Supply Elasticity of Houses in Regional NSW

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EMG Workshop
5 November 2014

What is the supply elasticity of residential housing in Australia?

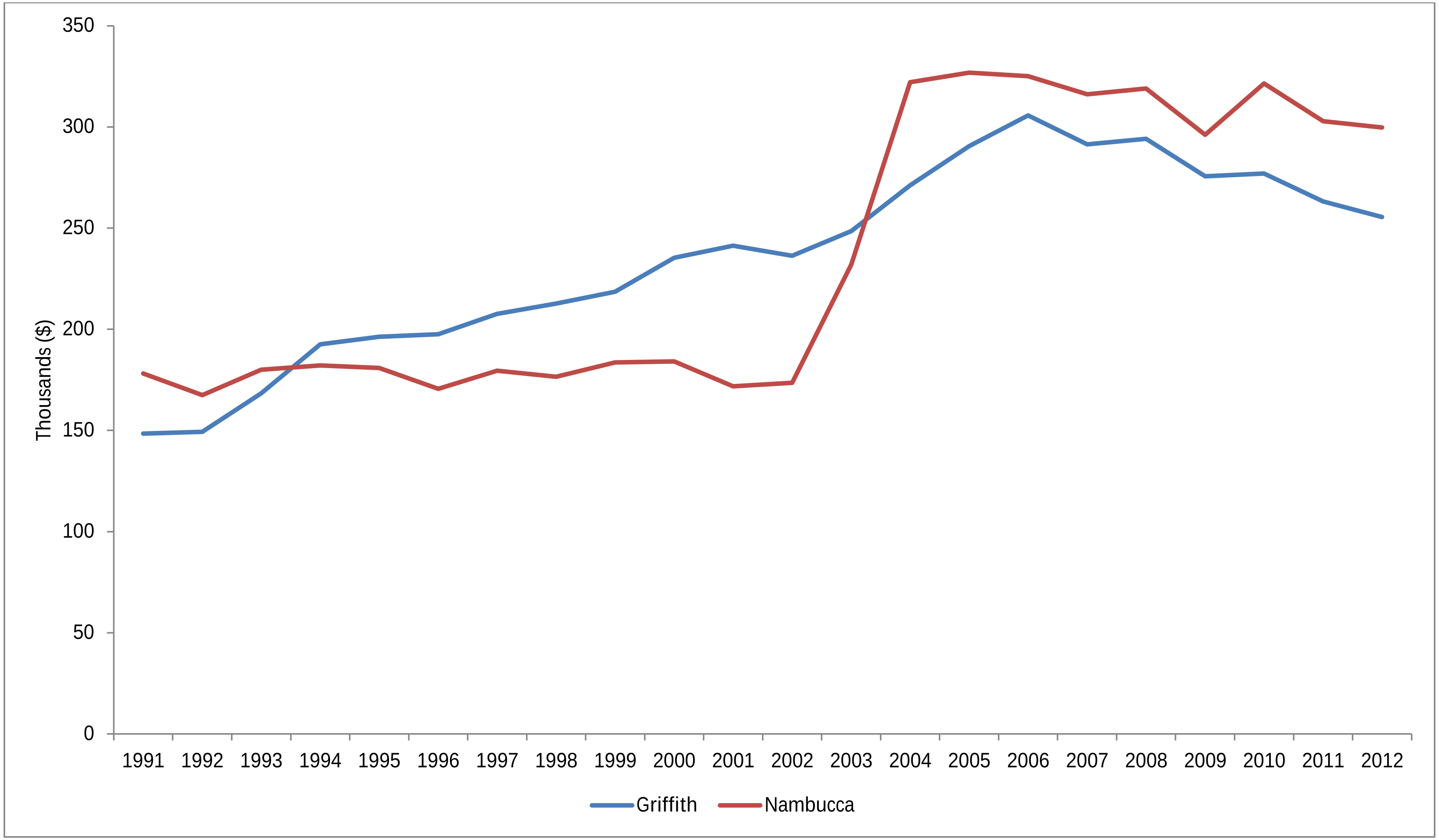
		All Housing
Ball, Meen and Nygaard (2010)	Australia	0.55

Why Regional NSW?

Relatively good disaggregated data on house prices

Is housing supply more elastic in regional NSW than in Sydney?

Real House Prices in LGAs of Griffith and Nambucca

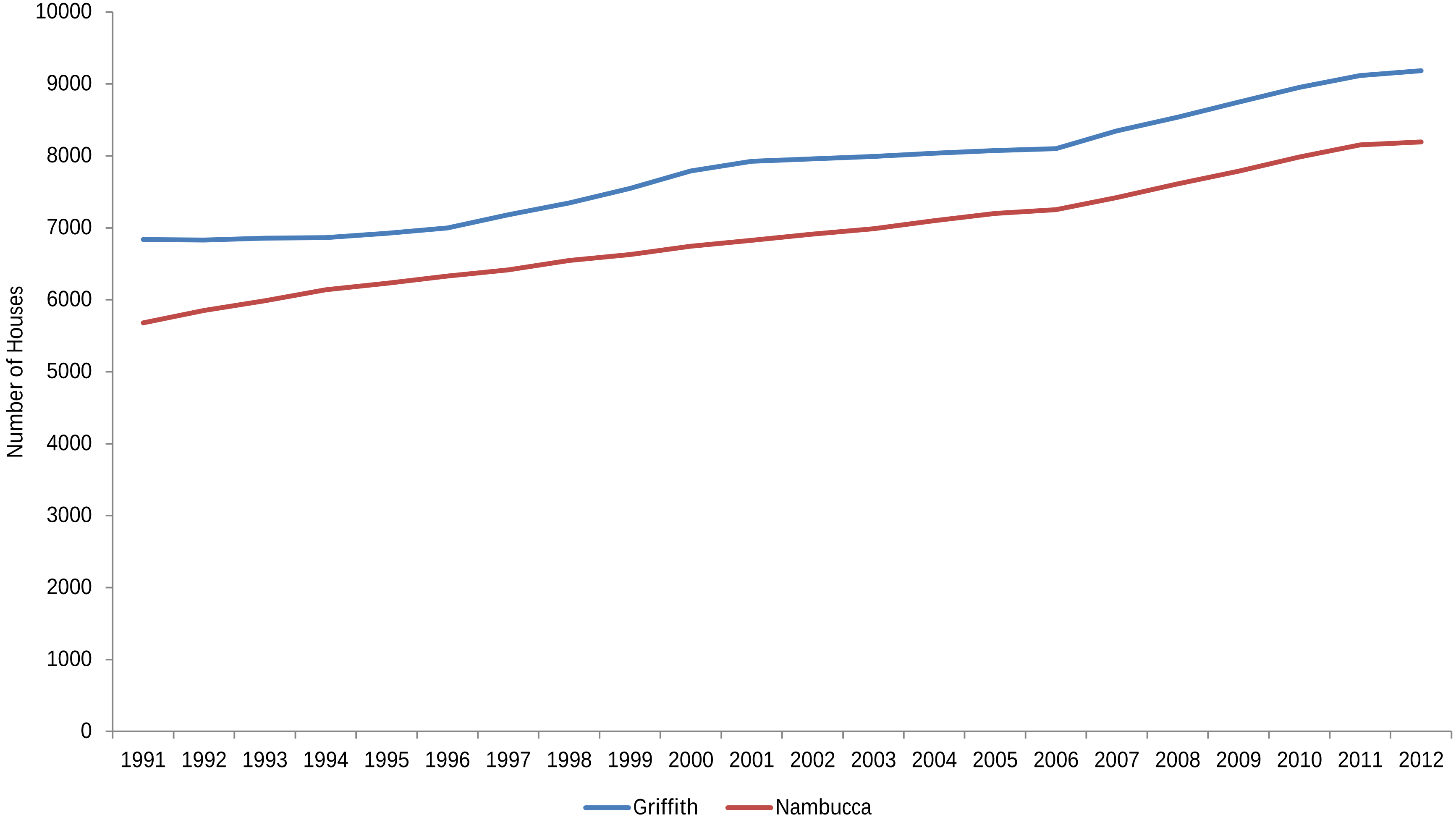


House Stocks

Number of private non-strata dwellings

- Census data provide estimates for 1991, 1996, 2001, 2006 and 2011
- Inter-censual years are interpolated using data on building approvals for LGAs
- No accounting for quality of housing
- In most regional LGAs, non-strata dwelling = detached house

Number of Non-Strata Dwellings in LGAs of Griffith and Nambucca



Regional Groupings for LGAs

11 regions (Number of LGAs)

Coastal	*Inland*
Hunter (11)	Central West (13)

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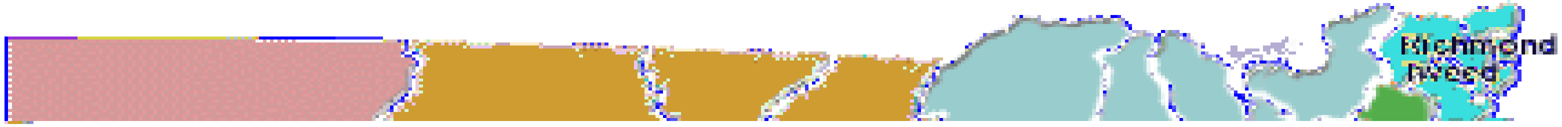
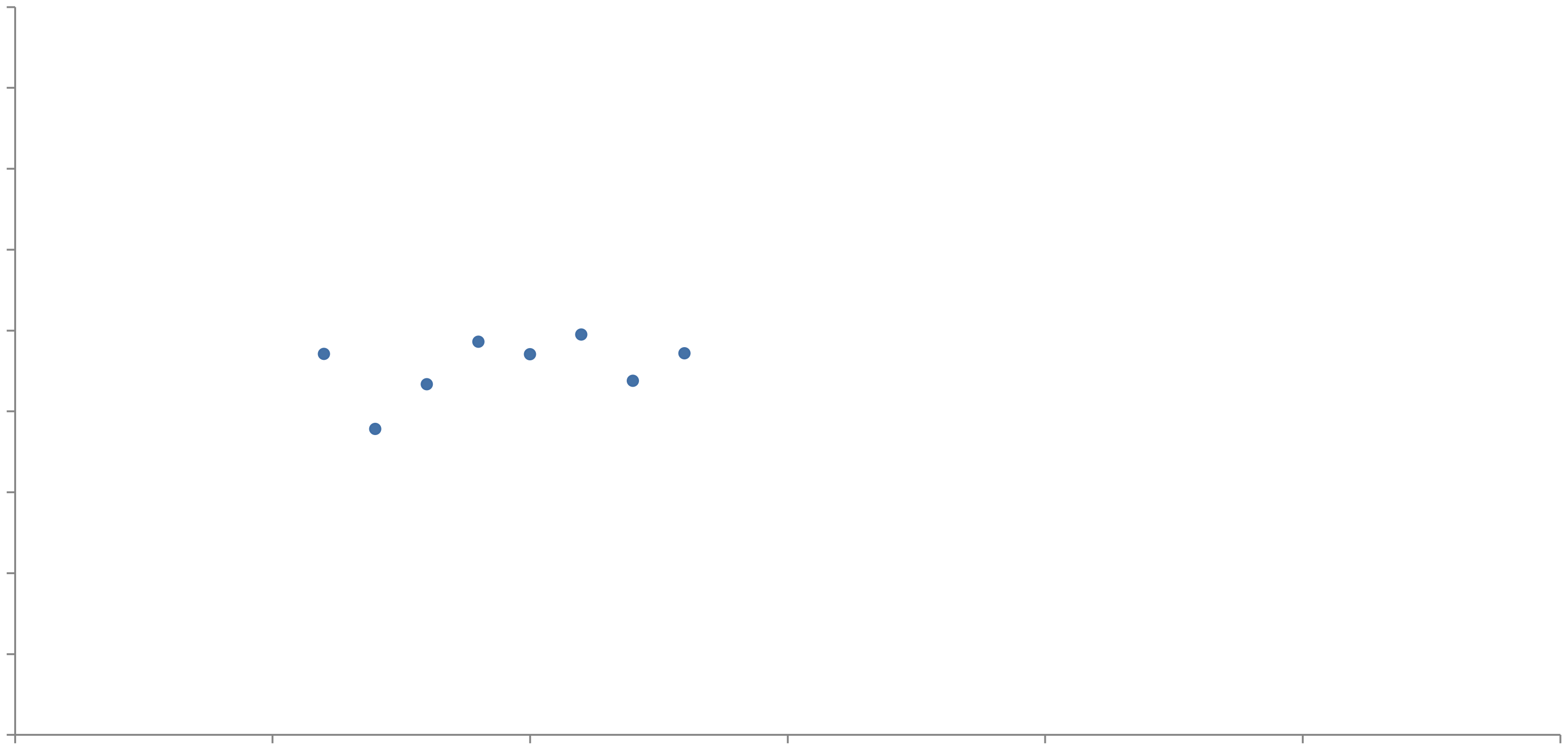
Regional Map





NSW-Wide Common Shock

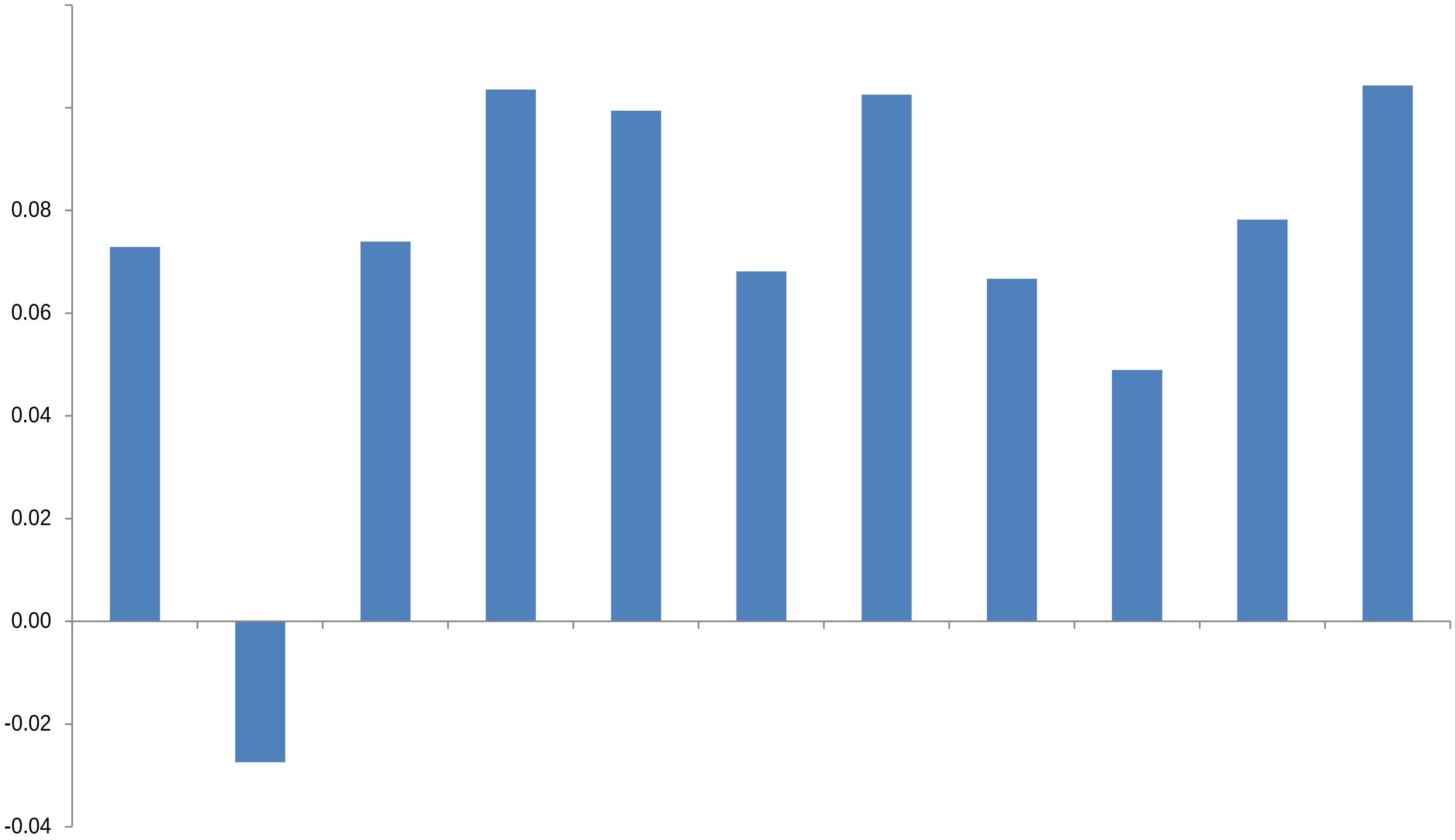
Increase in demand curve for houses

Reduction in supply curve for houses

If we assume the former, then can use the increase in house prices over 2002-2004 to estimate supply elasticity:

$$\frac{\%\ \Delta \text{ in stock of houses 2001 to 2005}}{\%\ \Delta \text{ in real house prices 2001 to 2005}}$$

Naïve Estimate of Supply Elasticity by Region

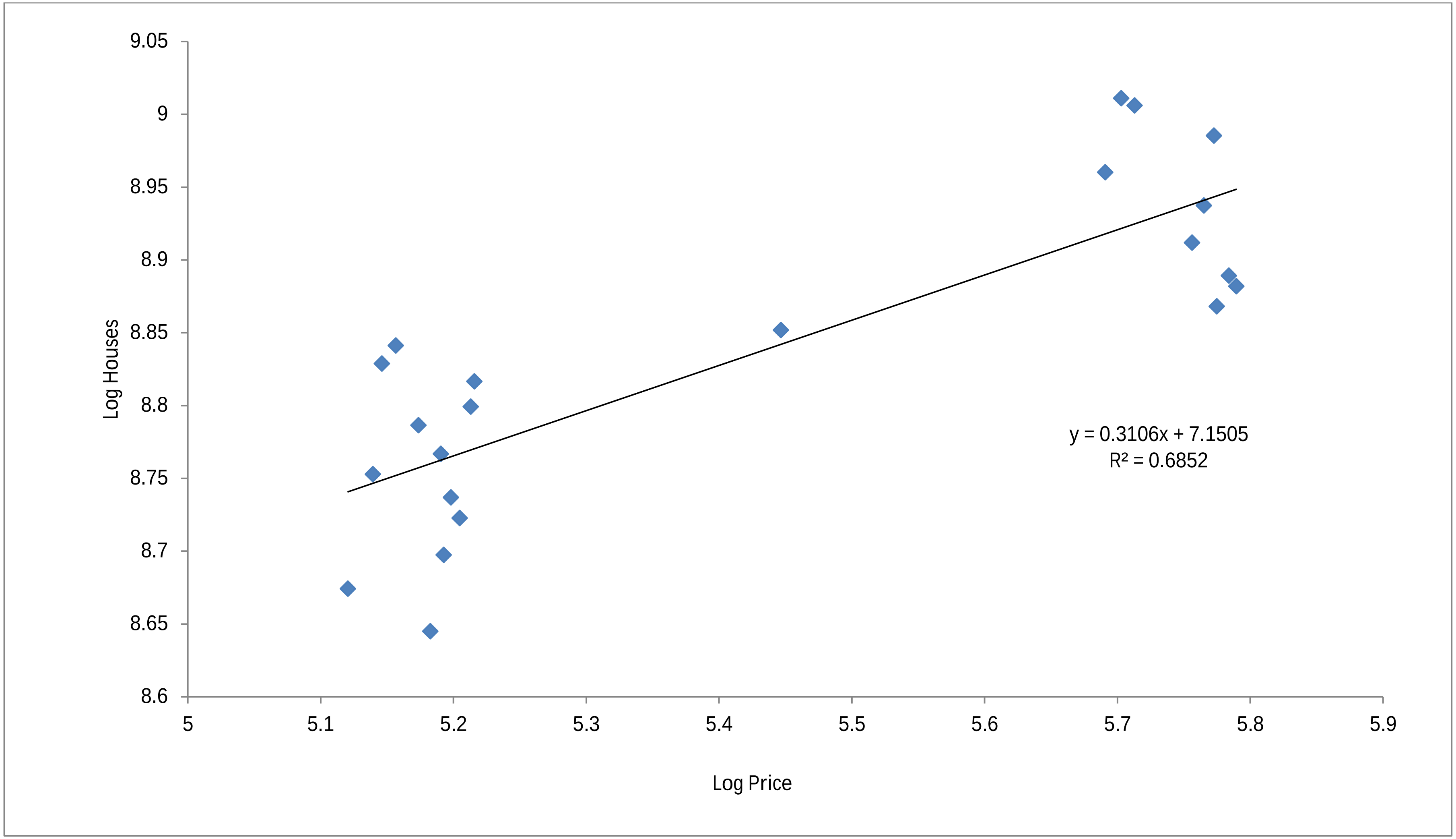


Formal Supply Elasticity Estimates

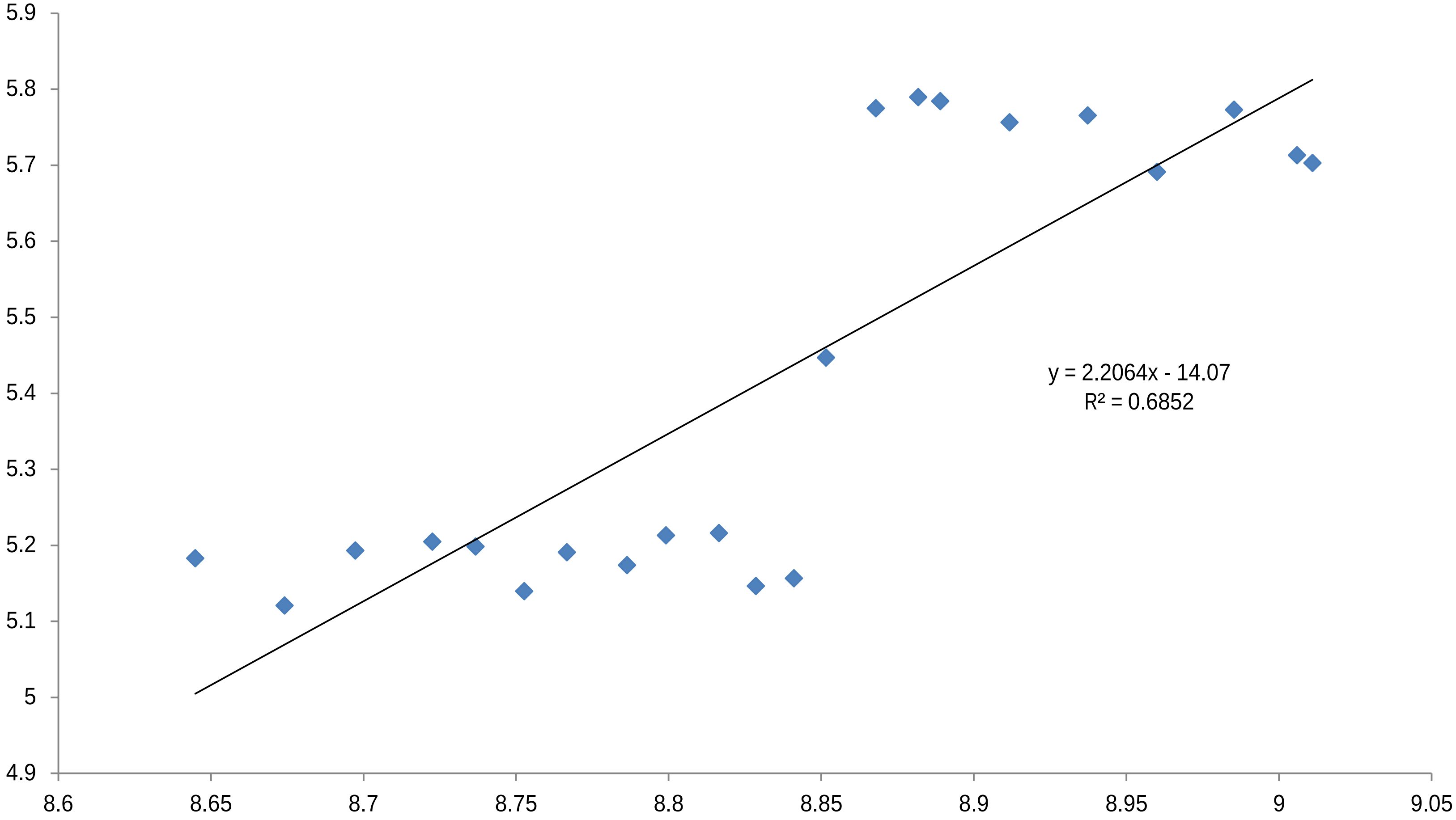
Use annual time-series data from 1991-2012 to estimate supply elasticity for each of 101 regional LGAs

Instrument Quality (income and real rate)

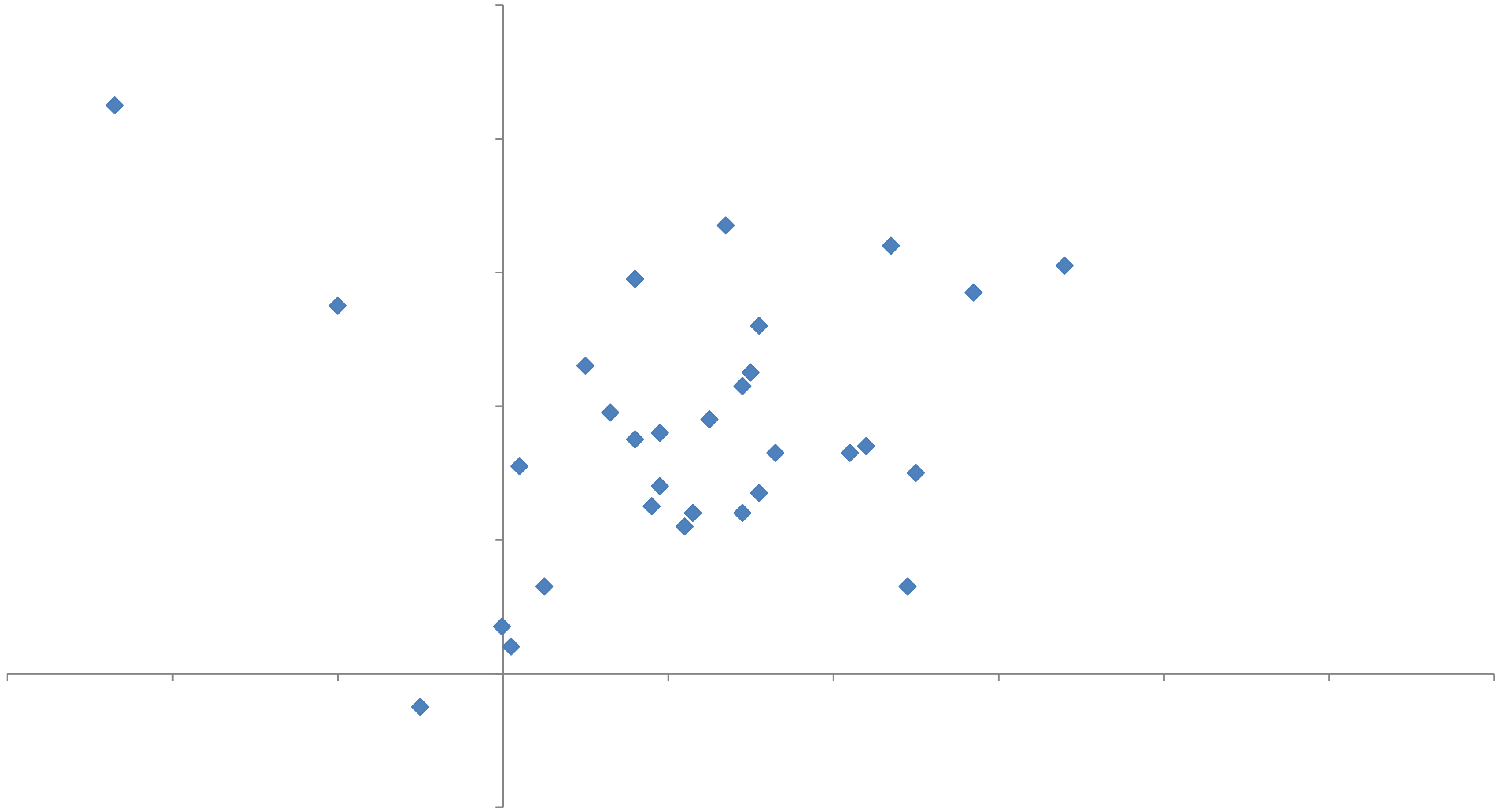
Estimating Supply Elasticity: Nambucca (IV Estimate = 0.41)



Estimating Supply Elasticity: Nambucca (1/2.21 = 0.45)



Correlation between IV and ARDL Estimates

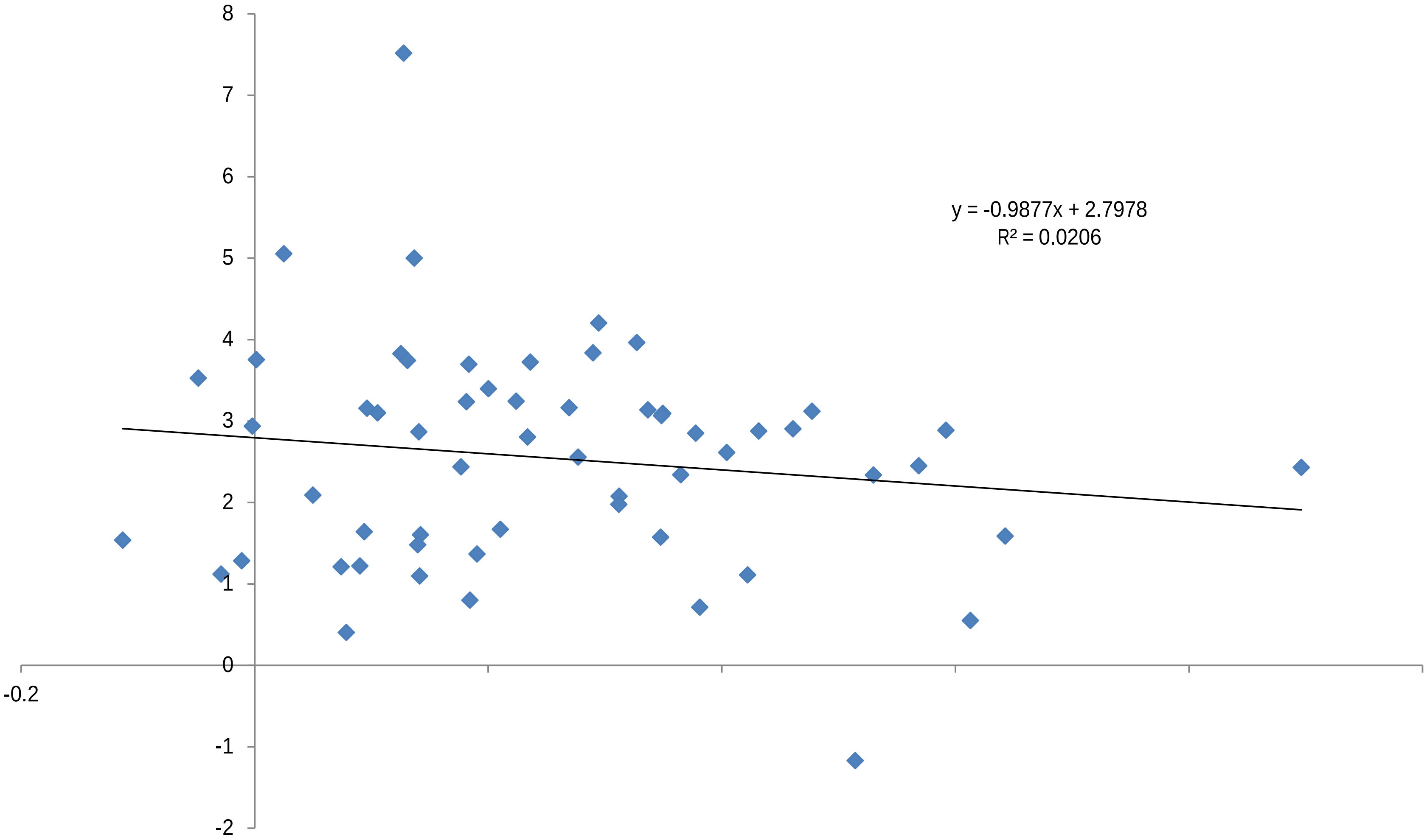


Growth in Real House Prices and Supply Elasticity

“As a result, we have had the combination of higher prices and lower supply than might otherwise have occurred.” (Tony Richards)

Do LGAs with lower supply elasticity have higher average capital gains?

Supply Elasticity and Real Capital Gains: Inland Regions



Why is Housing Supply in Regional NSW so Inelastic?

2 observations

Average supply elasticity for houses in regional NSW)P 5rLyyET [illegible]

NSW Planning System

Legislation

State Environmental Planning Policies (SEPPs) NSW-wide planning policies and procedures

Local Environmental Plan (LEP) zones all land within an LGA; including what developments and land uses can occur and under what criteria

LEPs need State Government approval

Some Unresolved Questions

What criteria do Local Councils use to decide on the quantity of land to zone as residential in their LEPs?

Answer seems to be that they use population growth projections

What is the current stock of unused land that is currently zoned as residential in regional LGAs?

Difficult to calculate this figure

Additional Slides

Supply Elasticity and Area of LGA