Master Builders Australia

Response to draft Productivity Report

Vulnerable Supply Chains

May 2021

Overview

- Australia's building and construction industry is made up of about 400,000 businesses and it employs 1.15 million people.
- Some areas of construction activity can be viewed as 'essential' given their role in meeting the fundamental human need for shelter, including the delivery of social and affordable housing and the maintenance and repair of the national housing stock.
- Construction activity, especially maintenance and repairs work, is a vital input for a wide range of essential services including national security, government, food production, health, sanitation, utilities, transport and essential manufacturing. In this way it provides a 'critical' function.
- Parts of the construction industry supply chain have shown themselves to be 'vulnerable' in recent times, with shortages, delays and price rises affecting some key building materials. These issues have had knock-on effects for industry performance and productivity. Although the vulnerability is not immediate, it is clearly more pronounced during economic rebuilding from crisis/shock.
- During 2018-19, the construction industry used $194.39 billion worth of product and service inputs. The largest shares were accounted for by professional services (12.4 per cent), wood products (6.6 per cent), structural metal (6.2 per cent), polymer products (5.0 per cent), cement/concrete (4.9 per cent) and electrical equipment (4.5 per cent).
- Overall, the construction industry's dependence on imports is quite modest. During 2018-19, it is estimated that $33.75 billion worth of imported products and service inputs were used by the industry, about 17 per cent of the total inputs used.
- Of the major categories of input to the construction industry, import dependence was highest for high-tech equipment (77.6 per cent), basic chemicals (55.2 per cent), electrical equipment (54.5 per cent) and petroleum/coal products (42.7 per cent).
- Import dependence on China is quite high across a few categories of products of importance to the construction industry including fabricated metal (50.6 per cent), machinery and equipment (41.3 per cent), polymer and rubber products (38.1 per cent) and wood products (36.0 per cent). This represents a particular vulnerability.

- Given the essential and critical nature of some areas of construction activity, consideration needs to be given to reducing the industry's vulnerability both to imports and domestic supply chain issues.
- A concentrated focus on building for economic recovery cannot be sustained by a 'just in time' manufacturing system. For example, current domestic capabilities in timber and steel are not nimble enough and when global supply is also constrained, the system is unable to fully meet demand.
- Domestic capability needs to be enhanced so that it can accommodate demand surges. This could be achieved by expanding sustainable timber plantations and manufacturing and bringing online more steel manufacturing capability. Both require longer lead times to bring about. Investment now would benefit a future crisis recovery.

Background to the building and construction industry

Master Builders Australia (Master Builders) is the nation's peak building and construction industry association which was federated on a national basis in 1890. Master Builders' members are the Master Builder State and Territory Associations.

Over 130 years the movement has grown to over 32,000 businesses nationwide, including the top 100 construction companies. Master Builders is the only industry association that represents all three sectors, residential, commercial and engineering construction.

The building and construction industry is an extremely important part of, and contributor to, the Australian economy and community. It is the second largest industry in Australia, accounting for 10.7 per cent of gross domestic product, and around 9 per cent of employment in Australia.

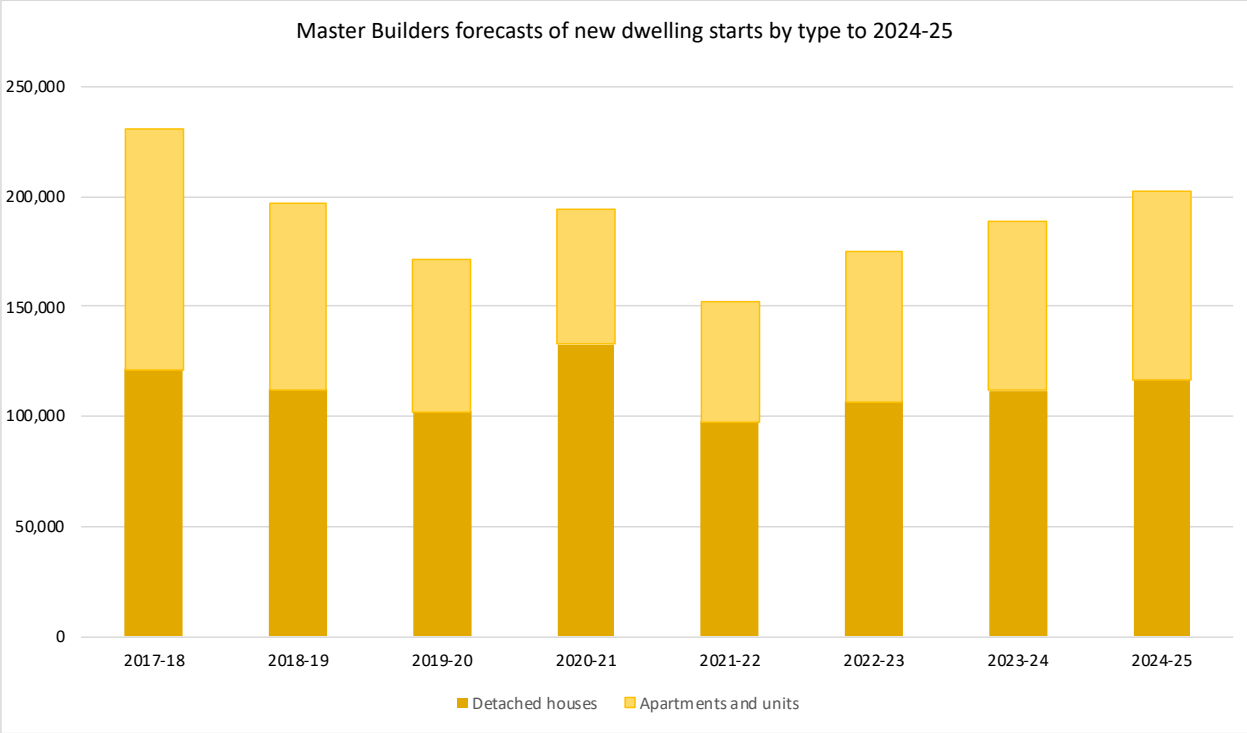
The building and construction industry:
- Consists of about 395,000 business entities, of which 98.5% are considered small businesses (fewer than 20 employees);
- Employs almost 1.2 million people (around 1 in every 11 workers) and is the number one provider of full-time jobs in the Australian economy;
- Represents about 11% of GDP, the second largest sector within the economy;
- Trains more than one third of the total number of trades-based apprentices
every year, with over 55,000 construction trades apprentices and trainees; and
- Performs building work each year to a value that exceeds $210 billion.

Outlook for building and construction activity

Overall, the total volume of construction activity across Australia is set to move slightly lower over the short term. This is due to the fact that the pandemic's net effect on demand is detrimental, on balance. However, there will be quite a contrast between the performance of the different segments making up the construction industry. With the eventual acceleration of population growth and the recovery of the labour market, construction activity should stage a modest recovery from about 2022-23 to the end of the forecast horizon in 2024-25.

Residential building: the HomeBuilder effect

New home building is currently enjoying most of the limelight thanks to the influence of HomeBuilder. Up until the 12th March, a total of 93,403 HomeBuilder applications have been received across Australia with the vast majority (81 per cent) of these relating to the building of a new home. The scheme has completely reenergised the detached house building market, with approvals for new houses reaching their highest level on record during the month of February 2021. The work involved in completing the new houses supported by HomeBuilder will keep the residential building industry busy for most of 2021, if not beyond. It is estimated that HomeBuilder applications up to this date could support $27.70 billion worth of residential building activity. Once multiplier effects are taken into account, the total economic benefit could reach $80.33 billion with support provided to 250,000 jobs across a range of economic activities.



With the ending of HomeBuilder at the end of March 2021, there are still reasons to be optimistic about the medium-term prospects for detached house building activity. Interest rates are as low as they can go, and are likely to remain so for some time. House prices in most parts of Australia have accelerated over recent months, a situation which is further whetting demand in the market and improving the viability of new home projects and the associated infrastructure works. Crucially, people's experiences of lockdowns and working from home over the past year may be resulting in a permanent step up in consumer preferences for houses rather than apartments and units. This may well prove to be the most enduring consequence of the pandemic from the point of view of future new home building patterns and the structure of Australia's housing market.

Despite the huge success of HomeBuilder, not all areas of residential building activity are holding up well. A remarkable phenomenon occurred during the third quarter of 2020 with Australia's population dropping for the first time since World War I. On the surface, this augurs badly for new home building activity's prospects given the obvious linkage between housing demand and the pace of population growth. During 2019, Australia's population had increased by almost 380,000 with inward migration from overseas accounting for the bulk of the gain. Typically, newly-arrived

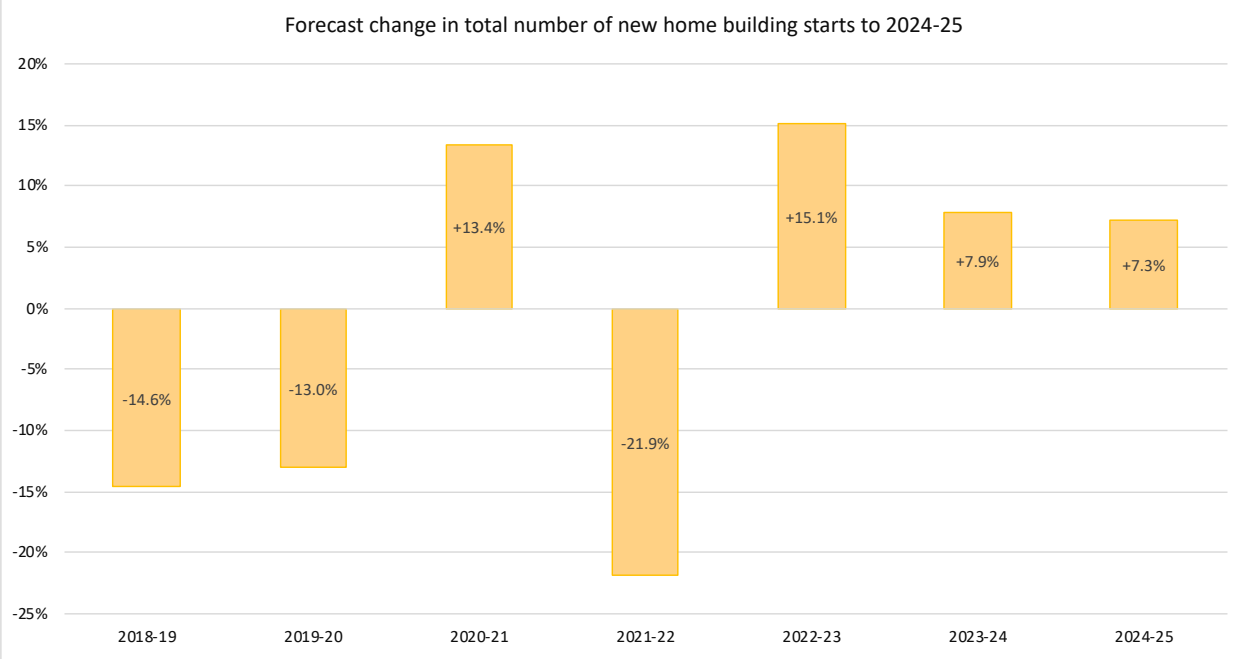
migrants initially met their housing needs on the rental market, where apartments and units make up a disproportionally large share of the dwelling stock. The suspension of inward migration to Australia since March 2020 has severely undermined demand for new apartments and units and the pipeline of work on this side of the market has been back peddling fast. Latest data indicates that the number of building approvals for new apartments/units during the three months to February 2021 was 21.6 per cent down on a year earlier.

The surge in demand for new house building resulting from HomeBuilder has exposed a number of bottlenecks in the residential building supply chain. This is because many of the ingredients needed to make up a new home, like serviced residential land, often have very long lead times. As a result, there is frequently a limit to how fully new home building activity can respond to quick increases in demand. In the current setting, this has manifested itself in a shortage of some building materials and skilled tradespeople. With respect to materials, timber and some other wood products have been difficult to come by in some situations. The strong global demand for wood and other commodities at this time has limited the capacity for the Australia market to meet its requirements through imports.

With respect to trades, the most acute shortages have been experienced in the supply of bricklayers, roof installers, concreters and carpenters. In more normal times, trades would be able to temporarily move from those markets where supply is abundant to those places where shortages are being suffered. However, the risk of being stuck on the wrong side of state border closures means that skilled workers are averse to working interstate in this way. Similarly, the scope for dealing with labour shortages through inward migration from overseas is currently very limited due to pandemic-related travel restrictions as well as the administrative factors.

Along with detached house building, the home renovations market has been one of the winners from HomeBuilder. In particular, the ‘screwdriver ready’ nature of home renovations work means that activity here was able to respond almost immediately once HomeBuilder was unveiled last June. Latest GDP results show that the amount of home renovations work done across Australia during the December 2020 quarter was 10.6 per cent higher than a year earlier. This made it one of the best-performing components of

domestic demand in the strongly-rebounding economy. With home equity reserves being pumped up by rising house prices and the likelihood of significant demand for home office-related works, the prospects for home renovations activity are likely to remain favourable even after the ending of HomeBuilder. On top of this, the age structure of Australia's detached house stock will also weigh positively for renovations demand. The number of detached houses in the 30-35 year age bracket is set to rise from about 587,000 in 2021 to 653,000 in 2024. Renovations activity is strongly influenced by houses of this vintage and this represents a further boon for the market. Accordingly, we project that the volume of home renovations activity will peak at $11.47 billion in 2023-24 having bottomed out at $9.34 billion in 2019-20. The strongest increase in renovations activity is set to occur during 2020-21 with a gain of some 12.4 per cent likely to take place.



In terms of new home building starts, a 30.3 per cent gain this financial year is anticipated to bring new detached house starts to almost 133,000 in 2020-21, an outturn which would bring well above 1994's record 127,849 detached house starts. Given that HomeBuilder has caused demand to effectively be 'borrowed' from future years, a fall back in new detached house starts is naturally to be expected during 2021-22 and this will take the annual total back to just under 100,000. The favourable medium-term prospects for detached house building are likely to result in steady gains in activity over

subsequent years with annual commencement volumes rising to about 119,500 in 2024-25.

Over the past decade, the apartment and unit building industry had got used to putting a roof over the heads of the 200,000-plus new arrivals to Australia each year. The abrupt ending of this means that a tough number of years lie ahead for this area of residential building. From almost 110,000 new starts in 2017-18, a low point of just 54,000 new apartment/unit starts is expected to be marked in 2021-22. The gradual recovery to relatively normal conditions in the economy means that the annual output will recovery to around 85,500 by the middle of the decade.

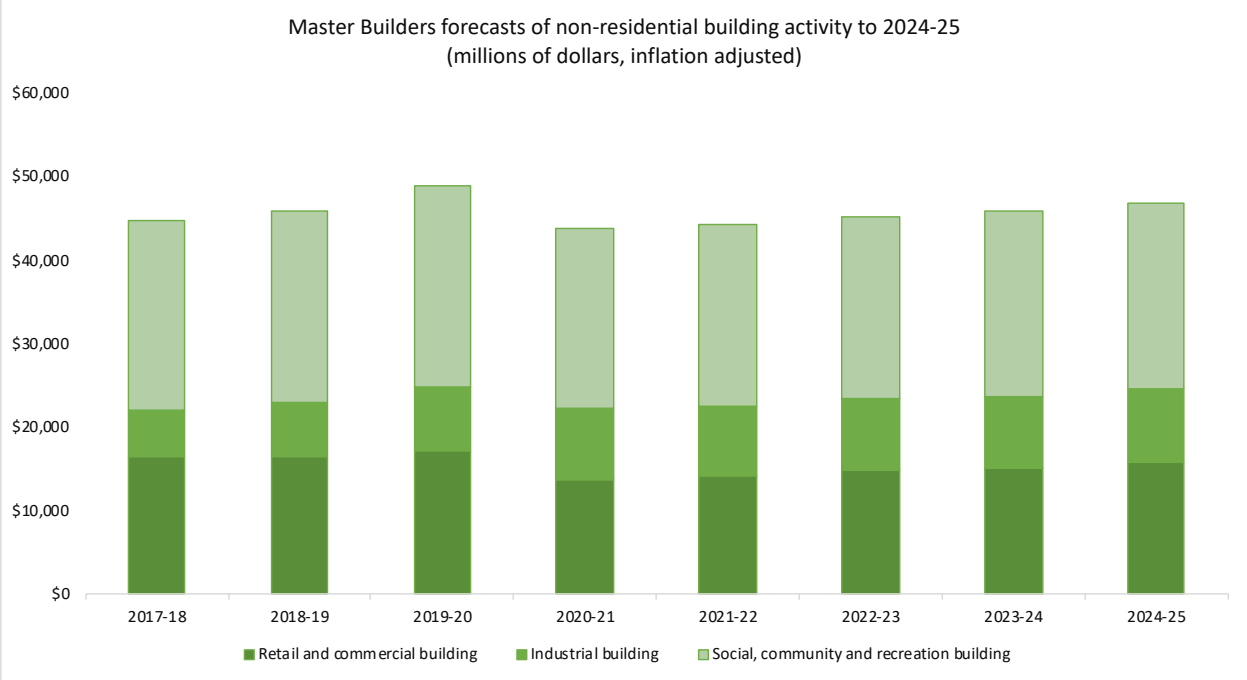
Non-residential building: public sector a crucial support

There is a huge variety of activities in the non-residential building space. Generally speaking, current prospects vary depending on the degree of public sector concentration within the project pipeline. This is because the private sector appetite for driving new building projects is generally fragile at the moment, due to the shock to the economic system over the past year, as well as sector specific restrictions on activity such as international tourism.

In this context, the latest set of non-residential building data are quite illuminating. Over the year to February 2021, a total of 27,807 non-residential building jobs were approved across Australia. This was 11.3 per cent lower than in the previous 12-month period. It is worth pointing out that non-residential building activity was close to record high this time last year and a cyclical downturn was always likely, even in the absence of the pandemic.

While no figures are currently available on the actual number of public sector and private sectors projects, we do have information on their aggregate value. Public sector project approvals totalled $17.60 billion in value over the year to February 2021, a fairly sizeable increase on a year earlier (+8.8 per cent). In contract, the value of private sector approvals fell sharply (-22.3 per cent) over the same period. These diverging trends means that the public sector share of non-residential building approvals has been rising steadily: over the year to February 2021, the public sector accounted for a 38.1 per cent share of non-residential building jobs approved in value terms. However, it has been steadily moving towards a 50/50 split as pandemic-related disruption has persisted. During the month of February 2021, public sector projects accounted for 46.0 per cent of the value of projects approved.

Along with the growing dependence on the public sector, the rebound in industrial building activity is the other noteworthy consequence of the pandemic in terms of the pattern of building activity. Previously, long-term structural changes in the economy had meant that industrial building activity struggled to grow. However, the supply chain vulnerabilities exposed by the pandemic and the desire to future proof the domestic economy from any potential threats in the years ahead has resulted in resources being directed towards bolstering our onshore production, distribution and storage capabilities. Over the year to February 2021, a total of 6,263 industrial building projects received approval a gain of 10.3 per cent on a year earlier. This calibre of new industrial building is in contrast to the pattern of the past two decades when less than 5,000 industrial building projects per year on received approval on average. Industrial work is one of the few areas of private sector-dependent activity to be expanding at the moment: over the year to February 2021, the private sector accounted for 98.0 per cent of industrial building jobs approved. We see prospects for growth in industrial building over the forecast horizon, with activity likely to grow by about 10.2 per cent in 2020-21 overall before decelerating sharply to 0.7 per cent in 2021-22 and slow but steady growth persisting over subsequent years.



Changes in habit and lifestyle which have been speeded up by the pandemic augur badly for areas of non-residential building like offices and retail. The

rate at which employment growth is converted into demand for office space is likely to be permanently dulled by the increased viability of working from home arrangements for non-customer facing activities in the services sector. Similarly, the pandemic has forced some consumer segments to embrace online shopping for the first time and this may lead to future economic growth having a markedly weaker effect on retail building activity than in the past.

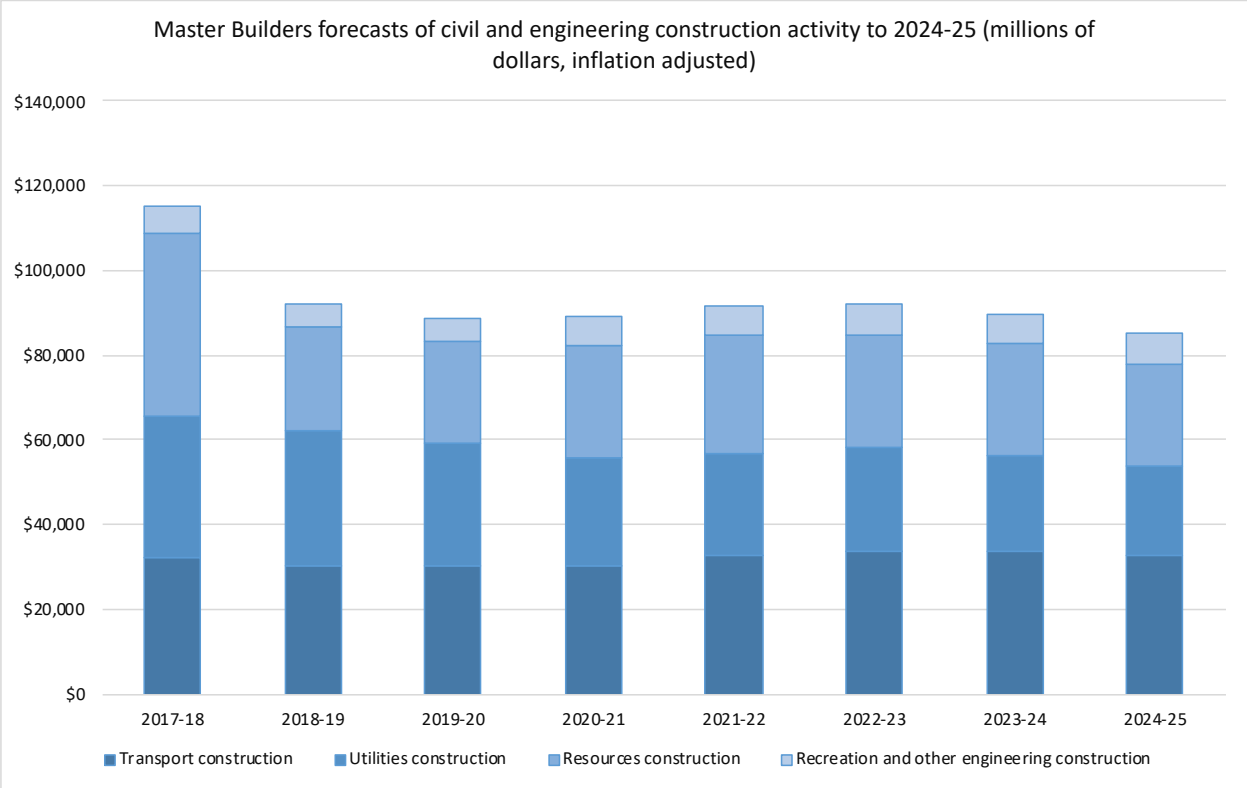
Taking all of these factors together, our expectation is that non-residential building activity will have fallen by 10.6 per cent overall during 2020-21. The combined effects of strong public sector project rollout and continued momentum in industrial building will help push activity higher each year out to 2024-25 but at a pretty modest slow pace.

Civil and engineering construction: approaching the hump

The 'infrastructure decade' had been heralded well in advance of the pandemic and the demand shortfall in many pockets of the economy means the need for infrastructure project work has never been greater.

Civil and engineering construction encompasses a massive set of activities, ranging from transport infrastructure to new mining projects. During 2019-20, the value of work totalled some $88.74 billion - more than either residential or non-residential building. Actual transport infrastructure construction activity had been a little slow to get off the starting blocks, but for 2020-21 we anticipate that the volume of transport infrastructure project work done will have increased by 24.5 per cent on the year before with further growth of 7.7 per cent likely to occur during 2021-22 and a gain of 3.3 per cent in 2022-23. Beyond this, transport infrastructure work is likely to dip as the project pipeline starts to revert back to a size more consistent with previous years.

The efforts of government and the public sector are also likely to benefit utilities construction work, with latest indicators suggesting that a 40.1 per cent increase will have taken place during 2020-21 overall following a number of years of decline. The medium-term prospects for utilities construction is heavily dependent on population and employment growth trends in the years ahead. The lack of inward migration to Australia during 2020 and 2021 (and possibly beyond) means that this part of the industry is facing a bumpy ride in the next few years, and activity is likely to fall more often than it rises over this horizon.



Predicting construction trends in the resources sector is notoriously difficult due to the particularly volatile nature of the sector and the role played by commodity prices. The unprecedented volumes of cash pumped into the global financial system since the start of the pandemic has driven some commodities prices higher. It remains to be seen whether these price gains can be cemented over the long terms – as stimulus is withdrawn and governments begin the task of meeting the enormous bills racked up over the past year, it is possible that a deflationary cycle could take hold in the market for commodities. On top of this, the risk of Australia's trading relationship with China souring further and the near certainty that economic growth rates will be lower almost everywhere for the next few years means that resources-related construction may be on thin ice for a while.

Overall, it is likely that the push from transport and other public sector infrastructure projects will see civil and engineering move higher in the short term. In this respect, data for the current financial year already shows a strong performance and we are anticipating that the volume of civil and engineering construction will expand by 22.4 per cent during 2020-21. The effect of this will be to recover some of the heavy losses suffered during the previous two financial years. During 2021-22 and 2022-23, we anticipate that

civil and engineering construction activity will plateau. The passing of the ‘hump’ in major public infrastructure means that the size of the civil and engineering construction pie will start to shrink at a rather modest pace during 2023-24 and 2024-25.

Recent supply issues in building and construction

This section explores recent developments with respect to the construction industry's supply chain.

- Recent experience suggests that the construction industry's supply chain has vulnerabilities.
- Following the introduction of the HomeBuilder scheme, there has been a sharp spike in demand for some types of residential building work.
- As a result, there have been supply issues with some key building products.
- These issues have included shortages, delays and sharp price increases.

The success of the HomeBuilder scheme in stimulating economic activity across Australia has been outlined above. However, the spike in demand for residential building following the scheme's introduction has exposed deficiencies in the construction industry's supply chain. Ideally, the construction industry's supply chain should have the capacity to accommodate sudden changes in demand without any disruptions, delays or price hikes. This is not what has occurred in recent months.

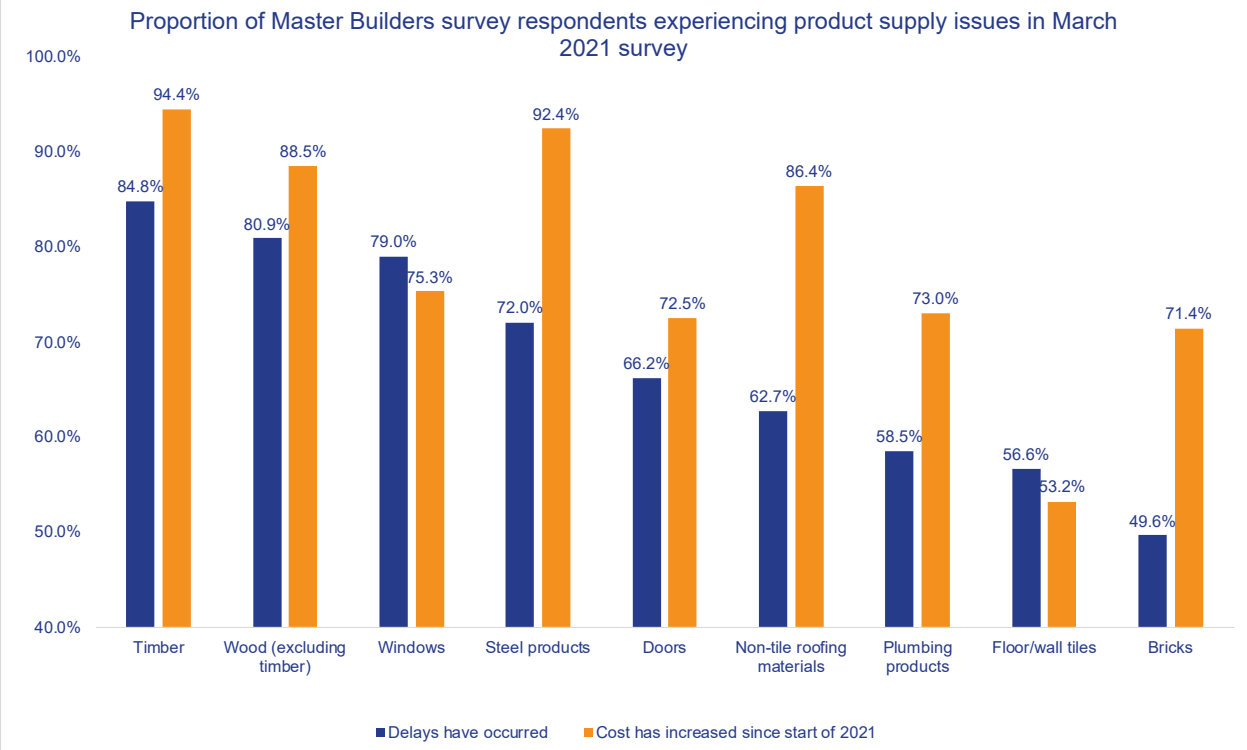
The construction industry's supply pressures have not only affected products and materials, but also skilled trades, residential land lots as well as internal processes related to financial institutions and local government. Given the remit of this submission, we will focus on issues related to the supply of products and materials.

The most timely and comprehensive set of information about supply issues in building and construction was collected by Master Builders Australia's industry survey conducted during March 2021 and which received 723 responses from across Australia. As the chart below illustrates, a significant proportion of survey respondents experienced delays with respect to accessing a number of products. A majority of respondents had been affected by delays and cost increases with respect to the following products since the beginning of 2021:

- Timber and other types of wood;
- Windows;
- Steel products;

- Roofing materials; and
- Doors.

Predictably, the supply-demand imbalance in the markets for these products have resulted in sharp price rises (of double-digit magnitude in several cases) as well as difficulties for builders with respect to the completion of work on time and within budget.



Along with the delays and price increases, the shortage of some building materials and products has implications for quality. At times of shortages, there is a risk that product of lesser quality will get dragged into usage in the absence of better-quality materials. For example, there is some anecdotal evidence that the shortage of timber has resulted in trees being felled before they have reached optimal maturity.

In theory, any supply issues with respect to tradeable goods like building materials could be alleviated through the import channel whereby domestic shortages could be circumvented through supply from overseas producers and wholesalers. However, demand for building materials and commodities generally is very strong across the globe due to the exceptional combination of fiscal and monetary stimulus being rolled out in response to the pandemic. The has resulted in a huge ‘pull’ on global supply all at the same time and

limited our industry's ability to access sufficient supplies of material in a cost effective and timely manner.

Latest data from the ABS's Producer Price Index (PPI) are available up to the March 2021 quarter. Overall, these show that the price of materials used in house building increased by just 0.1 per cent during the March 2021 quarter, with prices 1.8 per cent higher than the same period a year earlier.

- Over the year to March, price increases were greatest in Adelaide (+4.0 per cent) and in Melbourne (+3.4 per cent).
- The smallest increases affected Perth (+1.5 per cent), Sydney (+1.7 per cent) and Brisbane (+1.7 per cent).

While the latest PPI data indicate that overall pace of price increase was modest, there were several areas where price increases were very substantial during the March 2021 quarter. According to the PPI, the price of

- Plastic pipes/fittings were up +9.1% during the March 2021 quarter
- Reinforcing steel was up +5.0% during the March 2021 quarter
- Copper pipes/fittings were up by +4.8% during the March 2021 quarter
- Structural timber was up +3.9% during the March 2021 quarter
- Insulation were up +3.2% during the March 2021 quarter
- Carpet/floor coverings: up +2.7% during the March 2021 quarter
- Metal garage doors: up +3.1% during the March 2021 quarter

It is also worth pointing out that a number of home building materials experienced price drops during the March 2021 quarter. The most significant of these included

- The price of electrical equipment was down by 4.1 per cent during the quarter – but was still 5.8 per cent higher than a year earlier
- Prices for ready mixed concrete fell by 1.7 per cent
- Concrete tile prices dropped by 0.9 per cent.

If the construction industry's supply chain been more resilient over the past year, there would not have been any major issues with respect to prices, delays or shortages. Any supply deficiencies should have been met through a seamless switch to imported products. However, the recent spike in demand for residential building has exposed vulnerabilities.

Construction activity: both essential and critical

Is construction an 'essential' activity?

Some areas of construction activity can be viewed as essential given their role in meeting the most fundamental of needs, namely shelter. This includes the creation of new social and affordable housing stock. Maintenance and repair work carried out on the existing housing stock can also be the difference between a dwelling being habitable and uninhabitable.

In terms of the scale of work delivered by our industry, latest data show that over the year to February 2021, building approvals were granted for:

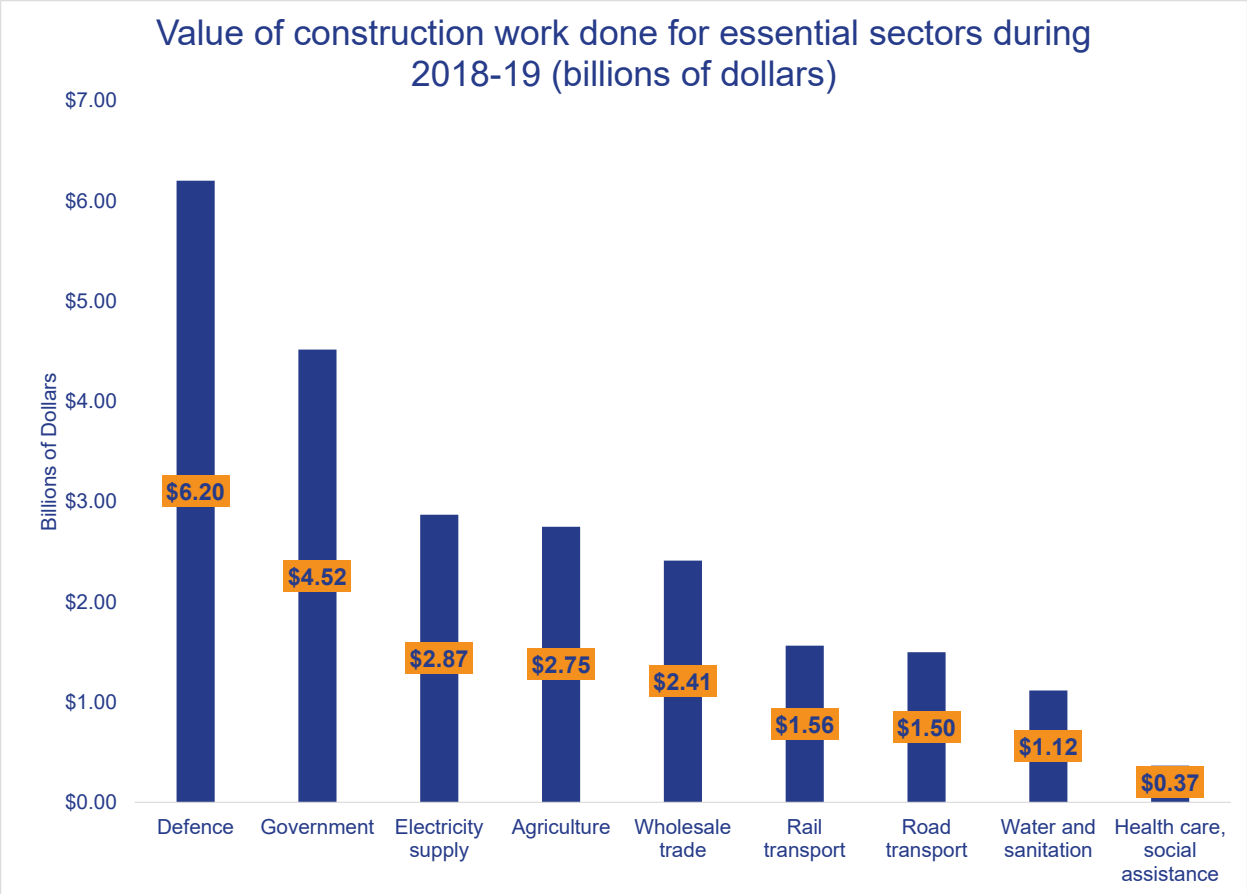
- About 191,000 new homes, enough to house about 497,000 people;
- Over 1,100 health building jobs;
- 259 building jobs related to aged care;
- 670 factory building projects;
- Just over 300 approvals were granted for transport building jobs.

How construction work is critical

Many industries, both inside and outside Australia, comprise the supply chain for Australia's construction sector. By the same token, Australia's construction industry forms a crucial part of the supply chain for other economic and social activities, many of them essential services themselves. This means that, in many situations, of building and construction activity provides a 'critical' function in terms of supporting essential components of the economy. This is especially pertinent with respect to construction's role in undertaking urgent repairs and maintenance.

Accordingly, disruption to the construction industry's supply chain would not only disrupt construction but also industries and activities which depend on a smoothly-functioning construction industry.

The critical nature of construction in terms of its role in facilitating the operation of essential economic and social activities is illustrated in the chart below which summarises the amount of construction activity used in the delivery of a number of essential services and activities.



Clearly, the statistical evidence shows that the construction industry is crucial in facilitating the ongoing operation of essential activities like including national security, government, electricity, food production, transport, water supply, sanitation and health.

Given that construction activity is both essential and critical, the next section explores the extent to which vulnerabilities exist in the supply chain for the construction industry.

The sources of construction's supply chain vulnerability

The linkage between Australia's building and construction industry and other parts of the domestic and international economies is very strong. The latest Supply and Use Tables for 2018-19 produced by the ABS allow for a significant amount of light to be shed on the manner in which building and construction activity interacts with other sectors of the economy, as well as its reliance on imports.

What is the construction industry?

At the outset, it is important to be precise about what exactly the building and construction industry is and where it starts and ends. For the purposes of Master Builders Australia's research, the building and construction industry comprises four subsectors. These are:

- 3001: Residential building construction
- 3002: Non-residential building construction
- 3101: Heavy and civil engineering construction
- 3201: Construction services

As described earlier in our submission, latest figures show that these activities employed a total of 1.15 million people in February 2021 with the value of construction work done totalling $210.6 billion during the 2020 calendar year.

Based on the latest Supply and Use tables from the ABS, we have established that:

- During 2018-19, inputs of products and services used by the construction industry totalled $194.4 billion in value. This includes both Australian-produced inputs as well as imports.
- Of construction's four subsectors, construction services was the most intensive in its use of inputs from other sectors (which were worth $99.4 billion).
- Residential building activity used $44.6 billion worth of inputs during 2018-19, followed by engineering construction ($28.1 billion) and non-residential building ($22.2 billion).

The five largest categories of products and services used by the construction industry totalled $77.03 billion in value during 2018-19. Of this:

- About $24.1 billion worth of professional, scientific and technical services were used by Australia's construction industry during 2018-19.
- This is the category of product or service which is used most heavily by the construction industry.
- The second largest input to the construction industry was manufactured wood products (excluding sawmill products) with $12.8 billion worth used during 2018-19.
- This was just ahead of the $12.1 billion worth of structural metal products used by the construction industry in the same year.
- Other major inputs to construction industry activity during 2018-19 included polymer products (worth $9.77 billion), cement/lime/ready-mixed concrete (valued at $9.46 billion) and electrical equipment (worth $8.71 billion).

Collectively, these six largest categories account for accounted for 40 per cent of total inputs to construction activity.

Import reliance in the construction industry

Overall, the dependence of the building and construction industry on imported services and products is reasonably low. Of the $194.4 billion worth of inputs used by the Australian construction industry during 2018-19, $160.6 billion were sourced from domestic suppliers, or 82.6 per cent of the total.

This means that just 17.4 per cent (or $33.75 billion) of the supply to the construction industry was imported from overseas during 2018-19. The high domestic content of supply to the construction industry is the main reason why building activity has such a strong impact on demand in other sectors of the economy. For example, research by NHFIC produced in mid 2020 indicates that for every $1 million worth of residential building activity, about $3 million worth of output is generated around the economy and about 9 full-time jobs are supported across all industries. The strong impact of building activity on supporting wider economic activity was the rationale for the federal government's HomeBuilder scheme unveiled during the pandemic.

Of the products or services used most heavily by the construction industry, the import content is generally quite modest. These are:

- Professional, scientific and professional services (5.1 per cent of these come from overseas)
- Wood products (excluding sawmill products) (13.4 per cent are imported)
- Structural metal products (11.6 per cent are imported).

Import vulnerabilities for building and construction

Despite the generally low dependence of the construction supply chain on imported products and services, it is still important to identify areas where vulnerabilities might exist. In its interim report, the Productivity Commission identified several vulnerable import classes. From the point of view of building and construction activity, the most important of these were:

- Wood and wood products;
- Metals,
- Machinery and electrical;
- Plastics and rubbers; and
- Stone and glass.

Of the 78 categories of product and service which are used by the construction industry, 14 categories have an import share of at least 50 per cent. It is worth drawing attention to some categories:

- Of the high-tech equipment used by the construction industry, imports were worth $2.43 billion and constituted a 77.6 per cent share.
- Of the manufactured electrical equipment used by the construction industry during 2018-19, $4.74 billion worth was imported which was over one half of the total (54.5 per cent).
- Of the basic chemical products used by the construction industry during 2018-19, 55.2 per cent were imported with these imports worth $2.91 billion.
- Imports of polymer products and petroleum/coal products worth $3.17 billion and $2.96 billion respectively were used by the construction industry, equivalent to import shares of 32.5 per cent and 42.7 per cent respectively.

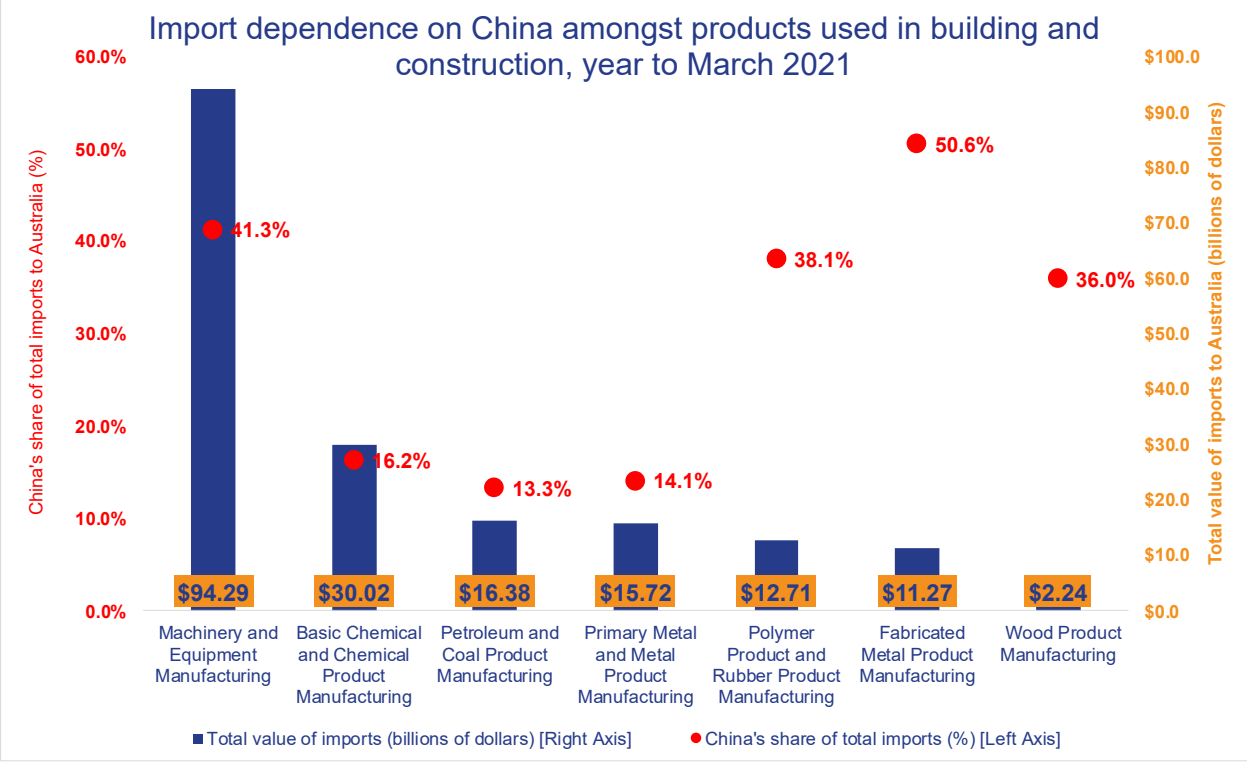
We can therefore conclude that disruption to the flow of certain categories of imports could impede the operation of some areas of the construction industry.

The role of China

Given the particular risks associated with supply from China, it is useful to focus on the construction industry's dependence on imports from that source. As the chart below shows, the specific dependence on China as a source of imports varies considerably by product category. However, it is important to point out that dependence on China as a source of imports is highest amongst some of the materials currently affected by the supply issues described earlier.

The latest figures for the year to March 2021 indicate that:

- Dependence on China is highest when it comes to fabricated metal product manufacturing (a category which includes steel). China accounts for just over one half (50.6 per cent) of imports here.
- China also accounts for substantial shares of machinery and equipment manufacturing (41.3 per cent) as well as polymer/rubber products (38.1 per cent) and wood products (36.0 per cent).



The Productivity Commission's interim report noted that China was the dominant supplier for a number of the product categories on which the construction industry depends. As such, this represents a particularly acute dimension of vulnerability for those products and the construction industry, especially with respect to geopolitical risk (e.g. trade disputes).

Case study: timber and steel supply to construction industry

Timber and steel both represent very important inputs to the construction industry, with respect to their role in the structure of new buildings and furnishing. This section provides brief case studies on recent supply conditions with respect to both.

Timber

- During 2018-19, the construction industry used $16.78 billion worth of wood products. This represented 8.6 per cent of the product and service inputs used by the construction industry (in value terms).
- The March 2021 Master Builders survey found that 84.8 per cent of builders have experienced delays in accessing timber. Almost all survey respondents (94.4 per cent) have been hit by timber price rises since the start of 2021.
- Of the wood products used by the construction industry during 2018-19, imports accounted for 14.2 per cent of the total and were worth $2.39 billion.
- Over the year to March 2021, China was the source of 36.0 per cent of wood product imports to Australia.
- Recent issues with timber supply are the result of both international and domestic factors.
- Internationally, there has been a synchronised surge in demand for timber as a result of economic stimulus in response to the pandemic.
- In recent years, some of Australia's timber plantations have been destroyed by bushfires.

Steel

- During 2018-19, Australia's construction industry used $12.14 billion worth of structural metal products.
- The March 2021 Master Builders survey found that 72.0 per cent of builders have experienced delays in accessing steel. Almost all survey respondents (92.4 per cent) have been hit by steel price rises since the start of 2021.
- Of the structural metal used by the construction industry during 2018-19, $1.40 billion was imported. This was equivalent to 11.6 per cent of the total.

- Like timber, the global supply of steel has been squeezed by the government-led stimulus in major economies and the roll out of major infrastructure.
- China accounted for 50.6 per cent of all fabricated metal product imports to Australia over the year to March 2021.

Conclusions and recommendations

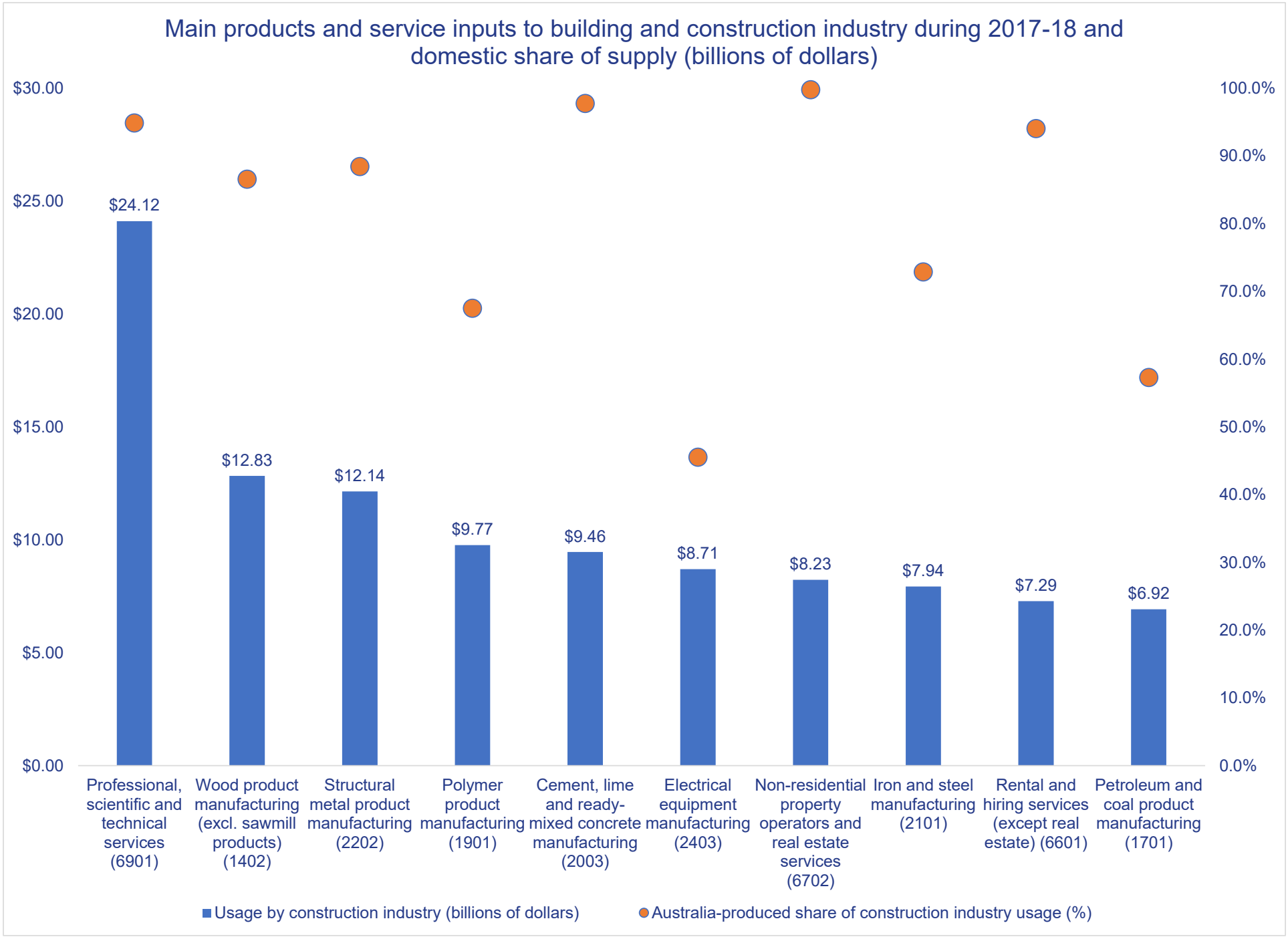
This section sets out the main findings of our research and some recommendations with respect to the direction of the Productivity Commission's final report on Vulnerable Supply Chains and overcoming future supply issues.

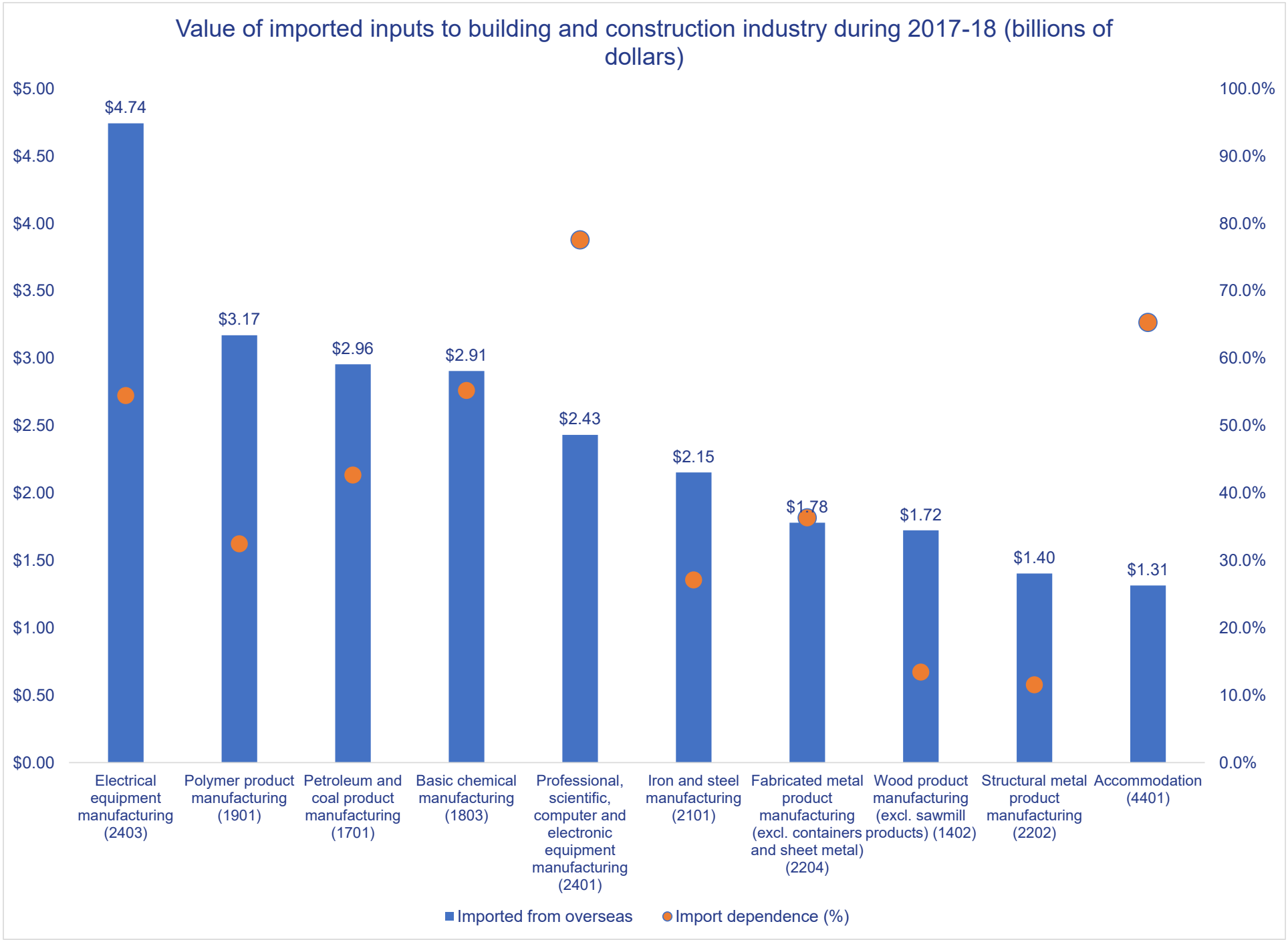
- The construction industry is both essential and critical in terms of its role in providing shelter and its role in supporting other essential parts of the economy.
- The experience of the past year has illustrated that vulnerabilities exist with respect to the construction industry's supply chain.
- The sources of these vulnerabilities are both domestic and international in nature.
- In general, the import dependence of the construction industry's supply chain is quite modest.
- However, there are several important categories of product where the import dependence of the construction industry is quite high.
- These include high-tech equipment, electrical equipment, basic chemicals, polymer products and petroleum/coal products.
- Of the imported products used by the construction industry, China is typically an important source. This represents a particular vulnerability given the specific risks attached to China.
- Neutralising the vulnerabilities faced by the construction industry's supply chain will rely on addressing both domestically produced and imported products.
- A concentrated focus on building for economic recovery cannot be sustained by a 'just in time' manufacturing system. Domestic capabilities in timber and steel for example are not nimble enough and when global supply is also constrained, the system cannot effectively meet demand.
- Domestic capability needs to be enhanced so it can be more responsive to demand surges. This could be through expansion of sustainable timber plantations and manufacturing, bringing online more steel manufacturing capability. Both require longer lead times to bring about. Investment now would benefit a future crisis recovery.

- Timber and steel imports bring in additional construction product supply. But when other economies are demanding product at the same time, this safety net is not available to offset product demand pressures.
- There may also be a role for innovation in products and processes so that a larger set of alternatives can be accessed in the event of supply impediments affecting key materials.

Master Builders Australia looks forward to the publication of the Productivity Commission's final report in this area and for further research to be undertaken on how the industry supply chain can be made more secure.

Appendix: useful background data


Main products and service inputs to building and construction industry during 2017-18 and domestic share of supply (billions of dollars)
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$0.00
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
$24.12
$12.83
$12.14
$9.77
$9.46
$8.71
$8.23
$7.94
$7.29
$6.92
Professional, scientific and technical services (6901)
Wood product manufacturing (excl. sawmill products) (1402)
Structural metal product manufacturing (2202)
Polymer product manufacturing (1901)
Cement, lime and ready-mixed concrete manufacturing (2003)
Electrical equipment manufacturing (2403)
Non-residential property operators and real estate services (6702)
Iron and steel manufacturing (2101)
Rental and hiring services (except real estate) (6601)
Petroleum and coal product manufacturing (1701)
Usage by construction industry (billions of dollars)
Australia-produced share of construction industry usage (%)


Value of imported inputs to building and construction industry during 2017-18 (billions of dollars)
$5.00
$4.50
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$0.50
$0.00
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
$4.74
$3.17
$2.96
$2.91
$2.43
$2.15
$1.78
$1.72
$1.40
$1.31
Electrical equipment manufacturing (2403)
Polymer product manufacturing (1901)
Petroleum and coal product manufacturing (1701)
Basic chemical manufacturing (1803)
Professional, scientific, computer and electronic equipment manufacturing (2401)
Iron and steel manufacturing (2101)
Fabricated metal product manufacturing (excl. containers and sheet metal) (2204)
Wood product manufacturing (excl. sawmill products) (1402)
Structural metal product manufacturing (2202)
Accommodation (4401)
Imported from overseas
Import dependence (%)

Forecast volume of all construction activity to 2024-25 [May 2021 forecast set]								
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
New South Wales	$68,533.5	$70,002.4	$64,131.6	$59,697.9	$57,515.3	$58,276.0	$59,257.4	$60,779.2
Victoria	$55,314.0	$57,838.9	$58,786.0	$58,513.8	$56,052.8	$55,833.6	$57,437.0	$59,048.5
Queensland	$46,249.8	$42,021.9	$40,151.3	$39,110.2	$40,342.1	$42,159.8	$43,658.7	$43,899.3
South Australia	$12,715.5	$12,725.2	$12,140.0	$12,085.0	$11,181.9	$10,838.3	$10,766.8	$10,755.6
Western Australia	$43,884.9	$26,022.8	$26,011.1	$30,359.1	$30,469.5	$30,191.0	$30,681.9	$28,874.6
Tasmania	$2,812.1	$3,247.7	$3,288.2	$3,207.8	$3,487.9	$3,404.3	$3,145.8	$2,907.2
Northern Territory	$7,189.0	$2,812.2	$1,866.7	$2,147.7	$2,313.7	$2,639.6	$2,605.4	$2,358.2
ACT	$3,879.7	$4,039.4	$3,856.8	$3,375.0	$3,185.6	$3,361.5	$3,456.9	$3,495.4
Australia	**$240,578.5**	**$218,710.5**	**$210,231.7**	**$208,496.5**	**$204,548.9**	**$206,704.0**	**$211,009.9**	**$212,117.9**

Source: Master Builders Australia-produced forecasts and analysis of ABS Building Activity (8752.0)

All dwellings: forecast number of new dwelling commencements to 2024-25 [May 2021 forecast set]

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
New South Wales	72,214	62,260	49,509	49,850	40,965	49,586	53,837	58,089
Victoria	75,708	62,093	58,528	65,829	51,026	52,811	58,093	63,374
Queensland	42,127	36,916	30,499	35,247	28,484	36,940	39,618	42,295
South Australia	13,063	10,105	10,748	12,554	7,787	9,370	10,073	10,776
Western Australia	18,394	15,521	13,455	22,182	16,346	18,356	18,611	18,866
Tasmania	2,827	3,026	3,015	3,701	2,656	2,561	2,661	2,760
Northern Territory	974	650	517	741	732	845	1,085	1,325
ACT	5,062	6,200	5,005	4,153	3,758	4,181	4,389	4,597
Australia	**230,369**	**196,771**	**171,276**	**194,257**	**151,754**	**174,650**	**188,366**	**202,082**

Source: Master Builders Australia-produced forecasts and analysis of ABS Building Activity (8752.0)

All residential building: forecast volume of building work to 2024-25 (millions of dollars, chain volume measures) [May 2021 forecast set]								
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
New South Wales	$29,240.7	$28,563.9	$23,181.5	$21,994.4	$19,793.7	$20,986.8	$23,129.5	$24,662.4
Victoria	$24,740.9	$26,183.3	$25,664.3	$27,084.2	$24,235.8	$22,820.2	$24,426.5	$26,419.2
Queensland	$14,361.5	$13,453.3	$12,013.8	$12,740.4	$12,108.1	$13,473.8	$15,022.6	$15,819.9
South Australia	$3,538.4	$3,496.3	$3,502.4	$3,959.2	$3,263.6	$3,171.2	$3,495.5	$3,683.7
Western Australia	$5,944.4	$5,555.4	$4,780.8	$6,386.8	$6,112.7	$5,965.8	$6,244.4	$6,293.2
Tasmania	$847.8	$984.1	$1,000.2	$1,165.1	$1,045.2	$935.5	$946.8	$964.4
Northern Territory	$421.7	$371.5	$317.9	$322.3	$356.5	$398.3	$484.0	$580.4
ACT	$1,679.3	$2,032.3	$2,055.8	$1,758.9	$1,571.9	$1,624.6	$1,716.8	$1,781.7
Australia	**$80,774.7**	**$80,640.0**	**$72,516.7**	**$75,411.3**	**$68,487.5**	**$69,376.2**	**$75,466.0**	**$80,204.9**

Source: Master Builders Australia-produced forecasts and analysis of ABS Building Activity (8752.0)

Total non-residential building: forecast volume of building work to 2024-25 (millions of dollars, chain volume measures) [May 2021 forecast set]								
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
New South Wales	$13,891.9	$16,108.3	$16,956.1	$14,845.2	$14,983.2	$15,262.9	$15,398.2	$15,673.6
Victoria	$12,896.5	$13,714.7	$14,757.0	$13,155.9	$13,357.2	$13,772.3	$13,964.2	$14,363.8
Queensland	$8,219.8	$7,171.8	$8,249.8	$7,097.5	$7,212.1	$7,448.5	$7,557.9	$7,785.2
South Australia	$2,510.5	$2,616.7	$2,687.2	$2,686.0	$2,691.1	$2,701.9	$2,706.6	$2,716.8
Western Australia	$4,612.2	$3,784.3	$4,008.8	$3,826.5	$3,852.9	$3,908.5	$3,932.5	$3,984.5
Tasmania	$667.2	$741.8	$727.5	$678.3	$679.1	$680.9	$681.7	$683.4
Northern Territory	$613.4	$519.8	$425.3	$440.3	$444.3	$452.6	$456.3	$464.1
ACT	$1,202.8	$1,207.5	$1,165.4	$1,033.0	$1,046.0	$1,072.6	$1,085.0	$1,110.8
Australia	**$44,614.3**	**$45,864.9**	**$48,977.2**	**$43,762.7**	**$44,265.9**	**$45,300.4**	**$45,782.5**	**$46,782.1**

Source: Master Builders Australia-produced forecasts and analysis of ABS Building Activity (8752.0)

Total engineering construction: forecast volume of building work to 2024-25 (millions of dollars, chain volume measures) [May 2021 forecast set]								
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
New South Wales	$25,400.9	$25,330.2	$23,993.9	$22,858.3	$22,738.3	$22,026.2	$20,729.7	$20,443.3
Victoria	$17,676.5	$17,940.9	$18,364.7	$18,273.6	$18,459.7	$19,241.1	$19,046.3	$18,265.5
Queensland	$23,668.5	$21,396.8	$19,887.7	$19,272.2	$21,021.9	$21,237.4	$21,078.2	$20,294.3
South Australia	$6,666.6	$6,612.2	$5,950.5	$5,439.9	$5,227.3	$4,965.2	$4,564.6	$4,355.1
Western Australia	$33,328.3	$16,683.1	$17,221.5	$20,145.8	$20,504.0	$20,316.6	$20,505.0	$18,596.9
Tasmania	$1,297.1	$1,521.8	$1,560.5	$1,364.4	$1,763.6	$1,787.9	$1,517.3	$1,259.4
Northern Territory	$6,153.9	$1,920.9	$1,123.5	$1,385.1	$1,512.9	$1,788.7	$1,665.1	$1,313.7
ACT	$997.6	$799.6	$635.6	$583.1	$567.8	$664.2	$655.1	$602.9
Australia	**$115,189.5**	**$92,205.5**	**$88,737.9**	**$89,322.5**	**$91,795.5**	**$92,027.4**	**$89,761.4**	**$85,130.9**

Source: Master Builders Australia-produced forecasts and analysis of ABS Building Activity (8752.0)

Overview of construction employment by state and territory - February 2021

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted
Total construction employment	**1,152,346**	**367,588**	**322,080**	**231,775**	**72,460**	**111,503**	**20,774**	**11,024**	**15,143**
Full-time construction employment	**978,627**	313,346	270,345	198,030	59,299	97,514	17,220	9,664	13,209
Part-time construction employment	**173,720**	54,241	51,735	33,745	13,161	13,988	3,554	1,360	1,934
Total employment	**13,053,912**	4,120,381	3,461,251	2,618,517	853,187	1,370,650	262,157	131,088	236,680
Total construction employment - 12 months earlier	**1,182,436**	376,656	311,148	253,226	69,893	120,699	19,915	12,352	18,546
Construction industry's share of total employment (%)	**8.8%**	8.9%	9.3%	8.9%	8.5%	8.1%	7.9%	8.4%	6.4%
Full-time jobs as a share of total construction employment (%)	**84.9%**	85.2%	83.9%	85.4%	81.8%	87.5%	82.9%	87.7%	87.2%
Change in construction employment - year to February 2021	**-30,090**	-9,068	+10,932	-21,451	+2,567	-9,197	+859	-1,328	-3,403
Percentage change in construction employment over year to February 2021	**-2.5%**	-2.4%	+3.5%	-8.5%	+3.7%	-7.6%	+4.3%	-10.7%	-18.3%
State/territory share of total construction employment - February 2021	***100.0%***	*31.9%*	*27.9%*	*20.1%*	*6.3%*	*9.7%*	*1.8%*	*1.0%*	*1.3%*

Source: Master Builders Australia analysis of ABS Labour Force, Australia, Detailed Quarterly (6291.0.55.003) (Table EQ06)

Value of building and construction activity by state and territory - year to December 2020 (billions of dollars, current prices)

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted
Total value of construction work done	**$210.61**	**$62.88**	**$58.77**	**$40.23**	**$11.98**	**$27.45**	**$3.29**	**$2.09**	**$3.92**
Value of building work done	**$119.62**	$38.79	$40.22	$20.08	$6.17	$8.48	$1.83	$0.85	$3.21
Residential building	**$71.26**	$22.27	$25.26	$11.86	$3.54	$4.78	$1.14	$0.34	$2.07
Non-residential building	**$48.36**	$16.52	$14.96	$8.22	$2.63	$3.70	$0.68	$0.51	$1.14
Value of engineering construction work done	**$91.00**	$24.09	$18.55	$20.15	$5.81	$18.97	$1.47	$1.25	$0.71
Gross Domestic Product	**$1,972.19**								
Construction share of GDP (%)	***10.7%***								
State/territory share of national total (%):									
Construction work done	***100.0%***	*29.9%*	*27.9%*	*19.1%*	*5.7%*	*13.0%*	*1.6%*	*1.0%*	*1.9%*
Building work done	***100.0%***	*32.4%*	*33.6%*	*16.8%*	*5.2%*	*7.1%*	*1.5%*	*0.7%*	*2.7%*
Engineering construction work done	***100.0%***	*26.5%*	*20.4%*	*22.1%*	*6.4%*	*20.8%*	*1.6%*	*1.4%*	*0.8%*

Source: Master Builders Australia analysis of ABS Construction Work Done, Preliminary (8755.0)

Number of building and construction businesses by employee headcount as at 30 June 2020

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted
Total number of building and construction businesses - 30 June 2020	**397,022**	**131,392**	**111,111**	**77,063**	**23,539**	**38,817**	**6,429**	**2,901**	**5,770**
No employees	**239,350**	72,350	70,395	45,922	16,152	25,663	3,893	1,619	3,337
Between 1 and 19 employees	**151,976**	57,293	39,372	29,824	7,067	12,464	2,452	1,183	2,347
Between 20 and 199 employees	**5,496**	1,682	1,302	1,284	311	652	81	96	86
200 employees or more	**191**	67	42	33	9	38	3	3	0
Number of small businesses (defined as those with less than 20 employees)	***391,326***	*129,643*	*109,767*	*75,746*	*23,219*	*38,127*	*6,345*	*2,802*	*5,684*
Small businesses as a proportion of total (%)	***98.6%***	*98.7%*	*98.8%*	*98.3%*	*98.6%*	*98.2%*	*98.7%*	*96.6%*	*98.5%*
Non-employing businesses are a proportion of total (%)	***60.3%***	*55.1%*	*63.4%*	*59.6%*	*68.6%*	*66.1%*	*60.6%*	*55.8%*	*57.8%*
State/territory share of building/construction businesses	**100.0%**	33.1%	28.0%	19.4%	5.9%	9.8%	1.6%	0.7%	1.5%

Source: Master Builders Australia analysis of ABS Counts of Australian Businesses, including Entries and Exits (8165.0)

Breakdown of building and construction businesses by annual turnover as at 30 June 2020

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted	Unadjusted
Total number of building and construction businesses - 30 June 2020	**396,881**	**131,336**	**111,145**	**77,088**	**23,482**	**38,782**	**6,469**	**2,799**	**5,780**
Annual turnover range:									
Less than $50,000	**76,423**	23,702	22,804	14,790	4,437	8,019	1,092	448	1,131
$50,000 to less than $200,000	**151,555**	50,671	41,774	28,812	9,564	15,407	2,405	983	1,939
$200,000 to less than $2 million	**140,366**	47,457	38,400	27,909	8,065	12,791	2,538	1,070	2,136
$2 million to less than $5 million	**16,707**	5,455	4,823	3,316	902	1,453	272	172	314
$5 million to less than $10 million	**6,182**	2,069	1,744	1,242	268	564	92	72	131
$10 million or more	**5,648**	1,982	1,600	1,019	246	548	70	54	129
Very low turnover businesses' share of total (%) [annual turnover below $50,000]	***19.3%***	*18.0%*	*20.5%*	*19.2%*	*18.9%*	*20.7%*	*16.9%*	*16.0%*	*19.6%*
Low turnover businesses' share of total (%) [annual turnover below $200,000]	***57.4%***	*56.6%*	*58.1%*	*56.6%*	*59.6%*	*60.4%*	*54.1%*	*51.1%*	*53.1%*
High turnover businesses' share of total (%) [annual turnover at least $10 million]	***1.4%***	*1.5%*	*1.4%*	*1.3%*	*1.0%*	*1.4%*	*1.1%*	*1.9%*	*2.2%*

Source: Master Builders Australia analysis of ABS Counts of Australian Businesses, including Entries and Exits (8165.0)

Direct contribution of building and construction to each state and territory's economy - 2019-20 (billions of dollars)

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
Gross State Product (GSP) (current prices) - 2019-20	**$1,985.4**	$629.3	$467.9	$361.0	$110.6	$316.3	$32.9	$26.0	$41.5
Total value of construction work done during 2019-20	**$212.6**	$64.7	$59.4	$40.5	$12.3	$26.4	$3.4	$1.9	$3.9
Value of construction work done as proportion of total economic activity (%)	***10.7%***	*10.3%*	*12.7%*	*11.2%*	*11.1%*	*8.4%*	*10.4%*	*7.3%*	*9.5%*

Source: Master Builders Australia analysis of ABS Construction Work Done, Preliminary (8755.0) and State Accounts 2018-19 (5220.0)

Overview of construction employment by sex and state and territory - February 2021

	Australia	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
Total construction employment	**1,152,346**	**367,588**	**322,080**	**231,775**	**72,460**	**111,503**	**20,774**	**11,024**	**15,143**
Females	**156,710**	48,648	42,886	34,812	7,636	17,481	2,123	1,971	1,152
Change in female construction employment - year to February 2021	**+9,766**	-2,561	+7,930	+4,921	-1,629	+1,515	+38	+715	-1,163
Percentage change in female construction employment over year to February 2021	**+6.6%**	-5.0%	+22.7%	+16.5%	-17.6%	+9.5%	+1.8%	+56.9%	-50.2%
Females as % of total construction employment - February 2021	**13.6%**	13.2%	13.3%	15.0%	10.5%	15.7%	10.2%	17.9%	7.6%

Source: Master Builders Australia analysis of ABS Labour Force, Australia, Detailed Quarterly (6291.0.55.003) (Table EQ06)

Summary of price changes for cement products used in house building - March 2021 quarter

	All items	Fibrous cement products	Concrete tiles
Change during March 2021 quarter (%)	**-0.6%**	-0.1%	-0.9%
March 2021 quarter v March 2020 quarter (%)	**+1.0%**	+1.7%	+0.7%
December 2020 quarter v December 2019 quarter (%)	**+2.8%**	+2.1%	+3.5%
March 2020 quarter v June 2019 quarter (%)	**+3.2%**	+2.4%	+4.0%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for ceramic products used in house building - March 2021 quarter

	All items	Clay bricks	Terracotta tiles	Ceramic tiles
Change during March 2021 quarter (%)	**0.0%**	-0.1%	+0.5%	0.0%
March 2021 quarter v March 2020 quarter (%)	**+3.1%**	+1.8%	+7.2%	+2.6%
December 2020 quarter v December 2019 quarter (%)	**+3.4%**	+2.0%	+9.6%	+2.0%
March 2020 quarter v June 2019 quarter (%)	**+1.8%**	+2.6%	+2.5%	-0.6%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for concrete, cement and sand for use in house building - March 2021 quarter

	All items	Readymixed concrete	Cement	Sand
Change during March 2021 quarter (%)	**-1.4%**	-1.7%	+0.7%	+1.6%
March 2021 quarter v March 2020 quarter (%)	**-1.6%**	-2.1%	+1.8%	+3.9%
December 2020 quarter v December 2019 quarter (%)	**+0.1%**	-0.3%	+4.2%	+2.2%
March 2020 quarter v June 2019 quarter (%)	**-0.1%**	-1.1%	+5.6%	+1.0%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for electrical equipment for use in house building - March 2021 quarter

	All items	Electrical cable and conduit	Switches and distribution boards	Other electrical equipment
Change during March 2021 quarter (%)	**-4.1%**	-5.3%	-4.6%	-11.1%
March 2021 quarter v March 2020 quarter (%)	**+5.8%**	+2.9%	+8.4%	+14.2%
December 2020 quarter v December 2019 quarter (%)	**+14.8%**	+14.6%	+16.3%	+28.4%
March 2020 quarter v June 2019 quarter (%)	**+5.7%**	+6.4%	+7.6%	0.0%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for installed gas and electrical appliances for use house building - March 2021 quarter

	All items	Stoves	Hot water systems	Heaters
Change during March 2021 quarter (%)	**-0.3%**	-0.4%	-0.1%	+0.2%
March 2021 quarter v March 2020 quarter (%)	**+2.4%**	+1.4%	+7.1%	-0.3%
December 2020 quarter v December 2019 quarter (%)	**+2.2%**	+1.2%	+5.7%	-0.1%
March 2020 quarter v June 2019 quarter (%)	**-0.1%**	-1.6%	+1.4%	+0.8%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for other materials used in house building - March 2021 quarter

	All items	Carpet and other floor coverings	Waterproofing materials	Paint and other coatings	Mirrors and other glass	Plaster products	Insulation	Termite barriers
Change during March 2021 quarter (%)	+1.1%	+2.7%	0.0%	-0.9%	+3.5%	-0.4%	+3.2%	0.0%
March 2021 quarter v March 2020 quarter (%)	+1.1%	0.0%	+6.2%	+2.4%	+1.4%	-0.6%	+4.7%	-0.9%
December 2020 quarter v December 2019 quarter (%)	+0.3%	-2.4%	+6.6%	+2.1%	-1.5%	+1.5%	+0.7%	-0.9%
March 2020 quarter v June 2019 quarter (%)	+2.2%	+0.5%	+3.2%	+0.4%	-0.1%	+7.2%	+0.4%	+2.5%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for other metal products used in house building - March 2021 quarter

	All items	Aluminium windows and doors	Metal garage doors	Metal roofing and guttering	Builders hardware	Taps and valves	Copper pipes and fittings
Change during March 2021 quarter (%)	+1.3%	+1.1%	+3.1%	+1.8%	+1.7%	0.0%	+4.8%
March 2021 quarter v March 2020 quarter (%)	+1.7%	+1.1%	+2.6%	+1.8%	+2.9%	+4.3%	+1.1%
December 2020 quarter v December 2019 quarter (%)	+0.4%	-0.6%	-0.4%	+0.6%	+2.0%	+4.6%	-4.2%
March 2020 quarter v June 2019 quarter (%)	+0.6%	+0.1%	+3.5%	-0.1%	+1.0%	+1.2%	+4.1%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for plumbing products used in house building - March 2021 quarter

	All items	Ceramic sanitaryware	Sheet metal sanitaryware	Plastic sanitaryware	Shower screens	Plastic pipes and fittings
Change during March 2021 quarter (%)	+2.5%	+0.2%	0.0%	+0.3%	+2.0%	+9.1%
March 2021 quarter v March 2020 quarter (%)	+3.0%	+5.4%	+4.8%	+1.9%	+1.0%	+6.3%
December 2020 quarter v December 2019 quarter (%)	+0.4%	+4.6%	+4.7%	+0.2%	-0.6%	-2.8%
March 2020 quarter v June 2019 quarter (%)	+2.7%	+2.1%	+2.7%	+1.4%	+0.7%	+6.5%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for steel products used in house building - March 2021 quarter

	All items	Steel beams and sections	Reinforcing steel
Change during March 2021 quarter (%)	+2.9%	+1.9%	+5.0%
March 2021 quarter v March 2020 quarter (%)	+5.9%	+5.6%	+6.2%
December 2020 quarter v December 2019 quarter (%)	+1.3%	+2.1%	-0.3%
March 2020 quarter v June 2019 quarter (%)	-2.7%	-2.0%	-4.4%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)

Summary of price changes for timber, board and joinery products used in house building - March 2021 quarter

	All items	Structural timber	Plywood and board	Timber doors	Timber windows	Cupboards and built-in furniture
Change during March 2021 quarter (%)	+2.1%	+3.9%	+0.2%	+0.5%	+1.4%	+2.0%
March 2021 quarter v March 2020 quarter (%)	+3.3%	+4.7%	+2.5%	+5.9%	+5.3%	+1.2%
December 2020 quarter v December 2019 quarter (%)	+1.5%	+2.1%	+2.7%	+6.4%	+3.9%	-0.9%
March 2020 quarter v June 2019 quarter (%)	-0.5%	+1.1%	+1.2%	+0.2%	+0.2%	+0.4%

Source: Master Builders Australia analysis of ABS Producer Price Indexes (6427.0)