Andrew Narwold, PhD

University
of San Diego®

Assessing the Impact of Policy Changes on House Prices

Central Bank of Malta

March 13, 2019

New Zealand, December 2018

What the property market holds in store for 2019, New Zealand Herald, December 29, 2018

Infometrics economist says that while Auckland house prices have stagnated for close to two years they are set for an almost 10 per cent jump next year followed by sustained increases through to mid-2022.

Factors cited: low interest rates, easing credit for borrowers, restricted supply of housing

New Zealand, January 2019

<u>Economists warn three factors to weigh on housing market in 2019</u>, New Zealand Herald, January 2, 2019

Foreign buyer ban

The possibility of the Government axing landlords' tax deductions

The possible introduction of a capital gains tax

New Zealand, Late January 2019

<u>Auckland house sales slump 20 per cent as the foreign buyer ban hits the market</u>, New Zealand Herald, January 23, 2019

House sales across the country fell to their lowest levels in seven years

The foreign buyers ban has been directly responsible for the stalling, and stopping, of apartments blocks being built
"The whole thing has been a bugger's muddle."

Way back when …

A very young future economist was sitting in a PhD course on public economics. The professor required a short paper proposing a research topic in public economics in the first week of class. Not knowing anything about the topic, our young hero wrote something about tax rates influencing portfolio investment decisions, and the die was cast.

Way back when …

In 1980, the top federal marginal tax rate in the United States was 70%, with state income taxes on top of that

Owners of rental housing were able to depreciate their (appreciating) properties with a double declining balance method over 15 years

Way back when …

President Ronald Regan moved the Tax Reform Act of 1986 through Congress. Over the period of several years, the top federal marginal tax rate was reduced from 70% to 38.5%. At the same time, the depreciation schedule for rental property was changed to straightline depreciation over 30 years, significantly decreasing the attractiveness of owning rental property.

Way back when …

The Distribution of the Benefits of Tax Arbitrage in the Housing Market, Journal of Urban Economics, 1992

State Income Taxes and Homeownership: A Test of the Tax Arbitrage Theory, with Jon Sonstelie, Journal of Urban Economics, 1994

Tax arbitrage in housing markets

Housing model based on Poterba (1984)

After tax cash flow to landlords per unit of housing

$$(1 - t)(r - \tau P - m + \alpha g^e) + t\delta P$$

Opportunity cost of investing per unit of housing

$$[(1 - t)(i + \pi^e + \psi^L)]\, P$$

Combining two expressions gives profit per unit of housing

Tax arbitrage in housing markets

Profit is an increasing function of the marginal tax rate. Through competition, only those in the top tax bracket would hold rental property. Can also argue for this with portfolio distribution.

Landlords hold rental property for the tax deductions associated with depreciation. Increases either the depreciation benefits or increase the marginal tax rates and this will be reflected in lower rents.

Tax arbitrage in housing markets

The capitalization (cap) rate or relative cosr :

$$\frac{r_k}{P_k} = (i + \pi^e) + \tau_k + \varphi^L + \frac{m - \alpha g^e}{P_k} - \delta \frac{t_k^*}{(1 - t_k^*)}$$

Tax arbitrage in housing markets

So how to disentangle all that is happening dynamically in the housing market?

Use state level variation in taxation.

States with higher marginal tax rates should have relatively lower rental rates. The benefits of owning rental property are arbitraged to renters in the form of lower rents.

Tax arbitrage in housing markets

Two testable implications of the tax arbitrage model of the housing market:

States with higher marginal income taxes should have a lower rent to price ratio (capitalization rate)

States with higher marginal tax rates should have a lower incidence of homeownership, since renting is relatively more affordable

Tax arbitrage in housing markets

The two papers test these hypotheses and find evidence for both.

Homeownership is statistically significantly lower in states with higher marginal tax rates

The rent to price ratio is lower in those states with higher income taxes. New York State had the highest marginal tax rate and an estimated monthly rent of $279. If New York State had the average high tax rate, it is estimated that monthly rents would have been $302.60, or almost 8% higher.

Similar model, closer to (your) home

Paul van den Nord, Tax Incentive and House Price Volatility in the Euro Area: Theory and Evidence, *Economie Internationale*,101(1), 2005

Using the Poterba model, user cost of capital per unit of housing:

$$R(H) = [r(1 - t) + \Theta + \delta - \pi]P_H$$

Similar model, closer to (your) home

Bubbles may occur if:

Liberal mortgage markets

Low transaction costs

Supply of housing price inelastic

Tax incentives to take on large amounts of debt

Similar model, closer to (your) home

Differences across European Union member countries can be seen in terms of income taxation policies and property tax policies.

The tax deductibility of mortgage interest payments

Available tax credits

Low to no property taxation

Similar model, closer to (your) home

Differences in any or all of these policies that make owner-occupied housing a more attractive investment would decrease the elasticity of demand for housing. Thus a positive (and permanent) demand shock would have a much greater impact on price volatility.

If expected future appreciation is modelled using past housing price changes, then the market could continue to vacillate, illustrating high volatility.

Similar model, closer to (your) home

Empirical evidence:

Member countries that have the smallest subsidies to owner-occupied housing tend to have the greatest price stability (France and Germany).

Member countries with high volatility tend to have more favorable tax regimes.

Similar model, closer to (your) home

Reverse causality?

Adverse impact most acutely felt by low-income households. Benefit least from subsidies, but still subjected to high prices and volatility.

Historic Preservation as a Housing Policy

Historic Preservation as a Housing Policy

Historic Preservation as a Housing Policy

In the 1960's agricultural land was being lost because the property tax on the raw land was based on highest and best use – housing. Farmers were being forced to sell/develop because of property tax liabilities.

The Williamson Act – agricultural land can be taxed at its value as agricultural land.

Historic Preservation as a Housing Policy

The Mills Act – historically designated homes are taxed at the value imputed from potential rental stream rather than market value. This can result in reductions in property tax bills on the order of 70% or more.

Converting Cash Flow into Market Price

How much would you be willing to pay for an asset that generates the following cash flow?

Month 1	$2000
Month 2	$2000
Month 3	$2000

…

Assuming some discount rate (interest rate), the Assessor's office converts the rental stream into a market price.

Historic Preservation as a Housing Policy

Historic Designation and Residential Property Values, with Jon Sandy and Charles Tu, International Real Estate Review, 2008

Estimating the Value of the Historical Designation Externality, International Journal of Housing Markets and Analysis, 2008

How much is a historic preservation worth?

Suppose that you have just bought a house for $1,000,000. Normally, the property tax bill would be around 1% or $10,000 annually.

How much more would you have paid for the house if your property tax bill was going to be $3,000? That is, you get a reduction in property taxes of $7,000 per year for as long as you own the house.

Remember that this benefit is pre-tax, so the post-tax benefit would be around $4,500 per year.

At a discount rate (interest rate) of 5%, this tax benefit would be around $90,000.

Could be more or less

The value of a historic preservation contract may actually be less than this (and even negative) if the restrictions on renovation lowers the value of the property

The value of a historic preservation contract may be more than this if homebuyers are willing to pay a premium for the bronze plaque on the house

Value of Historic Designation

2000 home sales in the 92103 and 92104 zip codes from 1/1/2000 through 12/31/2005

25 historically designated homes

On average, historically designated homes sold for 16% more ($160,000 evaluated at mean values) than similar homes without historic designation

Is the tax benefit worth 16%? If not, how do we explain this difference?
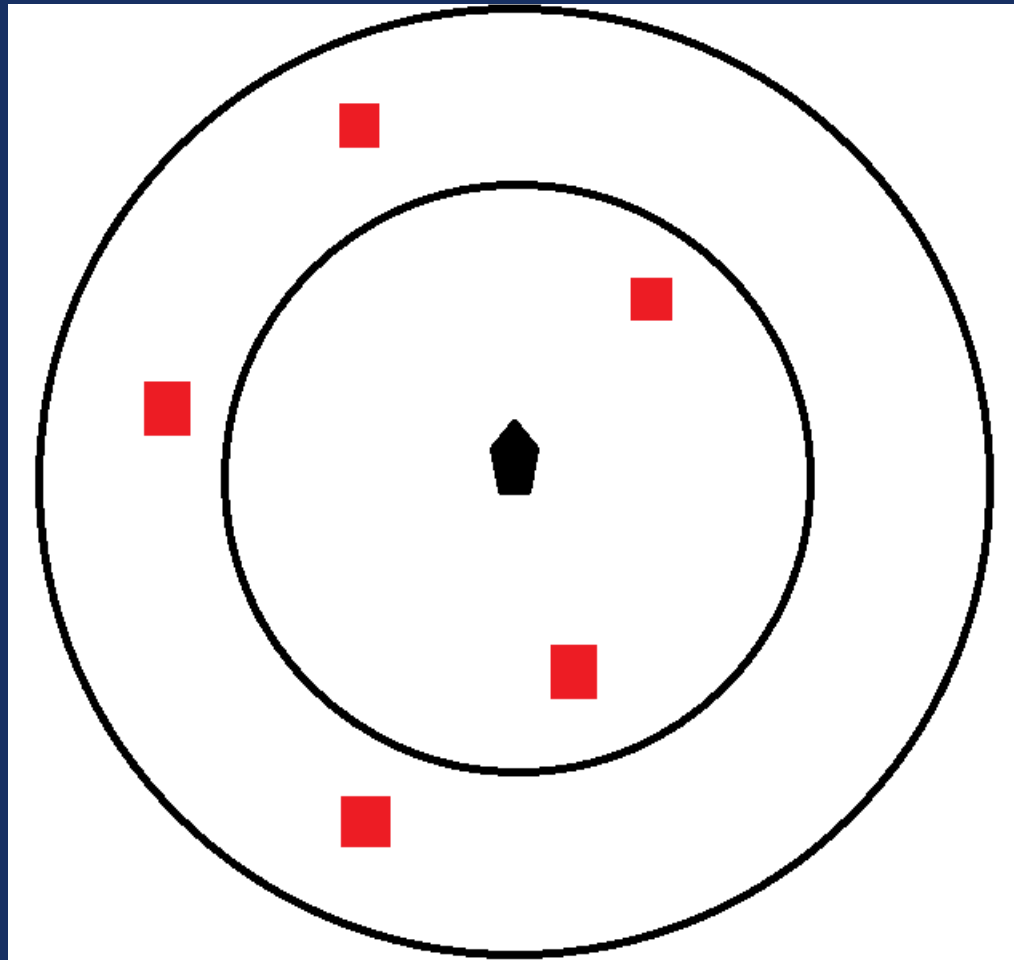
Uh oh …
San Diego Union, 1/27/2008

WATCHDOG REPORT

City is generous with tax breaks for old homes

Concerns raised about preservation program

By Craig Gustafson

Valuing the externality

Valuing the externality

The sale price of a house is a function of all of the usual characteristics, as well as the number of historically designated houses within close proximity

The number of historically designated houses within 250 feet (5 houses on either side)

The number of historically designated houses between 250 and 500 feet

Results suggest …

Using sales data from the 92103 and 92104 zip codes from January 1, 2005 through December 31, 2007 (370 houses)

For each additional historically designated house located within 250 feet of the sold house, we would expect the sales price to increase on average about $30,000

For each additional historically designated house located between 250 and 500 feet of the sold house, we would expect the sales price to increase on average about $13,000

Results suggest …

The increase in the property values of houses surrounding a historically designated house may be on the order of $1.8 million in total

It is probable that this increase in property values results in significantly more property tax than what is lost through the Mill Act contract

Current Issues In Housing – San Diego

Restricted housing supply

Rapid increase in demand

Increasing inaffordability hampering first time homeowners

Illegal housing situations

AirB&B removing long term rental space

Homelessness

…

Sound familiar?

Ongoing research interests

Sales of distressed properties – short sales and foreclosures

Capitalization of "taxes" into housing prices – Homeowner association (HOA) fees and Mello-Roos fees

Relationship between rental (long-term as well as AirB&B) and owner-occupied housing

Questions?

Thank-you for your attention