



# Housing Prices and Rents in Australia 1980–2023: Facts, Explanations and Outcomes

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# Overview of Paper

- **Aims:** to provide housing price and rent data 1980 - early 2023, focus post-2000, explain prices and rents, outline major household outcomes.
- **Sections 2 – 4** describe (i) house and unit prices in cities and rest of states, (ii) national price indices for houses, units, and all dwellings, (iii) nominal and real housing rents.
- **Section 5:** describes major demand and supply drivers of prices and rents.
- **Section 6:** key house price modelling results: Abelson, Joyeux et al. (2005), Saunders and Tulip (2019) and current work. Findings are very consistent.
- **Section 7:** explains housing rents.
- **Section 8:** outcomes: home ownership, rent affordability and homelessness.
- **Concluding section:** main findings.
- **Appendices:** detailed supporting data.

# Real House and Unit Prices: Annual Averages (ABS)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Mean
<b>House Prices</b>									
<b>1980</b>	45	43	43	48	59	63		46	<b>49</b>
<b>2003</b>	100	100	100	100	100	100	100	100	<b>100</b>
<b>2023</b>	184	213	204	198	164	312	189	201	<b>198</b>
<b>Unit Prices</b>									
<b>1980</b>	47	37	56	60	67			40	<b>47</b>
<b>2003</b>	100	100	100	100	100	100	100	100	<b>100</b>
<b>2023</b>	143	159	158	199	169	303	174	135	<b>161</b>

# Key Takeaways

- National real median house price across cities approx. doubled 1980 - 2003 and 2003 - 2022.
- Uniformity of house price changes across the cities.
- National real median unit price doubled early 1980s to 2003. Rose similarly to house prices 2003-20. In 2021 - 22 that unit prices rose significantly less than house prices. Now catch-up.
- Less geographical uniformity of unit price increases than house price increases.
- Regions. 2003- 2022, real prices of houses and units tended to double. Like house prices in cities but higher price increases for units.
- Uniformity of price movements suggests housing prices are driven substantially by national (macroeconomic) factors, notably interest rates, population and household income, and national housing supply.
- **Concept of locational spatial equilibrium.** Housing prices adjust so that households are indifferent across space. Important policy implications.

# Real National Housing Price Indices

Year / Quarter	House Prices Dallas Index	House Prices CoreLogic	Unit Prices CoreLogic	Dwelling Prices Corelogic	Real ASX Ords
1980 March	46.5	71.8	66.1	70.6	56.6
2003 March	100.0	100.0	100.0	100.0	100.0
2010 March	141.1	127.7	122.9	126.3	134.3
2015 March	147.2	135.2	128.4	133.1	143.0
2020 March	164.7	147.6	134.1	143.7	127.0
2021 March	185.3	151.9	133.0	146.4	163.6
2022 March	215.3	175.7	140.7	165.6	164.9
2023 March	190.8 Dec. 2022	148.4	123.5	141.2	149.7

# Key Takeaways

- **Real national house prices** (Dallas Index) approximately doubled 1980 to 2003 and 2003 - 2022. In 2022, real house prices fell by 11%.
- **Real house price indices** (CoreLogic) rose half as much: about 40% from 1980 to 2003 and 50% by end 2022. Hedonic modelling – quality adjusted housing.
- **Real unit prices** (CL) rose similar to real house prices 1980 - 2003. From 2003- 2022, they rose by about a quarter, only about half increase in house prices.
- **All dwellings in cities** (CL): average real prices rose by about 40% from 1980 to 2003 and about 50% between 2003 and end-2022.
- **ASX Real All Ords Index**: similar long run movements between RORDS and dwelling prices, although RORDS is more volatile in short run.
- **Separate analysis**: housing quality has risen by at least 1% a year.

# ABS National Indices for Rent Component of CPI: 2003 = 100

Year	Nominal	Real	Year	Nominal	Real
1980	31.1	93.0	2016	161.7	121.9
1990	74.8	102.9	2017	162.7	120.9
2000	92.9	102.6	2018	163.8	119.9
2003	100.0	100.0	2019	164.4	119.0
2005	104.8	99.8	2020	162.9	117.2
2010	136.9	114.1	2021	162.6	114.6
2015	160.5	122.2	2022	165.4	111.8

# Rents: Key Takeaways

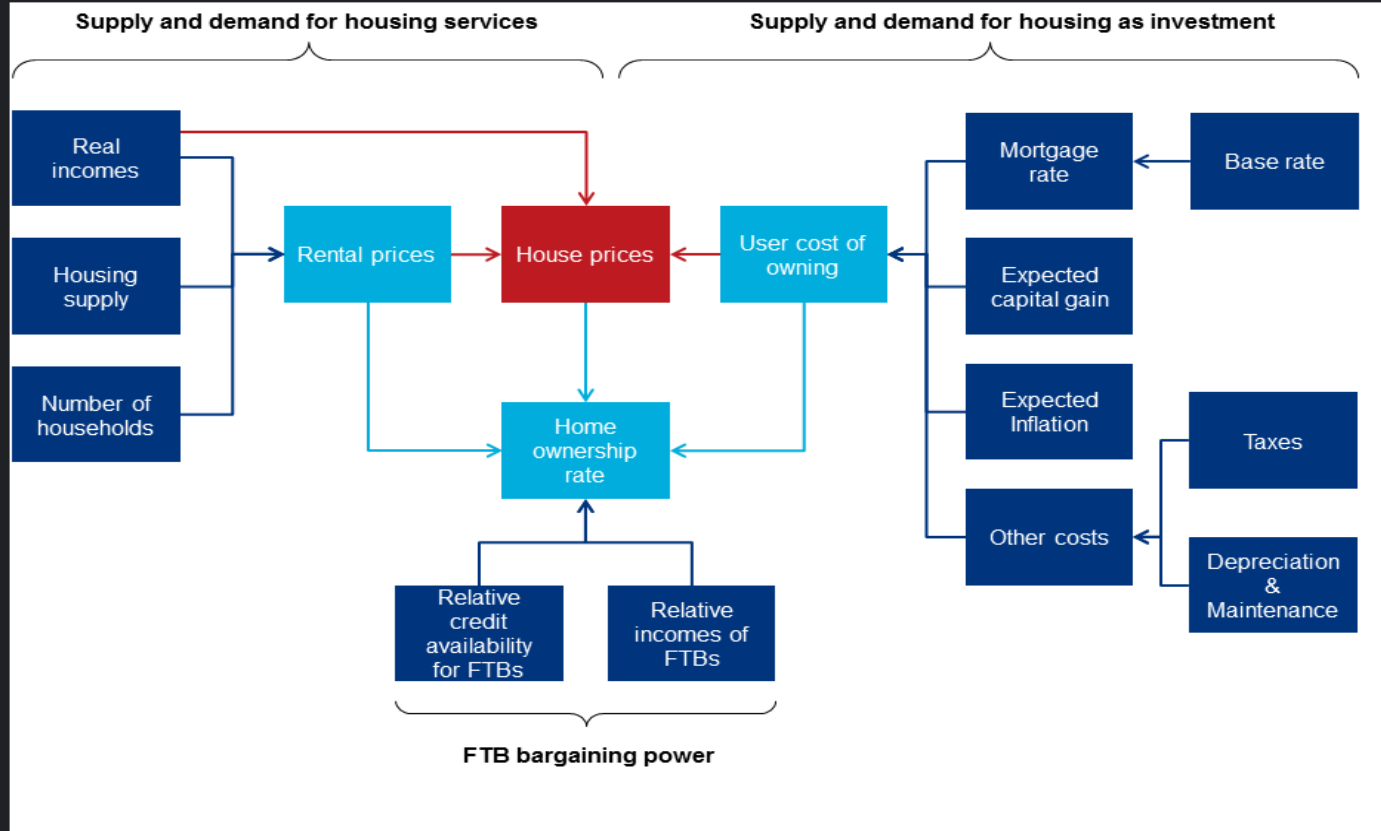
- ABS CPI data: household rents, constant quality.
- Real changes in median rents small. 1980-2003, 7%. 2003- 2022 11%. Rents rose 22% from 2003 to 2015. Then fell 9% by 2022.
- Percentage changes in median rents for houses and units similar.
- CL listed rents are slightly higher than ABS. (1) ABS holds quality constant. (2) Properties with change of tenant tend to experience larger rent increases than existing tenancies.
- ABS (2023) “rents paid by new tenants increased by 14 per cent over year to February 2023, which is 9 percentage points higher than increase in monthly CPI indicator rent index”



# Introducing Key Drivers

- House prices ( $P^H$ ) can be viewed as f (asset income, net rent,  $R$ ) and borrowing rate for housing ( $MR$ )
  - $P^h = R / MR$
- Rents are function of demand and supply of housing services, esp. population ( $Pop$ ), household disposable income ( $HDI$ ) and housing (stock) supply ( $HS$ ).
- **So,  $P^H = f(Pop, HDI, HS, MR)$**

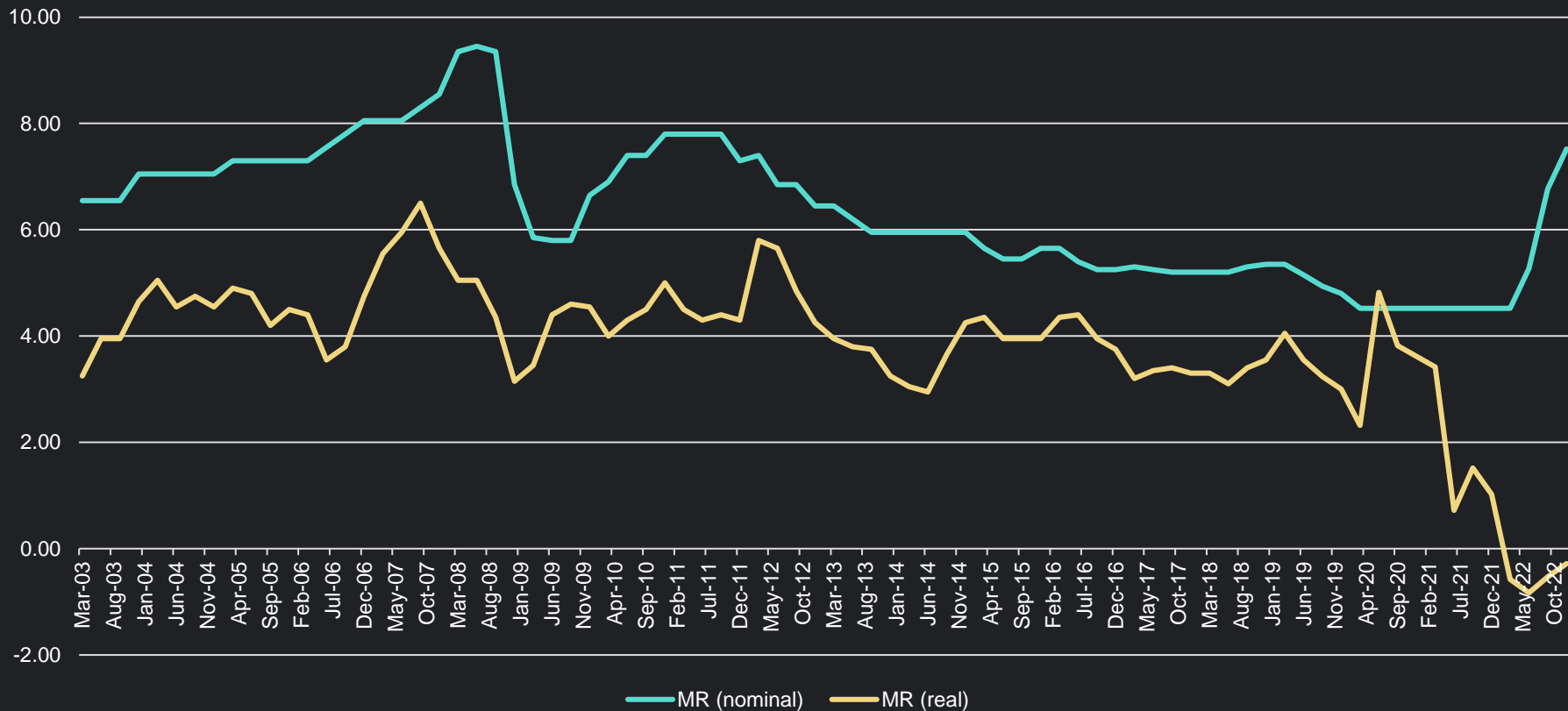
# Overall Explanatory Diagram: Oxford Economics



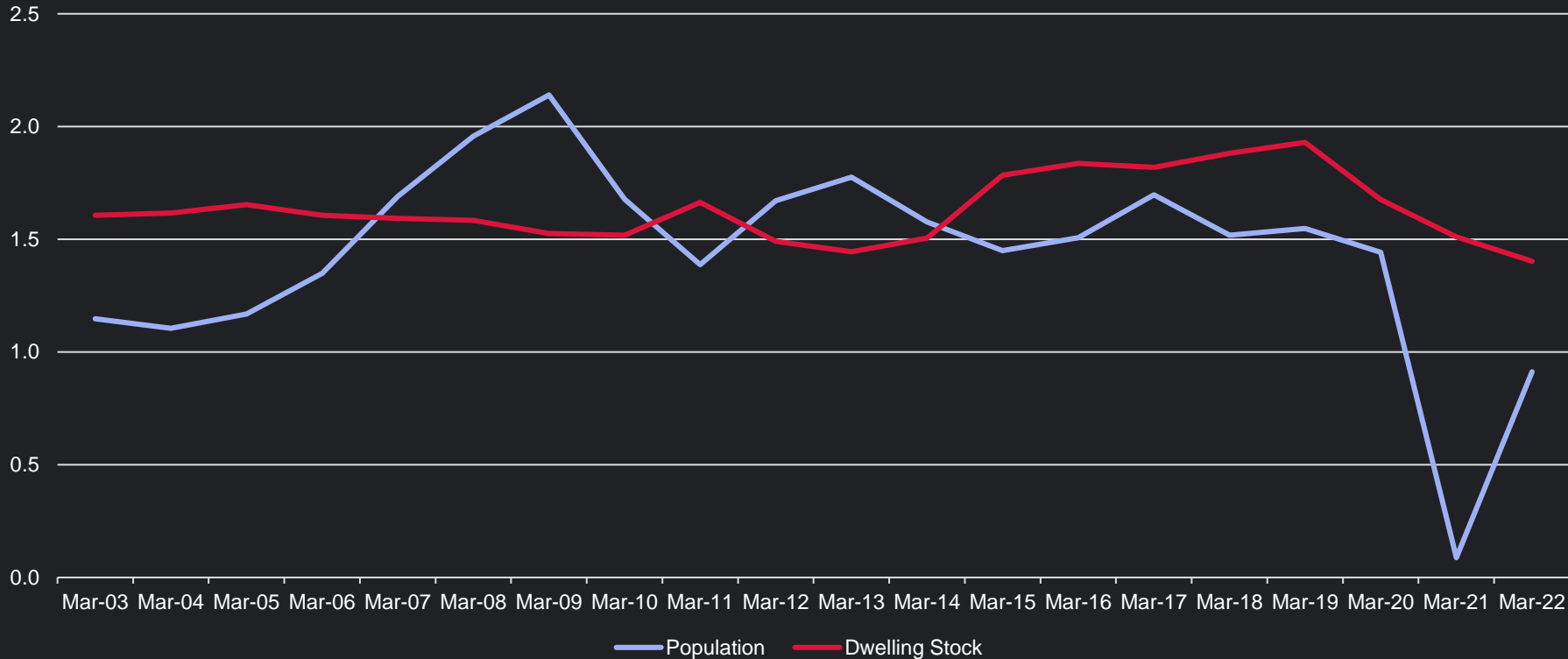
# Other Factors

- **Prices:** Regulations on lending for residential properties, tax benefits foreign demand for local housing, second homes.
- **Rents:** use of housing for short-term lettings.
- **Short-term issues.** Disequilibria / no of transfers. In downturns, when buyers expect prices to fall, they hold off buying, transfers fall; less supply keeps prices higher than otherwise. Low level of transfers since mid-2022 may have moderated decline in prices and maintained them above longer-term market equilibrium level.
- Conversely, when prices are rising, buyers want to get into the market and transfers rise, possibly pushing prices higher than they would otherwise be.
- Finally, Covid pandemic years (2020 to mid-2022) were extraordinary period. Proportion of working days from home escalated dramatically.

# Nominal and Real Mortgage Rates 2003-2022



# Year-on-year Dwelling Stock and Population Growth 2003-2022 (March to March changes)



# Modelling Real House Prices, 1970 to 2003: Abelson, Joyeux et al (2005)

- Long-run elasticity of real house prices to real household disposable income: 1.7
- A 1 percentage point change in real mortgage rate leads to negative rise / fall in house prices of 5.4%. Major driver.
- Coefficient of All Ordinaries significant at -0.14, an asset substitution effect from stocks to housing.
- 1% increase in housing stock per capita leads to decrease in real house price of 3.6%.
- Error Correction model. House prices typically take one to two years to adjust to equilibrium values.

# Saunders and Tulip (2019)

- Housing prices are driven largely by interest rates, rents and momentum.
- “We find that low interest rates ... explain much of the rapid growth in housing prices and construction over the past few years. “at a user cost of 6 per cent, ... a sustained percentage point drop in interest rates would, in the long run, boost housing prices by 17 per cent,
- “As a rule of thumb, every 1 per cent increase in the number of dwellings (when driven by an increase in supply) lowers the cost of housing by 2½ per cent.” Note this refers to the stock of dwellings, not annual completions.

# Abelson and Joyeux (2023)

- Estimated long-run elasticity of real house prices to RHDI is 0.5.
- Change of 1 percentage point in real MR leads to -3.6% change in house prices.
- 1% increase in housing stock per capita leads to an estimated decrease in real house price of 2.3%.
- The price adjusts to its long-run equilibrium with about 11% of adjustment taking place in each quarter.



# FMOLS Long Run Coefficients<sup>a</sup> : Dependent Variable $\log(P_t)$

Variable	2003q1-2022q4 Estimated Coefficient (SE)
Constant	-2.2602 (1.5683)
MR	-0.0355** (0.0162)
log(HDI)	0.5056** (0.2240)
log(HS)	-2.877** (0.4621)
log(UE)	-0.3528** (0.0640)
<b>R<sup>2</sup> adjusted</b>	<b>0.9032</b>

<sup>a</sup> \*\* and \* indicate 5 per cent and 10 per cent significance level respectively. Long-run covariance estimate (Prewhitening with lags = 1, Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

# Further Observations

- These results are consistent with other reviews of house prices studies. Girouard et al. (2006). Oxford Economics (2016).
- Our results refer to capital city house prices. ST included all dwellings. Generally, average city prices for houses and units have moved quite closely even though relatively more units have been built.
- Role of housing stock. Currently about 11.0m residential dwellings in Australia. There are 180,000 net new dwellings a year. Suppose 20% more new dwellings (225,000) are produced in a year.
- Extra 45,000 dwellings would increase the housing stock by 0.4%. With stock elasticity of say -2.5, this would reduce house prices by 1.0%. Achieving this over 5 years would reduce house prices by 5.0%.

# Explaining Housing Rents

- Three main drivers: population, household incomes, and housing supply (stock). Since housing supply has increased by marginally more than population over both the last 20 years (and previous 20 years), at a high level they would appear to offset each other.
- ST modelling, based on ABS rental price data, found real rents are a function of growth in household income and the rental vacancy rate
- But vacancies are not an independent variable. To forecast vacancies, we need to know the drivers.
- Other possible factors affecting rents include no. of short-term visitors who are not included in population figures, increasing short-term letting sites (e.g. AirBnB) which reduce effective supply of rental stock, and wealthy households owning more than one home for private use.
- More work needed on drivers of rents.

# Housing Outcomes: Home Ownership

Age	1986	1996	2006	2011	2017-18	2018-19	Age	2021
15-24	26	22	24	25	14	10	15-24	n/a
25-34	58	52	51	47	37	41	25-30	30
							30-34	50
35-44	74	70	69	64	61	57	35-40	59
							40-44	65
45-54	79	79	78	73	72	72	45-49	69
							50-54	72
55-64	82	83	82	79	78	79	55-64	77
65+	80	82	82	79	84	82	65+	82
All ages	70	69	70	67	66	67	All ages	67

# Housing Outcomes: Home Ownership

- Between 1986 and 2021 house ownership fell marginally overall from 70% to 67% because of increasing proportions of people over 55. But ownership fell heavily for all age groups under 55, especially post 2011.
- These falls in ownership have several causes:
  - Rising cost of first home deposits relative to income,
  - Changing demographics (more immigration),
  - Later entries into the workforce, and later marriages.
- With falling real MR over most of this period, average mortgage payments did not rise as % of average household income and were not a significant factor in ownership rates, although lower-income households would have been left out.

# Rental Affordability

- Mean rents have been around 18% of mean HDI for last 25 years.
- Story different for low-income households. In 2019-20, gross rents for households in lowest quintile averaged 43% of equivalised HDI, well above 30% affordability benchmark.
- Rental payments as % of income are higher for lower income households because distribution of income is significantly greater than distribution of housing rents.
- After accounting for rent assistance, lower income households spent average 28% of their HDI on rent in 2019/20. This proportion has likely increased in last year. In any event, large numbers are likely paying over 30% of their HDI in net rents.
- Homelessness a major problem. The rate of homelessness constant over last 20 years at around 50 per 10,000 population. On Census night in 2021, 122,484 people were experiencing homelessness.
- Public housing has fallen from housing 6% to 3% of population in last 20 years.

# Closing Observations

- This paper has focused on what explains and drives average housing prices and rents and some outcomes for homeownership and renting.
- House prices =  $f(\text{Rents} / \text{MR})$ . From 2003 to 2022, real rents rose only by 11% (ABS). But real MR fell from 4.0% to -1.75%. Modelling confirms the central role of MR in driving changes in housing prices.
- Housing access and rents are principally an income distribution problem.
- To develop effective and fair housing policy for all in the community, more information is needed on low-income households who are rent-stressed or unable to raise a first-home deposit and how they can be supported most effectively - along with a comprehensive social policy to provide them with effective support, including more public housing.
- Increasing net annual completions by 25% will reduce house prices by around 1%. This is far from providing all the solutions to housing that our society needs.

If you would like a copy of the  
draft full paper, please email  
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Thank you for your interest.

