports of quality downgrades are limited as a result.

Monthly (FY) Outbound full TEU



Cumulative (FY) Outbound full TEU



Source: ABARES crop report (March 2022)

Risks due to Russia-Ukraine War

Exports may be higher over near term due to reduced export volumes out of both Russia and Ukraine, but capacity to increase harvest constrained by yields.

Russian export quotas and taxes contributing to price volatility

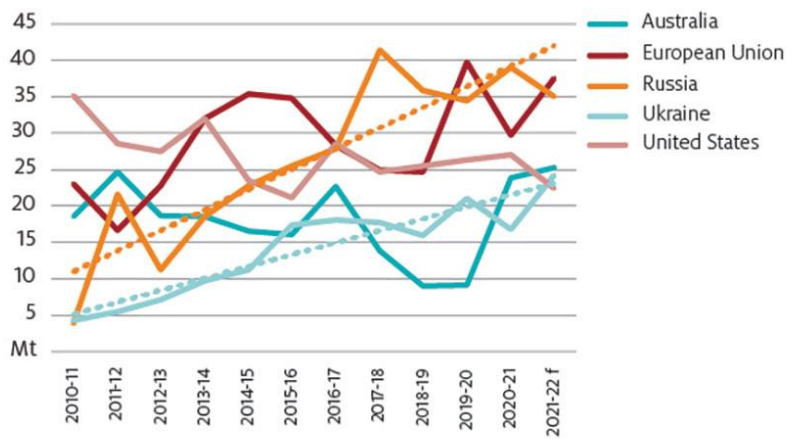
On 31 December 2021, the Russian Government approved an 11 million tonne grain export quota between 15 February and 30 June 2022 for exports outside of the Eurasian Economic Union, including 8 million tonnes of wheat. This is on top of the floating tax duties which are still applicable. Shipments over the quota will be subject to a duty rate of 50%, but no less than €100 per tonne (US$114 on 7th February 2022). A higher multiplier for the grain export tax formula was also approved, which will be applicable if calculated export prices rise to US$375 per tonne. A further increase in multipliers will be triggered if prices reach US$400 per tonne. Together, these trade restrictions may limit the availability of Russian grains on the world market, leading to higher prices and providing an opportunity for grains from other countries, including Australia, to meet global import demand.

Russia-Ukraine tensions contributing to price volatility

The Russian Federation and Ukraine are both major global exporters of wheat, barley and corn. Their importance as global suppliers of grain has grown significantly over the last 10 years. The Russian Federation is now one of the world's largest wheat exporters and Ukraine has become one of the world's biggest exporters of wheat, corn and barley.

If conflict escalate, global grain supply may be impacted by disruptions to grain shipments from the Black Sea which will lead to higher prices. Sanctions are also likely to be placed on the Russian Federation if they do invade Ukraine, which could lead to higher global energy prices (and therefore input costs) and limit Russia's ability to access international finance. This could impact their ability to trade in international markets.

Top five wheat exporters, world, 2010–11 to 2021–22f



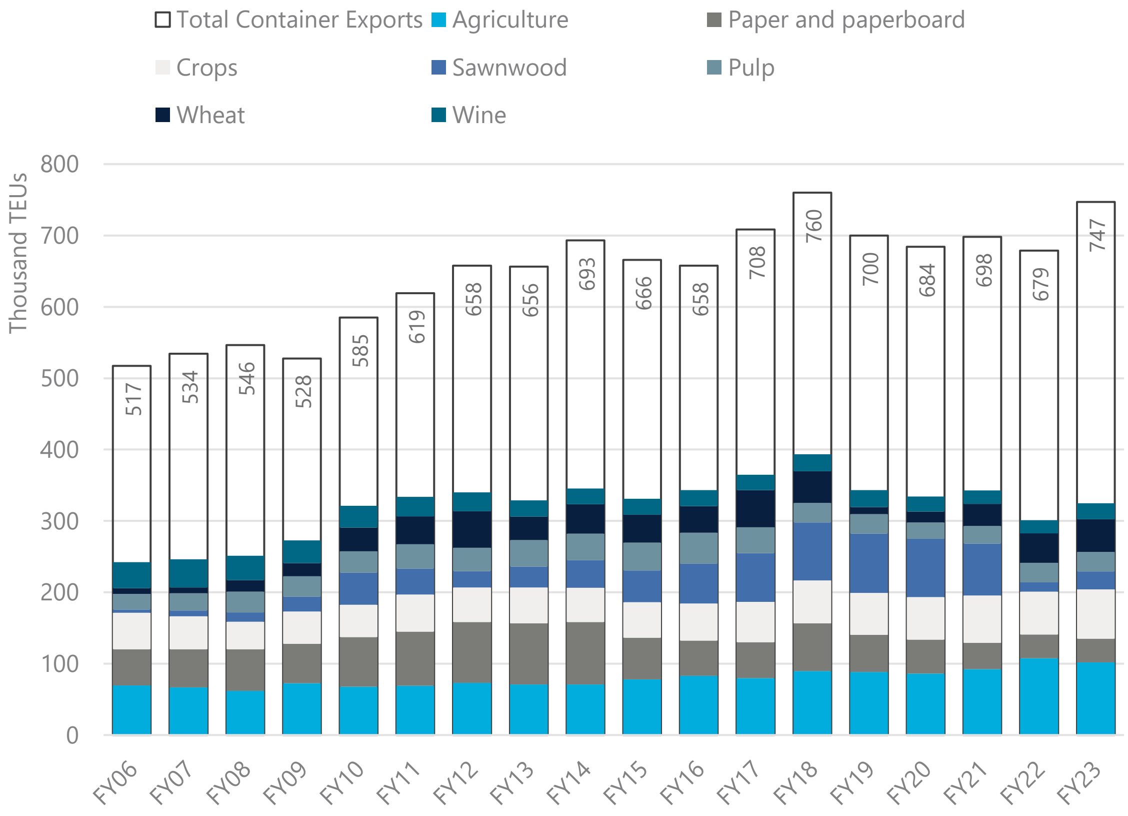
Container Exports – Near-Term Outlook to FY23

Strong agricultural exports will support growth into FY23

Key-takeaways

- ABARES state and national production and export forecasts are typically the driver of volatility over the medium term.
- Crop production of key crops (wheat and cotton) are projected to drive record exports in FY23, before reverting to normal yields.
- Crops and other agriculture also set for strong exports through FY22 and FY23 on the back of excellent growing conditions.
- Forestry exports to remain below historic levels through to FY23 before gradually recovering thereafter.

Full Container Exports

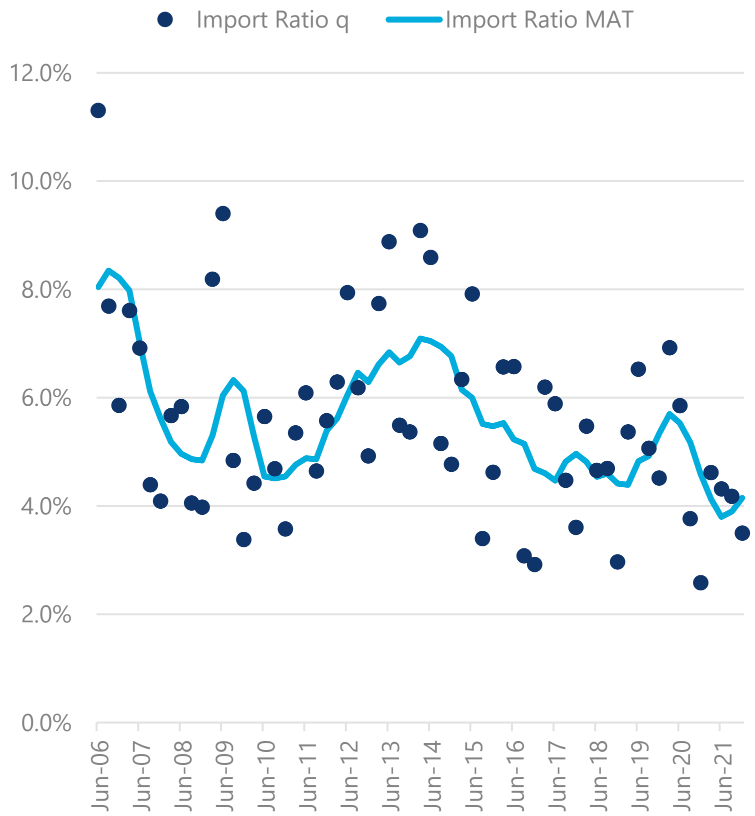


Empties & Transhipments

Empties (excl. Bass Strait)

COVID related disruptions have now unwound

Empty to Full Export Ratio



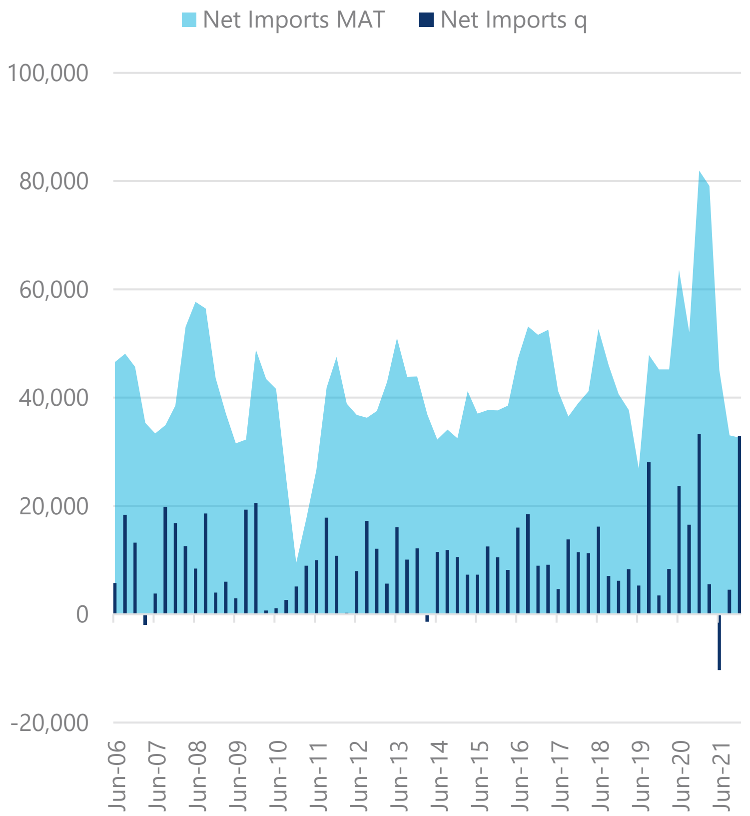
Methodology

Empty imports are calculated as a % of total full imports. Currently, these amount to 4.1% of all imports.

Empty exports are calculated using a difference between the total imports (i.e. full imports and empty imports) less the full exports and **net imports** (i.e. total imports less total exports).

Recent deviations from the long-run average net import levels are seen as temporary due to a host of supply chain issues, and have been unwound FY22.

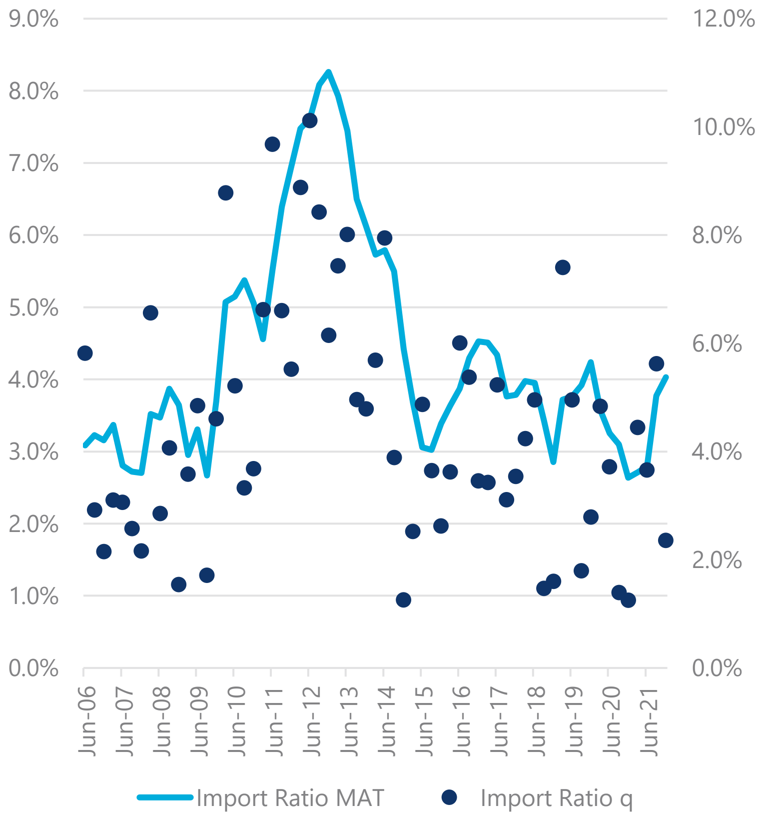
Net Imports



Transhipment

Transhipments are calculated in a similar manner as empties.

Tranship Empty to Direct Empty

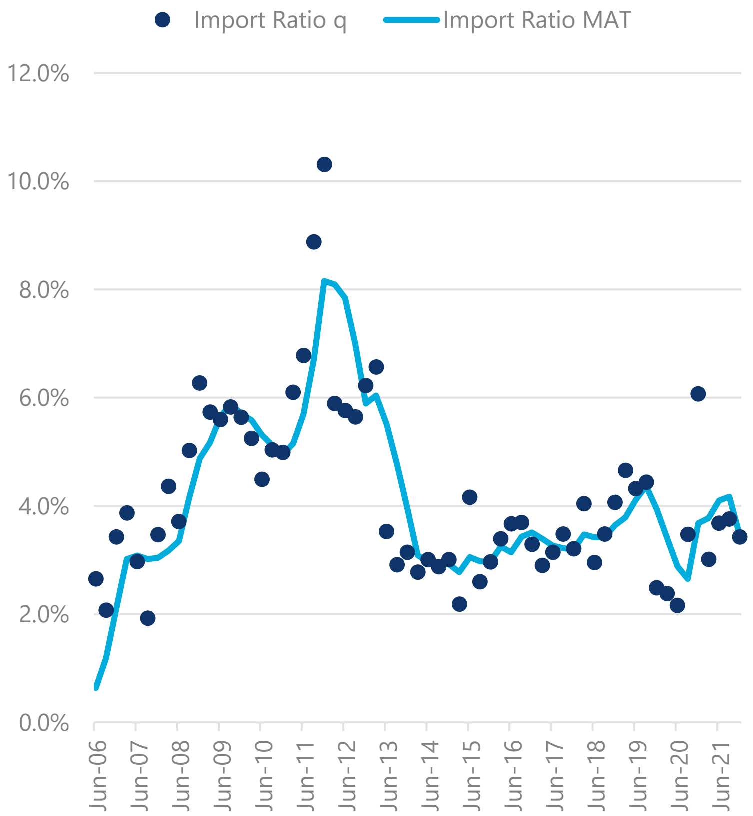


Methodology

Import and export transhipments average to be the same each year, and full and empty volumes are calculated as a share of the dominant direction of trade (i.e. full imports and direct empty).

Recent increases in transhipments have been assumed to be permanent adjustment in market share, translating to market share holding at a higher level.

Tranship to Direct Import Ratio



Bass Strait

Bass Strait

Similar modelling framework as international trade, with directions swapped

Methodology

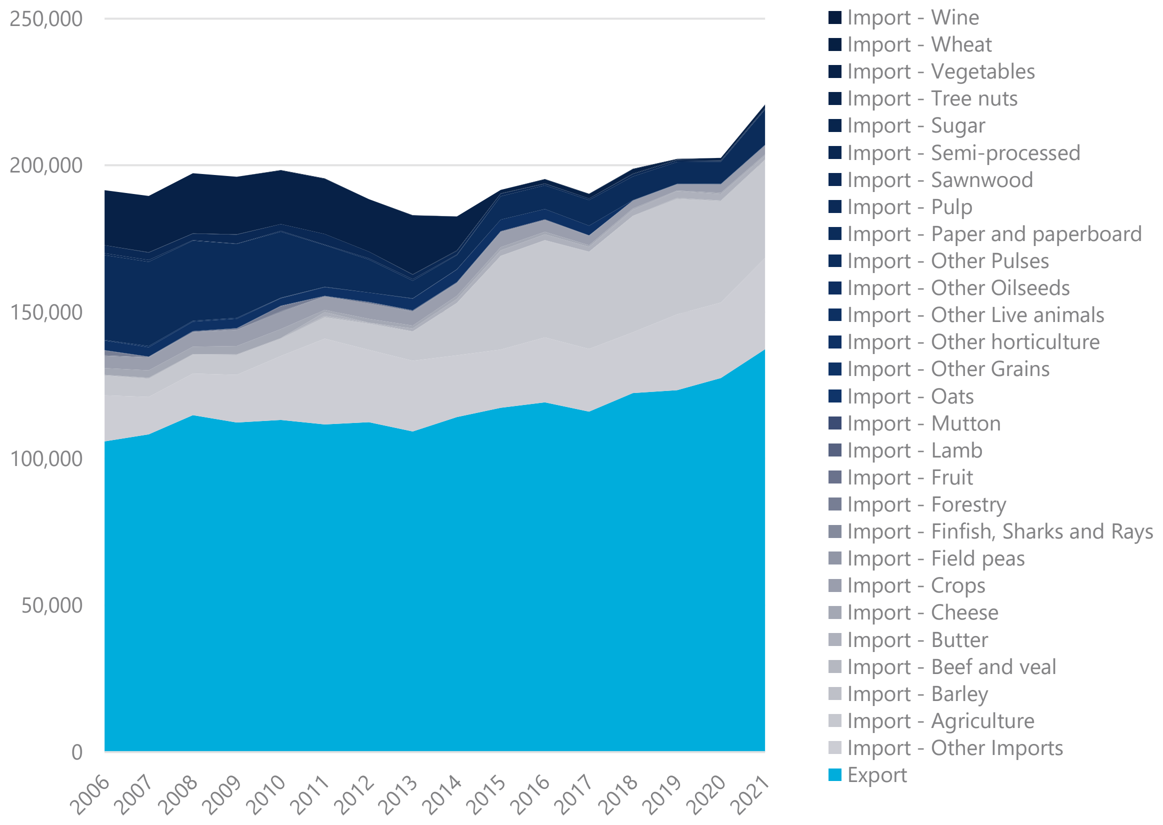
Imports through the Bass Strait are treated as Tasmanian exports, and exports from the Port of Melbourne as treated as Tasmanian imports.

Accordingly, the modelling framework is exactly as per the approaches used in international trade.

Similar to the change in containerised exports (excl. Bass Strait trade), where there has been a shift in the modelling framework to use the macroeconomic indicator *non-mineral goods exports* to drive long-term trade, with a similar uplift in the long-term profile.

Bass Strait exports are constrained by population growth, which is expected to weaken over the long-term, but the FY21 strong volumes are expected to be supported in FY22 due to recent increases in net interstate migration.

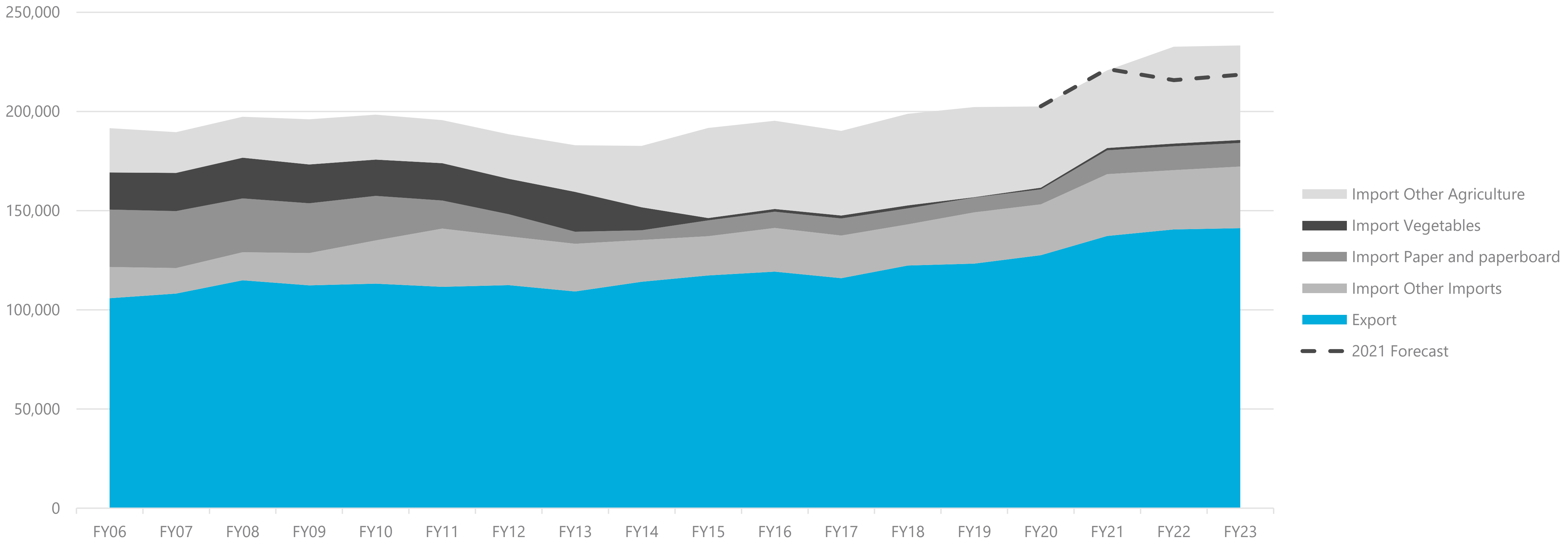
Bass Strait Trade (TEUs)



Forecasts

The uplift in trade is entirely driven by strengthening of Tasmanian exports

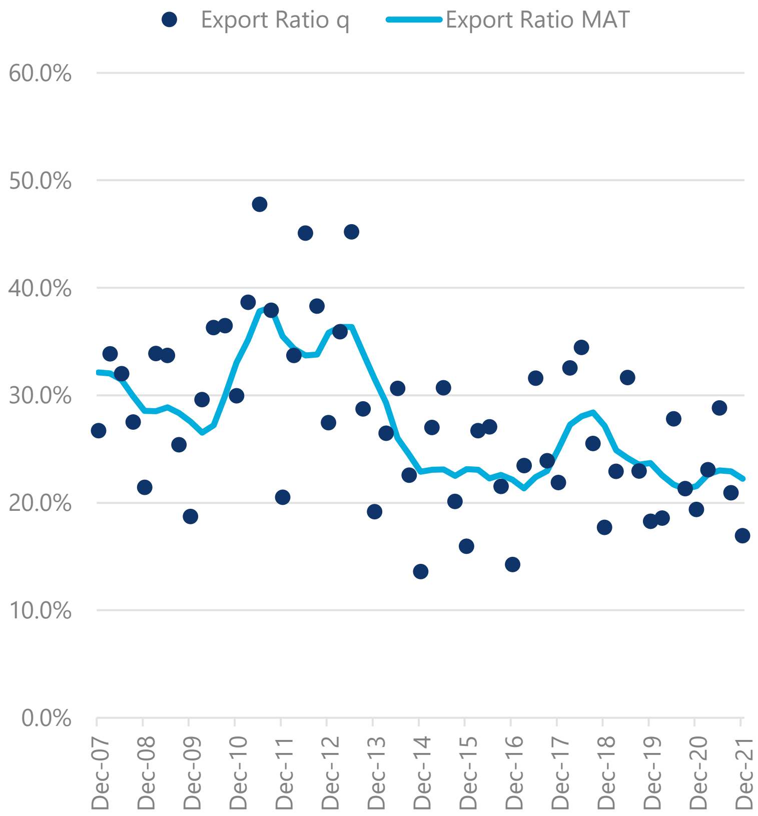
Containerised Full Bass Strait



Empty Bass Strait

Modelling of Empties are akin to the methodology used for non-Bass Strait trade

Empty to Full Export Ratio

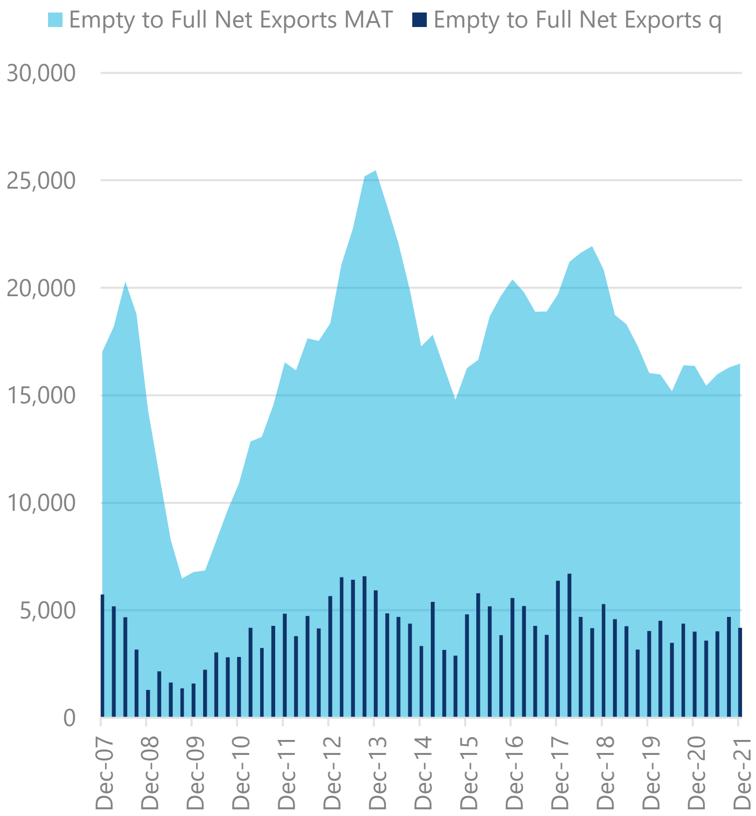


Methodology

Empty imports are calculated as a % of total full exports. Currently, these amount to 21% of all exports.

Empty imports are calculated using a difference between the total imports (i.e. full exports and empty exports) less the full imports and **net exports** (i.e. total exports less total imports).

Net Exports



Bulk Liquid

Changes in Victorian Demand

An updated outlook for EV sales shifts the outlook for petroleum products beyond 2032

Victorian Demand Model

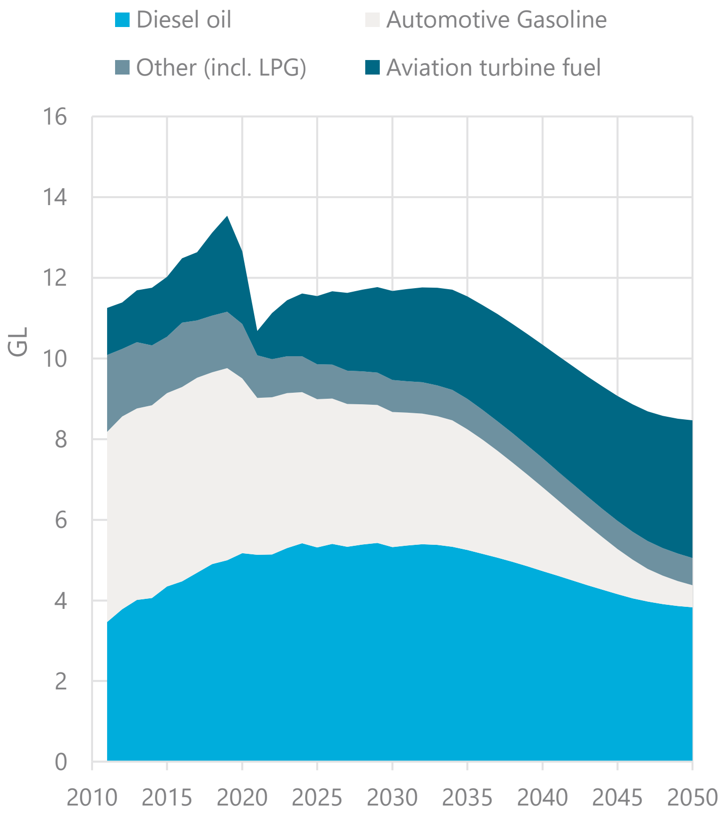
BISOE has built an demand profile for vehicles based on km travelled per capita (for light vehicles) or unit of GDP (for heavy vehicles) and passengers (for aircraft).

Engines are expected to evolve as the lagged impact of new vehicle sales, primarily through higher diesel and EVs, and fewer automotive petroleum (i.e. gasoline). Electric sales are expected to meet the Victorian Government target of 50% of new light vehicle sales by 2030

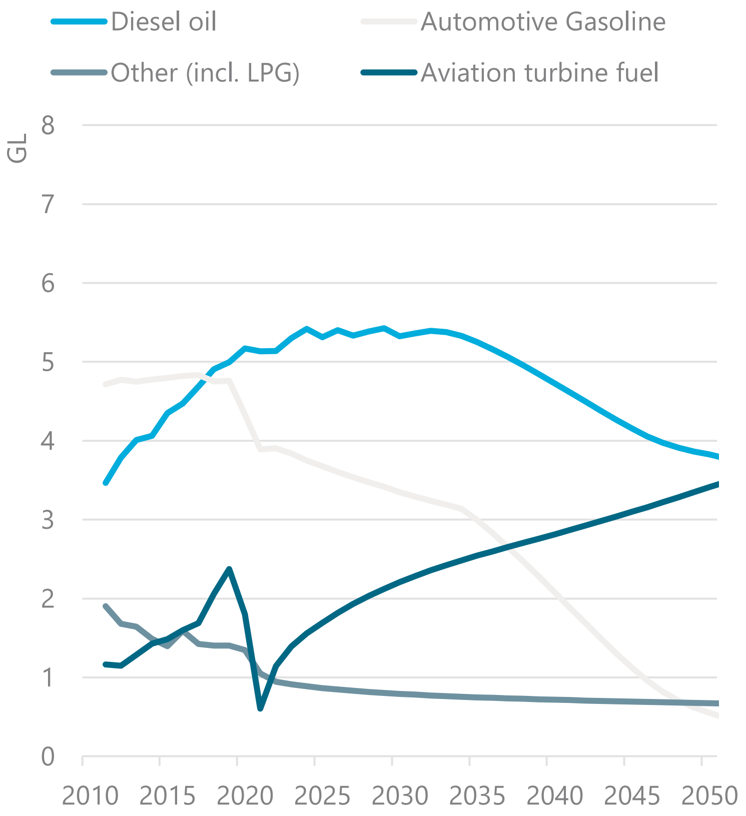
Improvements in Fuel Efficiency are expected to echo policy initiatives in other countries (chiefly the US Corporate Average Fuel Efficiency standards).

Biofuels or synthetic fuels are not considered distinct from their fossil fuel equivalents in this analysis.

Victoria Sales of Petroleum Products



Victoria Sales of Petroleum Products



EV Take-up

Policy initiatives increase pace of change

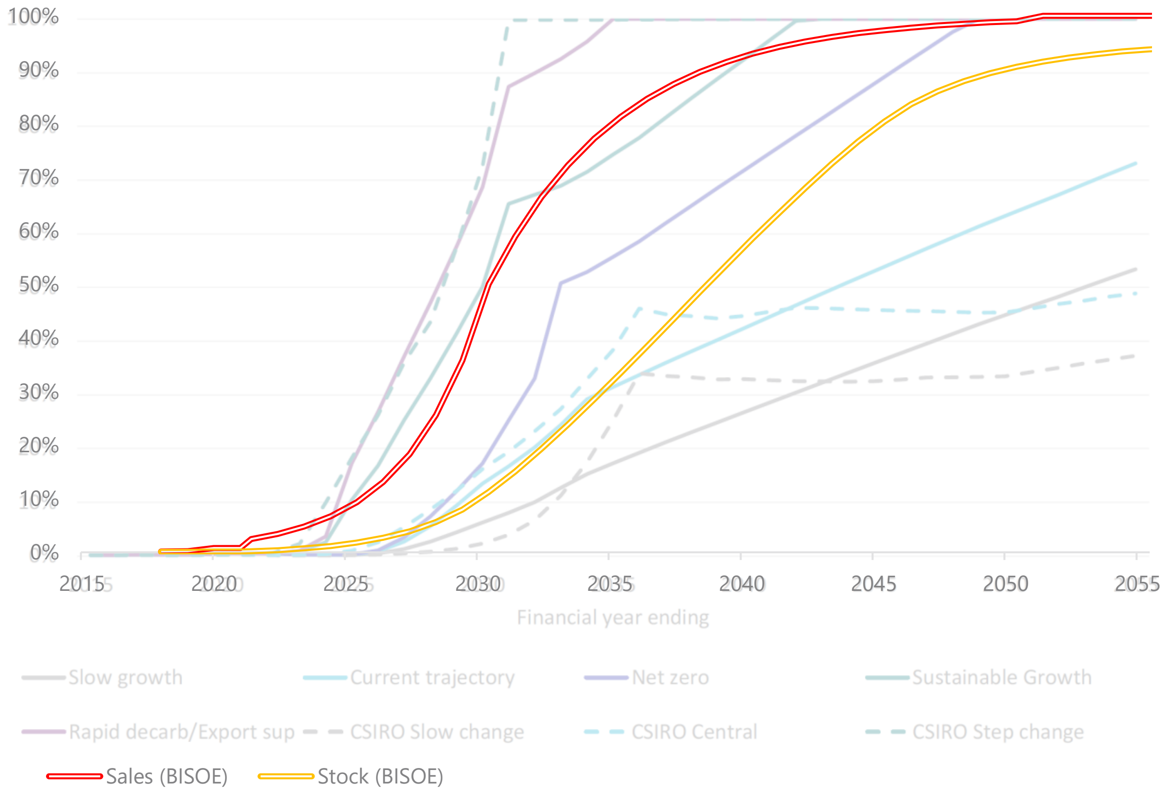
Short-Term Modelling

- Electric sales are expected to meet the Victorian Government target of 50% of new light vehicle sales by 2030. Beyond this this, new vehicle sales of internal combustion engines are expected to be banned by 2050.
- In order to reach 50% of new vehicle sales being zero and low emission vehicle (ZLEV) by 2030, we need the share of new vehicles which are ZLEV to grow by ~50% over the next nine years (from current rates of between 1-2%). This is achievable, as it mirrors the average increase in global plug-in vehicle sales in between 2012 and 2020, and is consistent with several industry outlooks for production.

Long-Term Modelling

- Beyond 2030, we have adopted a gradual decline in internal combustion engines (ICE), with the share of new vehicle sales declining by approximately one-fifth each year to 2050 (whereby we assume new ICE sales are banned for light vehicles, lagging similar proposed policy changes in Europe and the United States).
- Stock levels are assumed to reflect the current ICE depreciation schedule, with an average age at deregistration of 18 years.

BISOE Projected EV Sales and Stock (share of total) *and Select CSIRO 2021 and 2020 sales projections*

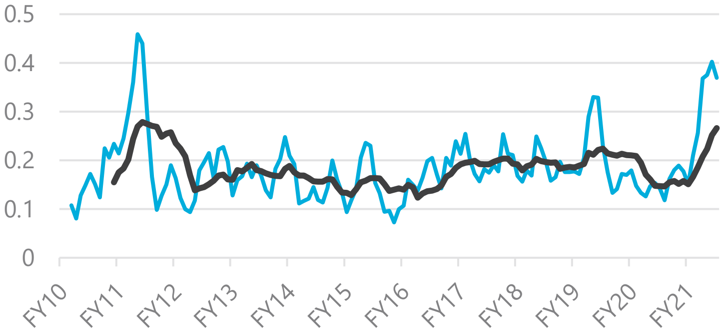


Port of Melbourne Market Share

Market Shares were disrupted following the closure of Altona refinery

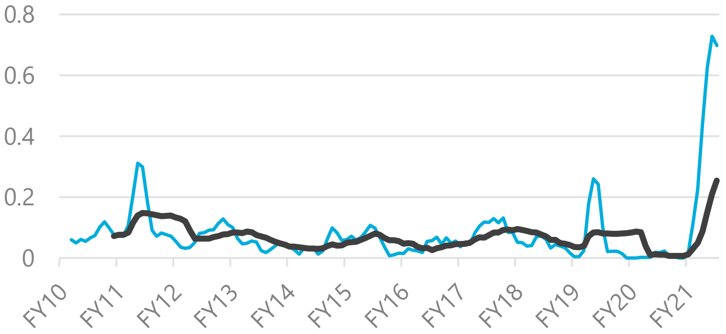
Diesel

PoM Imports as share of Victorian sales, quarterly and moving annual average



Gasoline (Automotive Petrol)

PoM Imports as share of Victorian sales, quarterly and moving annual average

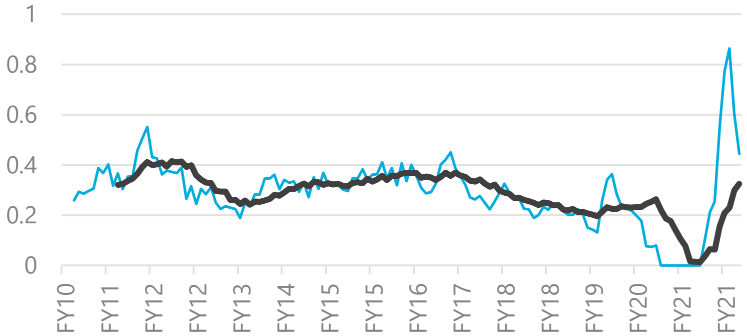


Methodology

- The market share (PoM imports measured as a share of total Victorian sales) have stabilised in late 2021/early 2022, suggestive of a new steady state as PoM competes with the Port of Geelong and the Geelong Refinery to supply customers in Victoria.
- Market shares are expected to continue at current levels for each major product type, with total trade at the Port of Melbourne calculated using the Victorian sales projections.
- The Port of Melbourne's market share is settling lower than previously expected. This will continue to be monitored.

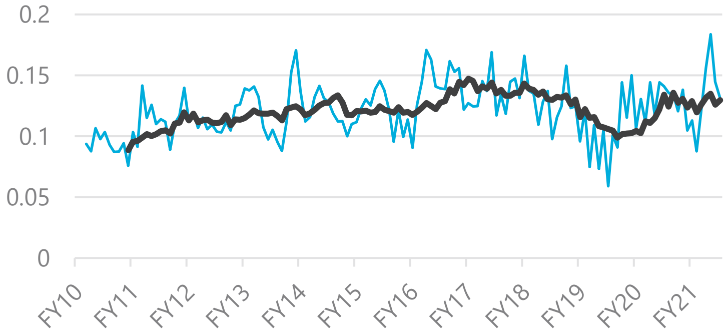
Jet Fuel (Kerosene)

PoM Imports as share of Victorian sales, quarterly and moving annual average



Petrochemicals

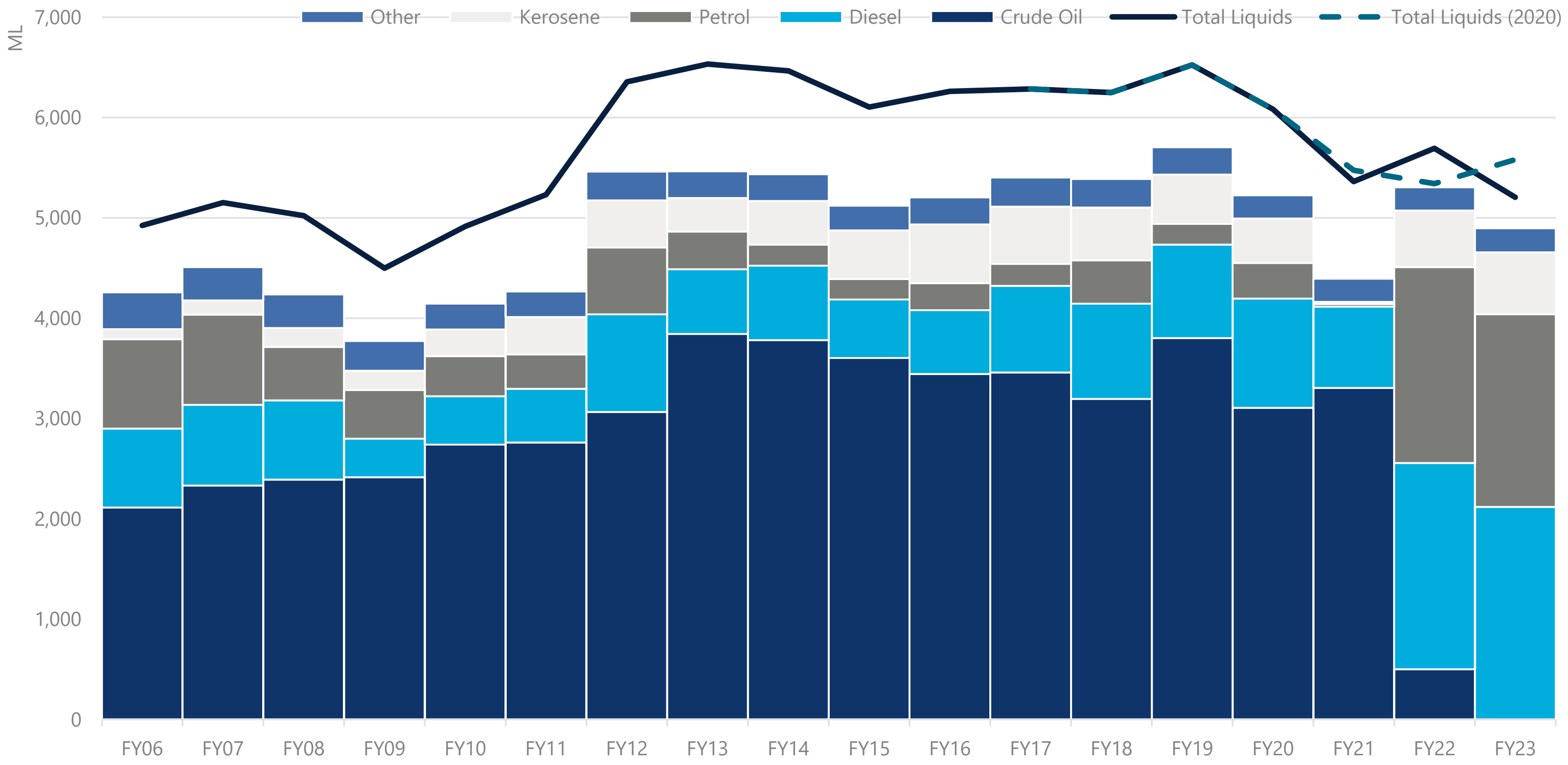
PoM Imports as share of Victorian sales, quarterly and moving annual average



Total Liquids

Lower forecast volumes are a due to two key changes: (1) market share & (2) EVs

PoM Bulk Liquids



Dry Bulk

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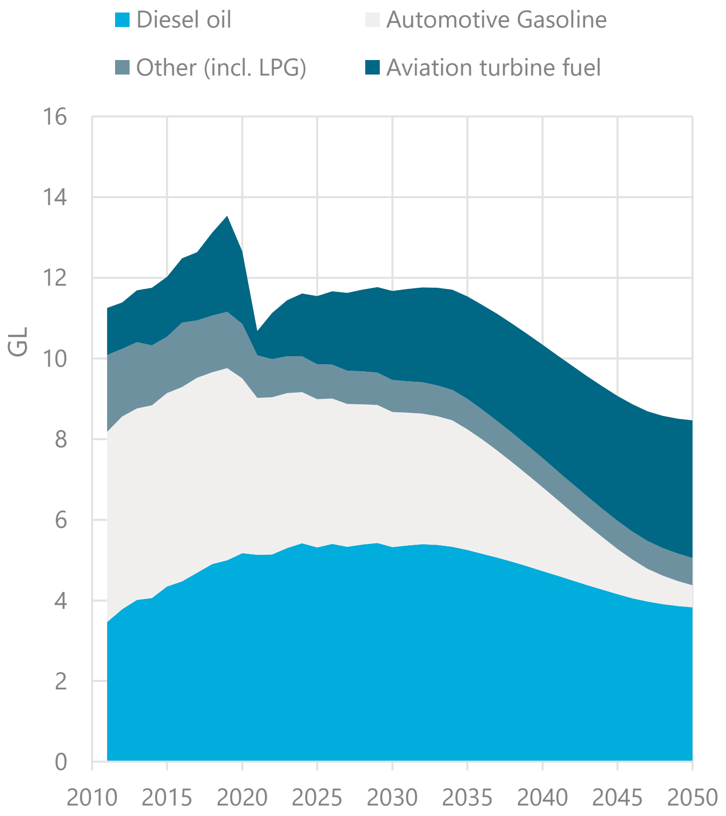
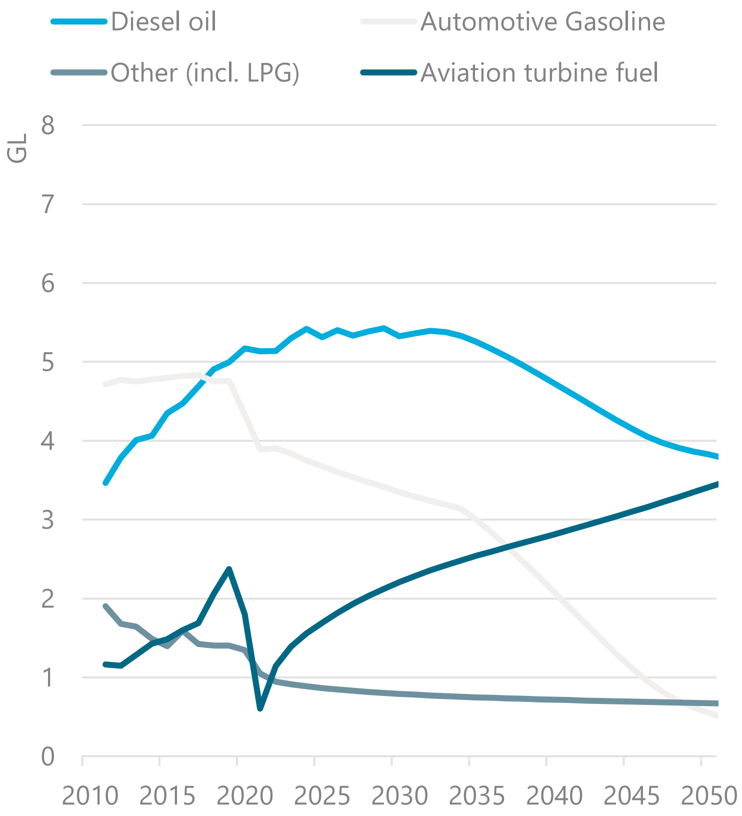
Victoria Sales of Petroleum Products



Victoria Sales of Petroleum Products



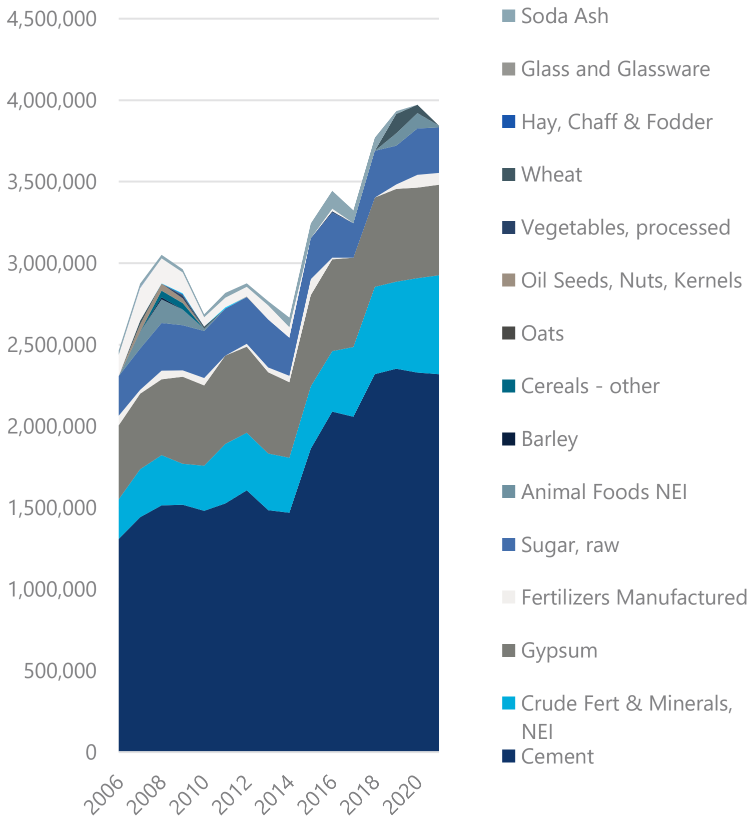
Dry Bulk

Three of the top dry bulk imports are inputs into the building industry.

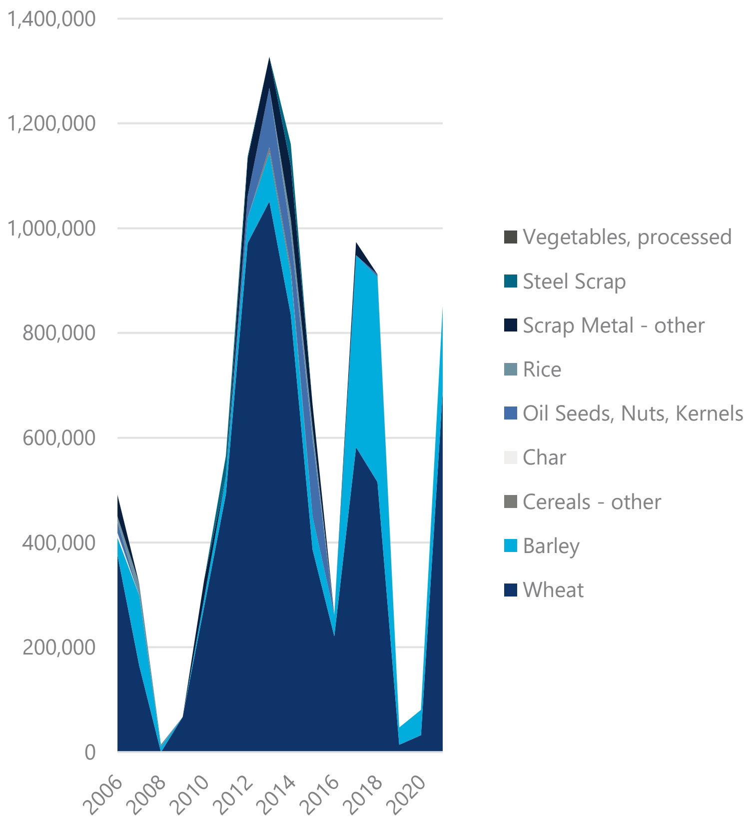
Key Trades

- 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).

Dry Bulk Imports



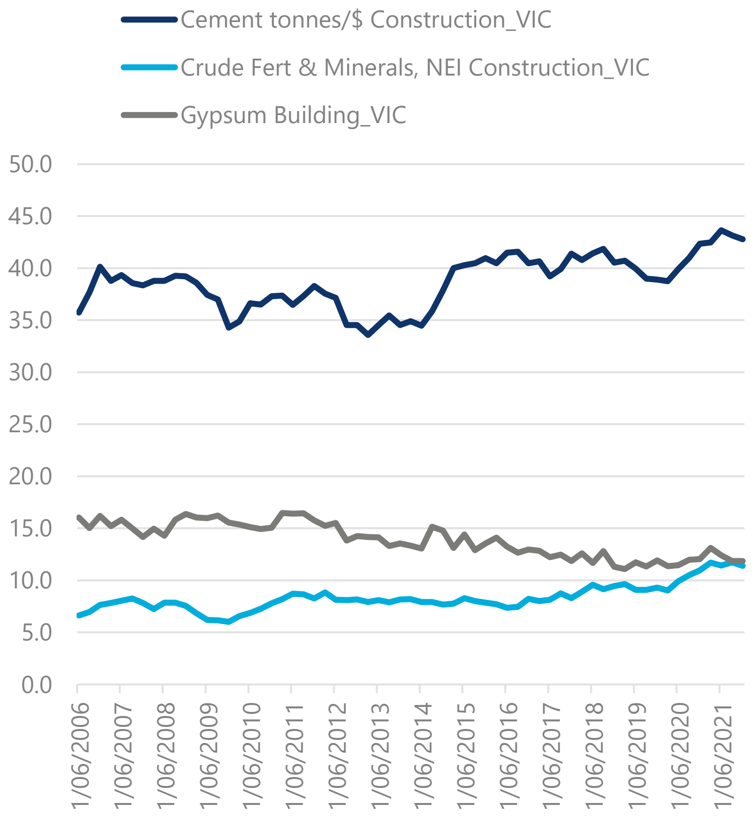
Dry Bulk Exports



Modelling Framework

Import and Export Intensities for key materials use ABARES and BISOE outlooks

Import Material Intensity



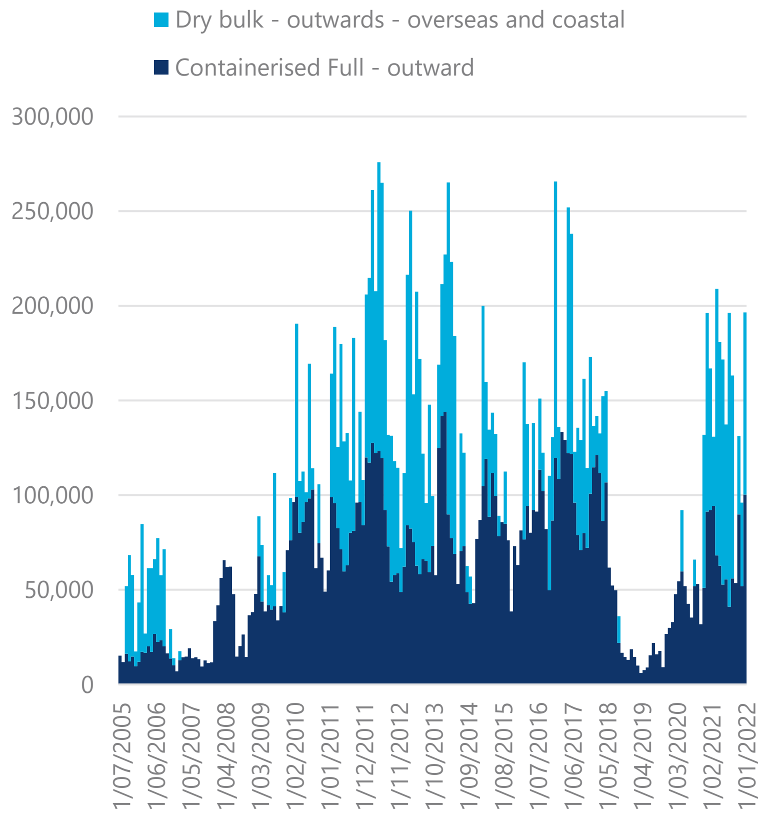
Methodology

A return to above average harvests will bode well for dry bulk exports (which are predominately wheat). Wheat production and exports out to 2027 is published by ABARES, with FY23 expected to also be above average given high ground moisture levels.

For imports of dry bulk building materials, we note an uptick in cement used in construction, which may reflect the change in the composition of the building market through the year (with high levels of detached buildings and engineering driving the outlook).

There has also been an uptick in Crude Fertilizer and Minerals. BISOE believes that this may be due to a high blend rate in cement of fly ash or granulated blast furnace slag, or alternatively a switch to using a higher import share for the fly ash.

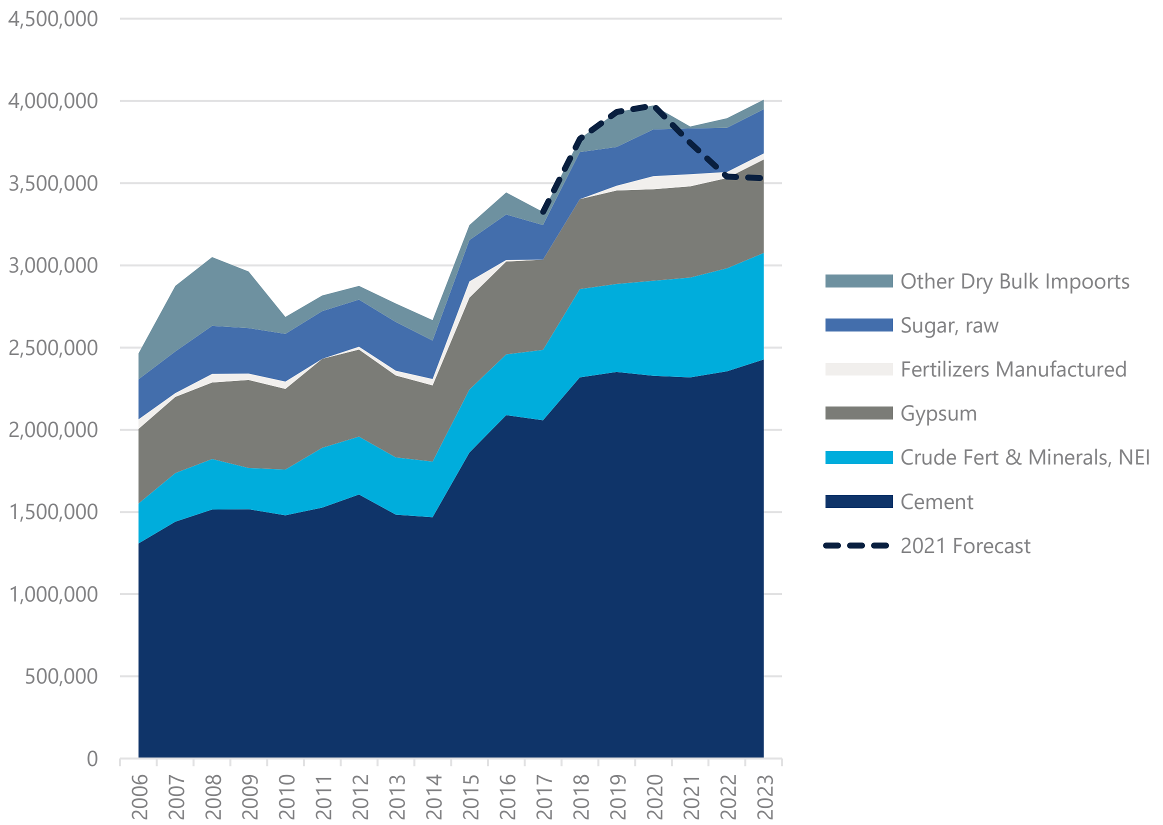
Wheat Exports



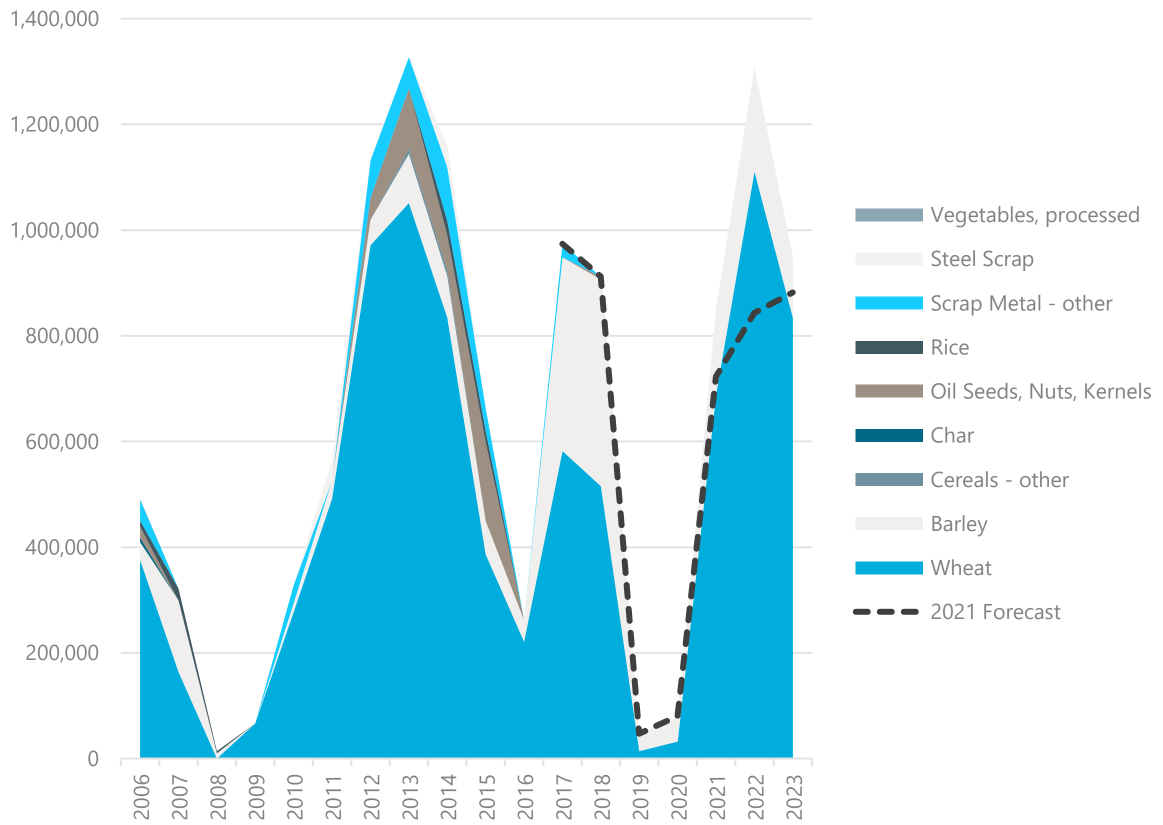
Dry Bulk Forecasts

Minor changes in imports due to changes in the construction outlook

Dry Bulk Imports



Dry Bulk Exports



Break Bulk
Roll-on/Roll-off

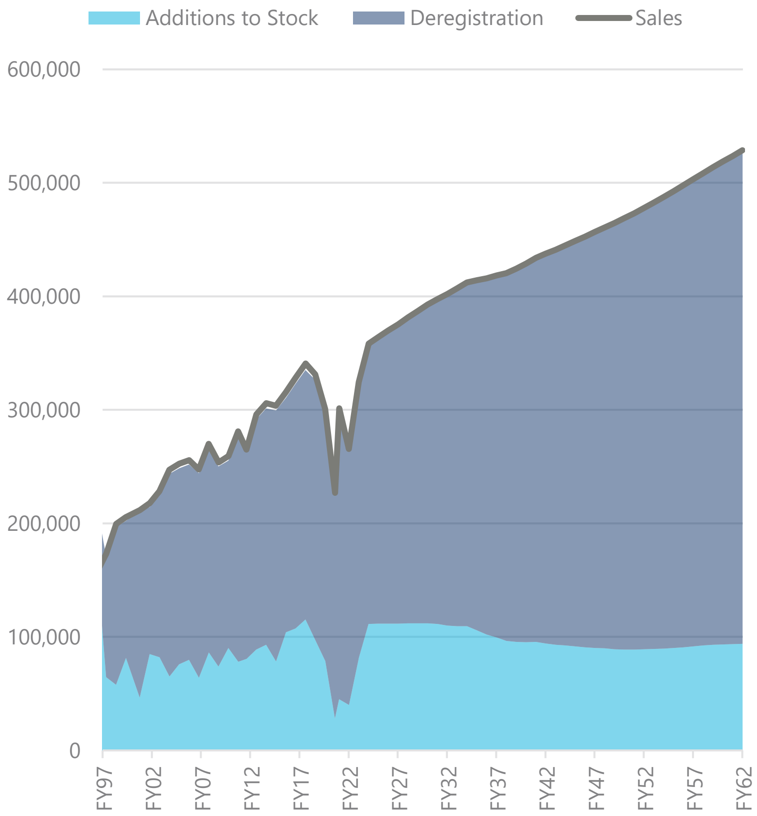
Motor Vehicles

BISOE does not have an overshoot in new vehicle sales once production issues end

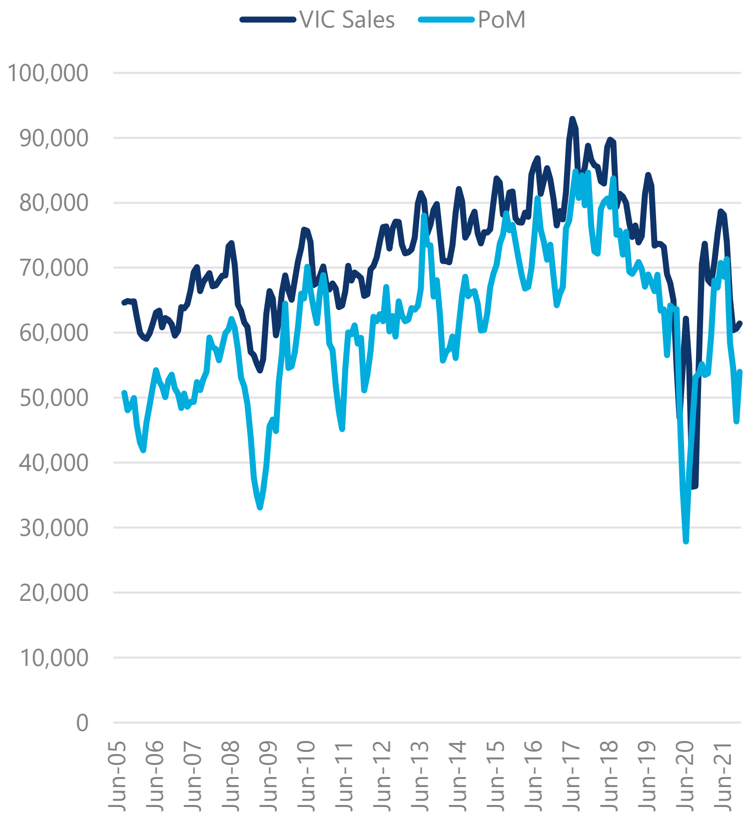
New Car Sales Methodology

- BISOE's model of new vehicle sales is driven by turnover in the existing fleet, plus stock requirements to meet trend vehicles per licence holder.
- Typically, new vehicle sales (broadly defined as all vehicles) have been approximately 5% of the existing light vehicle stock in Victoria, plus net additions to the registered fleet.
- This turnover in Victoria is slightly higher than other states in Australia (except NSW), which reveal that there is a net outflow of used vehicles via the second-hand market (circa 0.4% of the fleet each year).
- Deregisters of the existing fleet (via either an out-of-state sale or decommissioning) have, on average, accounted for 68% of new vehicle sales per year since 1996.
- Recently BISOE has increased the long-term stock per capita profiles, which support volumes through the long-run.

Victorian New Vehicle Sales



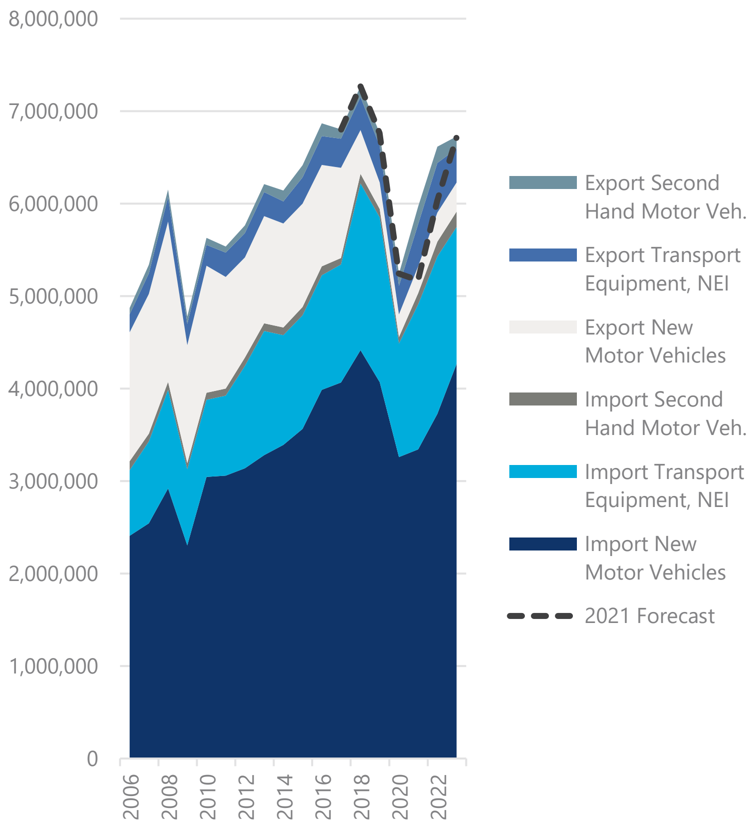
Victoria Sales & PoM Direct Imports (quarterly)



Forecast Outlook

The near-term volume outlook has improved marginally since 2021

Total Motor Vehicles



Key Changes

- Increases in the stock of vehicles per capita grow imports, and a stronger export outlook for Tasmania strengthens Wheeled Unitised Imports
- 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 had lost about 13% of its market share since April 2019, with a gradual return projected.
- Overseas non-containerised and general cargo imports are modelled off of Victorian engineering construction activity, with a cyclical peak in Engineering Construction in FY25 (chiefly in roads).

Non-Containerised/General