Housing Construction Productivity

HIA Submission on the Productivity Commission's Research Project

October 2024

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About the Housing Industry Association (HIA)

As the voice of the residential building industry, HIA represents a membership of 60,000 across Australia. Our members are involved in delivering more than 170,000 new homes each year through the construction of new housing estates, detached homes, low and medium-density housing developments, apartment buildings and completing renovations on Australia's over 11 million existing homes.

HIA members comprise a diverse mix of businesses, including volume builders delivering thousands of new homes a year through to small and medium home builders delivering one or more custom built homes a year. From sole traders to multi-nationals, HIA members construct over 85 per cent of the nation's new building stock.

The residential building industry is one of Australia's most dynamic, innovative and efficient service industries and is a key driver of the Australian economy. The residential building industry has a wide reach into the manufacturing, supply and retail sectors.

Contributing over $100 billion per annum and accounting for 5.8 per cent of GDP, the residential building industry employs over one million people, representing tens of thousands of small businesses and over 200,000 sub-contractors reliant on the industry for their livelihood.

HIA exists to service the businesses it represents, lobby for the best possible business environment for the building industry and to encourage a responsible and quality driven, affordable residential building development industry. HIA's mission is to:

> *"promote policies and provide services which enhance our members' business practices, products and profitability, consistent with the highest standards of professional and commercial conduct."*

HIA develops and advocates policy on behalf of members to further advance new home building and renovating, enabling members to provide affordable and appropriate housing to the growing Australian population. New policy is generated through a grassroots process that starts with local and regional committees before progressing to the National Policy Congress by which time it has passed through almost 1,000 sets of hands.

Policy development is supported by an ongoing process of collecting and analysing data, forecasting, and providing industry data and insights for members, the general public and on a contract basis.

The association operates offices in 22 centres around the nation providing a wide range of advocacy, business support services and products for members, including legal, technical, planning, workplace health and safety and business compliance advice, along with training services, contracts and stationery, industry awards for excellence, and member only discounts on goods and services.

Abbreviations

ABCB	Australian Building Codes Board
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AMGC	Advanced Manufacturing Growth Centre
ANZSIC	Australian and New Zealand Standard Industrial Classification
CIE	Centre for International Economics
COE	Compensation of employees
DTS	Deemed-to-satisfy
GDP	Gross domestic product
GFC	Global Financial Crisis
GO	Gross output
GOS	Gross operating surplus
GST	Goods and Services Tax
GVA	Gross value added
HIA	Housing Industry Association
IGR	Intergenerational Report
KLEMS	Capital, labour, energy, materials and services
LFS	Labour force survey
MFP	Multifactor productivity
NCC	National Construction Code
NSW	New South Wales
NT	Northern Territory
OEM	Original equipment manufacturer
PC	Productivity Commission
QLD	Queensland
RBA	Reserve Bank of Australia
SA	South Australia
SFG	Sumitomo Forestry Group
SUT	Swinburne University of Technology
S-UT	Supply-use table
TAS	Tasmania
VIC	Victoria
WA	Western Australia

Overview

The Productivity Commission's (PC) Research Report on *Housing Construction Productivity* takes place against a backdrop of a structural mismatch between housing supply and demand. The Reserve Bank of Australia's (RBA) sharp rate hiking cycle in recent years has remarkably weakened new housing supply amid a strong resurgence in population growth and consequently, demand for homes. These factors have combined to produce acute housing pressures in this cycle. There are also longer-term structural challenges that must be addressed even after market confidence in new home building returns, and short-term supply and demand dynamics rebalance.

HIA hopes in this submission to define key features of the industry and its operability. In this submission, HIA will detail specific facts about home building in Australia to assist the Commission with its Report as well as to inform the reader and the public. There are widespread misconceptions in the public domain of how the industry operates, with commentators incorrectly interpreting data on home building and productivity.

A growing population requires supplying sufficient housing. Governments, however, continue to increase taxes on homes which constrain supply. While the industry accounts for 11 per cent of economy-wide gross value added, new housing makes up 14 per cent of goods and services tax (GST) revenue (CIE, 2019). Housing is a heavily taxed good in the economy, only after the sin taxes of alcohol and tobacco, even though it is considered an essential commodity, on par with food and water. Reducing the restrictions on new home building necessary to meet demand will require governments to ease the tax burden imposed on the industry.

Government taxation and restrictions on new housing have been the key driver of supply constraints and unaffordability. Housing supply and affordability feed into each other. Supply constraints reduce the volume of new homes coming to market, which puts pressure on limited existing stock and makes homes even more unaffordable. This took many years to unfold, driven by policies that do little to address Australia's housing undersupply and, at worst, exacerbate the situation. Today, Australian home buyers bear the consequence of long-term government policies that have inadvertently made it more difficult to build the housing Australia needs.

Summary of recommendations

1. **Stop taxing new homes**. Taxes and restrictions on new homes make up as much as 50 per cent of the cost of a new 'house and land' package in Australia. Increasing the cost of a new home results in fewer homes.
2. **Stop increasing the cost of delivering a new home**. Customers predominantly purchase and customise homes to their needs and preferences. Raising the cost of building through the NCC pushes out the marginal customer who may not be able to afford the additional cost imposed on the typical new home.
3. **Stable and reliable economic and population settings are needed**. Putting the industry through boom-bust cycles, does not help with maintaining a skilled workforce needed to build sufficient homes for the population's needs. It exacerbates trades shortages in boom cycles and creates skill atrophy in bust cycles.
4. **Attracting more investment is needed**. Home building is a very capital-intensive, cash flow driven business. One in ten homes are built by businesses funded by foreign banks and conglomerates, which help to provide expertise and liquidity. Taxing these foreign investors out of the market will not help with productivity or housing supply.
5. **Remove the regulatory barriers to increasing prefabrication**. Recognising prefabricated homes in various planning systems and the NCC is needed.
6. **Improve access to skilled workers in the industry**. The home building industry needs access to skilled workers, whether it is through attracting overseas tradespeople and enticing more young Australians to take up trades as a viable career pathway.
7. **Improve access to shovel-ready land supply**. Land values have risen sharply due to high demand and a low level of new supply coming to market. The infrastructure cost of delivering new land has increasingly been passed on to the industry and the end customer as opposed to funded by consolidated government revenue.
8. **Better data collection will assist in measuring productivity**. The Australian Government should monitor housing and land supply by collecting data and benchmarking home building targets at a state and local council level. This will also help government agencies better track and measure home building productivity.

Introduction

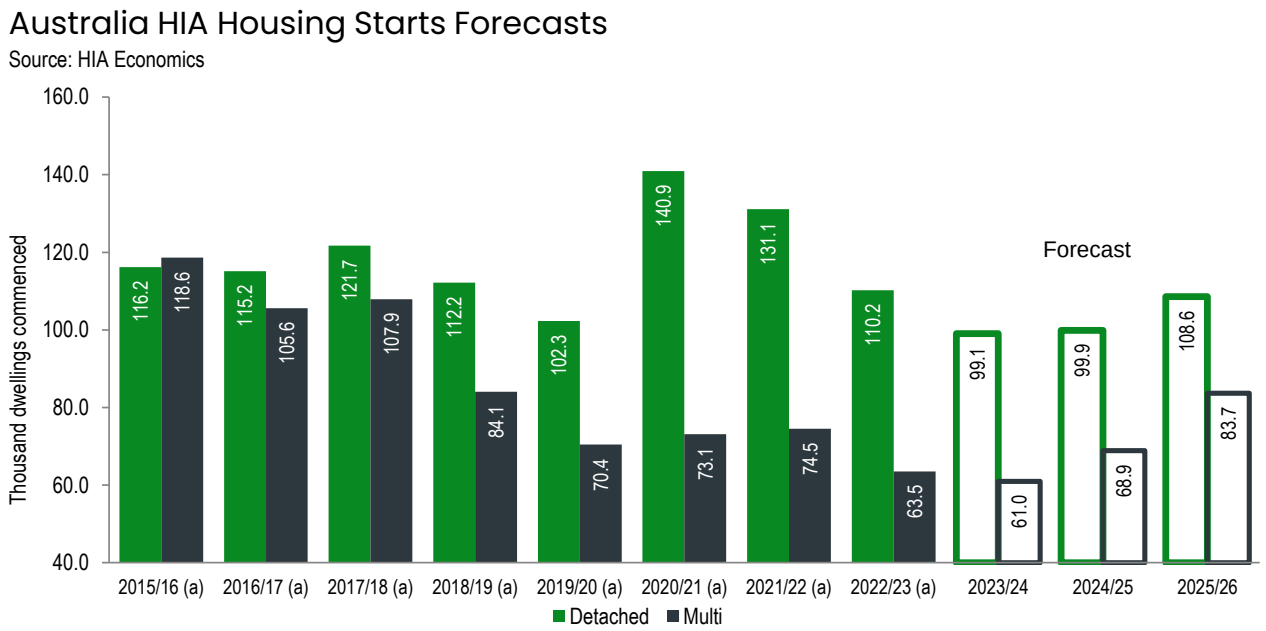
The Australian Government's target of building 1.2 million homes over five years commenced in July 2024. Removing the barriers to home building will be key to delivering improved outcomes not only for the industry but also for many Australians who aspire to own a home. Historically, this volume of new home building over a five-year timeframe has never been achieved. Getting at least to that pace of home building is needed, if Australia are to supply sufficient homes to meet both current and future underlying demand.

There is no evidence of market failure in how the industry operates, given its structure and the number of players in the market. From a market concentration perspective, there are no businesses that control a dominant share of the market for the provision of home building or supply of materials. As an example, HIA's membership base has a wide array of home building businesses and materials suppliers of varying sizes.

Absent evidence of market failure arising from the structure of the industry, it is clear that inefficiencies, both cyclical and structural, have arisen from government policy-induced failures. From taxes and increased regulatory costs imposed on new homes to planning restrictions that add costs and delays to home building, government policy decisions are a large barrier to increasing housing supply and are therefore a detriment to housing affordability. As much as 50 per cent of the cost of a new 'house and land' package are taxes, fees and excessive charges attributable to government. If governments were to focus their attention on addressing housing supply, it should look at ways of lowering the taxes imposed on homes.

Review of current conditions

The housing industry is seeing a modest improvement in home building activity from the slump induced by higher interest rates in this cycle. It is estimated that there were just 158,750 new dwelling starts in 2023/24, which is 9 per cent lower compared to the volume in the previous year and 23 per cent lower than in 2021/22. Low interest rates, demand for more space and amenity, shifting population across different regions and government support were some of the key drivers in the uplift in demand during the pandemic. Closed international and interstate borders during the pandemic also had implications for the availability of materials and skilled labour. These have seen build times stretch out above normal, pre-pandemic levels.



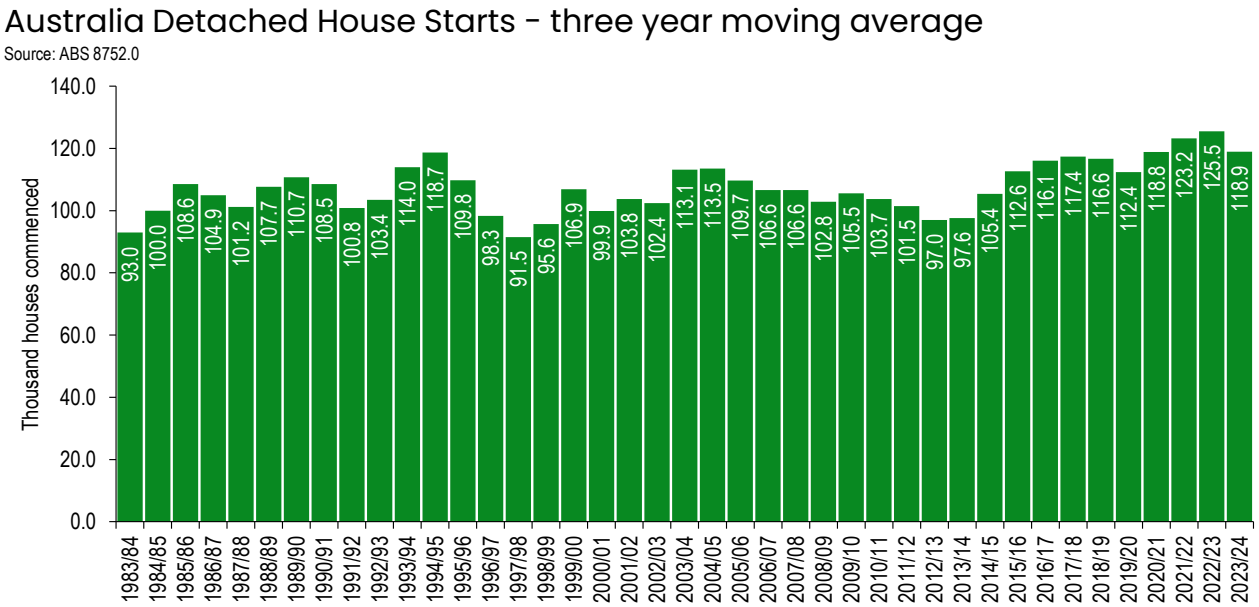
Much of the pandemic-related challenges have dissipated, with a return to long-term average build times in 2024 and growth in materials prices consistent with pre-pandemic levels. Moving forward, home building is expected to rise from decade-low levels, but nowhere near the volumes required in the short term. Constraints to home building in this cycle,

from the high cost of land, materials and borrowing, are expected to bind the volume of new home commencements in the near-term. Strong population growth and unfulfilled, underlying demand for homes will be key drivers of activity in the medium term.

Structural trends in home building

The more important discussion on productivity comes from structural trends, as cycles dissipate based on government policy settings and market confidence. There have been periods of increased home building activity typically followed by a downward cycle. The deeper these boom-bust cycles are, the more adverse the outcome is for the industry. Fiscal, monetary and population settings have a strong influence on the depth of these cycles.

The number of detached homes built in Australia has not materially changed over many decades. From a structural point of view, increased taxation, through a series of cascading taxes from governments of all levels, and planning restrictions have seen activity constrained and inadequate to respond to changes to housing demand, from population growth and increasing wealth. It is important to view the ABS *Building Activity* dataset from a longer-term perspective to smooth out these boom-bust cycles and derive a structural view of the industry's output. The volume of detached home commencements averaged over the past three years to 2023/24 (118,900) is no different from that in 2003/04 (113,100) or in 1994/95 (118,700). However, Australia's population has grown significantly since then, growing at an average annual rate of 316,200 between 1994/95 to 2023/24[1] (the addition of 9.2 million people over 29 years).



Building sufficient homes to meet the needs of a growing population is important, however there have been many barriers to supply that have prevented this from happening. Elementary economics would suggest that when demand exceeds supply, the market price of that good increases. To contain sharp growth in the market price of a good, supply needs to increase to meet the increase in demand.

Economic theory also suggests that taxes produce a deadweight loss and create a gap between the quantity supplied and the quantity demanded. The price of housing has soared as the raft of taxes and restrictions prevented housing supply from adjusting to meet demand. Bringing new supply to market has become increasingly expensive, which puts pressure on the existing stock of homes and consequently, house prices. Reducing the deadweight cost of government interventions in the market will be key to meaningfully addressing the supply problem. This would also dispel the notion that supply has not kept up because of poor productivity in the industry.

[1] The latest ABS 3101.0 data as of writing is only up to the March quarter 2024. Estimates of June quarter 2024 data were used to complete the data for the whole financial year 2023/24.

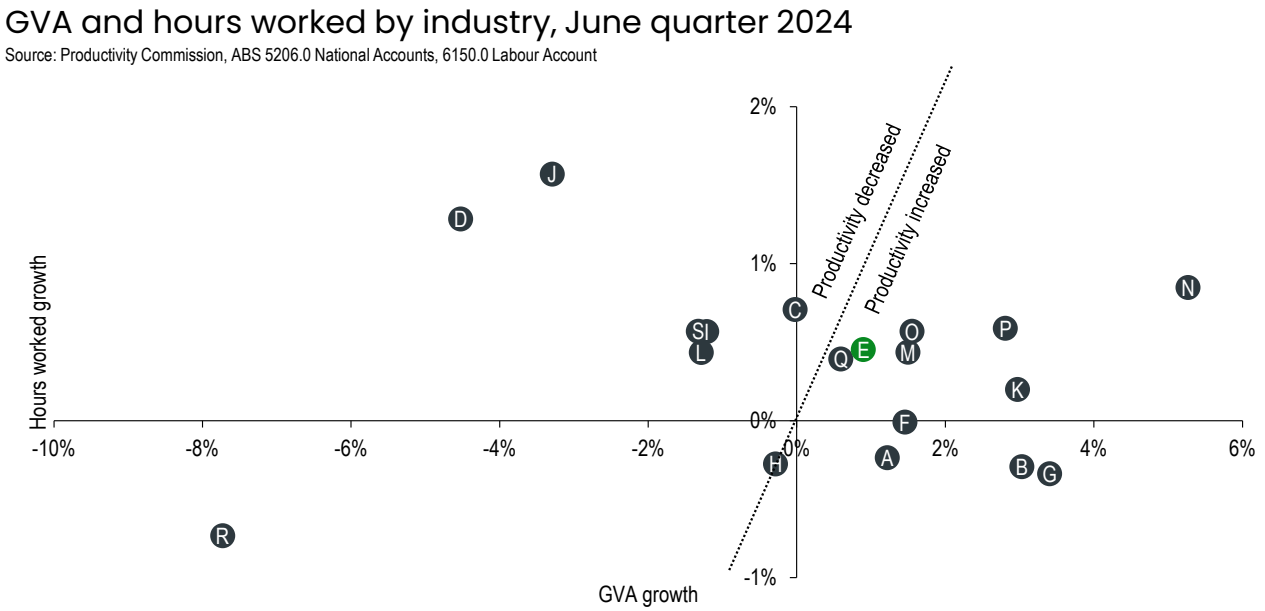
Current measures of home building productivity

The PC defines 'productivity' as the ratio of total outputs to total inputs (PC, n.d.). Productivity growth is measured as the residual of growth in outputs against some measure of input. There is productivity growth if a firm, sector, industry, or the overall economy produces more outputs with the same number of inputs (RBA, n.d.). The home building industry's output could be measured in different ways, including but not limited to new housing starts, completed homes or the value-added approach. The industry's labour input could be measured by counting the number of people involved in home building or the number of hours worked.

In practice, however, these are difficult to measure as the home building industry's outputs (i.e. completed homes or renovation projects) take time to produce and *Building Activity* data is only a snapshot of output at a given quarter. Data on labour inputs is also difficult to accurately measure because tradespeople are typically engaged as sub-contractors. Therefore, data from the ABS on the home building industry's output or employment cannot be readily used to derive productivity measures. Productivity insights from the ABS, PC or the RBA tend to focus on the wider economy or broader, market-sector industries (Bruno, Dunphy, & Georgiakakis, 2023).

PC quarterly bulletin

The PC's *Quarterly Productivity Bulletin* covers the sixteen market-sector and three non-market sector industries (PC, 2024). This is a relatively timely measure of productivity, given it uses the most recent *National Accounts* data, which is lagged by just about three months. Labour productivity is measured in the bulletin using the gross value added (GVA) of an industry as a measure of output. This dataset has the advantage of breadth (with its history dating back to 1994) and frequency (published quarterly) but lacks the depth to analyse industry sub-sectors.

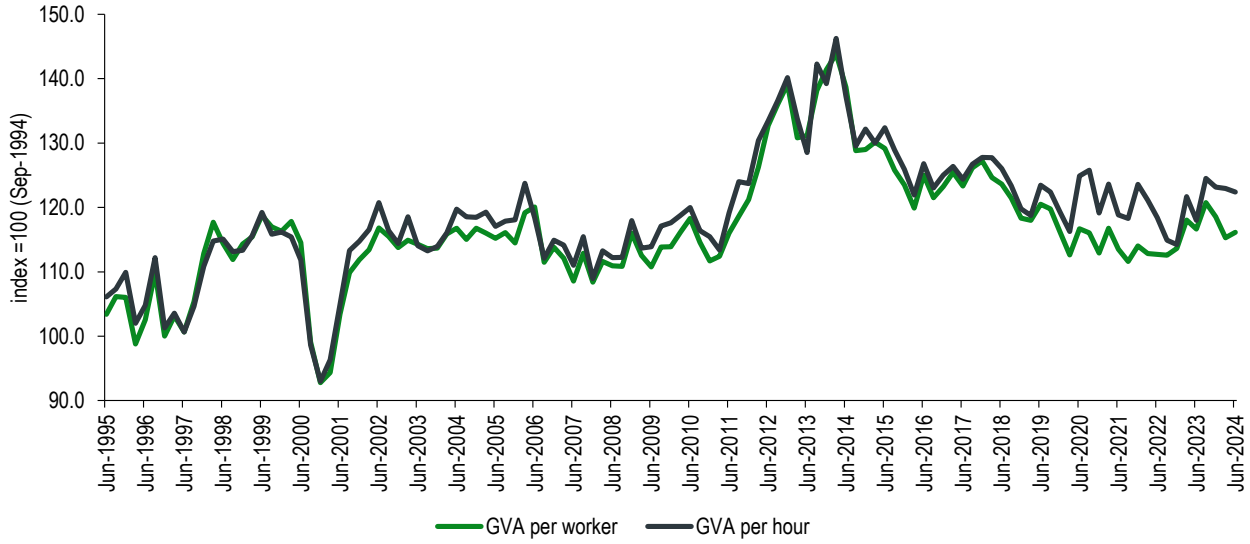


For example, the Construction industry (ANZSIC E) spans heavy and civil engineering construction, construction services and building construction. Within building construction are residential and non-residential building. Within residential building construction are house construction, other dwellings and renovations. Disentangling house construction from all these levels poses a challenge to accurately measuring home building productivity.

The timeliness and frequency of this dataset, however, makes it useful as an indicator of productivity when interpreted with respect to current trends and policy decisions which influence building or infrastructure. From the graph below of GVA per construction worker, productivity in recent years is slightly better than in the 2000s but pales in comparison to the construction boom of the early 2010s, due to government spending on public infrastructure and mining construction including roads, ports and rail, and in the mid-2010s, thanks to the apartment boom.

GVA per worker and hour worked index - Construction

Source: ABS 5204.0, 6202.0

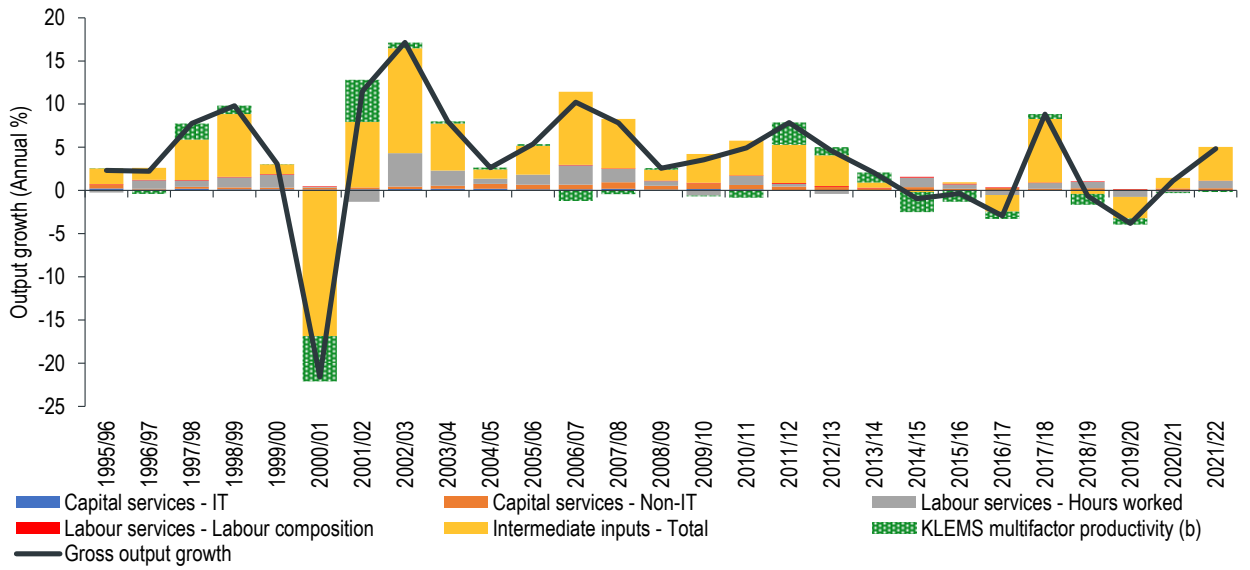


ABS multifactor productivity and KLEMS

The measure in the *Quarterly Bulletin* does not incorporate other inputs, such as capital, energy and materials. The ABS releases two detailed, albeit lagged measures of productivity annually. These use more inputs to production and derive a measure of productivity using the growth accounting concept of the Solow residual (Kelly, n.d.). The first measure is the multifactor productivity (MFP) measure, which incorporates capital and with labour as inputs, while maintaining the use of GVA as outputs (ABS, 2023). The second KLEMS productivity is a more comprehensive measure that uses gross output (GO) and disentangles capital (K), labour (L) and intermediate inputs, energy (E), materials (M) and services (S). As shown in the graph below, the strongest productivity growth in construction (shaded green) was recorded in 2001/02, when output grew by 12 per cent compared to the previous year, 42 per cent of which came from an increase in KLEMS productivity (+5 per cent).

KLEMS MFP Estimates - Construction

Source: ABS 5260.0.55.004 Table 5



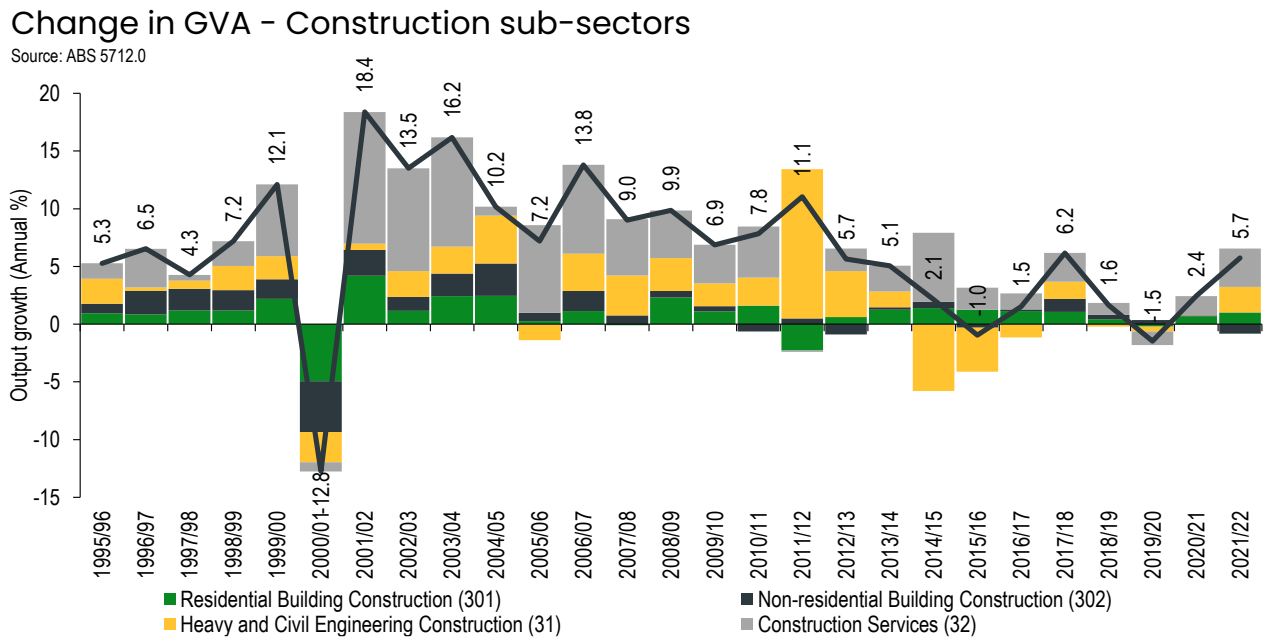
The sharpest decline in output was the year prior, in 2000/01 (-22 per cent) because of the introduction of the GST. Intermediate inputs drove the fall, due to the pull-forward in activity, with materials contributing 7 of the 22 per cent decline and services, 10 per cent. KLEMS productivity fell by 5 per cent that year. This is worth noting because tax settings are an exogenous driver of activity that is usually unaccounted for. Of interest is the caveat in the publication on interpreting Construction productivity with consideration to taxes and regulations (ABS, 2015).

ABS Supply-use tables

The MFP and KLEMS measure have the same disadvantage as the PC's *Quarterly Productivity Bulletin* in that they measure broader industries. The compromise to the depth and timeliness of this data is to derive industry GVA from the Supply-Use Table (SU-T) data from the ABS, published annually in October and reporting on trends of the previous financial year (as of writing, the latest available data reports on 2021/22). Output across the sub-sectors can be derived from this data by using the gross operating surplus (GOS), compensation of employees (COE) and taxes less subsidies on production.

While it is not the timeliest data, it forms the basis of a more comprehensive sub-sector productivity analysis and provides insights on which sector is influencing movements in the overall Construction industry. The graph below shows the weighted annual change of each component of construction sectors on the overall industry's output. Government policy settings play a significant role in the changing output of the construction industry, such as:

- the introduction of the goods and services tax (GST) affecting output in 2000/01 and 2001/02,
- the *Nation Building and Jobs Plan* fiscal stimulus package in response to the Global Financial Crisis (GFC),
- a weaning of infrastructure stimulus in 2014/15 and 2015/16, or
- the *Home Builder* grant in response to the economic challenges of the pandemic



These government measures were in response to cycles, however there are also government policy decisions that structurally affect home building, such as stamp duties, land taxes, infrastructure and developer charges and planning controls.

There are key things to consider when measuring and interpreting home building productivity, given other industries are not taxed or regulated to the same extent as home building. The outputs of these other industries are also not subject to planning controls which effectively limit the ability of production (or building) to meet demand. Getting a home from sale to completion also takes considerably longer than producing a good in other industries.

Home building outputs

Most new homes constructed in Australia are sold-to-be-built, meaning the end consumer typically engages a builder to construct a home to their personal specifications and preferences. Australia does not have a large rolling stock of new turnkey homes ready to be sold to market at any time because it is an inefficient use of a large amount of capital.

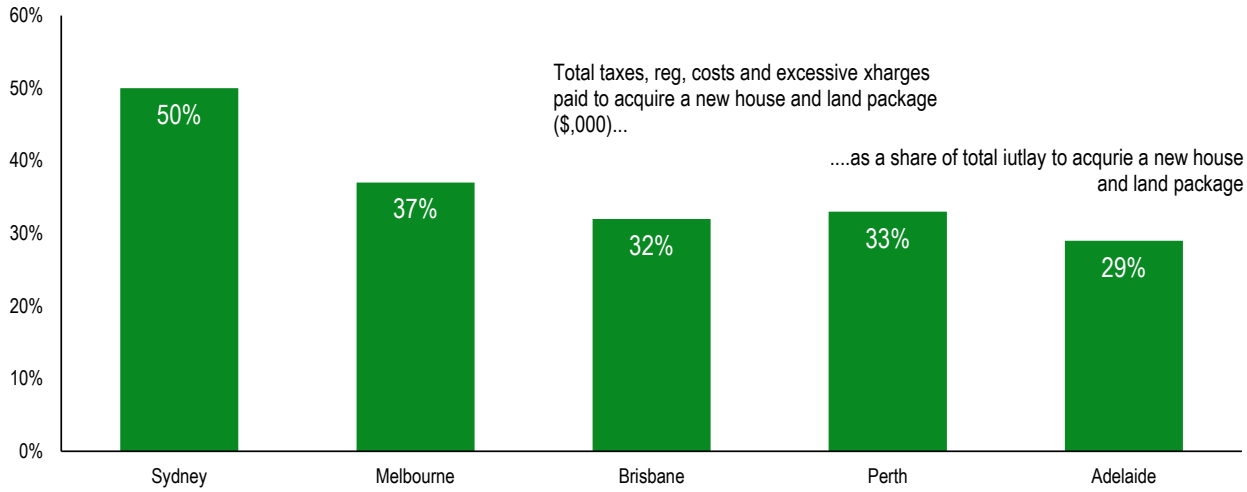
Measuring the industry's outputs to estimate productivity is challenging because of its tax and regulatory frameworks, the changing character of the typical home and variations in building methods across Australia. The industry also repairs, maintains and renovates a growing stock of existing homes. At the very least, these homes will age over time and require repair or replacement. Consumer preferences may push homeowners to undertake major renovations such as additions and conversions.

New homes are highly taxed and regulated

The ABS stated in its methodology for KLEMS Productivity in 2015 that: "*Multifactor productivity in this industry needs to be interpreted with consideration to regulated building standards and taxation frameworks* (ABS, 2015)." Home building in Australia is highly regulated and taxed. Minimum building standards are set by the Australian Building Codes Board (ABCB) through the National Construction Code (NCC). Housing is taxed by governments of all levels but particularly at a state and local council level.

Whether it is through stamp duty, land taxes or development levies, a series of cascading taxes are imposed on new homes. This does not include the 'pseudo-taxes' of increasing regulatory costs, such as through changes mandated by the NCC and local planning systems. HIA engaged with the Centre for International Economics (CIE) to produce a bottom-up research report which details the tax imposts on new homes across different capital cities. It found that as much as 50 per cent of a new 'house and land' package in Greater Sydney are made up of taxes, fees and excessive charges imposed by governments (CIE, 2019).

Total statutory taxes, regulatory costs and excessive charges paid within total outlay to acquire a new house & land package in a Greenfield estate (2016-17)

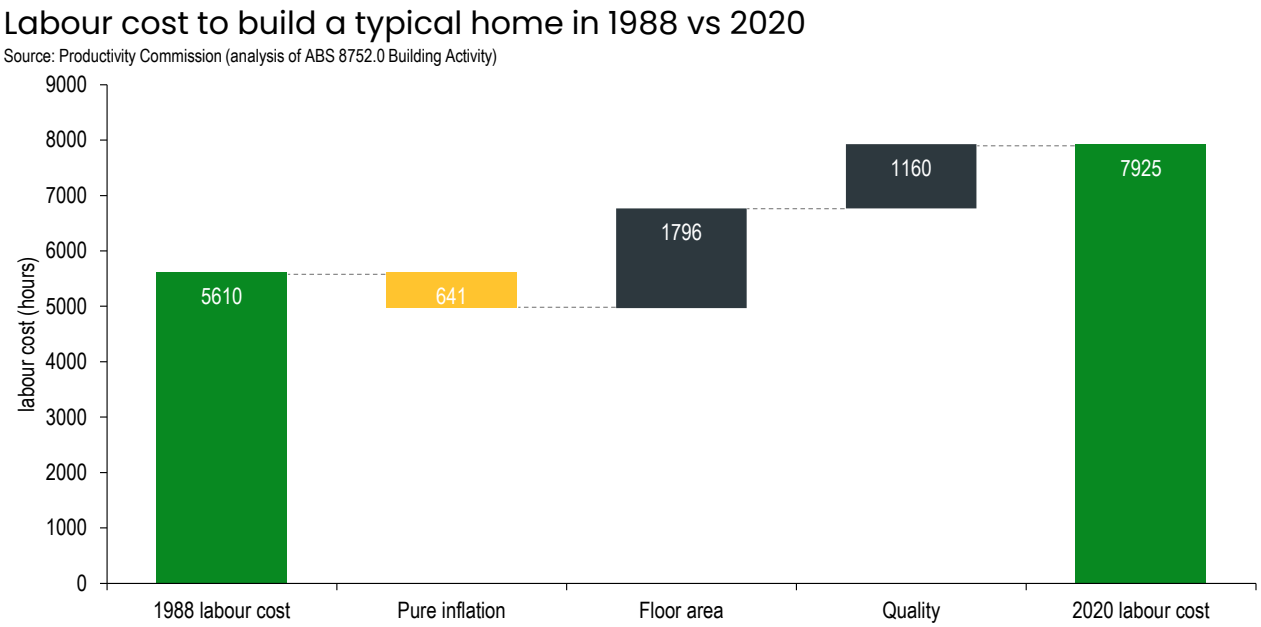


Housing is one of the most heavily taxed goods in the economy, just after the sin taxed products of tobacco and alcohol. Land taxes, rates, taxes on immovable property and stamp duty contribute around $51 billion annually in revenue to state and local governments. Housing accounts for 11 per cent of economy-wide GVA but provides 14 per cent of total GST revenue. *National Accounts* data indicate that ownership transfer costs, which includes real estate and legal fees, stamp duties and government transfer charges, were valued at $40.1 billion in 2023/24. Ownership transfer costs accounted for almost two per cent of real gross domestic product (GDP) in 2023/24.

Homes have changed over many years

The typical home built in the 2020s is vastly different to that built in the 1980s. This could be attributed to a range of factors, such as increasing wealth and regulatory changes. The typical Australian household is wealthier now than they were decades prior. This has altered their preferences and demand on their homes, whether it is through more bedrooms, bathrooms, higher quality fixtures and a list of other reasons.

Work done by the PC in its *5-year Productivity Inquiry Report* showed that the labour cost of building a home has increased by 41 per cent between 1988 and 2020, from 5610 to 7925 hours. Much of this increase is attributed to the typical 2020s home being larger and of higher quality than that in 1988. Through the measure of 'pure inflation', the analysis shows that if the same sized and quality home in 1988 were to be built in 2020, the typical worker would only need to work 4969 hours to afford that home, 641 fewer hours than in 1988 (PC, 2023).



While income growth has outpaced decades of growth in the cost of building, it has not caught up with the soaring cost or value of residential land. Shovel-ready greenfield land and taxes on new homes have made delivering a new 'house and land' package increasingly expensive, especially in the largest capital cities. The rising cost of land has also created a greater incentive to maximise space, which has seen the increased prevalence of double-storey homes in Australia's capital cities, particularly in Sydney. This increases the complexity of building but only gets captured in ABS *Building Activity* data as one completed home. In other words, a simpler completed home in 1983/84 will be of a vastly different build to a more complex home completed in 2023/24. However, both get counted as one home in the data.

Another key reason for the evolution of the typical home built is government-mandated changes through regulation. Building code changes have seen the typical home in the 2020s vastly different to ones built in the 1980s, amid a raft of changes which has imposed rules on how to build and which materials need to be used (i.e. insulation, double-glazing, climate change resilience and accessibility requirements, among others). The most recent round of NCC 2022 changes is tipped to add $20,000 to $30,000 to the final cost of a typical detached house, based on feedback from volume builders.

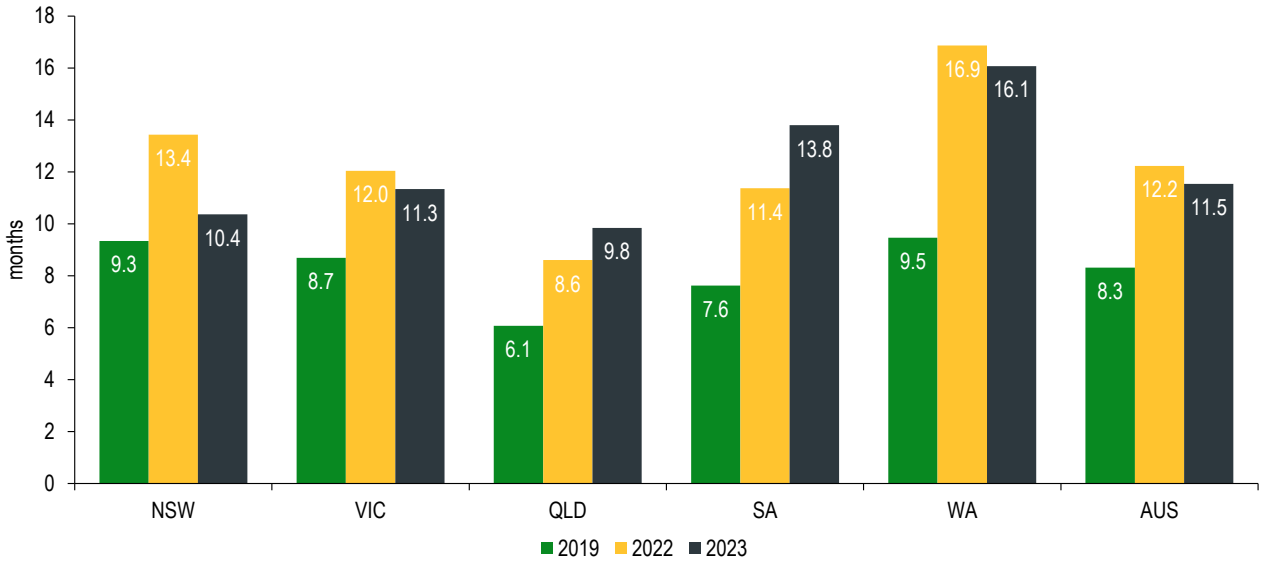
Homes take time to build and renovate

Over the course of the pandemic, the industry saw build times blow out due to mobility restrictions which resulted in difficulty sourcing overseas and interstate labour and building materials. The results of a survey of HIA members revealed Western Australia bore the brunt of this trend, which saw build times blow out by as much as 78 per cent compared to pre-pandemic levels. Nationally, this figure rose by 44 per cent.

The ABS also publishes build times typically in October, which is a survey of all home building approvals data. The most recent data reporting on build times for 2023/24 showed the typical detached home nationally took 13.8 months to get from start to finish, ranging from 9.8 months in the Northern Territory to 20.8 months in Western Australia. This data will remain skewed by legacy projects commenced in recent years that only reached completion some time in 2023/24. The most recent HIA survey (2023) revealed some easing, build times are expected to have fallen back to pre-pandemic normal levels in 2024.

What was the typical timeframe to build a detached home?

Source: HIA Economics



The productive efficiency of the industry depends on its ability to build within a reasonable timeframe. This is part of the reason apartment builders need certainty of completing within 36 months before starting new projects. While the focus of this submission will primarily be on detached house construction, it is worth noting that similar principles apply. Uncertainty on build times with the pipeline of work already under construction creates delays for future work.

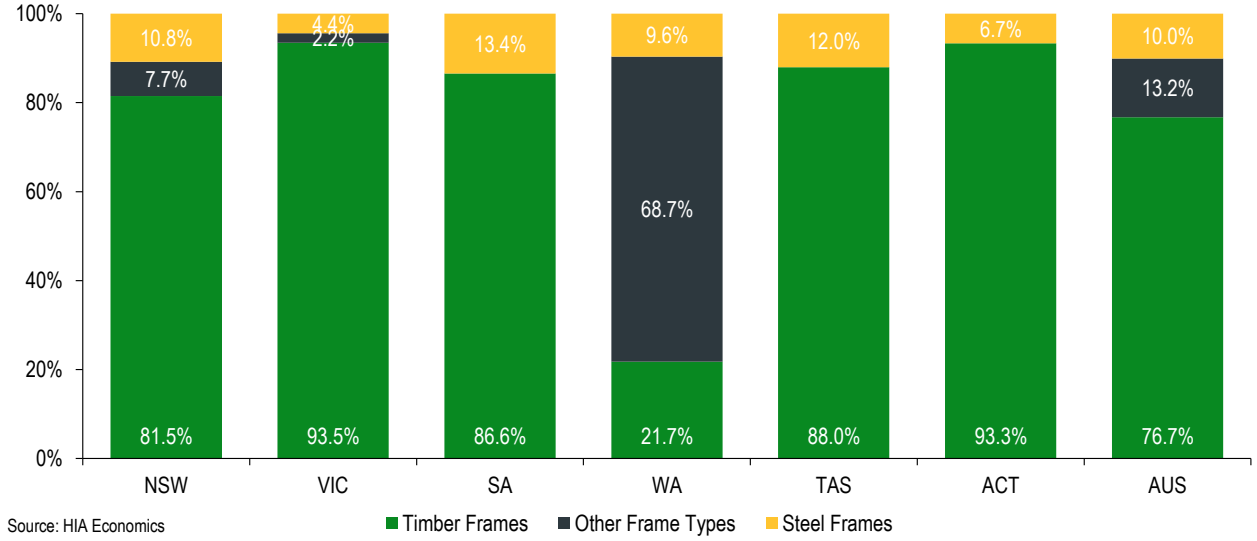
Unlike other industries where production outputs have relatively shorter timeframes, work on building or renovating the typical home takes much longer. This makes analysing the industry's output at a static point in time unreliable when measuring productivity. Leading indicators of activity such as new home sales, housing finance or new home approvals are a snapshot of 'potential' flow at a given point in time. Lagging indicators such as new housing starts and completions are a rearview of past activity and are influenced by the time it takes to build, the ease or difficulty accessing materials and skilled tradespeople and the new pipeline of approved projects yet to commence.

Build methods are different across Australia

The typical home in Perth is constructed using double bricks, in contrast to timber and steel frames which are more common in the east coast. Given Australia's two largest capital cities account for half of homes built nationally, these build methods will skew the national figure closer to them. Data on build times show that it takes longer to build a home in Western Australia than the national average.

Western Australia also saw the sharpest escalation in build times during the pandemic. This reflects the difficulty sourcing skilled tradespeople in the state, partly due to competition from the mining sector. Build times are even longer during times of strong mining activity (taking more than 12 months in 2008/09, 2021/22, 2022/23 and 2023/24). A weakening mining sector eases pressures on build times as labour shifts to residential building, evident in the fall in build times between 2016/17 to just before the pandemic.

What percentage (%) of the detached homes you built in 2022 used the following:

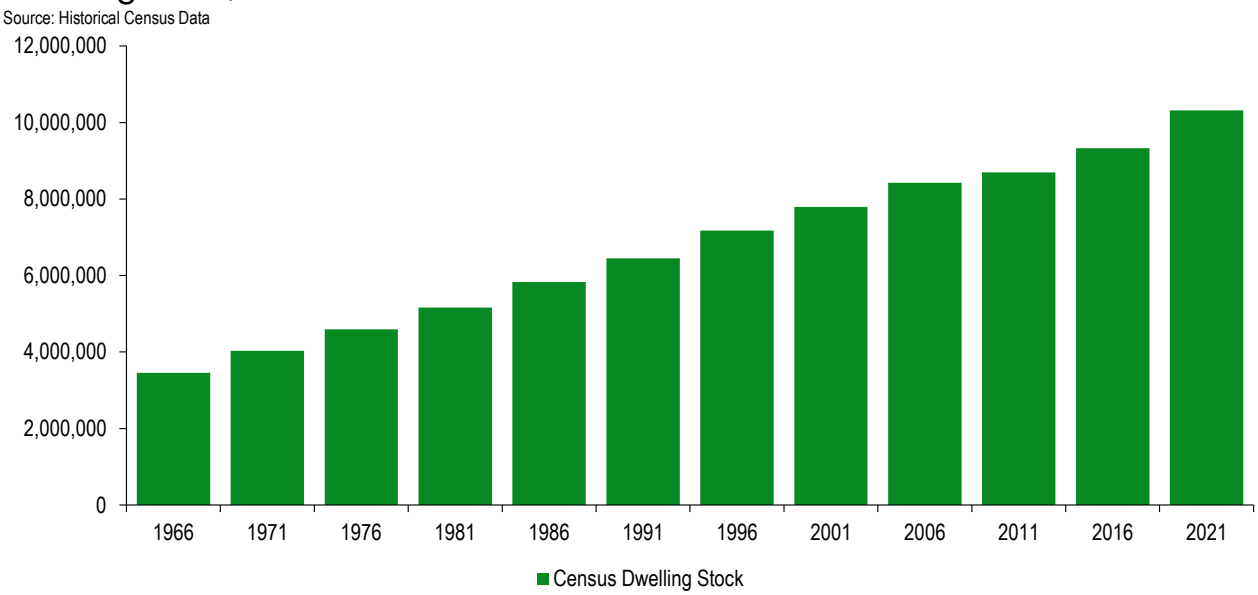


This strong demand for skilled tradespeople means that access to overseas skilled labour is crucial. In 2012/13, build times fell slightly, coinciding with a wave of overseas skilled workers (Subclass 457 Visa holders) in construction coming into Western Australia in that year. During the pandemic, Western Australia's closed borders made it difficult to source workers from overseas. Drawing labour from the east coast would have also been difficult due to their border restrictions, notwithstanding the strength of home building activity across Australia during the pandemic. Again, government policy decisions play a role in the capacity of the industry to build homes.

The industry also engages in renovation work

Census data shows that in 1986, there were just 5.8 million dwellings in Australia and 15.6 million people. These figures have increased since then, to reach 10.3 million dwellings and 25.4 million people in the 2021 Census. The average intercensal increase in Australia's dwelling stock since 1971 was 624,200 (about 124,840 per annum).

Dwelling stock, Australia



The fastest pace of growth was between the 2016 Census (9.3 million) and the 2021 Census, which saw the addition of approximately 993,000 new dwellings in five years. This was thanks to the apartment boom of the mid-2010s.

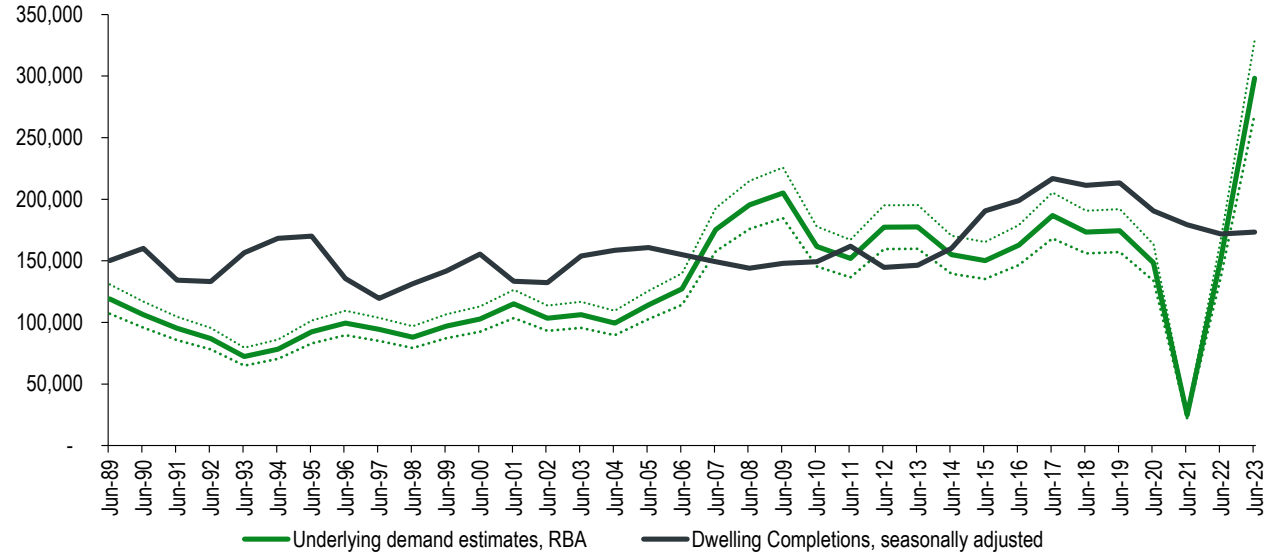
Australia's stock of dwellings will continue to grow and age. As the pool of established homes requiring maintenance, repairs and renovation increases, the number of skilled tradespeople required to attend to these dwellings also needs to increase. Expenditure on renovations accounts for 40 per cent of total housing activity, based on *National Accounts* data for the June quarter 2024. This includes smaller renovation work that do not require a building approval. Larger-scale renovation work, which require an approval, account for approximately 14 per cent of overall residential building activity.

Boom-bust cycles are bad for productivity

Boom-bust cycles are neither necessary nor helpful. The home building industry relies on stable economic and population settings to supply sufficient homes, the opposite of which has occurred in recent years. The past four-and-a-half years have seen population growth go from near zero for two years to some of the fastest rate of growth in Australia's history. This places pressure on housing supply, which has been pitted against the sharpest interest rate hiking cycle in a generation. The rise in the cost of borrowing and building a new home has dampened new housing supply, which has seen rental prices grow sharply.

RBA estimates of underlying housing demand and completions

Source: Reserve Bank of Australia, ABS 8752.0



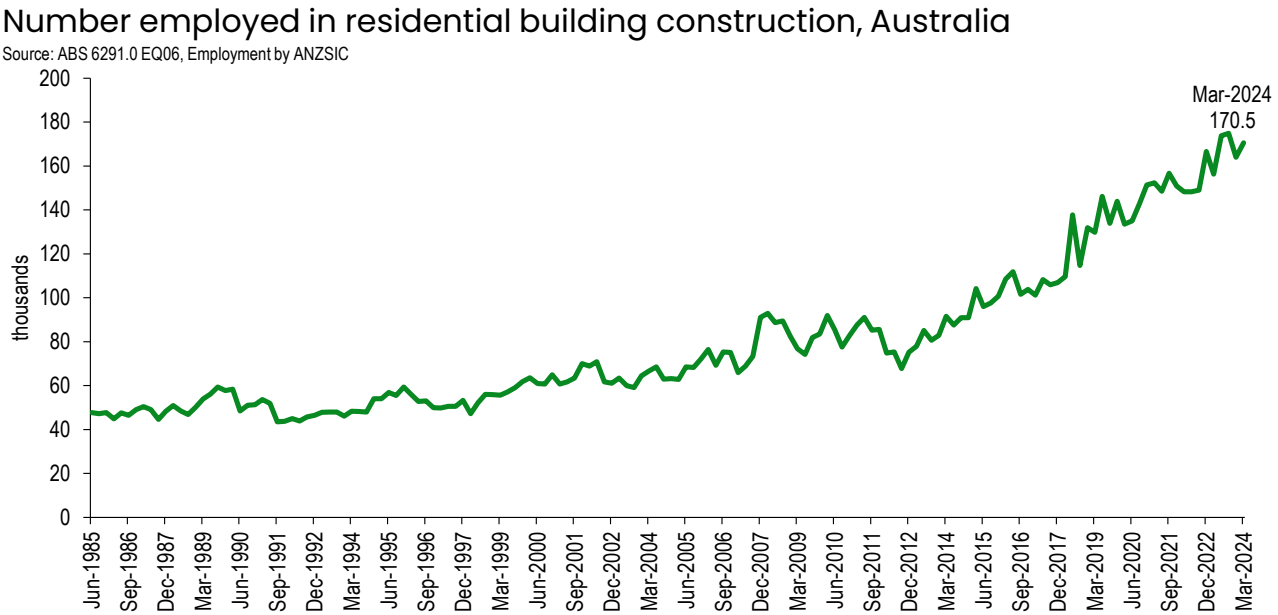
These cycles need to be addressed meaningfully, by removing the structural barriers that have been keeping housing supply from growing in lockstep with population growth and demand. Housing Australia's future population requires adequately planning for sufficient and well-located homes and infrastructure. Whether it is through building 1.2 million homes over five years, achieving rental vacancy rates of 3 to 5 per cent or supplying enough homes to curb extraordinary nominal growth in house prices and rents, maintaining a healthy pace of home building also helps the industry build productive capacity. A steady pipeline of work is important to keep skilled trades engaged and capacity be built over the longer term. There are efficiency gains to be had from a steady pool of work, and conversely, efficiencies are lost when the industry goes through cycles of low to high volumes of work. Australian home builders have the ability and scale to efficiently allocate work and ensure building commences and completes at a specified timeframe.

Building capacity will help the industry maximise economies of scale from building a sufficient volume consistently over a period of time. The inverse is also true, where going through a rollercoaster phase in home building adversely impacts productivity as it leads to skill shortages in boom cycles and skill atrophy in bust cycles.

Home building inputs

Detailed labour force survey (LFS) data by ANZSIC

Labour inputs to home building are difficult to measure. Tradespeople who work as subcontractors may be engaged in multiple sites and even different construction industries, such as residential, commercial building or public infrastructure. There are estimated to be about 277,830 tradespeople engaged in residential building in 2024, based on Census and Labour Account data (Murray, 2024). These include the top three occupations (carpenters, plumbers and electricians) as well as painters, bricklayers, cabinetmakers, plasterers, tilers, concreters, roof tilers, floor finishers and glaziers. Conversely, there may also be non-trade occupations employed by the residential building industry (i.e. accountants, lawyers and salespeople).



This is the reason readily available measures of labour inputs, such as detailed Labour Force data by industry do not accurately measure those engaged in home building. One of the misconceptions in the public domain is that productivity has fallen because Australia has more construction skilled trades and people employed in home building but builds the same number of homes as in the 1990s. Some of the data used to measure labour inputs include the number of people employed in ANZSIC 301 (residential building construction) and the number of people employed in ANZSIC 32 (construction services).

The contentions are:

1. **Employment has increased:** That residential building businesses (ANZSIC 301) employ more people in 2024 than in the past but build the same number of homes. Therefore, productivity has declined.
2. **There are more tradespeople in the economy:** That there are more construction skilled trades in Australia (ANZSIC 32) in 2024 than in the past, but we build the same number of homes. Therefore, productivity has declined.

These contentions are misplaced because:

1. Labour account measured in **ANZSIC 301** includes lawyers, accountants, sales staff, administrators, etc directly employed by residential building companies. It is not a complete stocktake of those skilled trades that are engaged to undertake building work on site, such as carpenters, joiners, electricians, architects, engineers and plumbers, among others.

- Detached house building in Australia is undertaken by sub-contractors who are not directly employed by the residential building business but are rather paid to complete specific tasks. For this reason, they are largely excluded from the ANZSIC 301 measure of those directly employed by building businesses. Some skilled tradespeople are directly employed by building companies, but it is not the dominant form of engaging skilled trades.
- There has also been a rise in **'supply and install'** arrangements as vertical integration has grown. 'Supply and install' describes an arrangement where the supplier of a product, for example bricks, also supplies the labour to install the bricks. Under these circumstances, skilled tradespeople are more likely to be directly employed by the original equipment manufacturer (OEM) or the supplier, which are not part of residential building construction businesses.
- Moreover, the growth in employment recorded by the ABS as part of ANZSIC 301 largely reflects changes in industry structure. These changes include consolidation, vertical integration and an increase in pre-fabrication within the detached home building sector. These structural changes have occurred largely since the GFC and are associated with an increase in foreign direct investment within building businesses which will be further discussed in this paper.
- More than one in ten detached houses built in Australia in 2023/24 was built by an overseas-owned company. The emergence of large investors in the sector has also seen the trend toward vertical integration and therefore, direct employment. Moreover, as the industry moved to more pre-fabrication, more skilled trades were employed directly in off-site manufacturing facilities, and fewer skilled trades are engaged onsite.
- It would be an error to conclude that this shift toward pre-fabrication, or vertical integration, is evidence in itself, of a decline in productivity in the sector.

2. The number of employed persons in **ANZSIC 32** (construction services) does not accurately reflect the number of skilled tradespeople engaged to build a house because non-residential building sectors also use these services.
    - There are more skilled tradespeople in the economy now than in the 1970s because of the increasing demand from non-residential construction (i.e. commercial and public building such as hospitals and schools, and civil construction such as roads and bridges) and the increase in construction work undertaken in the mining industry.

Independent contractors

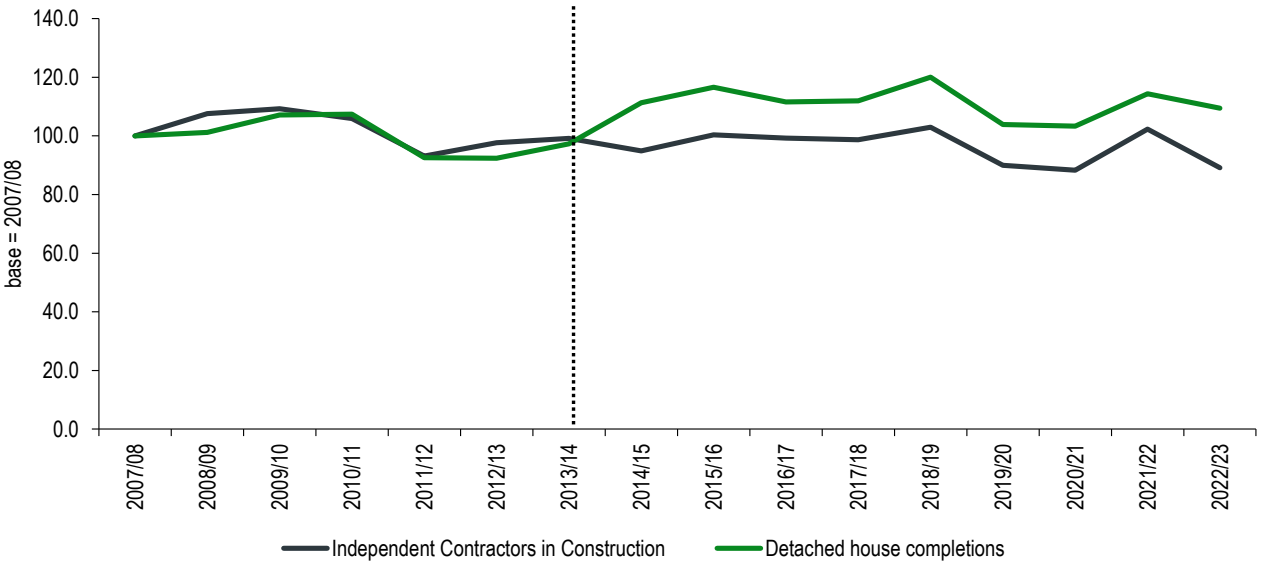
The home building industry engages workers on an independent contracting basis, thus adding to the measurement challenge of which workers are engaged in the sector at any given time. The ABS publishes data on working arrangements which includes a breakdown of independent contractors. It was estimated that there were 278,100 construction independent contractors in 2022/23, working across the different industry sub-sectors.

The data only goes back to the 2007/08 financial year making it difficult to track longer-term trends. There is an 89 per cent correlation between the number of independent contractors in construction and the volume of house completions. What was also interesting was a divergence in trend from 2013/14 onwards, when there was an average 16 per cent increase in completions relative to the number of independent contractors. From a productivity perspective, this would imply an increase in construction productivity, with more outputs (houses completed) for the same number of inputs.

Consistent with the section above on build times in Western Australia, it appears that there is an inverse relationship between the strength of the mining sector and the timeframe it takes to complete a home. The increase in output per independent contractor coincides with a weakening mining sector in 2014/15. This is evidence that labourers who had been working on construction projects for the mining industry during the mining boom may have moved to working in residential building.

Independent contractors and detached house completions

Source: ABS 6359.0, 6336.0, 8752.0

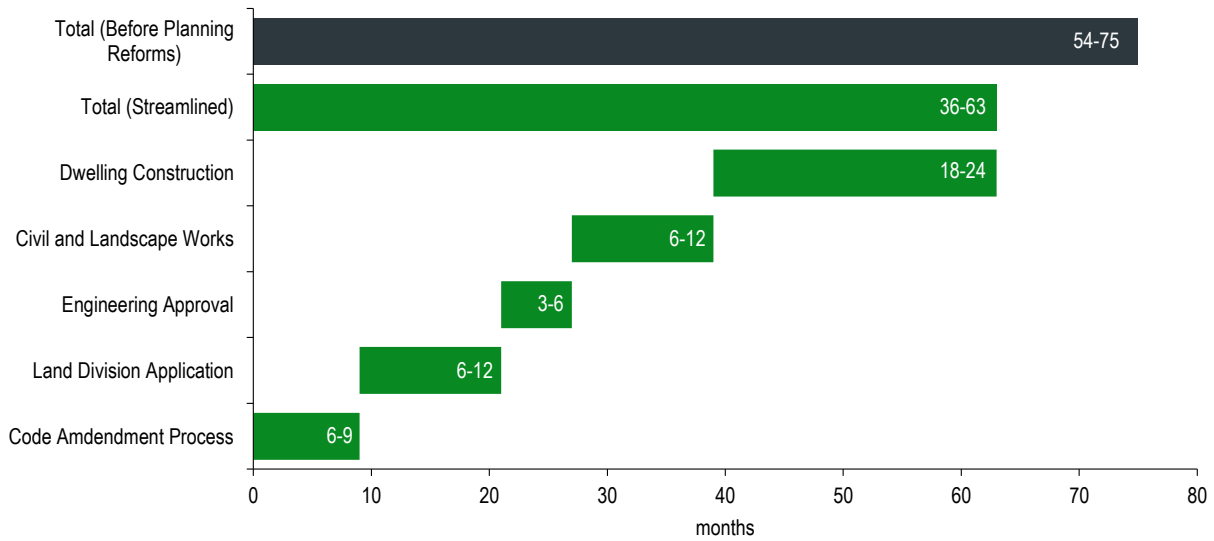


Land supply availability

The industry's output relies on land supply availability. Bringing shovel-ready land to market is an expensive and a lengthy process. Prior to the 1980s, infrastructure charges for the provision of new estates were charged under consolidated government revenue. Pressures on the public purse over time pushed this provision towards a user-pays model. The end buyer of a new completed 'house and land' package in the 2020s bears a larger share of the cost of infrastructure, maintaining it and providing access to it for future potential ratepayers. The cost of infrastructure is now embedded in the price of a new 'house and land' package. What this has done is make land more expensive for the typical home buyer. The South Australian Government has taken steps to streamline and more fairly fund the delivery of shovel-ready land. This will reduce the timeframe for getting unzoned land into a shovel-ready state to three to five years, down from four to six years. Despite being some of the best timeframes in the country, this is still much longer than it takes to see an increase in housing demand from population growth.

Streamlined development approval process - SA

Source: Department for Housing and Urban Development *Housing Roadmap*

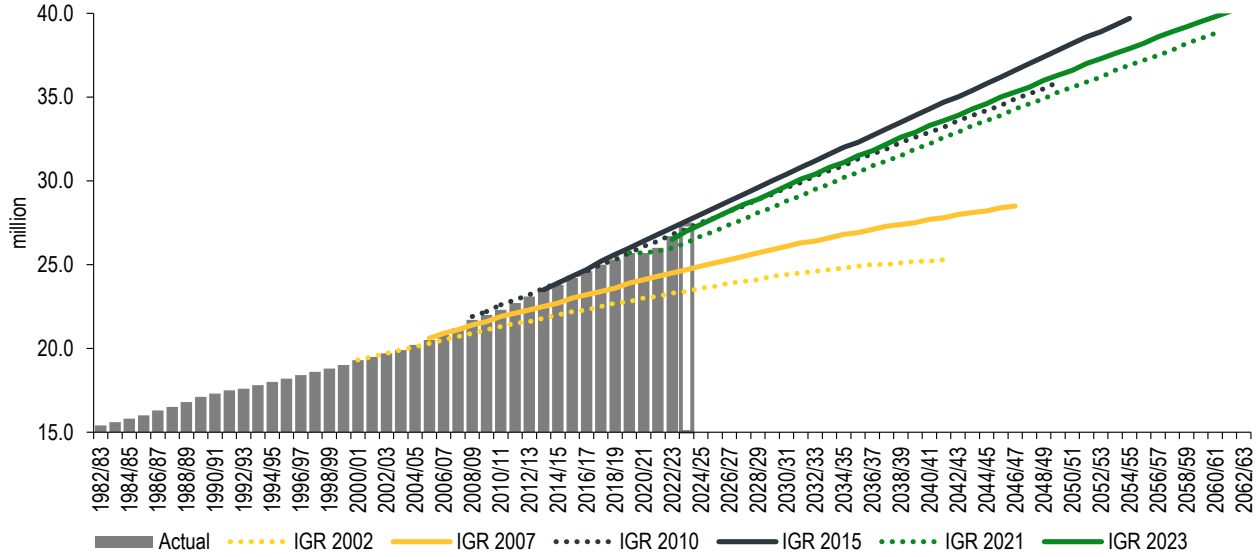


Better data and population forecasts are needed

The longer lag it takes to increase land supply compared to population growth means there needs to be robust and accurate forecasts of population growth. State governments and local councils also rely on the Australian Governments projections of future population growth, which historically have been consistently revised upwards. While Australian Government agencies note that some of these are only projections, conservative assumptions of population growth have not served well for future infrastructure planning, which take time to fund and develop. This underprojection of population inhibits the ability of governments to foresee future housing need, inadvertently leading to poor planning outcomes. If there were sufficient planning for future land supply, the value of shovel-ready land would not soar well-above the pace of growth in typical household incomes.

Population projections across intergenerational reports

Source: Commonwealth of Australia - Treasury, 2023 IGR, ABS 3101.0



Australian Government agencies have a role to play in monitoring residential land supply. At present, there are various terminologies and different degrees of data availability on present and future land supply across local councils. The ability to benchmark home building targets at a local council and state level will be key for the Australian Government in encouraging and planning for more homes to be built in well-located areas. The PC has produced work in the past on benchmarking local councils and planning systems (PC, 2011). The Australian Government has an opportunity to revisit and update this report, to aid its effort of encouraging state governments and local councils to increase supply.

Prefabrication and overseas investors

More than one in ten new homes in Australia are built by businesses funded and backed by large Japanese conglomerates. These overseas backers also provide technical expertise as well as additional capital for Australian home building businesses. Construction businesses, not just home building, are very capital-intensive and are cash-flow driven. Innovation within home building, such as through prefabrication, have increasingly become prevalent. There remain challenges with regulatory and consumer preferences that need to be overcome in order for prefabricated homes to succeed more broadly in Australia.

Increased prefabrication

One of the common proposals for increasing productivity in the home building industry is to increase pre-fabrication. Intuitively, prefabrication offers quicker build times and should therefore increase productivity, but there are significant challenges from a regulatory, policy and consumer preference perspective.

HIA commissioned Swinburne University of Technology (SUT) to produce a research report on regulatory barriers for prefabricated buildings. Some of the key precluding factors to increased prefabricated use for home building come from government regulation (SUT, HIA, AMGC, 2022). The recommendations of the research report include:

1. That **planning requirements** for prefabrication and modular housing be:
    a. amended to use standardised terms for off-site constructed buildings (e.g., manufactured home, movable home, relocatable home, kit homes, manufactured home estate) and align with associated terms to be incorporated into the NCC and state and territory building regulations;
    b. amended to explicitly recognise prefabrication, modular and tiny homes as acceptable forms of housing;
    c. assessed so that excessive design requirements for modular and prefabricated homes within planning or housing codes can be identified and better aligned codes with lightweight construction and smaller housing designs; and
    d. amended to establish a definition of a ‘tiny house on wheels parking space’ and permit such parking spaces on any land where residential buildings are permitted.
2. That prefabrication and modular construction be explicitly recognised as **regulatorily acceptable** construction practice, and a **standardisation** of relevant terms and definitions be established for use in Australian building codes, standards or technical requirements.
3. That the Australian Building Codes Board (ABCB) establish a project to identify ways to provide prescriptive and performance requirements into the National Construction Code (NCC) to support the orderly use and approval of prefabrication and modular construction, especially for Class 1 buildings.
4. That Standards Australia develop a work program to:
    a. review and modify the relevant construction standards, particularly NCC referenced standards, for their adequacy to address prefabricated and modular construction; and
    b. develop a new suite of Australian Standards specifically for prefabricated and modular construction to provide industry with a set of deemed to satisfy (DTS) construction solutions.
5. That the current Australian product conformity infrastructure be reviewed for its ability to cope with new prefab and modular products that need testing, individually and as a whole, as the basis for their acceptance in building approvals.
6. That a **manufacturer certification scheme** be developed to suit the specific needs of the prefab and modular building industry.
7. That the **supply chain** roles and responsibilities are made clear with prefab and modular construction in mind and implemented in practice.

8. That a building industry **taskforce** is set up to further investigate and address barriers associated with contracts, progress payments, licencing, mandatory stage inspections and insurance.
9. That the industry is **upskilled** by setting up specialist courses for prefab and modular construction.
10. That the Australian Government provide **incentives and support** by encouraging increased use of prefab and modular construction in their procurement specifications.

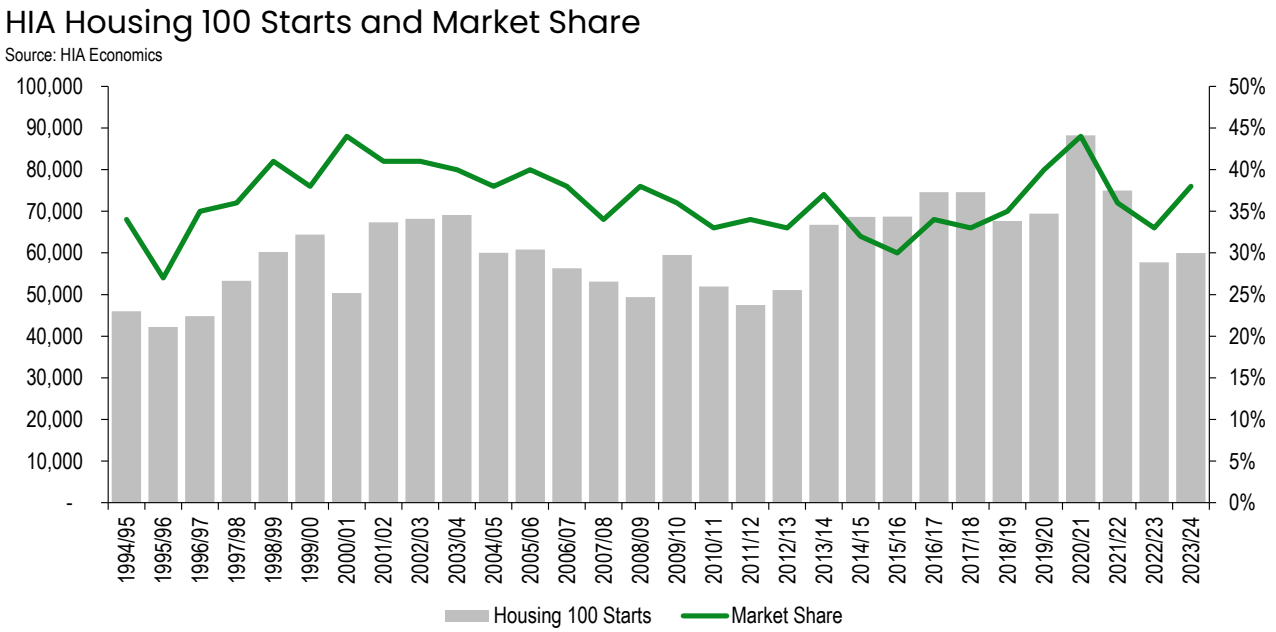
The rise of vertically integrated businesses

Foreign investors, particularly Japanese conglomerates, have increasingly invested in home building businesses in Australia post-GFC. These are characterised by their vertically integrated structure, with some groups owning multiple businesses that form parts of the overall home building supply chain. An example is NEX Building Group, which is backed by Asahi Kasei Homes. It owns home building brands such as McDonald Jones, Arden Homes and Weeks, as well as a steel manufacturing business Supaloc Steel Frames.

Sumitomo Forestry Group (SFG) is another overseas business which has recently acquired a 51 per cent stake in Metricon Homes, Australia's largest home builder according to HIA's Housing 100 2023/24 Report. SFG specialises in timber manufacturing but also owns home building businesses Henley (operating in NSW, Victoria, Queensland and South Australia), Wisdom (NSW) and Scott Park Group (Western Australia). It also owns commercial design and construction company, Regal Innovations. Sekisui Heim, which has a presence in Australia through its subsidiary Sekisui Homes, is the largest volumetric modular company in the world. Approximately 15 per cent of new construction in Japan is modular.

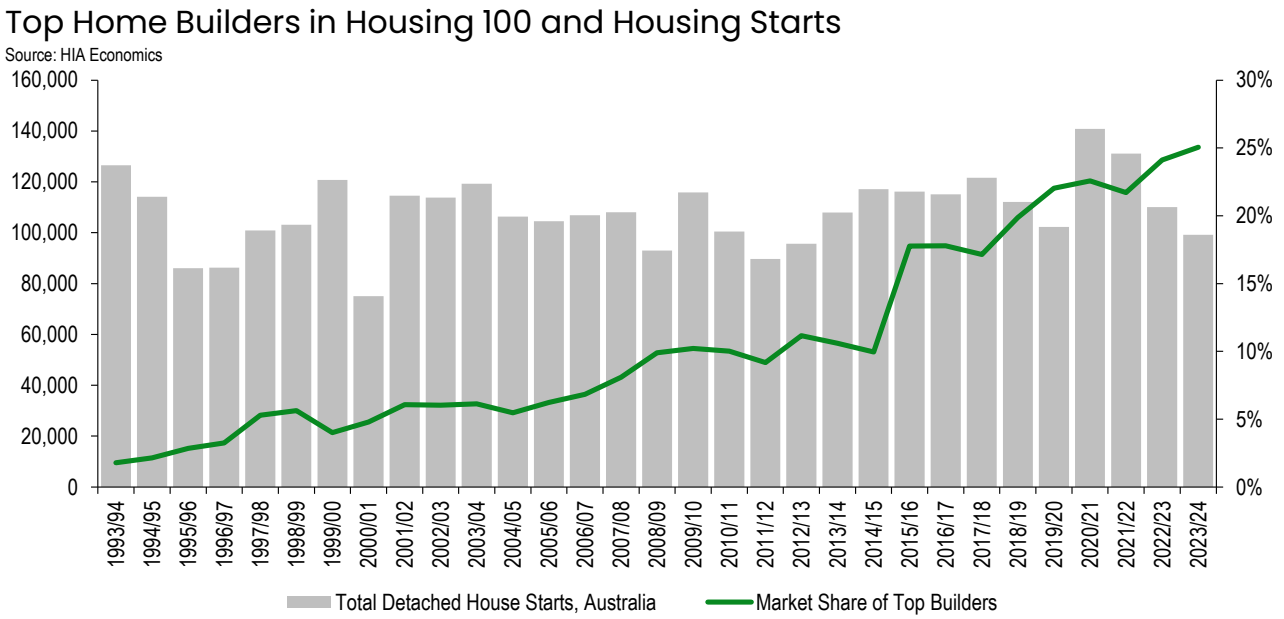
Increased consolidation

About one-third of new home starts nationally were from Australia's largest volume builders and apartment developers. The remainder is serviced by small-to-medium home building businesses who build a few bespoke, custom-built homes each year. HIA's *Housing 100 Report* records Australia's largest home builders and residential developers. In the 2023/24 financial year, the Top 100 Builders commenced 59,980 homes, which is 38 per cent of the total market. The market share of this group has historically ranged between 27 per cent to 44 per cent, with an average of 36 per cent.



In the years that followed the GFC, there appears to be an increasing consolidation of starts among the largest 20 of the Top 100 Builders. This is particularly true for volume home builder businesses, including but not limited to Metricon Homes, ABN Group, BGC (Australia), Henley Properties, NEX Building Group and Simonds Group.

The Top 20 Builders in the HIA *Housing 100 Report 2022/23* accounted for 25 per cent of overall starts, which is well-above the historical average of 10 per cent. Some of the most recent top businesses built about 1,000 to 2,000 homes per year in the mid-1990s to early 2000s. In the years after the GFC, the range increased to between 1,000 to 3,000, and the pandemic (2020/21 and 2021/22) saw Australia's largest builder (in terms of starts) Metricon start over 5,800 homes (4 per cent of the total market).



Appendix

ANZSIC Classification of Market Sector Industries

The Australian and New Zealand Standard Industrial Classification (ANZSIC) breaks down industries and sectors into different segments. Construction (E) is one of the 16 market sector industries, including Agriculture, forestry and fishing (A), Mining (B), Manufacturing (C), Electricity, gas, water and waste services (D), Wholesale trade (F), Retail trade (G), Accommodation and food services (H), Transport, postal and warehousing (I), Information, media and telecommunications (J), Financial and insurance services (K), Rental, hiring and real estate services (L), Professional, scientific and technical services (M), Administrative and support services (N), Public administration and safety (O), Education and training (P), Health care and social assistance (Q), Arts and recreation services (R), Other services (S).

- Division E: Construction
    - 30 Building Construction
        - 301 Residential
            - 3011 House Construction (Detached)
            - 3019 Other Residential Building Construction (Non-Detached, Residential Renos)
        - 302 Non-Residential
            - 3020 Non-Residential – Commercial, Industrial, Office, Non-Res Renos
    - 31 Heavy and Civil Engineering Construction
        - 310 Heavy and Civil Engineering Construction
            - 3101 Road and Bridge Construction
            - 3109 Other Heavy and Civil Engineering Construction
    - 32 Construction Services
        - 321 Land Development and Site Preparation Services
            - 3211 Land Development and Subdivision
            - 3212 Site Preparation Services
        - 322 Building Structure Services
            - 3221 Concreting Services
            - 3222 Bricklaying Services
            - 3223 Roofing Services
            - 3224 Structural Steel Erection Services
            - 323 Building Installation Services
            - 3231 Plumbing Services
            - 3232 Electrical Services
            - 3233 Air Conditioning and Heating Services
            - 3234 Fire and Security Alarm Installation Services
            - 3239 Other Building Installation Services
        - 324 Building Completion Services
            - 3241 Plastering and Ceiling Services
            - 3242 Carpentry Services
            - 3243 Tiling and Carpeting Services
            - 3244 Painting and Decorating Services
            - 3245 Glazing Services
        - 329 Other Construction Services
            - 3291 Landscape Construction Services
            - 3292 Hire of Construction Machinery with Operator
            - 3299 Other Construction Services n.e.c

References

ABS. (2015). *Information Paper: Experimental Estimates of Industry Level KLEMS Multifactor Productivity.* Canberra: Australian Bureau of Statistics.

ABS. (2023, December 13). *Estimates of Industry Multifactor Productivity methodology*. Retrieved from Australian Bureau of Statistics: https://www.abs.gov.au/methodologies/estimates-industry-multifactor-productivity-methodology/2022-23

Bruno, A., Dunphy, J., & Georgiakakis, F. (2023, September 21). *Recent Trends in Australian Productivity*. Retrieved from RBA: https://www.rba.gov.au/publications/bulletin/2023/sep/recent-trends-in-australian-productivity.html

CIE. (2019). *Taxation of the housing sector.* Canberra: Centre for International Economics.

Kelly, E. (n.d.). *Chapter 8: Growth Accounting / Solow Residual.* Retrieved from Social Science Computing Cooperative University of Wisconsin-Madison: https://www.ssc.wisc.edu/~ekelly/econ302/chapter8growthaccounting.pdf

Murray, G. (2024, October 10). *All Hands on Deck.* Retrieved from Housing Industry Association (HIA): https://hia.com.au/our-industry/-/media/files/newsroom/submissions/2024/hia-workforce-requirements-oct-2024.pdf

PC. (2011, May 16). *Performance benchmarking of Australian business regulation: Planning, zoning and development assessments.* Retrieved from Productivity Commission: https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report

PC. (2023). *Advancing Prosperity 5-year Productivity Inquiry report.* Canberra: Productivity Commission.

PC. (2024, September 2024). *Quarterly productivity bulletin – September 2024.* Retrieved from Productivity Commission: https://www.pc.gov.au/ongoing/productivity-insights/bulletins/quarterly-bulletin-september-2024

PC. (n.d.). *What is productivity?* Retrieved from Productivity Commission: https://www.pc.gov.au/what-is-productivity

RBA. (n.d.). *Explainers Productivity*. Retrieved from Reserve Bank of Australia: https://www.rba.gov.au/education/resources/explainers/productivity.html

SUT, HIA, AMGC. (2022). *Regulatory barriers associated with prefabricated and modular construction.* Swinburne University of Technology.

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