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## In this issue...

Welcome to the March 2020 edition of *Research Matters* in which we present research and analysis from the Forward Policy and Research team.

This edition begins with a review of population change in regional Victorian cities and towns. The data used in this article, *Towns in Time*, provides a long-term time perspective on the growth of regional centres, including some that suffered population decline in the 1990s but have since experienced population growth.

Changes in regional areas are also reflected in house prices. The second article provides an overview of characteristics and changes in this indicator over time.

The third article presents complementary information about the measurement of house prices by reviewing a number of different sources. It highlights some important issues when selecting and interpreting house price information.

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# Population change in regional cities and towns

The Forward Policy and Research Branch has access to a range of data sources such as *Towns in Time* which provides a 35-year time series based on ABS census data. According to the 2016 census, there were 24 cities in regional Victoria with populations of more than 10,000 persons (figure 1). Three of these (Geelong, Ballarat and Bendigo) each have populations greater than 50,000.

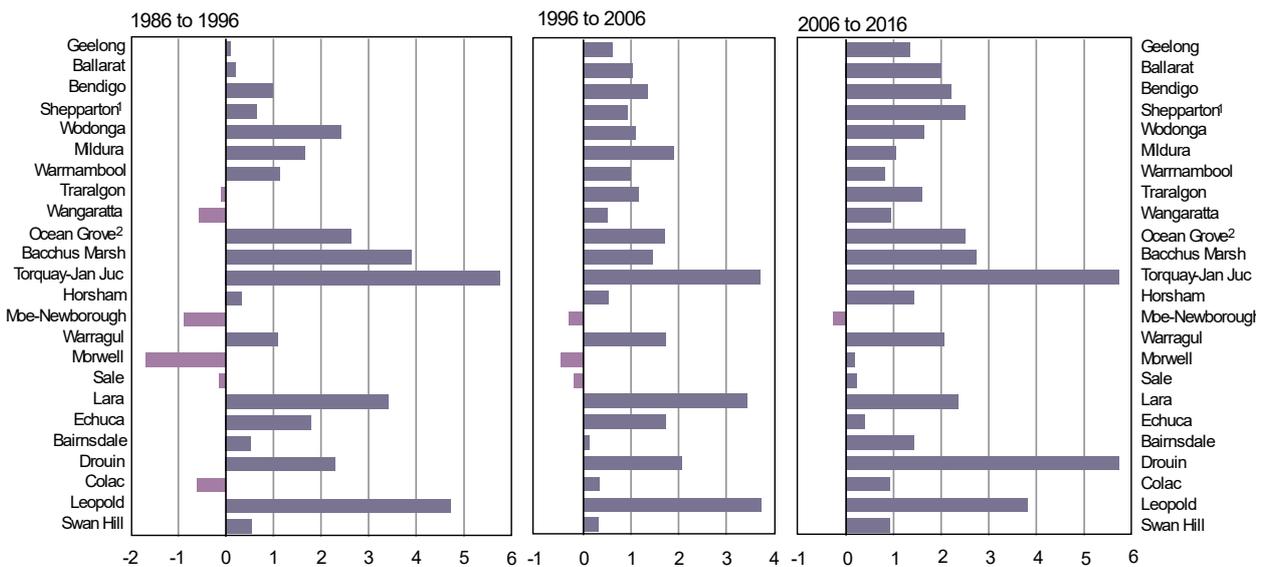
Generally, the regional cities of Victoria have experienced population growth over the past three decades, although the rate of growth was dampened in the early 1990s due to the economic challenges presented by recession, especially in centres which were highly dependent on a particular sector like manufacturing (Geelong, Ballarat) or energy production (Latrobe). Exceptions to this ‘dampening’ of growth were found in a number of coastal areas south of Geelong (Torquay Jan Juc; Ocean Grove; Leopold) and settlements close to Melbourne (Bacchus Marsh; Lara) (figure 2). Wodonga, too, seemed little affected by the downturn, at least in terms of total population growth.

In the decade after 1996, population decline was seen in fewer centres and by the decade 2006-16, only one of the larger regional cities (Moe) was still experiencing population loss. However, some of this loss may have been inter-regional movement, as nearby Traralgon was growing at an average annual rate of 1.6 percent during the period. Traralgon’s economy had less dependence on coal mining and energy production and was able to provide employment across service sectors such as healthcare which attracted population from the surrounding region. The LGA of Latrobe, containing the

cities of Moe, Morwell and Traralgon, grew by nearly 4,000 persons over the 2006-16 period.

Urban centre	Population 2016	Average annual growth rate 2006-2016
Geelong	155,889	1.3
Ballarat	92,725	2.0
Bendigo	91,567	2.2
Shepparton - Mooroopna	46,008	2.5
Wodonga	34,723	1.6
Mildura	34,188	1.1
Warrambool	30,384	0.8
Traralgon	25,155	1.6
Wangaratta	18,380	0.9
Ocean Grove - Barwon Heads	17,444	2.5
Bacchus Marsh	17,101	2.7
Torquay - Jan Juc	16,530	5.7
Horsham	15,300	1.4
Moe	14,746	-0.3
Warragul	13,907	2.1
Morwell	13,435	0.2
Sale	13,368	0.2
Lara	12,987	2.3
Echuca	12,882	0.4
Bairnsdale	12,703	1.4
Drouin	11,602	5.7
Colac	11,574	0.9
Leopold	11,549	3.8
Swan Hill	10,621	0.9

Figure 1: Largest urban centres in regional Victoria in 2016  
Source: DELWP 2018, Towns in Time



1. includes Mooroopna  
2. includes Barwon Heads

Figure 2: Average annual population change (%) for cities that had 10,000+ population in 2016, 10-year intercensal periods, 1986 to 2016  
Source: DELWP 2018, Towns in Time

Another way of visualising the population data is by indexing the change since 1981 (figure 3). With the selected centres starting at a value of 100, the five-yearly census change can be shown comparatively. Wodonga and Mildura show the strongest growth among those shown on the graph.

Regional cities are not the only types of settlements that are increasing in population. In fact, the size of a settlement does not determine the likelihood of growth or decline. More important are geographical factors such as the proximity of a settlement to a larger centre or its locational amenity. For example, settlements along the

Surf Coast were traditionally, coastal resorts and retirement destinations. However, their proximity to Geelong and Melbourne has seen increasing population growth from commuters who can enjoy coastal amenity as well as access to larger job markets. Figure 4 shows the total population in different sized towns over the period 1981 to 2016.

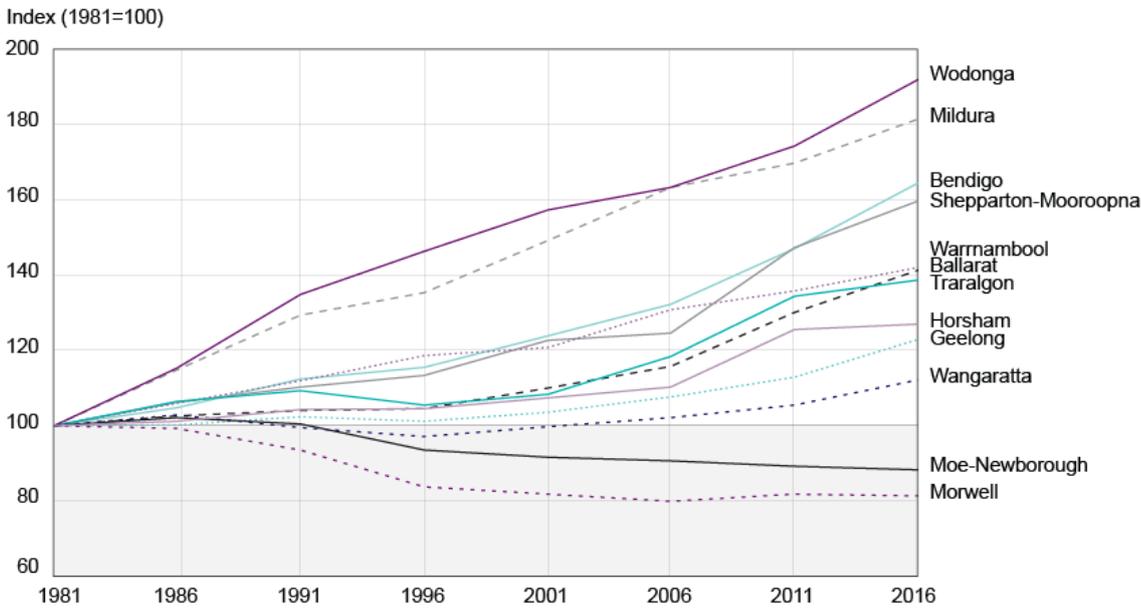


Figure 3: Index of population growth, selected urban centres, 1981 to 2016 (1981=100)

Source: DELWP 2018 Towns in Time

Year	Small towns (200 to 1,999)	Medium towns (2,000 to 4,999)	Large towns (5,000 to 9,999)	Regional cities (10,000+)
Number of settlements				
1986	215	43	17	17
1996	220	41	22	18
2006	261	45	22	20
2016	242	49	18	25
Population				
1986	153,226	129,314	121,297	486,317
1996	162,478	121,755	155,718	516,197
2006	180,979	139,440	161,017	585,711
2016	169,369	154,945	135,211	746,896
Average annual population growth rate				
1986-96	0.6	-0.6	2.5	0.6
1996-06	1.1	1.4	0.3	1.3
2006-16	-0.7	1.1	-1.7	2.5

Figure 4: Population growth for settlement size categories, regional Victoria, 1986 to 2016

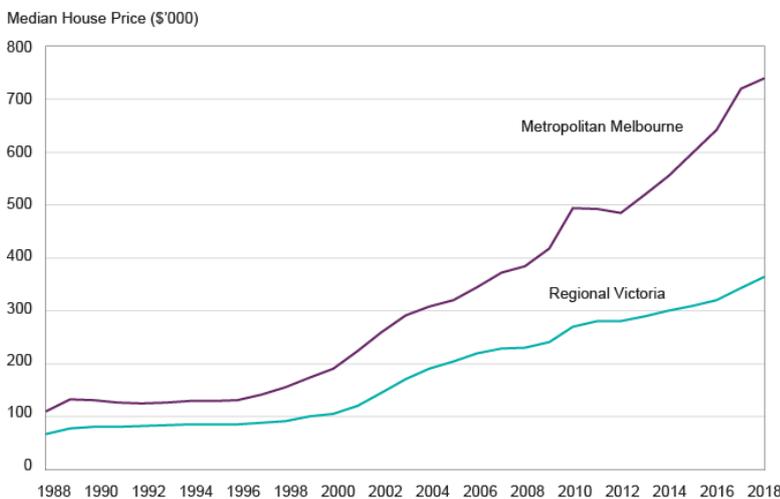
Source: DELWP 2018, Towns in Time

# Spatial trends in house prices

House prices have seen substantial change in the past decade, both in regional Victoria and metropolitan Melbourne (figure 1). Rates of price increase have been higher in Melbourne hence the gap has widened. With strong population growth in Melbourne over the past decade, there are many more people in the home-buyer and investor markets. This has led to greater competition between buyers, thus increasing prices.

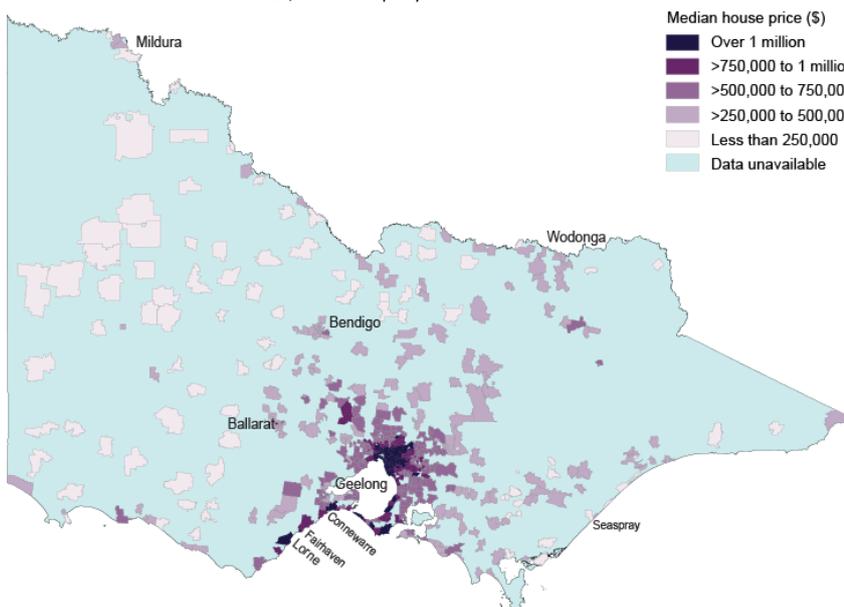
In spatial terms, areas of highest median house prices outside of Melbourne are found along the Surf Coast, with Lorne, Connemara and Fairhaven recording prices above \$1 million in 2018 (figure 2). While many coastal areas have high prices, this is not the case for those in more remote locations such as Seaspray in eastern Victoria which

recorded a median house price of \$205,000. It should be noted that there can be year to year fluctuations in property prices in many regional areas due to small numbers of dwellings being sold. For the major regional cities, median housing prices have increased over the past three decades (figure 3). Since the mid-2000s divergence in median prices has been apparent, especially in relation to Geelong which has experienced a strong increase. Geelong’s median house price in 2018 was \$539,900 which was more than \$160,000 higher than for Ballarat (\$370K) or Wodonga (\$350K). Like Melbourne, rapid population growth in Geelong has led to greater competition among buyers and subsequent price increases.



**Figure 1: Median House Prices, regional Victoria and metropolitan Melbourne, 1988 to 2018**

Source: Valuer-General Victoria 2019, Annual Property Sales



**Figure 2: Median House Prices, suburban localities, Victoria 2018**

Source: Valuer-General Victoria 2019, Annual Property Sales

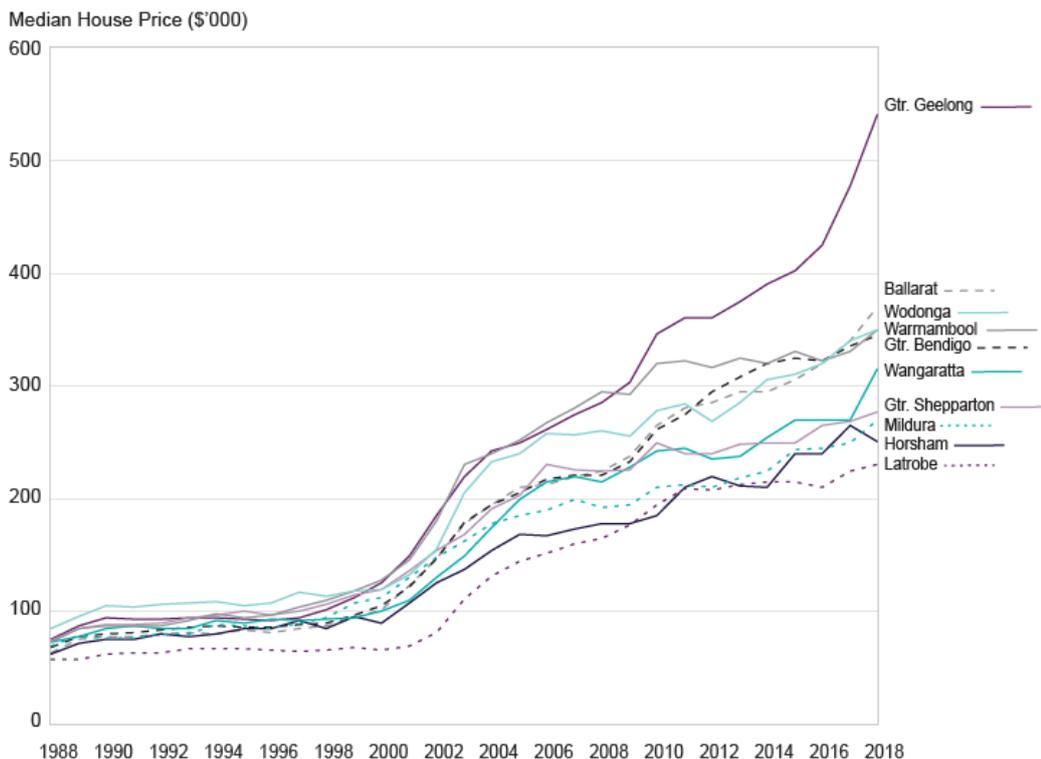


Figure 3: Median House Prices, regional city Local Government Areas, Victoria 1988 to 2018

Source: Valuer-General Victoria 2019, Annual Property Sales

## Measuring house price change

The price of housing is frequently reported upon by media and property industry groups, with commentators reporting on every rise or fall in markets. There are many sources of housing price data, for example, the Valuer-General, Real Estate Institute of Victoria (REIV) and Australian Property Monitors (APM). There may be variation between the house price data each of these provides for any particular suburb. Hence, it is important to understand reasons for price variation across different data sources and problems with measuring housing prices and change over time.

The figures differ because each organisation uses a different method when measuring the quarterly median price of houses in Melbourne. REIV median prices tend to be higher because they only report on the results of auctions and sales from REIV members. These are inclined to be for higher value properties in the inner and middle areas of Melbourne. APM, on the other hand, uses a variety of sources including: auctions, government and semi-government agencies, real estate advertising, real estate agents and their own additional research. This means that they are able to take into account a wider range of sales than the REIV.

However, only the Valuer-General takes into account all property sales derived from the data on all settled

sales. Because of this, the Land Use and Population Research branch in DELWP uses this dataset as it is the most comprehensive and accurate.

Given that the Valuer-General data is the most accurate, one may wonder why it is not used by everyone. The reason is that the very strength of the Valuer-General data (that it is based on all settled sales) means it can be months before all sales are reported and a median calculated for a given quarter. In a time of rising prices, many prefer to opt for less precise, but more immediate, data sources.

Trying to measure *change* in housing prices over time requires some additional considerations. This is because sales in one period measure different sales to a subsequent period. For example, if we imagine a hypothetical example of a dozen houses in a particular suburban street. In one quarter, three cheaper houses are sold, but in the subsequent quarter, three of the streets' more expensive properties are sold. It appears that house values have increased even though the values of individual houses may not have changed. This highlights the problem that houses are not always comparable. They differ in character, shape, size and quality, even within a single street.

This is less of an issue for large samples such as metropolitan prices. However, at certain times it may appear that house prices are growing slower or faster than they may otherwise be.

Some sources of housing price change attempt to take into account the problem of the composition of sales by examining the repeat sales of the same dwellings over time. Others stratify sales by suburb to produce an index, such as is done by the Australian Bureau of Statistics. The ABS *Residential Price Index* is prepared for Australia's capital cities. The advantage of this index is that it accounts for variation in composition of properties sold, thus making it a more consistent measure of change. While long-term trends have shown upward movement in prices, the past two years have seen a dampening of prices in Melbourne and Sydney. Various reasons for this dampening of prices have been cited, including the introduction of tighter lending criteria by the Australian Prudential Regulation Authority (particularly affecting investors) and a lack of consumer confidence as prices fell. This has changed in recent times, with the price index showing a marked upward movement in the later part of 2019 (figure 1).

A final issue, in relation to reported housing prices, relates to changing quality of dwellings. Even when comparing sales data for individual dwellings, errors will arise due to changes (usually improvements) in dwelling quality. For example, if the repeat sales of a terrace house in an inner suburb of Melbourne was tracked it may show that it was sold for a relatively cheap price in the mid-1990s and a very high price in 2019. However, in the meantime, the house went from being very run-

down to a luxurious dwelling with an extra bedroom and the latest appliances. Its increase in price is partly attributable to the change in quality. A solution to this problem is to use statistical techniques such as hedonic regression – which assumes that a dwelling can be considered in terms of its separated components such as number of bedrooms, size and facilities. This technique requires a very good source of data about the attributes of dwellings. An example of this type of indicator is the CoreLogic Home Value Index.

When considering housing prices (especially over time and for small areas such as suburbs), it is important to consider what sales are being measured and the issue of compositional change and quality over time. It is also important to not place too much store in short-term changes in data, but to look at longer time frames when considering changing property prices.

#### Further information

Australian Bureau of Statistics (ABS) *Residential Property Price Indexes: Eight Capital Cities*, Sep 2019, cat. 6416.0  
<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6416.0>

Australian Property Monitors (APM) *Home Price Guide*.  
<https://www.domain.com.au/property-profile>

Real Estate Institute of Victoria (REIV), Housing Market Insights <https://reiv.com.au/market-insights>

CoreLogic Home Value Index – Daily Indices.  
<https://www.corelogic.com.au/research/daily-indices>

Valuer General, *Property prices. Annual and quarterly property sales statistics Victoria*.  
<https://www.propertyandlandtitles.vic.gov.au/property-information/property-prices>

Index (2011-12 = 100)

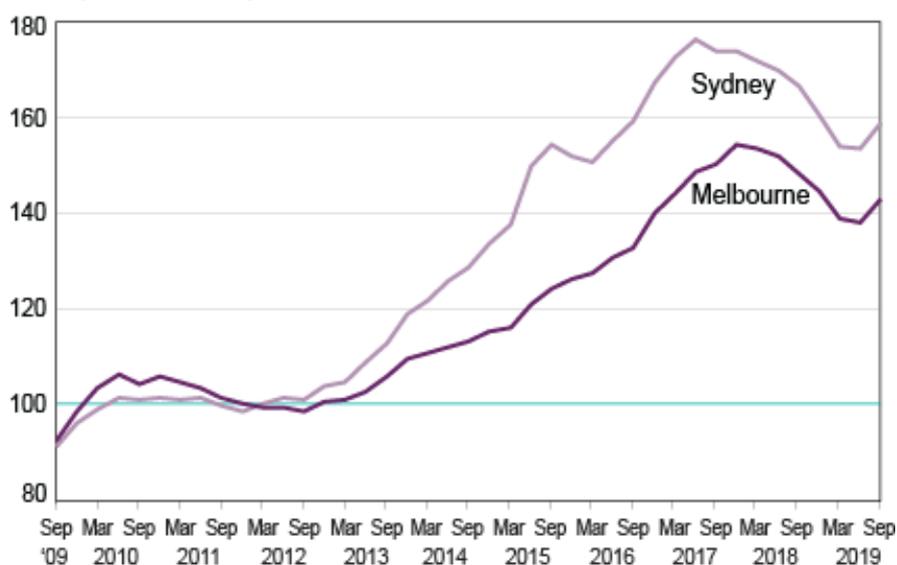


Figure 1: Residential Property Price Index, Sydney and Melbourne, September 2009 to 2019

Source: ABS Residential Property Price Indexes, cat. 6416.0