

Beyond Belief

Construction Labour and the Cost of Housing in Australia

By Jim Stanford, Ph.D.

Centre for Future Work at the Australia Institute

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BRIEFING PAPER

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Summary

In an effort to mobilise public support for their plan to create an Australian Building and Construction Commission, Prime Minister Turnbull and other Coalition leaders have blamed union activity in the construction industry for the escalating cost of housing in Australia. The Prime Minister expressed sympathy for “young Australian couples that can’t afford to buy a house because their costs are being pushed up by union thuggery.”¹ His Minister for Immigration, Peter Dutton, made a similar case: “When young Australians go to an open house this weekend, to a unit that they may not be able to afford or that they have been saving up for, they know that that unit is more expensive because they have seen building costs increase as a result of the involvement of the unions and bikies.”² An implication of their argument is that housing will become more affordable, if legislators support the government’s effort to restrict union activity (including union negotiations over apprenticeships and training, and health and safety measures) in the construction industry.

This claim depends on the simultaneous validity of several underlying sub-hypotheses: including that union activity has expanded in construction, that construction wages and labour costs have accelerated as a result, that total construction costs have also accelerated correspondingly, and that housing prices rise in tandem with escalating construction costs. In a step-by-step empirical investigation, every one of these claims is proven to be false. The government’s effort to blame unions for high housing costs is not credible at any level.

Among the surprising findings of this study of the relationship in recent years between construction labour and housing prices, are the following:

- Average earnings in the construction industry have grown more slowly than the Australian average over the last five years.
- Real wage increases in construction have been slower than real productivity growth, with the effect that real unit labour costs in construction have declined.
- Construction labour accounts for only 17-22 percent of the total costs of new building.
- Construction costs, in turn, account for less than half the market value of residential property.

¹ Di Stefano (2016).

² Transcript in Open Australia, <https://www.openaustralia.org.au/debates/?id=2016-10-20.75.1>.

- Construction labour costs correspond to less than 10 percent of housing prices (and even less than that in Australia's biggest cities).
- Construction workers receive far less income from the housing sector than land-owners, property investors, and banks.
- Construction labour accounts for about the same proportion of a house purchase as real estate commissions and stamp duty.
- Homes in Australia are becoming unaffordable even for the workers who build them: on average, a construction worker would need to spend 9.2 years of their pre-tax earnings to purchase a median home (25 percent more than just four years ago).

If the government is genuine in its desire to make housing more affordable in Australia, it should turn its attention to the real causes of soaring housing prices: by cooling off property speculation, more carefully regulating the banking sector, and reforming property-related taxes.

Introduction

On May 8, 2016, Prime Minister Malcolm Turnbull called a double dissolution election for July 2, Australia's first since 1987, ostensibly justified by two pieces of legislation that had been held up in the Senate: one to create an Australian Building and Construction Commission (ABCC), and another to regulate registered organizations. However, in the end, the Senate crossbench grew, and the government's capacity to pass legislation was weakened, not strengthened. At any rate, Coalition leaders rarely even mentioned the two precipitating bills during the election campaign.³

The ABCC legislation features severe restrictions on union activity (including limits on negotiating apprenticeships and health and safety rules) in the construction industry. It has been criticized by civil liberties experts, workplace safety advocates, and others – including the Law Council of Australia (2016), which found the proposed measure “contrary to rule of law principles.” Despite the post-election Parliamentary stalemate, however, the government reintroduced its ABCC legislation in October. In reintroducing the legislation, Mr. Turnbull argued it was necessary, among other reasons, to make housing more affordable for Australians. He expressed heartfelt sympathy for “young Australian couples that can’t afford to buy a house because their costs are being pushed up by union thuggery.”⁴ In Parliament a day later Mr. Turnbull’s Minister for Immigration, Peter Dutton, endorsed this assignment of blame for high housing prices, adding a connection with biker gangs for good measure: “When young Australians go to an open house this weekend, to a unit that they may not be able to afford or that they have been saving up for, they know that that unit is more expensive because they have seen building costs increase as a result of the involvement of the unions and bikies.”⁵

It is worth noting that this stated concern over high housing costs represents a change in Coalition positioning on the issue. During the election, Mr. Turnbull criticised Labor’s proposal for phased-in limits on negative gearing on property investments, claiming it would “deliver a massive shock to the property market” and “put at risk the investments of millions of Australians.”⁶ So the government’s starting assumption that housing prices are in fact “too high” (let alone that unions can be blamed for that state of affairs) marks a shift from previous statements.

³ Workman (2016) documented that discussion of the ABCC fell sharply once the election was called.

⁴ Di Stefano (2016).

⁵ Transcript in Open Australia, <https://www.openaustralia.org.au/debates/?id=2016-10-20.75.1>.

⁶ Massola (2016).

But regardless of whether he thinks high housing prices are good or bad, Mr. Turnbull's assertion that they are the result of union activity among construction workers is not consistent with the research of economists and housing analysts. Speculative increases in property prices, favourable tax provisions (like negative gearing and capital gains concessions), the rapid expansion of mortgage credit, and strong demand from offshore purchasers are the factors typically referenced by analysts and economists to explain the rapid rise in Australian housing prices – not construction wage costs or any other labour-related factors. Mr. Turnbull's surprising logic even sparked a viral outpouring of social media comment, centred on the hashtag “#blameunions”.

The escalating cost of housing in Australia is indeed a matter of significant macroeconomic, financial, and social importance. Mortgages are the largest single component of Australians' personal debt, which now totals about 130 percent of national GDP, and is approaching 200 percent of personal disposable income (Wistram, 2016). The escalation of housing prices, and its interaction with the expansion of credit, poses risks to financial stability, and is contributing to an ongoing reduction in the proportion of Australians who can afford to purchase their own home.⁷ While it was dismissed and even ridiculed as a far-fetched effort to pass a controversial piece of legislation, the government's attempt to link housing prices to union activity should nevertheless be seriously considered and evaluated. If there is not evidence to support the government's contention that union activity by construction workers explains the high cost of housing, then the Prime Minister's statements constitute a bigger problem than just a misleading effort by his government to further tar the reputation of unions. Perhaps more worrying is what this episode reveals about the government's lack of understanding of the dynamics, and the importance, of one of the most important macroeconomic issues in Australia today.

This research paper will investigate the empirical dimensions of the relationship, if any, between union activity among construction workers and the cost of housing in Australia. The general proposition that high housing prices are the result of union activity is disaggregated into several more specific sub-hypotheses, each of which is reviewed and tested against real-world data. The analysis relies on publicly-available data, primarily published by the Australian Bureau of Statistics (ABS), to consider the relative importance of construction labour costs in overall housing prices, and how that importance has evolved over time.

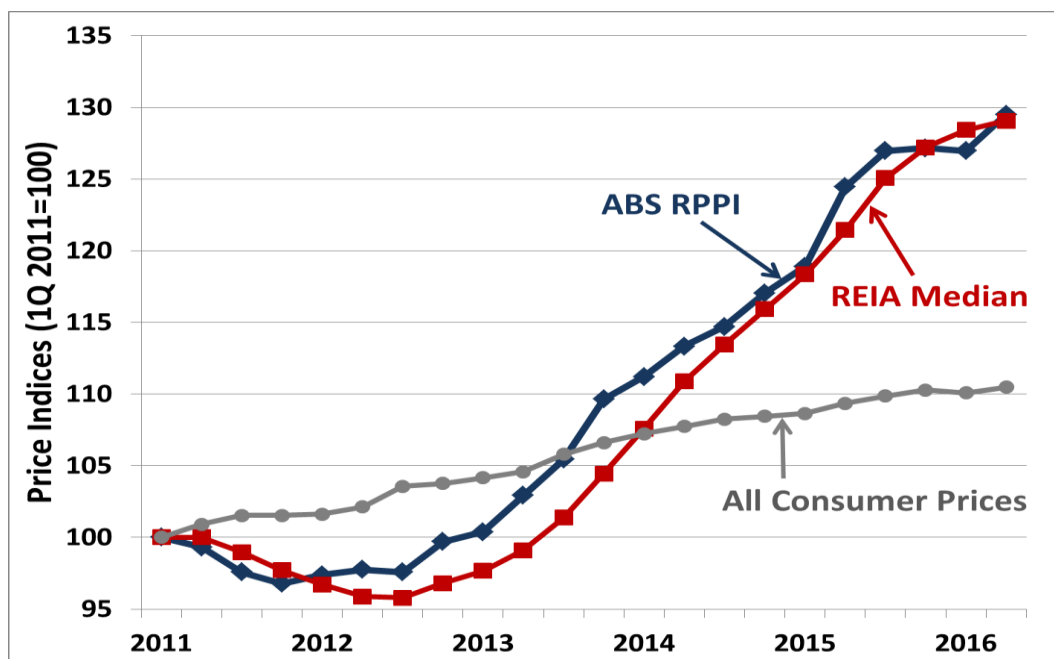
⁷ Yates (2015) shows that the overall rate of home ownership among Australian households has fallen by 5 percentage points over the past 20 years, and more dramatically among 25-55 year olds.

The extensive empirical evidence assembled here confirms that the rapid escalation of housing prices cannot credibly be attributed to union activity and labour costs in construction. Union activity in construction has become weaker, not stronger, in recent years. Construction wages have grown more slowly than overall wages in the economy – and more slowly than labour productivity in construction. In fact, if anything, the resulting fall in unit labour costs in construction should have served to modestly *restrain* house price inflation. Construction labour costs account for a small share (around 20 percent) of total construction costs, which in turn account for under half of median resale property prices. Therefore, construction labour costs can account for only a very small share (under 10 percent on average in Australia) of home prices, and that share is falling as home prices rise still higher – driven not by construction costs, but by speculative pressures, loose credit, and favourable tax treatment of property investments.

A Chain With No Strong Links

There is ample evidence regarding the rapid escalation of home resale prices in Australia over the last several years. Figure 1 illustrates the recent history of two often-cited measures of property market prices. One is the Residential Property Price Index, released quarterly by the ABS. The second is an index of median sale prices for houses, compiled by the Real Estate Institute of Australia.⁸ After a modest slump in housing prices in 2011, home prices began to escalate rapidly. They are now 30 percent higher than at the beginning of 2011. The increase in housing prices over these five years has been three times faster than the increase in overall consumer prices (reflected in the CPI) over the same period. Other indicators of housing prices are also available,⁹ and they confirm a similar trend.

Figure 1. Housing Market Prices versus Consumer Prices.



Source: Author's calculations from ABS 6401.0 and 6416.0, and Real Estate Institute of Australia, "Real Estate Market Facts."

⁸ Both measures capture all real estate transactions within their respective frameworks, most of which consist of the resale of existing homes (rather than new construction). Both measures are graphed as indices with their level in the first quarter of 2011 set to 100.

⁹ The Reserve Bank of Australia's bi-annual "Chart Pack" reports three additional indicators of housing prices, published by agencies including CoreLogic, Residex, and APM; they are all closely correlated with the indicators illustrated in Figure 1. See <http://www.rba.gov.au/chart-pack/household-sector.html>.

Given the importance of the housing market to Australian macroeconomic conditions and performance – including real activity in the construction sector, the state of household finances, and the stability of the banking system – it is not surprising that numerous economists and other analysts have tried to explain this dramatic escalation. Numerous potential determinants of housing prices have been highlighted in the published literature, including:

- Population growth and secular increases in housing demand (Kohler and van den Merwe, 2015).
- Demand for housing assets by financial investors (Rahman, 2010).
- The slow pace of releases of new land for housing development, and related trends in land prices (Hsieh et al., 2012).
- Low interest rates and the expansion of household lending (Otto, 2009).
- General improvements in the components of housing affordability, including financing costs and rising incomes (Richards, 2009).
- Deregulation of financial markets and a consequent expansion in mortgage credit (Keen, 2009).
- Urban planning and land-use regulations, and their impacts on housing supply (Urbis, 2011).
- Self-fulfilling speculative demand, based on expectations of further price increases in the future (Egan and Soos, 2015).

None of these researchers mention union activity among construction workers, nor any other industrial relations-related factors, as being notable factors behind the escalation of Australian home prices.

The general proposition that high housing prices are due to the presence and activity of unions among construction workers, would seem to rely upon the simultaneous validity of several implicit sub-hypothesis. To put it differently, the claim of Mr. Turnbull and Mr. Dutton can be understood as a “reduced form” of a more complex set of underlying causal relationships – each of which would need to be valid for the overall hypothesis to be convincing. These sub-hypotheses would include:

- An increase in the activity and influence of unions in the construction industry (to explain an upsurge in housing prices).
- An increase in hourly labour costs in construction, relative to other sectors of the economy (disproportionate to other costs and prices in the economy).
- A flow-through impact of higher labour costs on final unit supply costs for residential housing (with no offsetting impact from changes in labour productivity, nor from changes in the prices of other construction inputs).

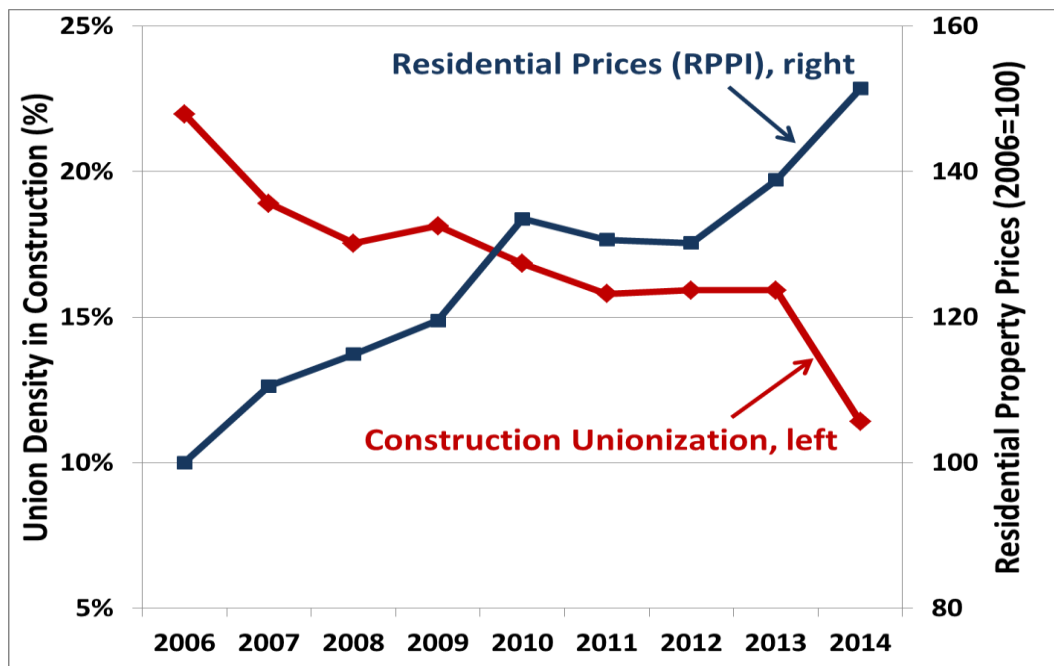
- A clear correlation between higher supply costs for residential housing, and the market prices of residential housing (such that fluctuations in housing prices can be traced back to underlying changes in construction costs).

For the Turnbull-Dutton hypothesis to be valid, each one of these sub-hypotheses must be sustained. A break in any one of these “links” in the logical chain underpinning the government’s assertion, would eliminate the credibility of the entire proposition. The rest of this section will review all of these links, on the basis of published statistical data, to see if the government’s argument can be sustained. It turns out that *not one* of these implicit sub-hypotheses is supported by empirical evidence. The whole logical chain is composed of broken links – and hence can’t carry anything.

Broken Link #1: Trends in Union Activity in the Construction Sector

In the face of employer opposition to union membership, restrictions on union activity (such as access to workplaces), and other economic and legislative barriers to unions, union membership has declined in most sectors of Australia’s economy. Construction is no exception. Union density in the broader construction industry (measured as the

Figure 2. Union Density in Construction and Housing Market Prices.

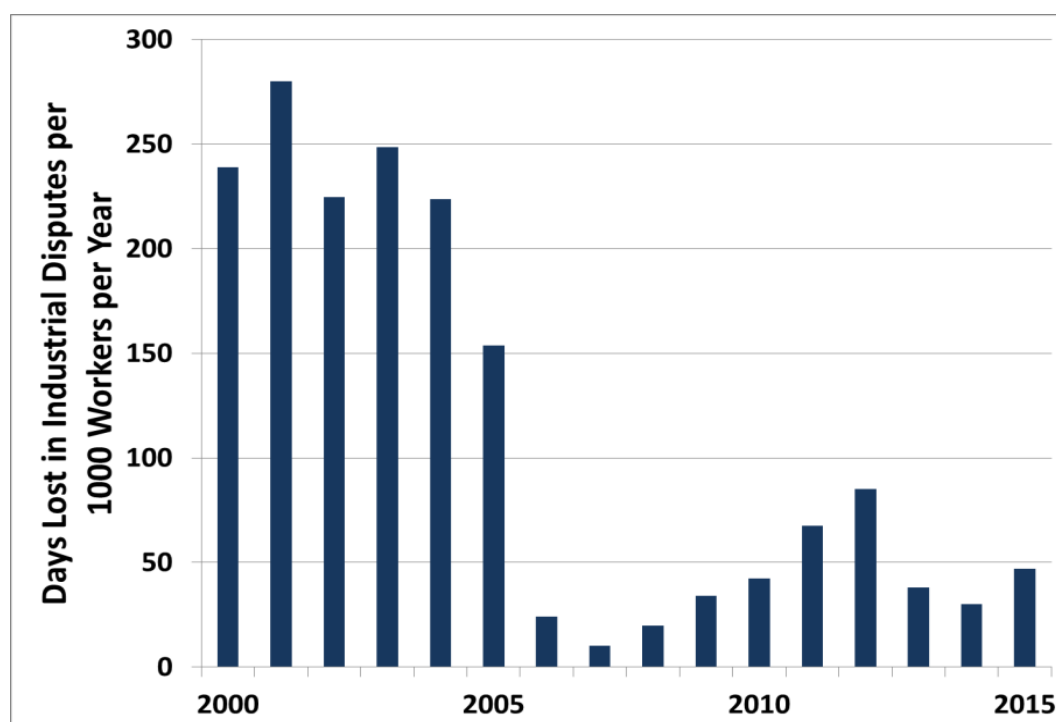


Source: ABS 6310.0, 6333.0, and 6416.0. Union density series is discontinuous for 2014 due to new collection methodology.

proportion of union members as a share of total paid employment) has been eroded substantially, and is now less than half the levels of a decade ago. Figure 2 illustrates the negative correlation between union density in construction and the price of housing in Australia; it is thus a direct test of the “reduced form” hypothesis put forward by the Prime Minister. It is obvious already that ascribing the escalation of housing prices to an upsurge in union activity will be counter-intuitive and difficult.¹⁰

The same can be said of the incidence of work stoppages and industrial disputes in the sector. Industrial disputes have declined not only because of falling union density but also because of improvements in negotiations and dispute settlement. Measured by the number of working days lost in disputes per 1000 workers, the incidence of disputes in the past five years was more than 75 percent lower than decade-earlier levels (Figure 3).¹¹ If housing prices are connected to union membership, power, and “disruptions,” then housing prices should be much lower – not higher.

Figure 3. Industrial Disputes in Construction.



Source: ABS 6321.0.55.001.

¹⁰ In fact, the negative correlation between union density and housing prices readily visible in Figure 2 is almost perfect: the correlation coefficient between the two variables is -0.946.

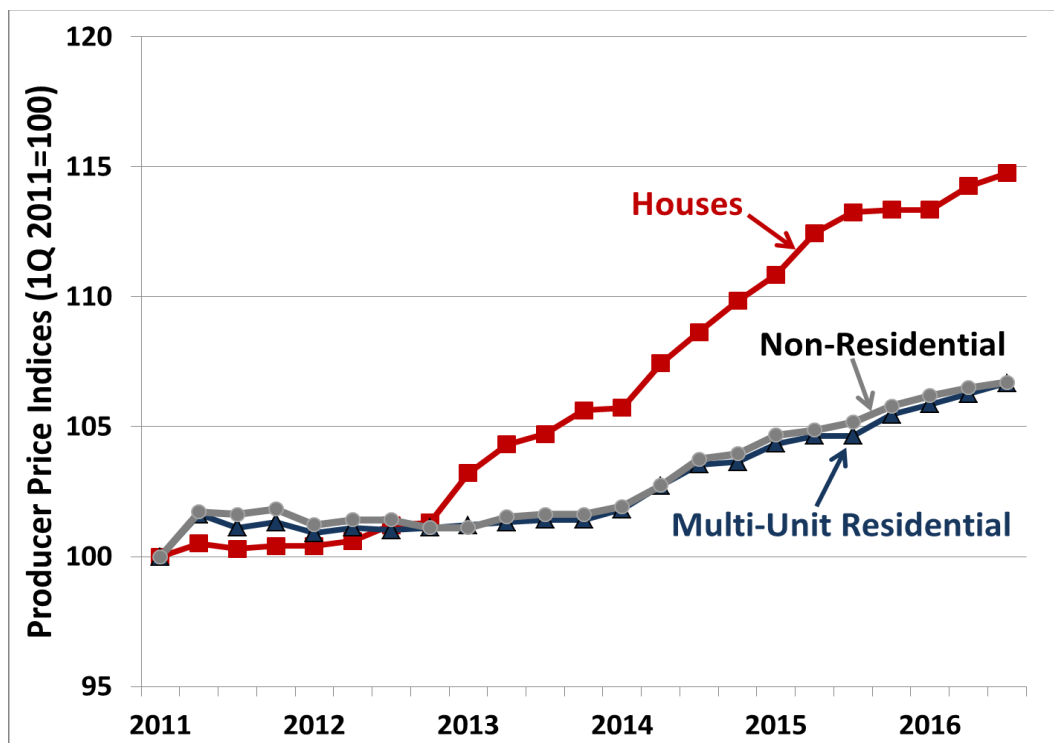
¹¹ Since each worker works on average about 230 days per year, the days lost in disputes in 2015 translate into a loss of one fiftieth of one percent (0.02%) of total working time. The upticks in disputes in 2011-12 and 2015 correspond to major rounds of EBA bargaining.

Broken Link #2: Construction Cost Increases by Sub-Sector

Union influence is not evenly disbursed across sub-sectors within the broader construction industry. Union membership is strongest on larger construction sites associated with civil, non-residential, and multi-unit residential construction projects. Union membership is much less common in the more dispersed worksites associated with house construction – in which much of the work is undertaken by independent contractors, and the ability of unions to collectively negotiate wages and working conditions is limited (Deloitte Access Economics, 2016, p.41).

The Australian Bureau of Statistics provides comprehensive data on increases in producer prices: that is, the prices (or costs) charged by different supply sectors in the Australian economy. In the construction industry, producer price indices are measured for three sub-sectors: homes, multi-unit residential projects, and non-residential construction. These three indices, which can be taken to represent the output costs of each sub-sector, are illustrated in Figure 4. Keep in mind that they reflect changes in all costs, not just labour.

Figure 4. Producer Price Indices, Construction Sub-Sectors.



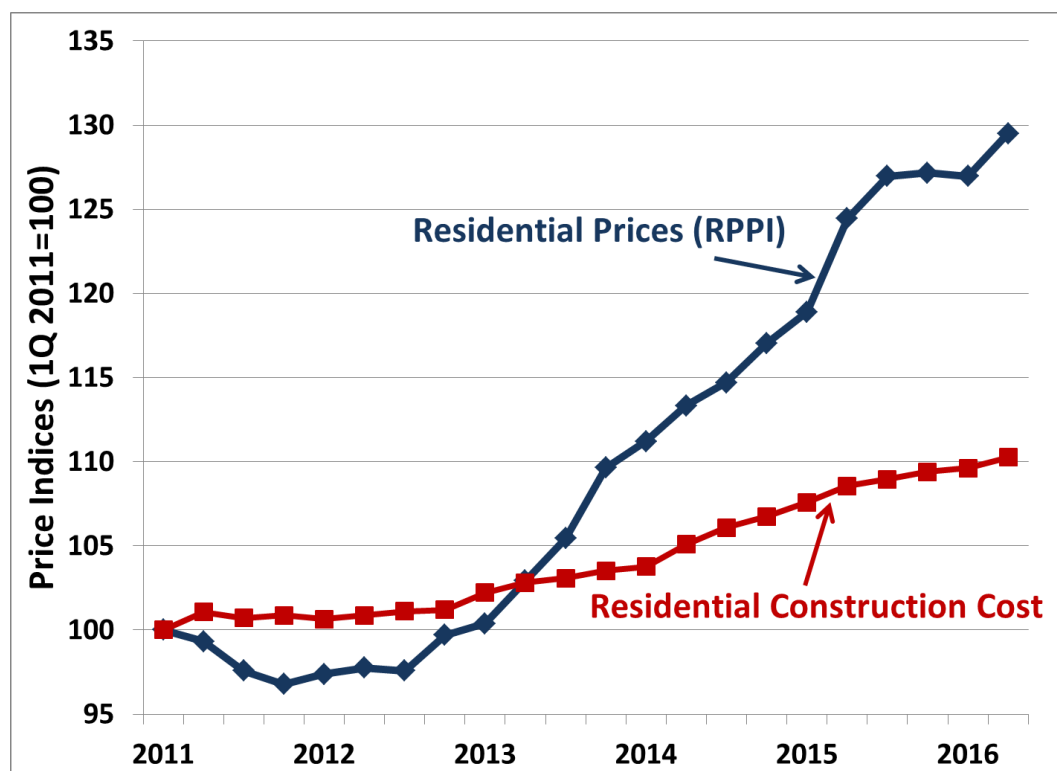
Source: Author's calculations from ABS 6427.0, Table 17.

Perversely, the cost increases arising in the house construction industry have been twice as rapid, over the past five years, as the other two sub-sectors – even though the house construction sector is by far the least unionized segment of construction. Again, if unions “cause” higher construction costs, then exactly the opposite result should have prevailed. Cost increases arising from large scale multi-unit and non-residential projects have cumulated to less than 7 percent over the past five years (or less than 1.5 percent per year, slower than overall consumer prices). Cost increases in house construction, in contrast, were more than twice as rapid.

Broken Link #3: Construction Costs and Housing Prices

Considering both house construction and multi-unit projects, average producer prices in the residential construction sector have grown by 10 percent since the beginning of 2011: under 2 percent per year, about the same as the pace of overall consumer price inflation in Australia. Yet there is obviously little, if any, relationship between cost pressures arising in residential construction, and the corresponding escalation of housing prices in the property market. Figure 5 illustrates the growth of average

Figure 5. Housing Costs and Housing Prices.



Source: Author's calculations from ABS 6416.0 and 6427.0. Residential producer cost index is unweighted average of house and other residential construction.

housing prices (measured again by the ABS's RPPI index) and cost pressures arising from the construction industry (represented by the average of producer price indices for the house and multi-unit residential construction sectors).¹²

Housing prices lagged behind construction costs in 2011 and early 2012, when property markets were temporarily depressed. They then escalated dramatically; since mid-2012, housing prices have grown 3.6 times as quickly as residential construction cost increases. Both when they are stagnant and when they are effervescent, it is clear that housing prices are driven by sales conditions in property markets, not by supply-side cost increases arising from the construction industry.

Broken Link #4: Wage Increases in Construction and Other Sectors

Table 1 reports the growth in average weekly earnings in major sectors of Australia's economy over the past five years. Growth in average weekly earnings in any industry will fluctuate normally from year to year, reflecting many factors including:

- changes in hourly wage rates (whether negotiated in an enterprise agreement, reflected in an award, or prescribed in individual contracts);
- changes in the composition of jobs within a broad sector (employment may shift toward higher- or lower-paid positions);
- changes in hours worked.

The broad trend in average weekly earnings over several years will therefore provide a good indicator of the general level of wage pressure within any industry, relative to economy-wide averages. Housing prices have increased far faster than other prices in the economy (and three times faster than overall consumer prices in the past five years). To blame this fact on unions, wages in construction must have grown much faster than wages elsewhere in the economy.

It turns out that average weekly earnings across the construction sector have grown slightly *slower* than the economy-wide average. Average annual growth in weekly earnings from 2011 through 2016 has been 2.5 percent in construction, versus an average of 2.7 percent for all industries. Construction wages have grown much slower than several other key sectors (such as mining, the financial industry, and transportation). Adjusted for inflation, real weekly earnings in construction grew at an

¹² Remember, producer price indices reflect all production costs, not just labour.

Table 1. Five-Year Average Annual Wage Growth, Major Industries (% per year).

Sector	Compound Wage Growth
Mining	4.51%
Finance & Insurance	4.03%
Transportation	3.45%
Education	3.33%
Retail Trade	3.09%
Professional & Scientific	3.06%
Information & Telecommunications	2.99%
Manufacturing	2.57%
Construction	2.54%
Hospitality	2.45%
Health Care	2.24%
Public Administration	2.19%
Utilities	2.06%
Wholesale Trade	2.00%
All Industries	2.72%
Consumer Prices	1.83%
<i>Source: Author's calculations from ABS 6302.0, Table 10I, and 6401.0. Measures compound growth April-June quarters, 2011 to 2016.</i>	

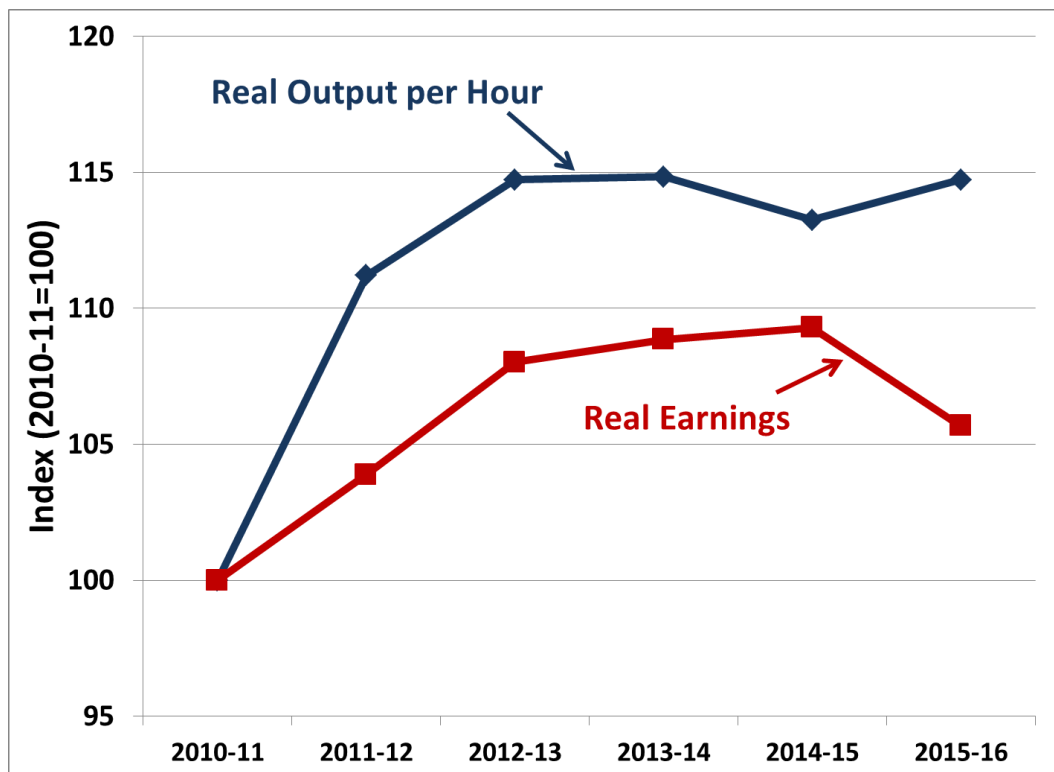
average annual compound rate of 0.6 percent over the past five years.¹³ That is a historically slow pace of real income improvements for construction workers; in contrast, from 2000 through 2010, real weekly earnings in construction grew by a compound annual average of 2.6 percent per year (more than four times as fast). And real housing prices (that is, housing prices deflated by overall consumer price increases) have grown far faster than real wages for construction workers.

¹³ The real wage is calculated by deflating nominal wages by the growth in the consumer price index.

Broken Link #5: Wage Increases and Productivity Gains in Construction

It's not only that the pace of wage growth in construction has been modest in recent years, compared to historical wage growth and compared to wage gains in other parts of the economy. Real wages in construction (deflated by consumer prices) have not even kept up with ongoing improvements in the real productivity of construction work.

Figure 6. Real Productivity and Real Wages, Construction.



Source: Author's calculations from ABS 6302.0, 6401.0, 5204.0 Table 15.

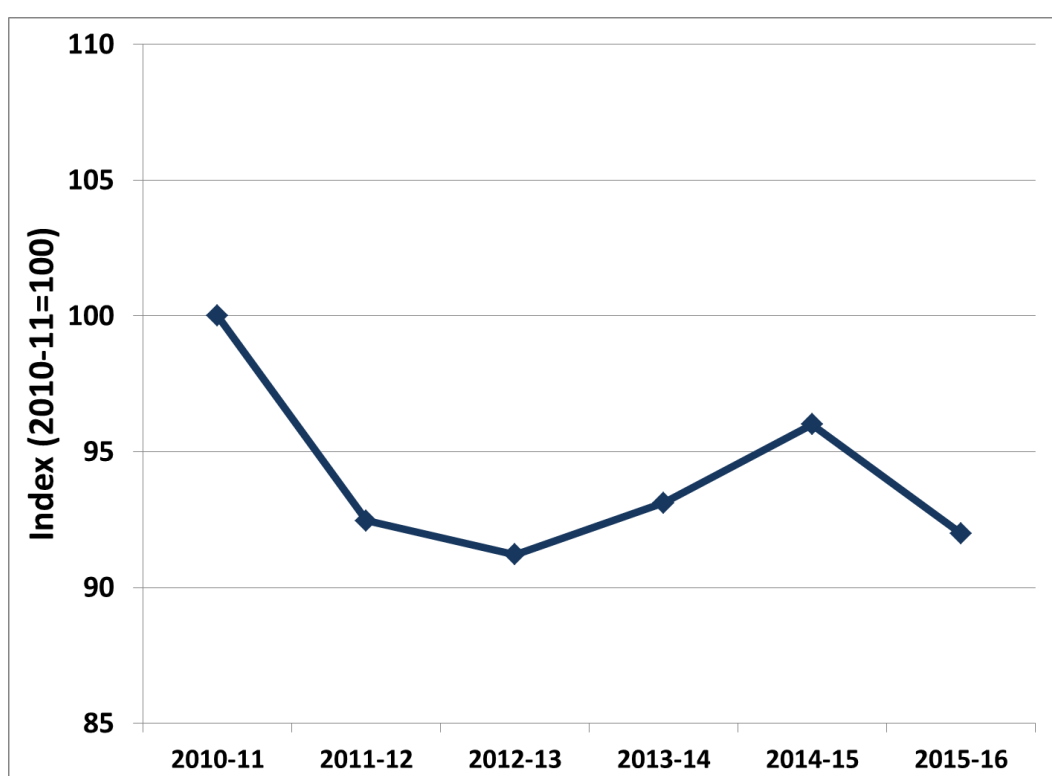
In the last five years, the output of gross real value added per hour of labour in construction has grown by almost 15 percent: indicating a robust annual pace of productivity growth of close to 3 percent. Productivity growth fluctuates from year to year based on capacity utilization, swings in demand, and other factors, but the ongoing sustained pace of productivity growth in construction is impressive. In contrast, real weekly earnings have grown by a cumulative total of less than 6 percent¹⁴ in the same period.

¹⁴ Figure 6 compares annualized data for both productivity and real wages, since the former is available only in an annual series.

Broken Link #6: Unit Labour Costs in Construction

Since real earnings in construction have been growing more slowly than the real productivity of construction workers in the last five years, this implies that real unit labour costs in the sector have been *falling*, not rising. After all, the impact of labour inputs on the cost of final output cannot be measured simply by trends in the level of compensation. Trends in productivity must also be considered: unit labour costs reflect not only how much workers are compensated for a particular period of work, but also how much they produced during that time.

Figure 7. Unit Labour Costs, Construction.



Source: Author's calculations from ABS 6302.0, 6401.0, 5204.0 Table 15, 6291.0.55.003 Table EQ05.

Figure 7 presents a measure of real unit labour costs in the construction sector, calculated as the ratio of indices of real hourly earnings to real output per hour. Real hourly earnings are estimated by adjusting real weekly earnings (from Figure 6) for changes in actual weekly hours worked in construction in each fiscal year.¹⁵ Real hourly earnings have lagged behind real output per hour over the past five years by a cumulative total of 8 percent. This means that the unit cost of construction labour in

¹⁵ Average hours worked per employee grew slightly in 2012 and 2013, but have since retreated; in 2015-16 average hours (38.8 hours) were almost exactly the same as in 2010-11 (the base year for the indices illustrated in Figure 7).

Australia has declined over this time by a similar proportion. In other words, construction labour has actually served to *restrain* the increase in housing prices (to the extent that housing prices have anything to do with construction costs), not boosted it.

Broken Link #7: Other Factors in Construction Costs

Of course, construction labour is just one of many different inputs to the construction industry. Many other inputs must also be purchased in the course of building a new structure: including building materials, services and utilities, and the cost of capital. The ABS reports a breakdown of input purchases for different industries through its input-output database. The results for the construction industry are summarized in Table 2, and they are surprising.

Table 2. Cost Components of Construction (2013-14, \$million).

Input	Residential Constrcn	Other Constrcn ¹	Constrcn Services	Total Constrcn
Intermediate Inputs (Materials, Supplies, and Services) ²	54 684	95 746	128 670	279 100
Labour Compensation	5 859	25 122	36 825	67 806
Profit & Mixed Income	6 835	24 107	23 383	54 325
Taxes Less Subsidies	711	1 435	2 915	5 061
Total Output	68 089	146 410	191 793	406 292
Labour Compensation as % Total Production Cost	8.6%	17.2%	19.2%	16.7%
<i>Source: Author's calculations from ABS 5209.0.55.001, Table 5.</i> <i>1. Non-residential, heavy, and civil construction.</i> <i>2. Includes inputs purchased from other construction suppliers and imports.</i>				

The ABS input-output database breaks construction into several sub-sectors, including residential construction, non-residential construction, heavy and civil construction, and a category called “construction services” (composed of generally smaller operators providing building-related services to a variety of sites). Data for these categories, and for the construction sector as a whole, are reported in Table 2. Most construction costs represent inputs purchased from other businesses (including construction materials, tools and equipment, supplies, and services), called “intermediate inputs” in Table 2. Direct labour costs are relatively modest. Profit for construction companies,

and mixed-income for contractors, adds another significant cost element.¹⁶ A final cost reflects value-added taxes (net of subsidies) collected by government at each stage of the production process. Total gross output of the broad construction industry exceeded \$400 billion in 2013-14; labour constituted just one component of that total.

Broken Link #8: Labour Costs and Total Costs in Construction

Because labour is just one of many inputs purchased in the process of construction, labour costs constitute just a small portion of the total costs of new building. ABS data provide two different methods for estimating the share of labour costs in total construction costs. One is to measure the share of labour compensation in the total cost of gross output, as reported in the input-output data summarized above. The other is to refer to broad measures of cost shares published by the ABS in its annual multifactor productivity tables. Both are summarized in Table 3 for the 2013-14 fiscal year (most recent data available). Keep in mind that these data include compensation paid to managers and executives, not just wages for hourly production workers.

Table 3. Labour Costs and Gross Output, Construction, ABS Estimates (2013-14).

ABS Input-Output Tables, Labour Shares	
Residential Construction	9%
Construction Services	19%
Total Construction	17%
ABS Multifactor Productivity Accounts	
Labour	22%
Capital	9%
Intermediate Inputs	69%
<i>Source: ABS 5209.0.55.001, Table 5, and 5260.0.55.002, Table 19.</i>	

According to the input-output tables, the labour cost share of gross output in residential construction is very small, under 10 percent. But that number is misleading, because construction labour also contributes to residential construction through purchases of construction services (which are more labour-intensive). It is

¹⁶ In fact, in the narrow residential building sector (excluding construction services inputs), profit and mixed-income payments actually exceed the total value paid out in labour compensation.

better, therefore, to use the labour cost share of gross output for the total construction sector.¹⁷ The ABS input-output data imply a cost share of 17 percent for overall construction activity. The alternative ABS data source reports a labour cost share of 22 percent for overall construction.¹⁸ Both methods confirm that the labour cost share of total construction output has shrunk in recent years – consistent with our finding above that unit labour costs in construction have declined. In the discussion below, we will use both estimates from Table 3 – “low” (17%) and “high” (22%) – in order to bracket a likely range for the labour cost share.

Broken Link #9: Construction Costs and Home Prices Once More

The discussion above suggests that construction labour accounts for between 17 and 22 percent of the total cost of new construction. However, there is a large gap between the *cost* of residential construction, and the *price* of housing that is purchased by Australians. As noted above (in Figure 5), the escalation of housing prices in recent years bears no relationship to the modest, steady increases in producer price indicators in the construction sector. A further illustration of the stark difference between the cost of building a home, and the price paid by Australians to purchase one, is provided by comparing the prices paid for residential property with the replacement cost of the actual building on that property. Home-owners in Australia are familiar with that difference thanks to the terms of their home insurance policies. Those policies typically only cover the replacement cost of the insured building (along with associated services, such as demolition and removal), a small fraction of the amount paid by the home-owner to purchase the property.

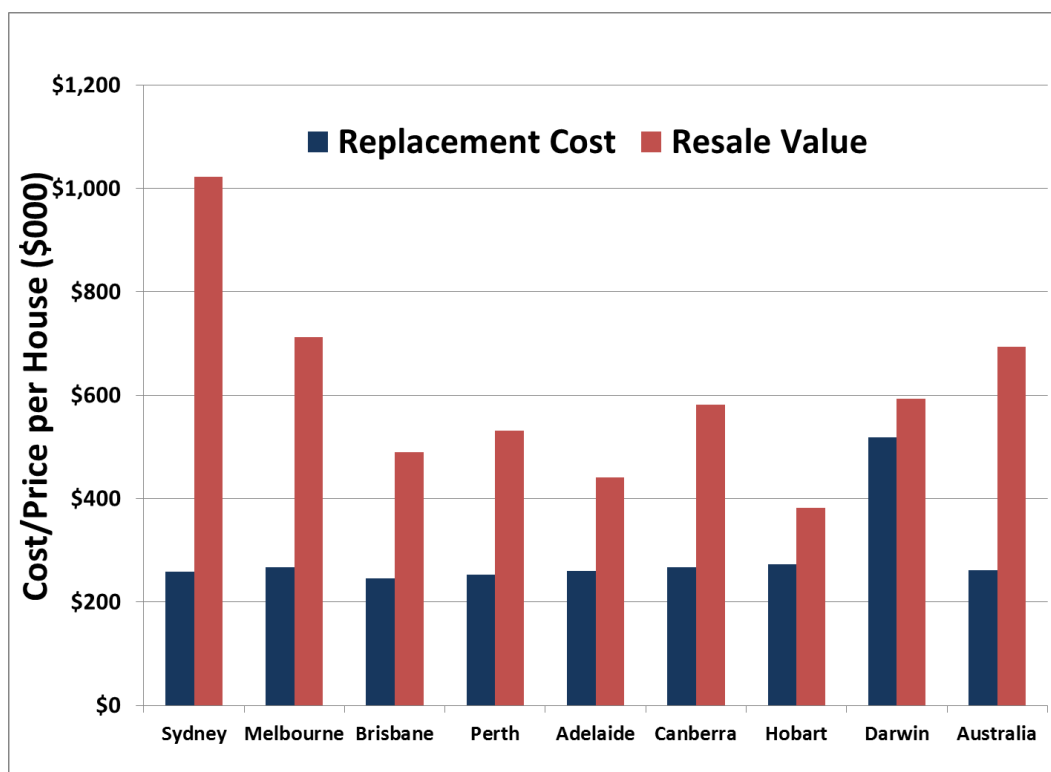
A comparison of the difference between property prices and replacement cost of actual physical residences is provided in Figure 8 for each of Australia’s capital cities. This estimate uses a consistent model of house replacement costs maintained by Cordell Information Pty., widely used within the Australian insurance industry to determine insurance premiums.¹⁹ The Cordell model utilizes city-specific data regarding construction costs and associated inputs to estimate replacement costs for houses of different sizes and styles. Figure 8 reports the Cordell replacement cost estimate for a “typical” Australian detached home: with two levels, 150 m² of floor space, three bedrooms, and other “normal” building features. Consistent estimates

¹⁷ That average cost share also reflects labour costs in non-residential and heavy/civil projects.

¹⁸ The two sources differ for numerous specific methodological reasons, including estimation of the cost or value of gross output, treatment of imported inputs, treatment of mixed income, and others.

¹⁹ The Cordell model can be accessed through on-line calculators hosted by various insurance providers, for example at <http://homebuilding.cordell.com.au/index.php?c=survey&profile=36&summary=1>.

Figure 8. Construction Costs and House Prices.



Source: Author's calculations from REIA "Real Estate Market Facts," and Cordell Information Pty. database. June 2016. 1. Assumes 2-level contemporary home, 150 m², 3 bed 2 bath, concrete floor, timber/steel frame, 2.4 m ceilings, standard fittings. 2. Population weighted.

are generated for postal codes in each capital city region.²⁰ This replacement cost is then compared to the median house price in each of the same cities, as reported by the Real Estate Institute of Australia.²¹

As expected, the cost of building a new house is only a fraction of the typical market value of a property. In the red-hot greater Sydney market, replacement costs are equivalent to just 25 percent of median property values. In other major capitals, the ratio is higher: from 37 percent in Melbourne, to 59 percent in Adelaide. In the smaller regional capitals, the ratio is higher still. Overall, across Australia, the estimated replacement cost of a typical house is just 38 percent of the median house value.

²⁰ There is no difference in the Cordell cost estimates across specific suburbs within a particular capital city region; its cost-parameters are region-specific, not suburb-specific. As the Cordell replacement cost estimates include demolition and removal costs, they likely overstate the true cost of home construction alone. They do not include lot-related costs such as utility connections, sidewalks, etc.

²¹ Of course, there can be no perfect match between the "median" price reported by the REIA and the "typical" house whose construction cost is reported. Our selection of a "typical" house seems reasonable given the breadth of specific properties offered for sale across the broad capital city regions covered by the price data.

Why are property prices so much higher than the cost of building new homes? Demand for property is pushing up the price more than supply can respond. Strong demand may reflect “fundamental” causes (like population growth). But it may also reflect other less “fundamental” factors: like the rapid expansion of consumer credit, and speculative demand for properties by investors. Tax policy has added fuel to the fire of speculative pressure in Australian real estate, with provisions such as capital gains preferences and negative gearing rules accentuating financial interest in property investment (see Grudnoff, 2015, for a detailed analysis). Meanwhile, the supply response to this strong demand may be inhibited by the geographical constraints on residential development (especially in coastal cities), regulatory and financing delays, and other barriers.

Broken Link #10: Construction Labour and Home Prices

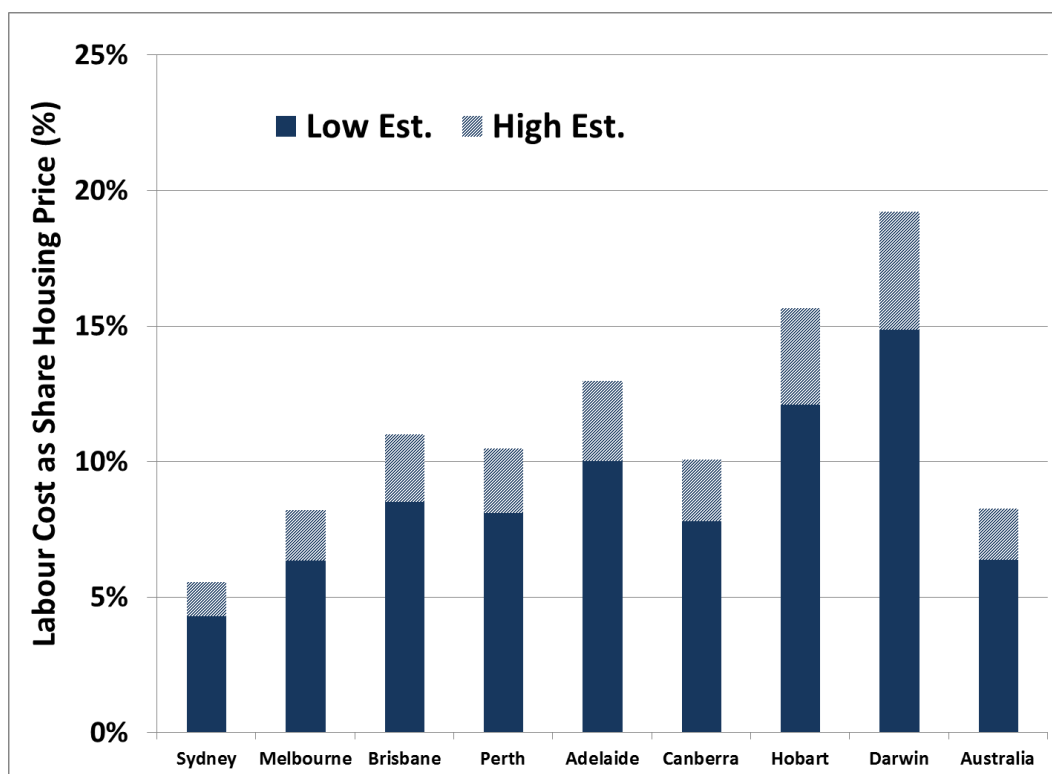
The actual cost of building a new home is only a fraction (and often a small fraction) of the market price of residential property. And construction labour is only a small portion of the total cost of home construction. Putting these two ratios together provides a startling indicator of the relative unimportance of construction labour costs, in total housing prices.

We apply the housing cost/price ratios reported in Figure 8, to the two labour cost share estimates reported in Table 3 (using both the “low” case, where labour accounts for 17 percent of total construction costs, and the “high” case, 22 percent). The product of these two ratios represents the proportion of an average house price in each capital city, that can reasonably be ascribed to the construction labour required (in today’s economy²²) to build it. In Sydney, that share is only about 5 percent. In other words, the construction labour costs associated with construction of a typical home, would account for only one-twentieth of the typical market value of that home. In Melbourne, the labour cost share is 7-8 percent. The ratio in other large capital cities is higher (typically around 10 percent), and higher still in small regional capitals.

For Australia as a whole, construction labour costs correspond to less than 10 percent of market housing prices. This makes it all the more far-fetched that the Prime Minister should single out construction workers, and their union, as the cause of escalating housing prices.

²² Obviously, the replacement cost estimates in Figure 8 are based on current prevailing wages, technology, and productivity. For older existing homes, the cost of construction labour embodied in them will be even lower relative to resale values (since the homes were constructed when construction wages were much lower).

Figure 9. Labour Costs as Share of House Resale Prices.



Source: Author's calculations as described in text.

Broken Link #11: Even Construction Workers Can't Afford Houses

The escalation of housing prices in Australia has run far ahead of the cost of new construction. Labour costs are a small, and declining, share of total construction costs. And wages in the construction industry have actually grown slightly more slowly than average wages across the economy. The ironic outcome of these imbalances is that homes in Australia are becoming unaffordable – even for the people who build them.

Table 5. Years of Work Required for a Construction Worker to Buy a Median House.

	Median House Price (\$000)	Construction Wages (\$/week) ¹	Years Wages
March 2012	\$514.7	\$1,353	7.3
June 2016	\$693.6	\$1,456	9.2
<i>Source: Author's calculations from Real Estate Institute of Australia, "Real Estate Market Facts," and ABS 6302.0, Table 10I.</i>			
<i>1. Pre-tax earnings.</i>			

The diverging trends between construction wages and housing prices are summarized in Table 4, which reports the number of years of earnings required for an average construction worker to purchase an average Australian house. From March 2012 through June 2016 (most recent data), median house prices in Australia jumped by 35 percent, but average weekly earnings in construction have grown less than 8 percent. As a result it now would take over 9 full years of earnings²³ for a construction worker to pay for a median house. That's up by two years (or 25 percent) since early 2012. It's doubly hard to accept that construction workers are to blame for high housing costs, when homes are increasingly out-of-reach even for the people who build them.

Broken Link #12: Speculators, Financiers, Brokers, and Workers

A final perspective can be gained on the relative unimportance of construction labour in explaining housing prices, when the full cost of home ownership is considered. Table 5 provides a summary of four key components of ultimate house costs, for each of the capital cities.

The largest cost in most cities is the value of the land on which a home is built. We estimate the imputed cost of land as the difference between the replacement cost of a typical house, and the median house price. Keep in mind that this difference will reflect the value of "location" (hence it is higher in large cities), and hence also embodies the cumulative impact of speculative pressures which have driven housing prices so far out of relation to construction costs. It will also include land development costs (such as roads, utility connections, etc.), which are also not included in the cost of building a replacement house. Land prices vary greatly, of course, from suburb to suburb. Using our method of imputing the land value embodied in median resale house prices, they range from \$75,000 in Darwin to ten times as much in Sydney.

Almost as expensive as land are the cumulative financing and borrowing costs associated with home ownership. Financing costs rise in tandem with escalating property prices, since much larger mortgages are now required to purchase homes. Even at current low interest rates, the cost of borrowing adds hundreds of thousands of dollars to full-cycle housing costs over the lifetime of a typical mortgage.²⁴ Of course, there is a chicken-and-egg relationship between financing costs and the inflated value of property. Easy availability of credit allows purchasers to bid up

²³ Table 4 is based on pre-tax earnings, and so it underestimates the true cost of housing relative to disposable incomes of construction workers.

²⁴ And many analysts have warned of the enormous consequences (to family finances, property prices, and bank stability) if and when interest rates begin to rise.

property prices to unimaginable levels – which in turn requires buyers to undertake still more mortgage debt. Based on standard mortgage terms (25-year payback period, at 4 percent interest and a \$50,000 down payment), borrowing costs can add up to one-half million dollars to the cumulative cost of owning a home.

Table 5. Construction Labour and Other Components of House Purchase Costs (\$000 per house, 2016).

City	Imputed “Land”	Finance Costs	Stamp Duty/ Commission	Construction Labour ¹
Sydney	\$764.3	\$569.4	\$65.0	\$50.3
Melbourne	\$446.4	\$389.9	\$55.8	\$52.0
Brisbane	\$244.6	\$259.6	\$22.4	\$47.8
Perth	\$278.5	\$284.2	\$31.7	\$49.4
Adelaide	\$180.9	\$231.3	\$32.3	\$50.8
Canberra	\$315.2	\$313.5	\$31.1	\$52.0
Hobart	\$110.0	\$196.9	\$22.2	\$53.1
Darwin	\$74.7	\$320.0	\$43.0	\$101.1
Australia	\$432.8	\$378.5	\$47.4 ²	\$50.9
<p><i>Source: Author's calculations as described in text. Imputed land cost represents difference between median resale value and replacement cost. Finance cost equals cumulative interest charges on 25-year loan at 4% with \$50,000 down, monthly payments plus \$10 fee. Real estate commission assumed 2.25%. Stamp duty calculated via realestate.com.au.</i></p> <p><i>1. Average of “low” and “high” costs illustrated in Figure 9.</i></p> <p><i>2. Population weighted average.</i></p>				

Of course, every inflated property sale also generates extra revenues for the coffers of brokers and governments. Real-estate commissions and stamp duties add another significant wedge to ultimate home ownership costs: a population-weighted average of almost \$50,000 per house across Australia.

Compared to the costs associated with land speculation, bank financing, real estate commissions, and even government stamp duties, the costs of direct construction labour – equal on average to about 20 percent of replacement building cost, and an even smaller share of property prices – seem shockingly modest. Table 5 reports the average of the “low” and “high” construction labour costs calculated above. It suggests that only around \$50,000 in labour costs are embodied in a typical Australian home: a small fraction of typical values on property markets.

Conclusion: The Real Problem

If the Prime Minister is genuinely interested in explaining the escalation of housing prices in Australia to such unaffordable levels, he should focus his attention on those factors which have truly pumped up the property bubble. Speculative pressures have added hundreds of thousands of dollars to typical house prices. Financing and interest costs add hundreds of thousands of dollars more. Property agents and governments themselves take a cut of every inflated transaction. Meanwhile, the incomes received by the workers who actually build new homes in Australia have grown relatively slowly, and have fallen as a share of total property prices.

The analysis above suggests that government efforts to reduce housing prices (if, in fact, the government thinks lower housing prices are in fact desirable) should address more relevant factors – instead of falsely scapegoating trade unions. In particular, Table 5 revealed the sectors which have truly profited from the speculative run-up in housing prices: land speculators (supported by lopsided tax concessions which make flipping houses more rewarding than building or living in them), the financial industry (a sector where, unlike construction, average earnings are indeed much higher than in the rest of the economy), and the brokers and tax collectors who capture a rich margin on each property sale. Policy measures which could help to rein in these lucrative but ultimately unproductive activities include:

- Reforms to tax laws to reduce speculative pressure in housing markets, such as restrictions on negative gearing and capital gains loopholes.²⁵
- Regulatory measures to ensure fairly priced, stable lending to households by the banking system.
- Tax reforms, such as are being implemented in the ACT, to reduce state governments' fiscal reliance on speculative real estate transactions.

Consider once more Figure 2, which summarized the overall relationship between union density in the construction sector and housing prices. Surprisingly, there was almost a perfect *negative* correlation between those two series: home price inflation is strongly associated with the erosion of construction unionization, in contradiction to the claims of Mr. Turnbull and Mr. Dutton. This might seem like a case of simple

²⁵ Officials from the RBA and the IMF, among others, have attested to the impact of negative gearing and capital gains concessions in fueling housing speculation. See Hutchens (2016) and International Monetary Fund (2015).

correlation, rather than causation. But there is actually a reasonable story that can be told about the strong inverse relationship between these two variables.

As confirmed in the economic literature cited above, house price inflation has been fuelled by a rapid and unsustainable accumulation of personal debt, which is both caused by and reinforces the escalation of housing prices. This debt expansion reflects the profit-seeking innovation of the banking industry, operating in a context of deregulation which has allowed banks to multiply their lending with minimal prudential safeguards. Property speculation by buyers who purchase housing not to live in, but to re-sell for profit, reinforces the expanding bubble – and this speculation is exaggerated by preferential tax measures which blatantly favour financial investments over real productive activity. Meanwhile, real economic activity in Australia is hampered by policies of fiscal austerity, huge international imbalances, and the failure to diversify Australia's economy. Business-friendly labour and industrial relations policies have facilitated precarious work and part-time jobs, and contributed to record-slow wage growth (which in turn fosters still more household borrowing, to offset the gap between stagnant wages and the rising cost of living – especially housing). In sum, the government's overall emphasis on financialized, deregulated, investor-friendly growth can thus explain *both* the housing price bubble *and* the continuing erosion of protections (including union membership) for workers.

In this light, declining unionization does not directly "cause" inflated housing prices. But the two trends certainly reflect the same underlying model of economic policy: one which maximizes the freedom and power of investment and finance, throws fuel on the fires of speculation with distorting tax preferences, and undermines the ability of average Australians to pay for housing (and other necessities) through ongoing attacks on unions, income security programs, and public services. In this context, the Coalition government's attack on unionization in the construction industry will not make the housing crisis any better. In fact it will almost certainly make things worse.

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