Lethame Capital Management

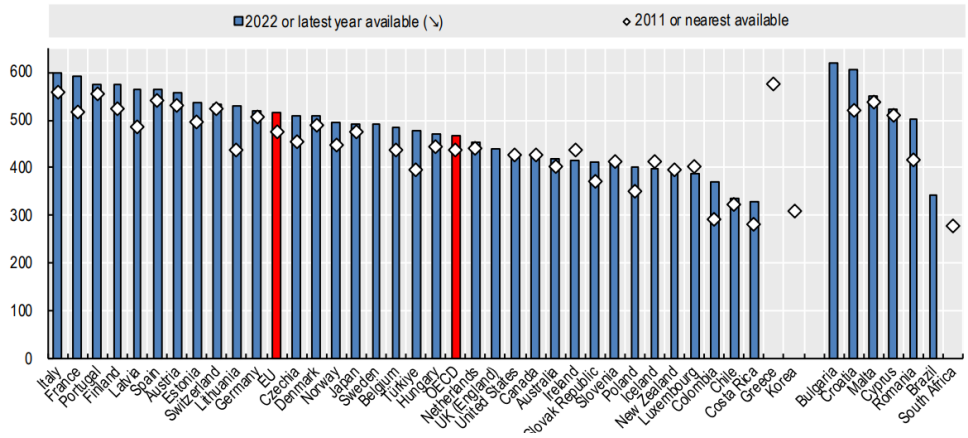
Technology : Research : Investing

Debt Dynamics Down Under: How Credit Shapes Australia's Housing Market

Steve Keen's ***"Rebel Economist"***[1] course emphasises the discipline of accounting identities enforced by double-entry bookkeeping and is built around *Ravel,* a system dynamics software program. Unlike conventional neo-classical methods, which rely on discrete time periods and equilibrium assumptions, system dynamics models economic relationships in continuous time, allowing users to work directly with flows and their derivatives.

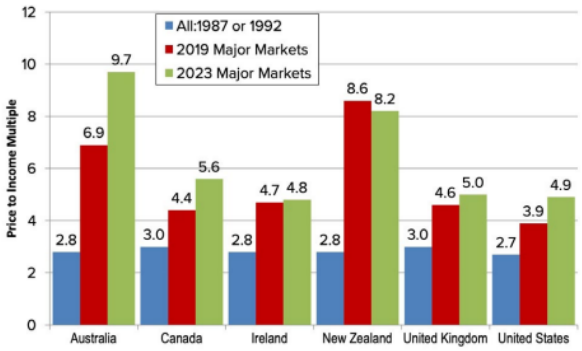
Conventional analysis of the housing market typically frames price growth in terms of population growth, supply shortages, local government bureaucracy, and planning delays. This explanation of supply shortages is particularly problematic. OECD[2] data show Australian housing density at 420 dwellings per 1,000 people, compared with 424 in Canada and the United States and 468 in the UK. Even in the UK, The Guardian[3] newspaper has noted that "*there is already enough housing stock.*"

OECD – Total Number of Dwellings per thousand inhabitants



Yet, the 2024 Demographia[4] "*International Housing Affordability Study"* finds Australian house prices at 9.7x household income, well above comparable markets (8.2x in New Zealand, 5.6x in Canada, 5x in the UK, and 4.9x in the U.S.). This strongly suggests that supply constraints cannot be the primary explanation.

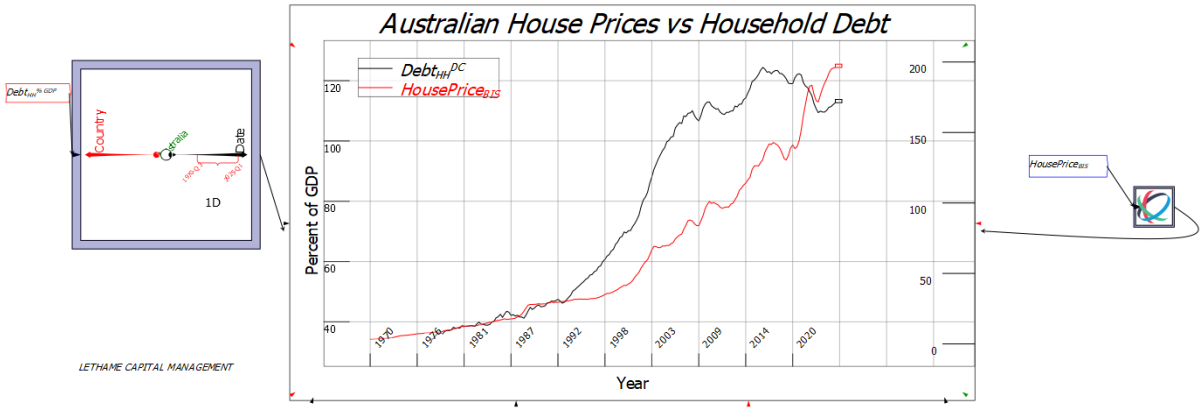
Demographia - International House Price-to-Income Ratios



Successive Australian governments have turbocharged demand for housing credit through a web of tax concessions and subsidies. Residential property enjoys uniquely favourable treatment: owner-occupied homes are exempt from capital gains tax; investors benefit from negative gearing and a capital gains discount; first-home buyers receive grants, deposit guarantees, and stamp duty exemptions; and principal residences are excluded from land tax. Collectively, these policies encourage households to borrow more than they otherwise would, enabling them to pay higher prices for housing than they otherwise could, and underscoring the central role of household debt in the equation (Eslake, 2025).[5]

Modelling the Housing Market Dynamic

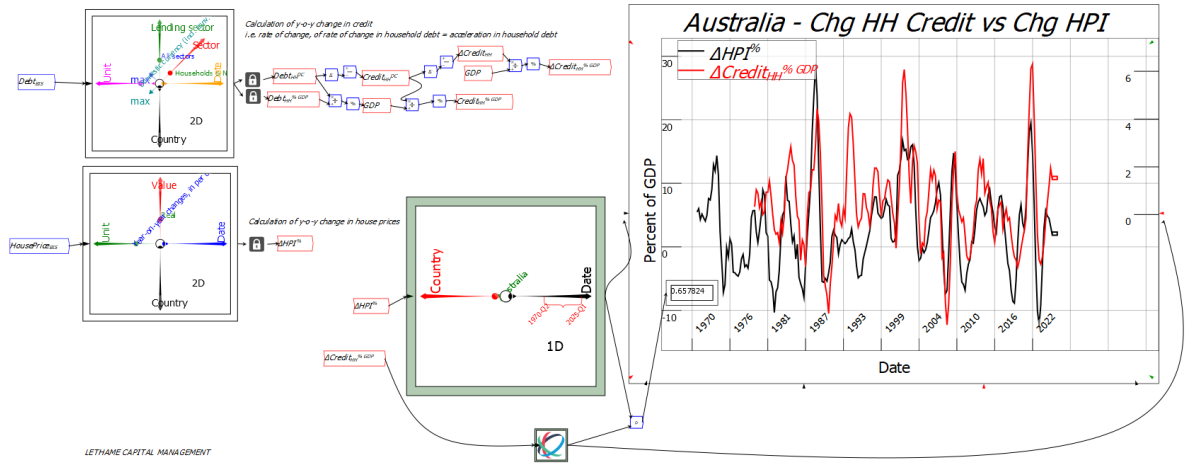
Bank of International Settlements (BIS)[6] data on credit and housing make it clear that looking only at household debt levels and house prices is misleading. Both rise over time, creating the appearance of correlation even if no causal link exists. Moreover, there are periods where debt keeps expanding while prices stagnate or fall, and vice versa. This obscures the true relationship. The real driver of house prices is the private banking sector's ability to create money at will through unconstrained mortgage lending — a factor almost always ignored in mainstream analysis. By focusing on credit creation, rather than supply constraints alone, we gain a much clearer atunderstanding of what actually drives housing dynamics.



On the supply side of credit, regulation further amplifies the cycle. Banks are required to hold less capital against mortgages than against business or personal loans, making housing credit disproportionately profitable. Basel II capital rules entrenched this bias. Regulators could act countercyclically by tightening serviceability buffers when rates are low and loosening them when rates are high — but in practice they rarely do. Instead, lighter capital requirements and government guarantees on high loan-to-value lending all but ensure that banks will expand mortgage credit aggressively.

Using the system dynamics framework, we can examine the Australian housing market through the lens of these credit flows. The basic idea is simple: the amount of money that can be spent on housing in any given year is equal to the increase in mortgage debt – in other words, the change in the stock of outstanding mortgages. This flow of new credit sets the monetary demand available for purchasing houses.

If you divide this flow of new mortgage credit by the average price of a house, you get a rough estimate of how many "average houses" that level of demand could finance in a given year. That provides a way of linking household credit creation directly to house prices. Taking the analysis one step further, if we look at the derivatives of both series, the change in credit growth (the rate of change of new household borrowing) lines up closely with the change in house prices. This can be demonstrated mathematically and is evident in long-run data, where the two series display remarkable co-movement in the ***chart "Australia – Chg HH Credit vs Chg HPI"***.



The mathematical relationship between the acceleration of household debt and changes in house prices can also be proved as demonstrated in Table 1.

TABLE 1

Mathematical Proof: Change in house prices is explained by acceleration in mortgage debt

Physical demand for housing D_H is explained by the $\frac{\text{flow of new mortgages (M)}}{\text{price level } (P_H)} \longrightarrow D_H(t) = \frac{\frac{d}{dt}M(t)}{P_H(t)}$

The supply of housing (S_H) is the existing stock of housing (Q_H) plus new builds

$$S_H(t) = \alpha_t \times Q_H(t) + \frac{\partial}{\partial t} Q_H(t)$$

So the instantaneous adjustment of supply to demand at time *t* would be

$$D_H(t) = \frac{\frac{d}{dt}M(t)}{P_H(t)} = S_H(t)$$

Rearranging we see therefore that the price is influenced by the flow of demand and supply

$$P_H \rightleftharpoons \frac{\frac{\partial}{\partial t}M}{S_H}$$

The rate of change of price is the interaction between the flow of demand and supply

$$\frac{\partial}{\partial t}P_H \rightleftharpoons \frac{\partial}{\partial t}\left(\frac{\frac{\partial}{\partial t}M}{S_H}\right) \rightleftharpoons \frac{1}{S_H}\left[\frac{\partial^2 M}{\partial_t^2} - \frac{\frac{\partial}{\partial t}M}{S_H} \times \frac{\partial}{\partial t}S_H\right]$$

Substitute $P_H \rightleftharpoons \frac{\frac{\partial}{\partial t}M}{S_H} \longrightarrow \frac{\partial}{\partial t}P_H \rightleftharpoons \frac{1}{S_H}\left[\frac{\partial^2 M}{\partial_t^2} - P_H \times \frac{\partial}{\partial t}S_H\right]$

Divide by $P_H \longrightarrow \frac{1}{P_H}\frac{\partial}{\partial t}P_H \rightleftharpoons \frac{\frac{\partial^2 M}{\partial_t^2}}{P_H \times S_H} - \frac{1}{S_H}\frac{\partial}{\partial t}S_H$

$$Therefore: \longrightarrow \frac{1}{P_H}\frac{\partial}{\partial t}P_H \rightleftharpoons \frac{\frac{\partial^2 M}{\partial_t^2}}{P_H \times S_H} - \frac{1}{S_H}\left[\frac{\partial}{\partial t}(\alpha \times Q_H) + \frac{\partial^2}{\partial_t^2}Q_H\right]$$

CHANGE IN PRICE = ACCELERATION IN MORTGAGES + SUPPLY FACTORS

Quarterly data from Q1 1970 through Q1 2025 show a correlation of 0.65 between changes in credit growth and house price changes. That translates into an R^2 of 0.42 — meaning 42% of the variation in quarterly house price changes can be statistically explained by changes in the acceleration of household debt. For quarterly macroeconomic data, this is

exceptionally high. Importantly, this relationship is not just correlation: statistical tests, such as Granger causality, show that changes in credit growth precede and cause changes in house prices.

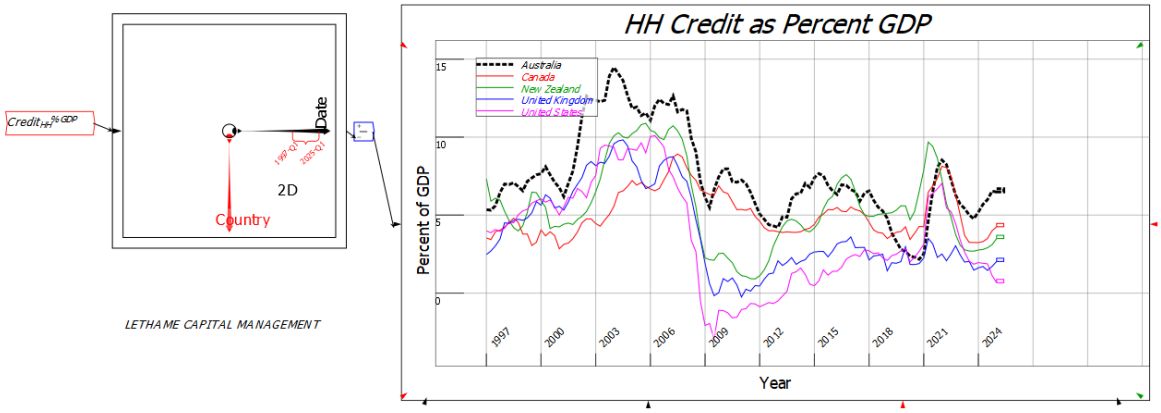
TABLE 2
Significance of the correlation:
• Sample: Q1 1970 – Q1 2025 (221 quarterly observations)
• Correlation coefficient (r): **0.65**
• R^2: **~0.4225**
• t-statistic: **12.66**
• p-value: **< 0.00001**

The correlation is also highly statistically significant. With more than 200 quarterly observations, the probability of obtaining a result of this size by chance is effectively zero. In other words, the evidence that credit growth drives house prices is overwhelming.

This marks a sharp break from the post-war housing model. In the 1950s and 1960s, governments directly built housing, supported suburban infrastructure, and expanded supply without inflating demand through tax breaks or subsidies. Home ownership rose rapidly, from 47% to 72%, without the speculative dynamics we see today. The turning point came in the 1960s with the first First Home Owners' Grant, after which governments steadily shifted toward inflating demand while retreating from direct provision of housing. From that point, house prices began rising faster than incomes, attracting banks to mortgage lending — a trend reinforced by regulatory changes that made such lending especially profitable.

Conclusion – "it's the banks"

Australia remains the poster child for excessive bank lending. In the most recent quarter in the BIS data, shows Australian household debt increasing at a 6.4% of GDP annual rate, far exceeding comparable Anglo-Saxon economies: U.S. (0.6%), UK (2.0%), Canada (4.2%), and New Zealand (3.5%). Australian credit creation consistently exceeds that of other economies – ***chart "HH Credit as Percent GDP"*** and Household debt-to-GDP is once again approaching 120% — a level last seen before Covid and before large-scale government fiscal interventions.



Australia's housing crisis is not about population growth or planning delays — it is about credit. Decades of tax breaks, subsidies, and regulatory bias have channelled the banking system's money-creation power into one asset class: housing. The result is a cycle of ever-rising debt, inflated prices, and widening inequality. Until governments confront this reality and curb the incentives for banks to endlessly expand mortgage credit, housing will remain less a place to live than a financial product — and Australians will keep paying the price.

Public debate on money creation is inverted. Politicians and "expert" commentators who inaccurately compare governments to households foolishly worry about government deficits "*debasing the currency*" driving inequality, or preventing younger generations from accessing housing — often leading to misplaced enthusiasm for alternatives such as Bitcoin. In reality, it is the private banking sector's unchecked creation of mortgage credit since deregulation in the early 1980's, reinforced by the mercantilist surpluses of countries like China, that drives inequality, bubbles, and financial instability. Until these dynamics are addressed, speculative booms followed by inevitable crashes will remain the most likely outcome.

References

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[5] Saul Eslake, "The Australian Economy and Housing Markets in 2025–26: Presentation to a Mortgage Brokers' Conference", 16 October 2025. Available at: https://www.sauleslake.info/the-australian-economy-and-housing-markets-in-2025-26-presentation-to-a-mortgage-brokers-conference/
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