Port Stephens Council

Capacity to Pay Report

une
University of
New England

DISCLAIMER

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EXECUTIVE SUMMARY

This report details the insufficiency of local government taxation revenue for the port stephens local government area. We also review the extant rate structure used by port stephens council and offer suggestions to improve both the distributive justice and capacity to pay aspects of its municipal tax. The centrepiece of this report is a sophisticated multiple regression analysis over a long panel of data that precisely quantifies the extant shortfall in receipts. We conclude the report with an enumeration of the changes to existing tax arrangements that are important to ensure ongoing financial sustainability for port stephens council.

1. INTRODUCTION

Taxation is a critical source of funding to support the provision of local public goods and services as well as subsidise merit goods and goods with positive externalities. Public goods and services are both non-excludable[1] and non-rival[2] in consumption.These items contribute to the common good and it is not practical to levy a fee or charge for their use. They must thus be funded through taxation. By contrast, merit goods embody various desirable attributes and thus may warrant some level of subsidy from the common tax pool to elicit higher levels of consumption (Drew, 2021). Similarly, goods with positive externalities provide benefits to the wider society (beyond those internalised by the user) and may thus be considered worthy of subsidy. The main point to grasp is that taxation is a moral responsibility accruingas a result of one's membership in a community – it is definitely not a fee for service(a common misapprehension that leads to inefficient taxation structures that are difficult to defend in a moral sense; see Drew (2020)).

In Australian local government systems, the tax base is narrow and focussed on landvalue (Dollery, Crase and Johnstone, 2006). Use of unimproved land value has a number of qualities to recommend it, including: (i) relative ease of calculation; (ii) efficiency[3]; (iii) clear liability[4]; and (iv) nexus[5]. In addition, the property tax has a strong moral foundation since it is largely based on unearned wealth created by others (George, 2010). Put differently, the increase in unimproved land value captures just a small fraction of the wealth created for an individual through the efforts of others (for example, through migration, the establishment of new industriesor the construction of new infrastructure). Thus, by paying a land tax one is really returning to the wider community some of the wealth that they have created. In this sense, a land tax is often seen as a tax on unrealised capital gains (Drew, 2020;2021).

In addition, failure to levy sufficient taxation can lead local governments to participatein risky activities, such as attempting to generate commercial revenues to subsidise taxation insufficiency or neglecting to conduct adequate maintenance on local infrastructure. Indeed, excessively low taxation can also encourage the levying of inappropriately high fees and charges for municipal services that are inequitable[7].

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1 It is neither reasonable nor practical to prevent someone from using the good or service, such as local roads.

2 One person's use of the good or service does not materially affect the capacity of others to use it, as in street lighting.

3 In the sense that an unimproved land tax tends not to distort economic decision-making.

4 It is clear who is liable for the tax and it is very difficult for one to avoid one's responsibility (for example, the objective of the tax cannot be moved to a tax haven).

5 Services at the local government level are still most closely associated with property rather than with people (although in Australian local government the mix is changing over time (Dollery *et al.* 2006)).

[6] Drew (2021) uses the powerful personal budget metaphor to explicate these matters further. In our personal finances, we expect to make sacrifices when we take out debt. We have either to earn more or cut back on costs in other areas.

[7] In this case, users of services are essentially forced to subsidise the moral obligation of taxpayerswho do not consume the fee-attracting item in question.

Moreover, inappropriately low levels of taxation fuel deleterious fiscal illusion. Fiscal illusion occurs when local residents do not understand the true cost of the local government goods and services they consume (Drew, 2020). It tends to result in excessively high levels of consumption as well as high demand for the expansion of local programs and local infrastructure. Fiscal illusion is also likely to result in strong community opposition to perfectly reasonable requests to pay financially sustainablerates of taxation (IPART, 2020). In these instances, careful and clear communicationto local residents is essential.

Taxation at Port Stephens Council is organised around three principal categories consistent with the Local Government Act (1993, NSW): residential, farm business and (non-farm) business. In addition, special consideration has been given to ratepayers affected by the Williamtown contamination. Table 1 – extracted from themost recent Operational Plan – details the rate structure at Port Stephens Council:

Category	Sub-Category	**Ad Valorem Rate c in $**	**Base Amount $**	Base Amount Yield %	Estimated Rate Yield '000s
Residential	n/a	0.2796	394.00	35	$35,789
Residential	Williamtown Primary Zone	0.1398	197.00	39	12
Residential	Williamtown Secondary Zone	0.2097	295.50	41	112
Residential	Williamtown Broader Zone	0.2516	354.60	40	223
Farmland	n/a	0.2796	394.00	21	$840
Farmland	Williamtown Primary Zone	0.1398	197.00	30	6
Farmland	Williamtown Secondary Zone	0.2097	295.50	27	19
Farmland	Williamtown Broader Zone	0.2516	354.60	26	21
Business	n/a	0.7727	1,684.00	35	$9,046
Mining	n/a	0.7727	n/a	n/a	Nil
				Total	**$46,068**

TABLE 1. ORDINARY RATE STRUCTURE

It is noteworthy that the farm business rate has been set at the same level as the residential rate of local government taxation notwithstanding the fact that most farm businesses can export at least some of the tax to the federal government as part of their usual tax affairs. This means that farm businesses in Port Stephens are not paying the same effective rate of taxation as most residential ratepayers (that is, they are receiving an effective discount and hence a subsidy).

Moreover, the rate levied on other (non-farm) business is 2.76 times higher than that paid by farm businesses. It would seem difficult to justify this disparity without resorting to an inappropriate fee-for-service kind of argument. However, it is noteworthy that non-farm businesses also generally have the capacity to export some of their local government taxation burden to the federal government.

Port Stephens makes use of a base rate. The main arguments for using base rates are: (i) that they flatten the disparity between rate assessment notices; (ii) that they ensure that owners of strata title properties or high-density dwellings make a reasonable contribution to the tax pool[8]; and (iii) that they reduce some of the volatility that can arise from revised property valuations. All of these claims are largely correct, but they come at a high cost to the most disadvantaged landowners in the community.

In essence, a base rate has the effect of reducing the size of the *ad valorem* factor. This means that people retain a relatively larger share of the unearned wealth reflected in unimproved land values. Thus, those who enjoy relatively higher increases to their land value will benefit far more, in absolute terms, than those who do not. Indeed, those who have their land value fall are guaranteed in a base rate environment to be the most disadvantaged. A decision must thus be made regarding whether it is reasonable to effectively place more of the burden on the relatively disadvantaged (and hence disturb distributive justice) in order to reduce rate volatilityor ensure strata title and high-density property owners pay a reasonable contribution.If indeed a base rate is retained, then it would be best to link the proportion funded by the base rate to the governance costs of the Council (Drew, 2021), which would probably see it fall considerably.

We have taken the trouble to outline some of the complexity of a land-based taxation system because it seems an opportune time to reflect on the equity and efficiency of these matters as part of the current review of capacity to pay.
The remainder of this Report is set out as follows. In section 2, we conduct a broad overview of Port Stephens taxation rates relative to a peer group of fourteen councils. In section 3, we conduct a more detailed review of residential rates. Section 4 considers business income variables. In section 5, we present robust econometric modelling of the total tax capacity for the Port Stephens local government area. We conclude the Report in section 6 with our recommendations for Council moving forward.

[8] The objective here is to improve distributive justice by ensuring that strata title and high density owners pay more than what they otherwise would. However, in so doing it is inevitable that distributive justice will be eroded for owners of low value property. The best solution would probably be a separate category for high-density dwellings and strata holders, but the legislation does not appear to facilitate this potential remedy.

2. OVERVIEW OF RATES AT PORT STEPHENS COUNCIL AND ITS PEERS

In section 2, we provide a comparative perspective on local government taxes at Port Stephens relative to the fourteen-member peer group also used in our Financial Sustainability Report.

To provide a synoptic relative overview the best option is a box and whisker plot. Figure 1 provides information on how to read the graphs that follow.

FIGURE 1. INTERPRETING BOX AND WHISKER PLOTS

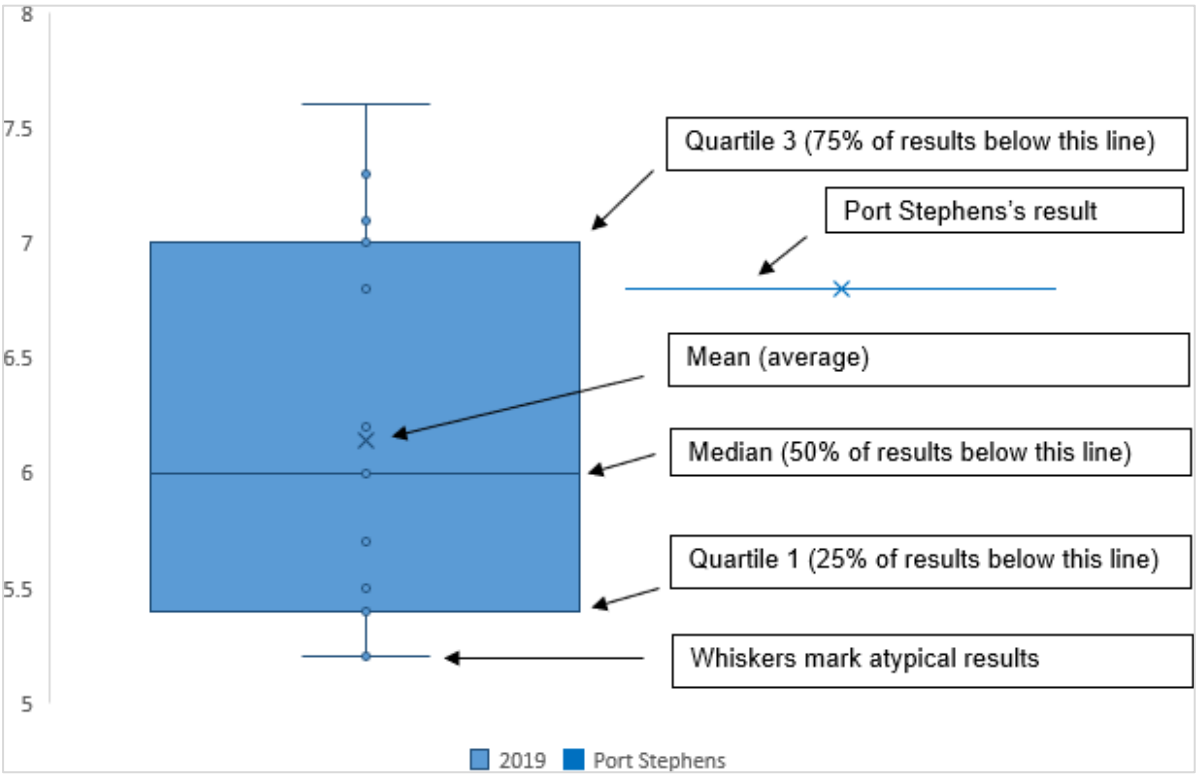
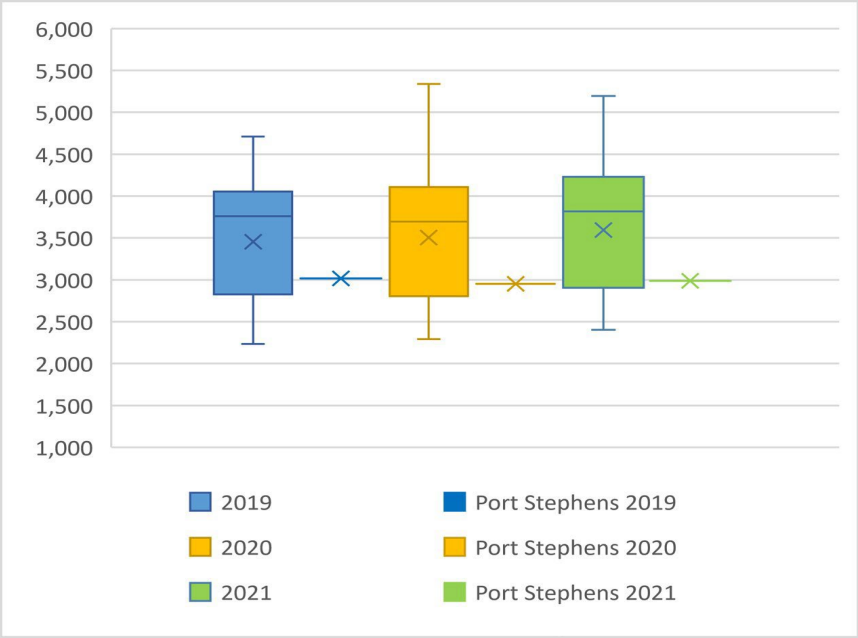


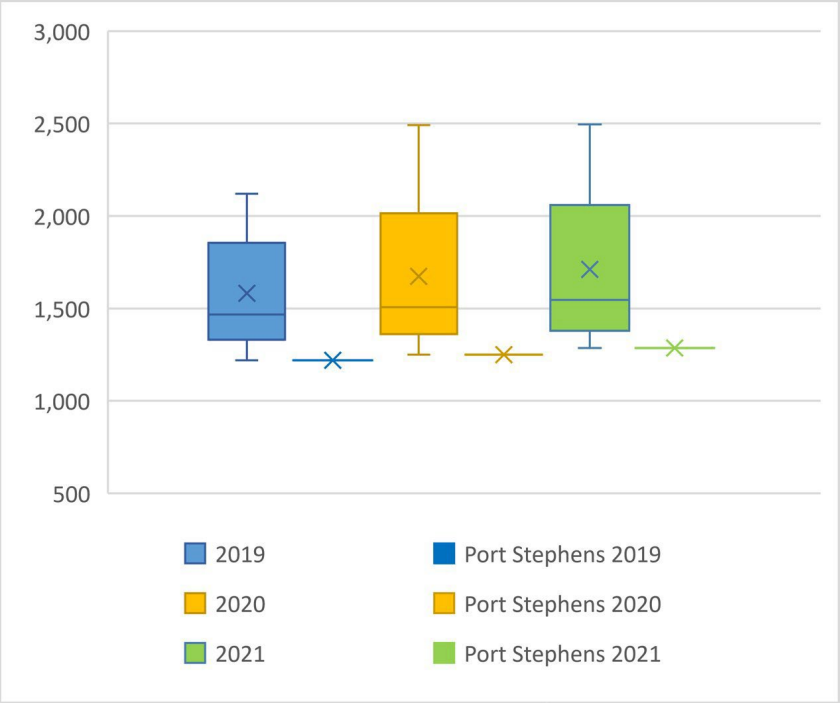
Figure 2 provides details of rates and annual charges on a per assessment basis to allow for reasonable comparisons. As can be seen, Port Stephens has scored close to the bottom of the second quartile in recent years. This does not bode well for revenue sufficiency.

FIGURE 2. RATES, FEES AND ANNUAL CHARGES PER ASSESSMENT ($)



Moreover, in Figure 3 we find that total rates on a per property basis are in fact the lowest in the peer group and have been for at least three years. This result seems to support our early suggestion in this Report that taxation insufficiency tends to result in higher fees and annual charges that may both distort price signals and lead to inequities.

FIGURE 3. TOTAL RATES PER PROPERTY ASSESSMENT ($)



Given our brief review of the actual tax rates levied by Port Stephens Council (see Table 1), it is reasonable to suspect that the insufficiency might be centred mainly upon residential and farm tax rates. In Table 2, we provide details of the average tax take (by category) as required by IPART for the purpose of demonstrating capacity for a Special Rate Variation (SRV). It certainly seems that the rate of taxation levied at Port Stephens is well below the typical level for the peer group in both the residential and farm categories, but comparable for business. We will further illustrate the comparative levels in Figure 4, Figure 5 and Figure 6 below.

TABLE 2. COMPARISON OF AVERAGE RATES, 2020-21.

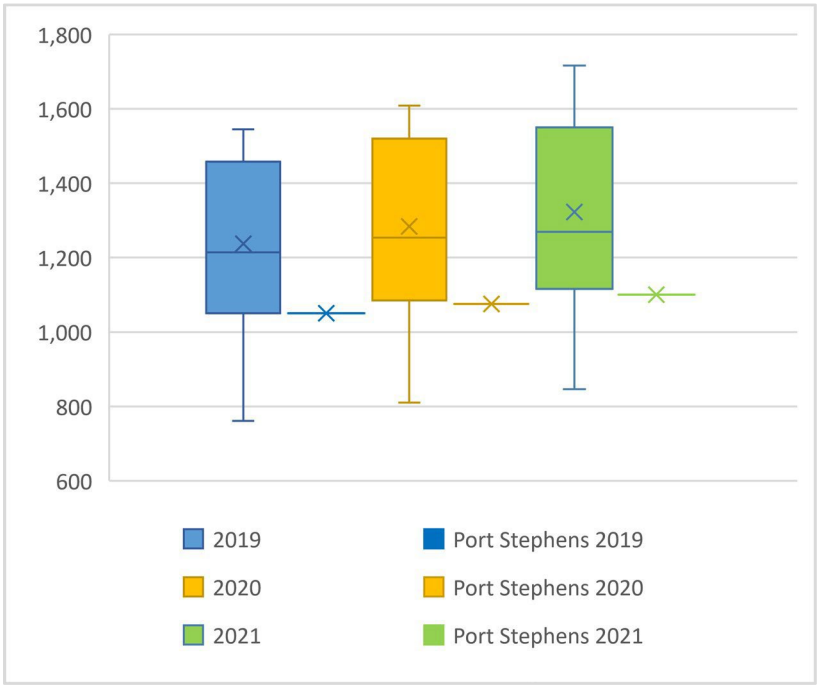
Council	**Residential**	**Farm**	**Business**
Port Stephens	$1,100.75	$1,774.59	$4,602.47
Coffs Harbour	$1,230.47	$2,105.26	$4,101.04
Lake Macquarie	$1,504.59	$2,216.22	$5,022.19
Maitland	$1,715.98	$3,510.67	$7,763.30
Newcastle	$1,597.40	$2,444.44	$12,200.16
Port Macquarie-Hastings	$1,248.97	$2,032.26	$3,817.97
Shellharbour	$1,615.63	$3,324.32	$5,040.24
Shoalhaven	$1,294.17	$2,547.01	$2,169.00
Tweed	$1,473.68	$2,177.05	$2,967.38

Wollongong	$1,549.68	$2,677.69	$11,782.60
Cessnock	$1,269.31	$2,905.26	$3,613.29
Muswellbrook	$846.75	$2,624.45	$1,683.79
Singleton	$1,181.84	$1,992.38	$2,448.12
Tamworth	$1,089.78	$1,968.22	$3,306.11
Wagga Wagga	$1,115.63	$2,802.98	$5,940.43
AVERAGE	$1,322.31	$2,473.52	$5,097.21
STANDARD DEVIATION	244.03	508.85	3196.40
MEDIAN	$1,269.31	$2,444.44	$4,101.04
QUARTILE 1	$1,148.74	$2,068.76	$3,136.75
QUARTILE 3	$1,527.14	$2,740.33	$5,490.33
INTERQUARTILE RANGE	378.40	671.57	2353.59
PORT STEPHENS	$1,100.75	$1,774.59	$4,602.47

Figure 4 further illustrates that the residential rates (on a per assessment basis) applied in Port Stephens are consistently in the lowest quartile in a relative sense. If we assume that current residential ratepayers in the peer group are able to manage their taxation obligations, then the Figure 4 box and whisker plots suggest adequate scope for upward revision.

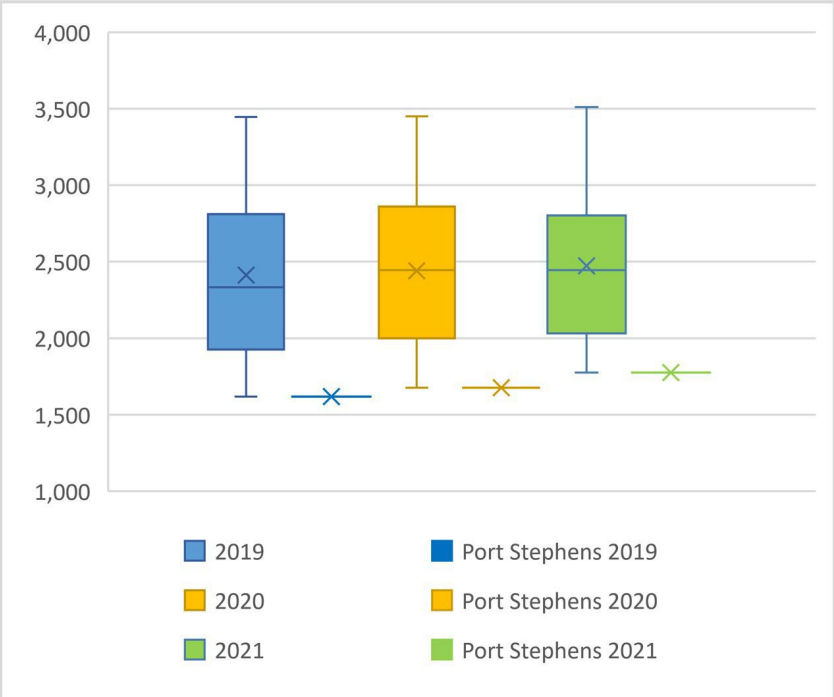
It is noteworthy that relatively low rates of taxation are particularly threatening in the residential category because this is where most of the demand for municipal services manates. It is also where most of the political power resides in the local government area. Given the grim state of affairs painted in our Report on the financial sustainability of Council, it would be prudent to strike a more appropriate level of taxation for this category.

FIGURE 4. RESIDENTIAL RATES PER ASSESSMENT ($)



For farm rates, matters are even worse in a relative sense. Not only is this an important problem for ongoing financial sustainability (albeit mitigated in part by the relatively lower numbers of farm assessments), but it echoes the potential inequity that we noted earlier: most farm businesses have the capacity to export at least some of their local government rates as a tax deduction. This effectively means thatthere is a failure to observe distributive justice with respect to the comparative burden of farm businesses relative to most residential properties.

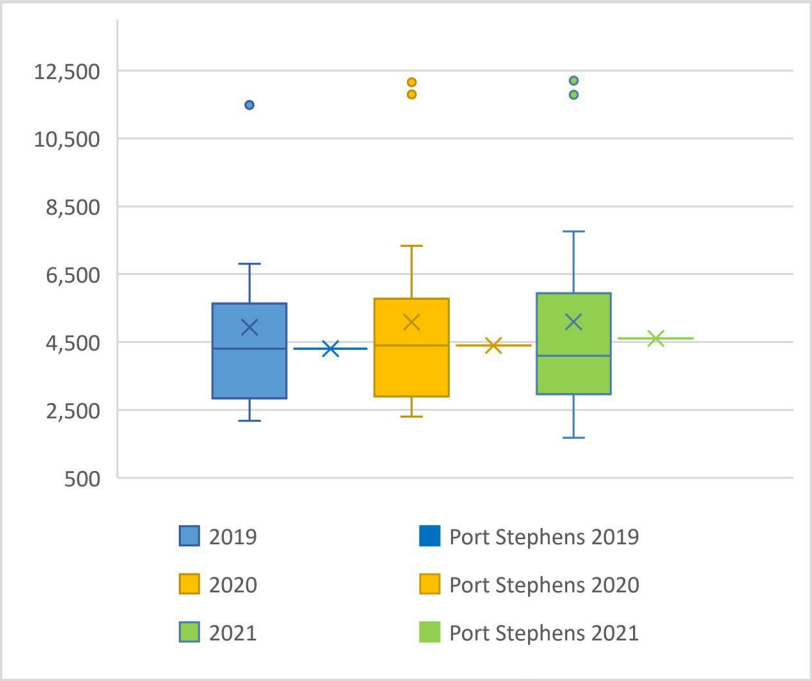
FIGURE 5. FARM RATES PER ASSESSMENT ($)



Moreover, other (non-farm) business rates per assessment generally reside at or above the typical result for the peer group, as represented by the median. It is curious that other businesses have not received the generous discounts on an appropriate tax rate that the farm businesses have received. This preferential treatment for farm businesses is mostly an artefact of the historical development ofAustralian local government and cannot be justified without resorting to either historical precedent or to an erroneous services argument (Grant and Drew, 2017).

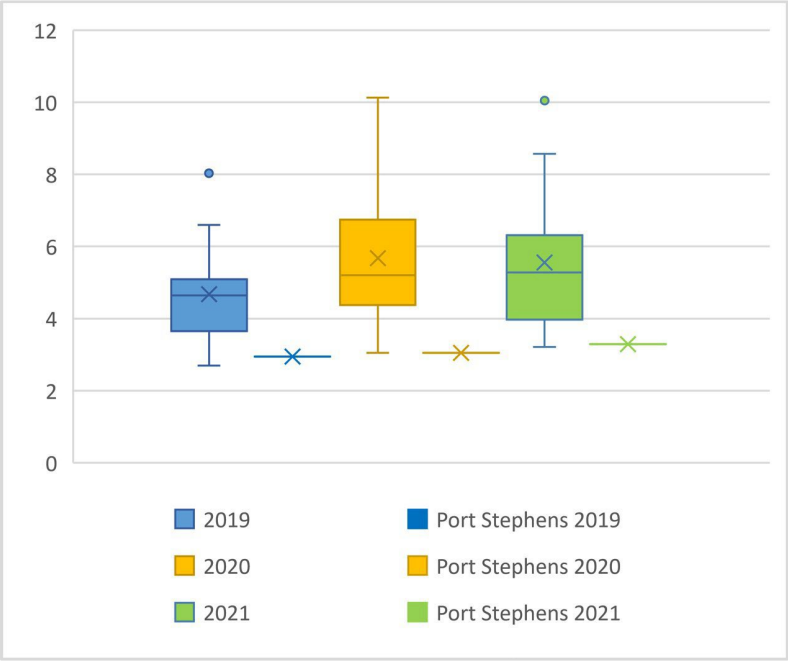
It might be noted that the relatively typical taxes levied on business at Port Stephens Council means that this category is likely to contribute less to the financial sustainability pressure points (not just with respect to revenue, but also broader matters of intergenerational equity and fiscal illusion).

FIGURE 6. BUSINESS RATES PER ASSESSMENT ($)



Rates and charges outstanding provide an excellent indication of the capacity of various categories of ratepayer to meet their extant obligations. Unsurprisingly, Port Stephens Council consistently has the lowest outstanding rates and charges in the entire peer group. This result confirms that ratepayers are able to meet their obligations as matters stand. If an SRV is indeed approved – and if Council takes the opportunity to reform its rate structure – then it will be important to monitor this ratio in a relative sense in future.

FIGURE 7. RATES AND CHARGES OUTSTANDING



We do not think that average rate levels alone represent a sound basis for assessing capacity. The aforementioned data neglect a broad range of socio-demographic

variables that are clearly salient to the capacity of residential ratepayers to make more adequate contributions to revenue. In the next section, we review some of the important available data from the Australian Bureau of Statistics (ABS) that has particular relevance to the capacity of the largest part of the rate base (residential assessments).

3. RESIDENTIAL RATE VARIABLES

Office of Local Government Guidelines (2020) require IPART to pay regard to the Socio-Economic Index for Areas (SEIFA). As readers may be aware, while there are four SEIFA indexes produced by the ABS, the NSW Office of Local Government (OLG) focuses on the Index of Relative Socio-Economic Disadvantage.

Indexes are not useful guides for important decision making because the mathematical techniques required to construct them result in important information being conflated. For instance, the relative contributions of the input variables is dependent on the weighting applied to the index. For this reason, we present data for each of the important variables from Figure 9 onwards.

Port Stephens Council has a SEIFA of 6 on both a national and state-wide basis, which is precisely typical (as measured by the median). When the SEIFA scores a higher number it means that the community is relatively less disadvantaged. The most recent census data available at time of writing was 2016.

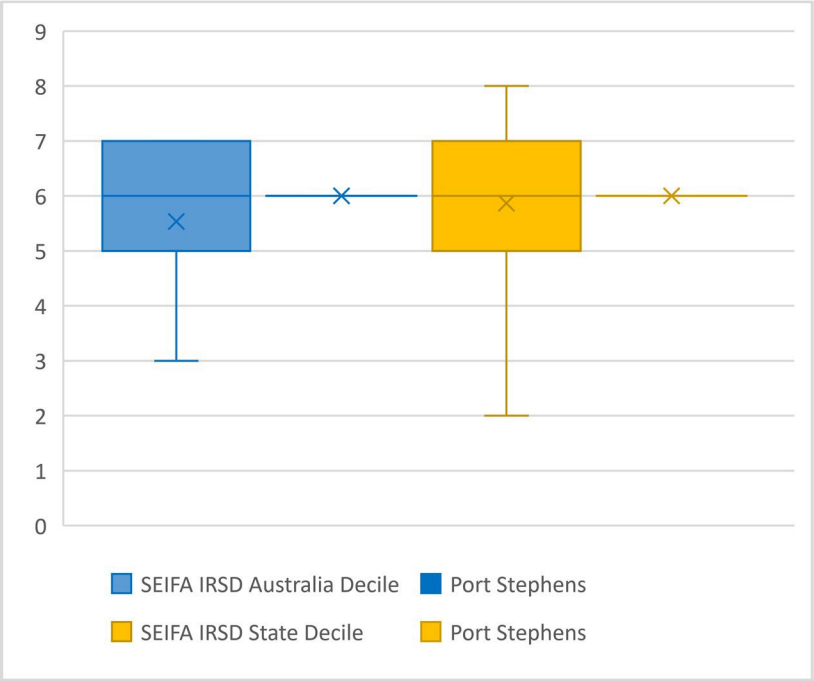
TABLE 3. 2016 CENSUS DATA SOCIO-ECONOMIC INDEXES FOR AREAS (SEIFA)

Council	SEIFAIRSD AustraliaDecile	SEIFAIRSD State Decile
Cessnock	2	3
Coffs Harbour	5	5
Lake Macquarie	8	7
Maitland	7	6
Muswellbrook	3	3
Newcastle	8	7
Port Macquarie	6	6
Port Stephens	6	6
Shellharbour	6	5
Shoalhaven	5	5
Singleton	7	7
Tamworth	5	5
Tweed	6	5
Wagga Wagga	7	7
Wollongong	7	6
Average	5.9	5.5
Standard Deviation	1.6	1.3
Median	6.0	6.0
Quartile 1	5.0	5.0
Quartile 3	7.0	6.5

Interquartile Range	2.0	1.5
Port Stephens	6.0	6.0

In Figure 8, we plot the SEIFA as a visual representation of the data for the peergroup presented in Table 6.

FIGURE 8. SEIFA SCORES, 2016 CENSUS



One of the problems faced by Port Stephens is the high proportion of residents in receipt of an aged pension. As we described in the Financial Sustainability Report, pensioners exert various pressures on financial sustainability. First, the mandated local government tax discount for pensioners is only partly funded by the NSW state government. Second, pensioners are statistically associated with higher levels of local service usage as well as local infrastructure (Drew, 2021). This latter point is reflective of both need (such as footpaths and ramps) and likely fiscal illusion (because pensioners do not pay the full tax price due to their rates discount). In addition, pensioners will almost certainly have a debt bias (a rational preference to fund new infrastructure through debt because they are unlikely to remain taxpayers for the entire term of the outstanding debt), which can erode both financial sustainability and intergenerational equity (Buchanan, 1997).

Moreover, as we explained in the Financial Sustainability Report, matters are likely to deteriorate further in the future due to both internal migration (especially in the wake of COVID-19) and internal demographics (since Port Stephens has a similarly high proportion of persons aged 60-64 and 55-59).

The theory of fiscal federalism deals with financial relations between the different levels of government in a federal system, such as the Australian federation (Oates, 1972; 1999). The decentralisation theorem holds that different governmental functions should be located at different levels of government depending on their characteristics. For example, local governments should provide local public goods

and services, like garbage collection, local roads and local parks, since the optimal provision of this genre of public goods depends on local preferences. By contrast, higher tiers of government, especially the national government, should run those functions of government with a much larger benefit region. For example, income distribution objectives should be pursued by national government given they are based on equity principles that are not spatially constrained.

Under the Australian Constitution, local government falls under state government jurisdictional control. Thus, if state governments oblige local councils to pursue equity objectives, such as offering rate rebates to aged pensioners in NSW local government, then they should pay the full costs involved (Dollery *et al.,* 2006).
However, in practice, NSW Government compensation to NSW local government does not cover the full costs of the pensioner rate rebate scheme (Dollery, Johnsonand Byrnes, 2008). Given its relatively large aged pension cohort, this adversely affects Port Stephens Council.

It should be noted that aged pensions are a relatively reliable income in some contrast to the wages of people in the services industry, casual work or the gig economy. Moreover, aged pensioners were the recipients of multiple stimulus payments as part of the federal government response to COVID. They are thus in aposition better than some to absorb potential increases to local government taxes.

FIGURE 9. AGED PENSION

Figure 10 illustrates the number of people on Newstart or Jobseeker in Port Stephens. It is clear that the economic shock arising from COVID-19 public policy responses was particularly acute in Port Stephens. Recent policy commentary fromthe NSW Government suggests that lockdowns may be past and thus that the jobs lost in 2021 may be recovered. However, it is a matter that decision-makers shouldremain mindful of and it warrants a review of extant hardship policies to ensure thatthey meet the

needs of people whose livelihoods have been adversely affected by COVID policies. It should be noted that a one-year lag applies to this data.

FIGURE 10. NEWSTART ALLOWANCE/JOBSEEKER

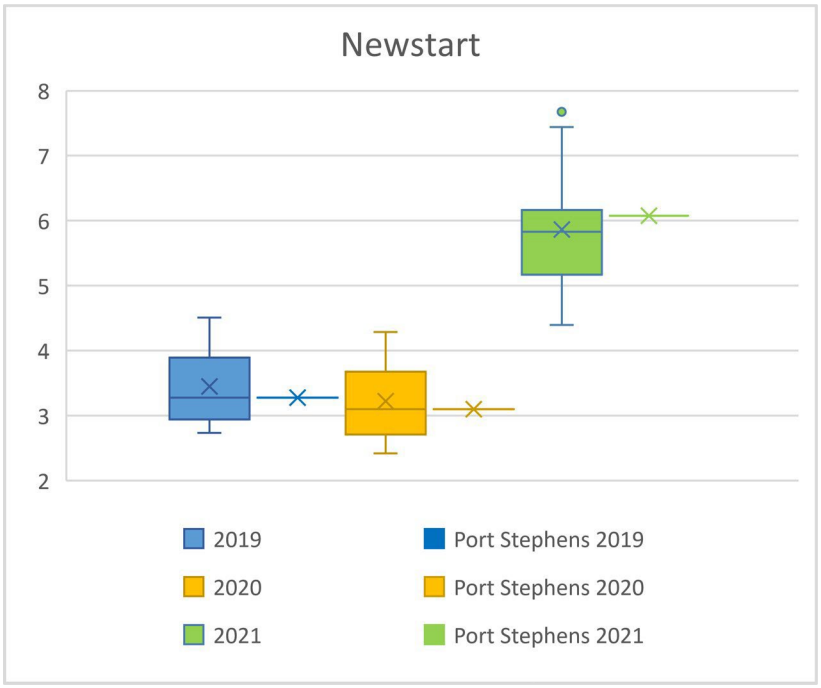


Figure 11 and Figure 12 refer to the proportion of people on disability support and single parent pensions respectively. As can be seen, results for Port Stephens are typical of the peer group and thus do not warrant any particular additional local government policy response.

FIGURE 11. DISABILITY SUPPORT PENSION

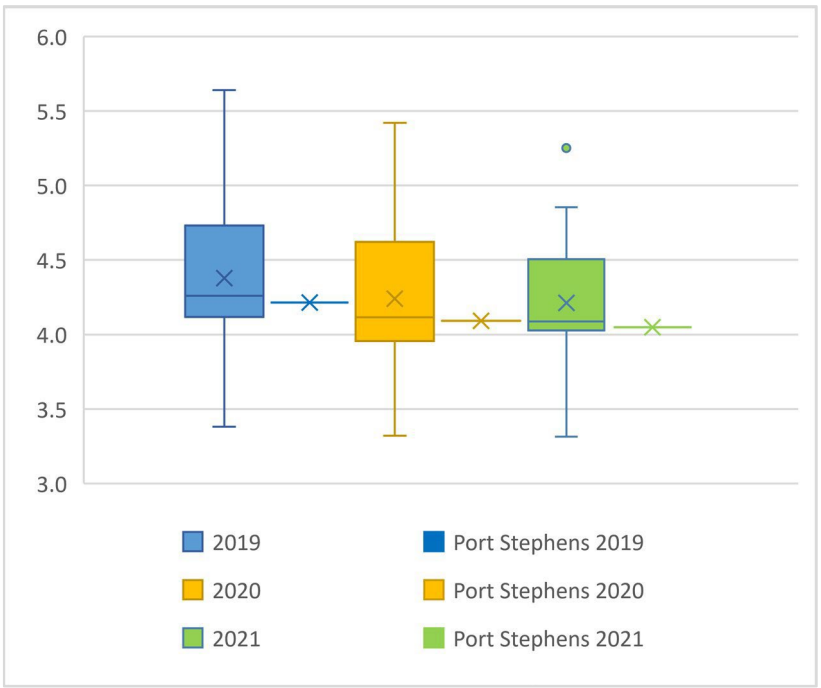
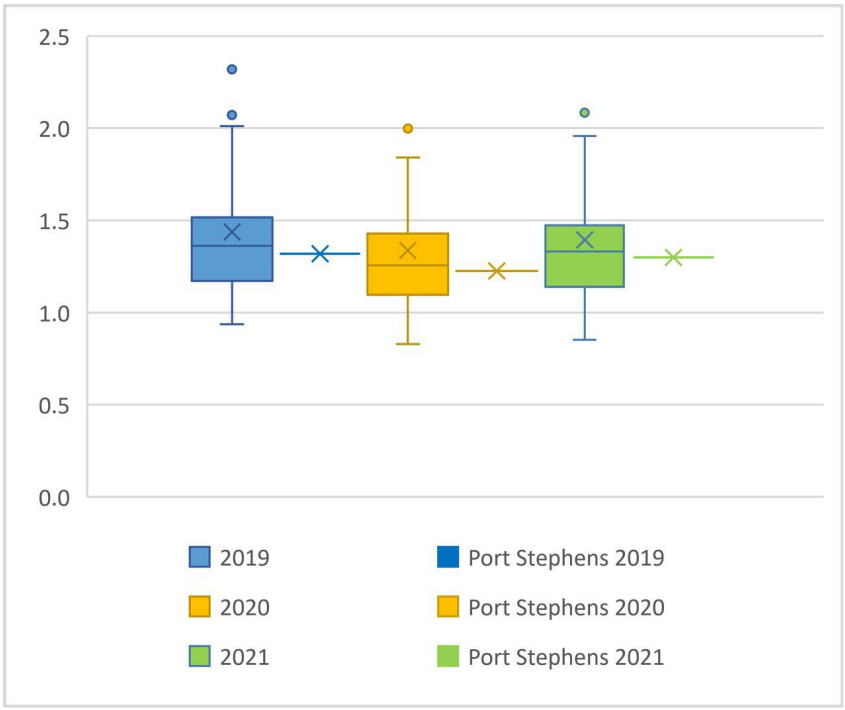
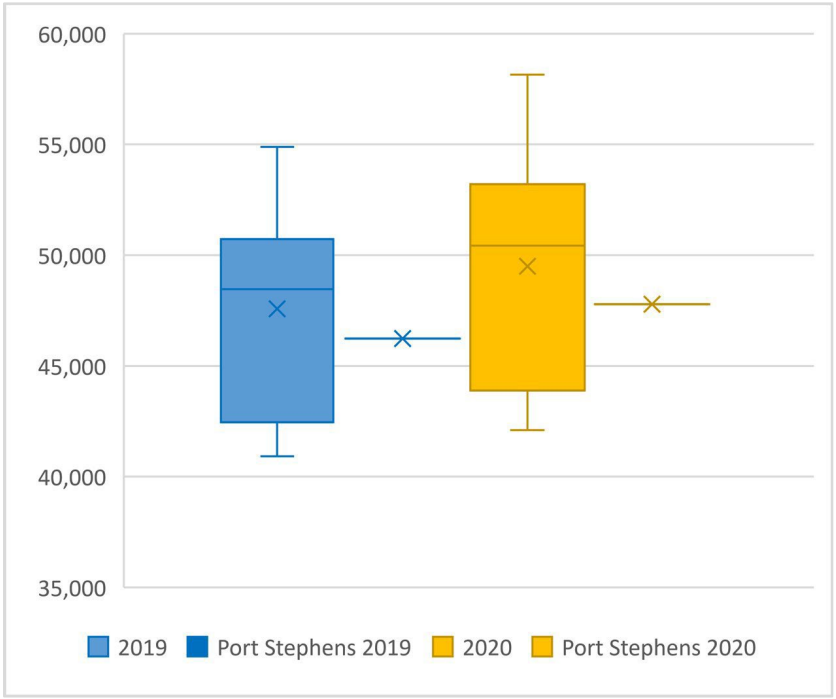


FIGURE 12. SINGLE PARENT PENSION



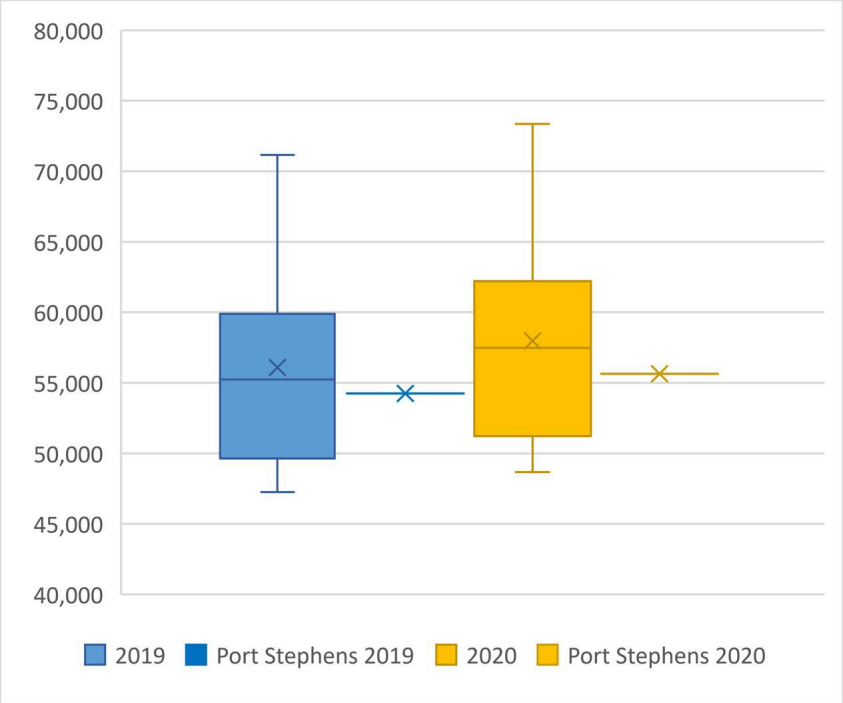
The median wage earned in Port Stephens is relatively low compared to the peer group. This could have implications for capacity to pay, although matters are far from simple (as we will detail in the subsequent four graphs).

FIGURE 13. MEDIAN WAGE-EARNER INCOME



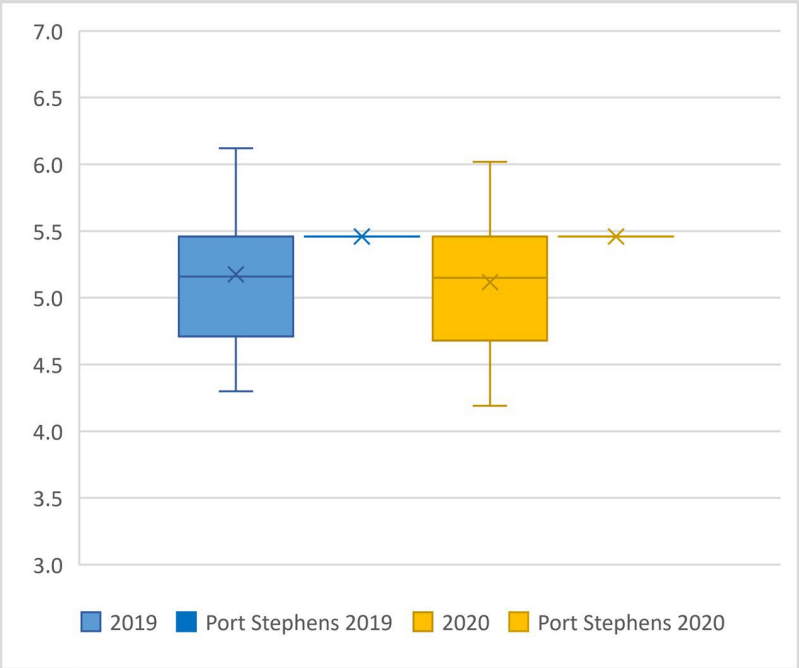
Indeed, when we compare the relative position of mean (average) wage earnings (which improves significantly with respect to the earlier median numbers), it is clear that incomes are skewed to the right. That is, there are clearly a number of high income earners who have pulled the average up.

FIGURE 14. MEAN WAGE-EARNER INCOME



This skewing of income data is reflected in the P80/20 income inequality ratio. This commonly used metric divides the 80th percentile by the 20th percentile and it provides a useful perspective on the spread of incomes in a given local government area. As can be seen in Figure 15, wage inequality is a substantial problem for Port Stephens

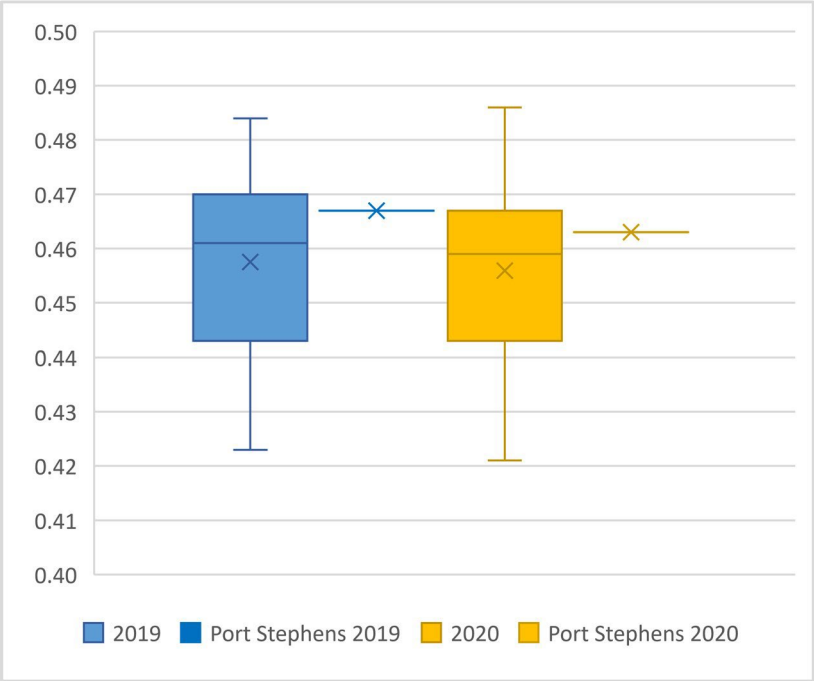
FIGURE 15. P80/20 INCOME INEQUALITY RATIO



Indeed, inequality is further illustrated by Figure 16 that plots the relative results forthe Gini coefficient. Once again, the data clearly indicates high levels of relative income inequality.

In economic analysis, the Gini coefficient is the most common measure of income inequality or wealth inequality within a given spatial area or a defined social group (Baum *et al.,* 2018; Drew and Miyazaki, 2020). The Gini coefficient measures the inequality among values of a frequency distribution, such as levels of income or household wealth. The value of the Gini coefficient thus tells us about the nature of income or wealth distribution. For instance, a Gini coefficient of zero indicates perfect income equality, where everyone has the same income. At the other extreme, a Gini coefficient of one denotes maximum income inequality, where one person accrues all income and the remainder have no income. In practice, Gini coefficients always fall somewhere between zero and one. The higher the absolute value of the Gini coefficient, the greater the degree of income or wealth inequality.

FIGURE 16. GINI COEFFICIENT INCOME INEQUALITY METRIC



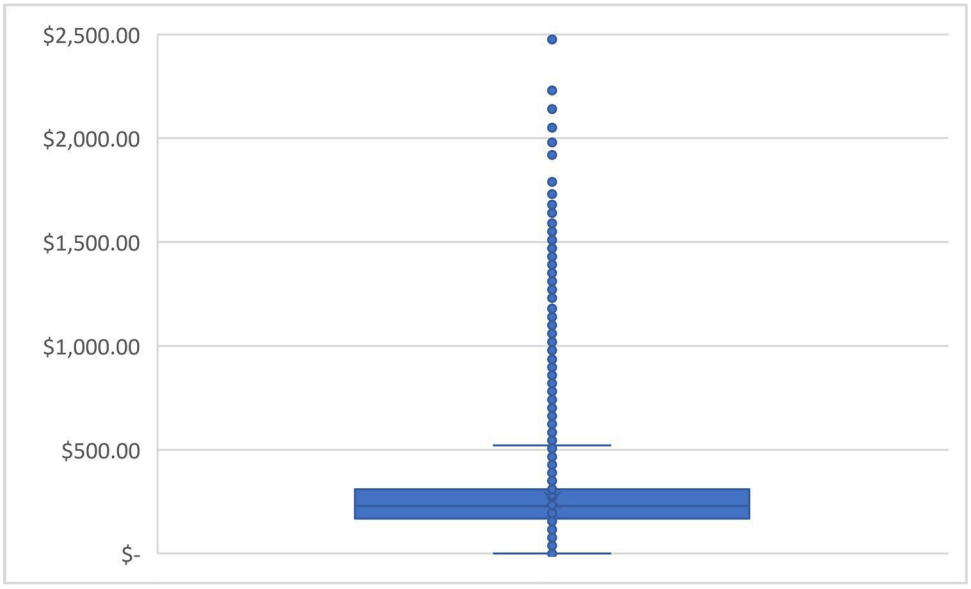
These widely disparate incomes in Port Stephens could be an obstacle to a residential tax increase *if* taxes were distributed evenly. However, under a land taxregime the obligation allocated to each person is instead a reflection of the unimproved land value that they own.

As it turns out, land values in Port Stephens are also extremely skewed (to the right)in distribution. Indeed, to get all of the values onto the same graph we had to truncate land values above $2.5 million. It is reasonable to assume that those who have purchased properties at the higher end of unimproved land values would mostly hail from the high-income cohort (or previously enjoyed high incomes prior toretirement). If this is the case – as seems likely – then the people who will receive the largest local government tax assessments will also generally be the people with the greatest capacity to pay.

Indeed, the high level of skewing in unimproved residential land values provides further argument against the practice of levying a base rate. A base rate in the orderof thirty-five percent reduces the *ad valorem* and hence effectively provides taxationrelief to the people who own the most valuable property in the local government area. Put differently, municipal ratepayers towards the bottom of the distribution in Figure 17 are being asked to pay a higher effective rate of tax (relative to their land value and probably capacity to pay) than those at the top of the distribution (the longtail of dots in Figure 17 in particular).

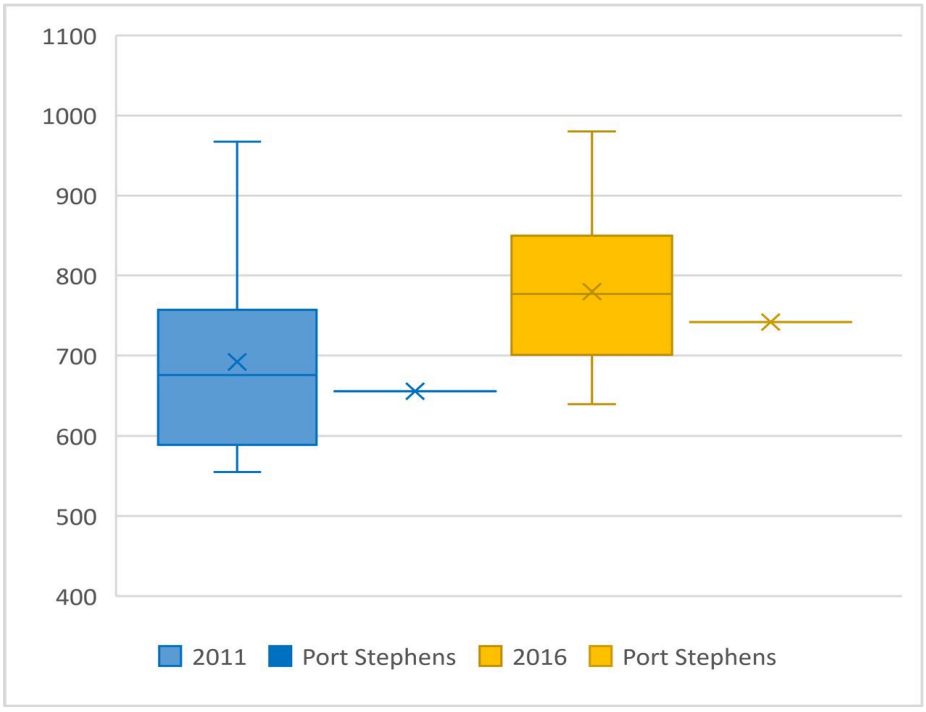
Thus, one way Council could mitigate the effect of a SRV for the lowest capacity to pay residential landowners would be to reduce or eliminate the base rate. This wouldalso better respect principles of distributive justice.

FIGURE 17. DISTRIBUTION OF RESIDENTIAL LAND VALUES (THOUSANDS OF DOLLARS ANDTRUNCATED AT $2,500,000)



A helpful statistic generated by the ABS is the median equivalised household income. This data is adjusted to allow for fair comparisons between households of differing size. Indeed, a comparison with Figure 13 shows a relative convergence on the measures of central tendency, which suggests that there might be more multiple income (including welfare such as aged pensions) households in Port Stephens compared to the peer group. This is important because higher household income is clearly closely associated with improved capacity to pay. It is noteworthy that this data is only provided in census years and the most recent figures have been used inthis Report.

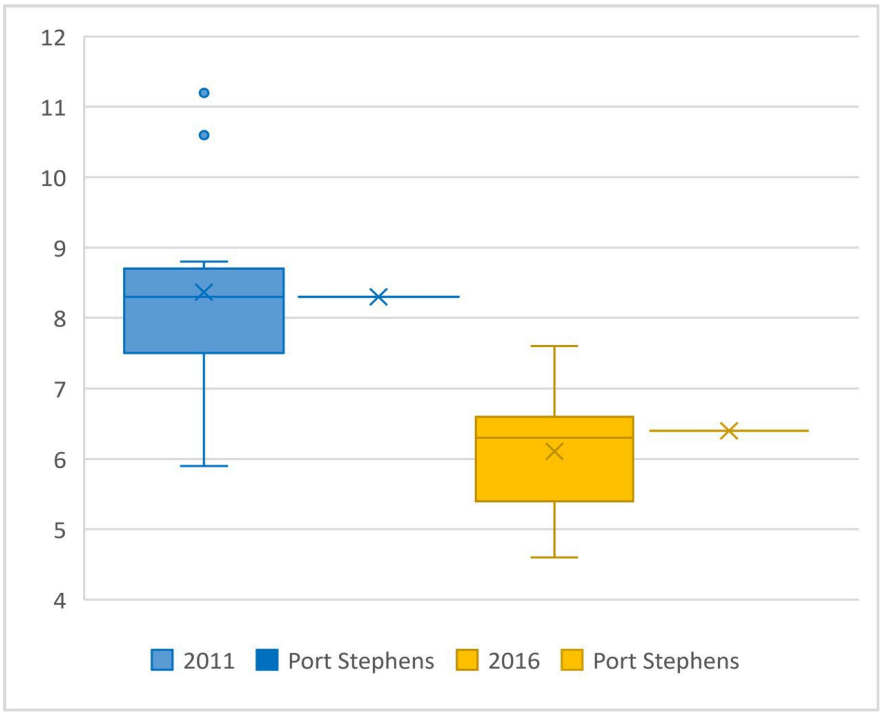
FIGURE 18. MEDIAN EQUIVALISED HOUSEHOLD INCOME



Household stress data is also only available in census years. Households are considered stressed when their mortgage repayments exceed thirty percent of household income.

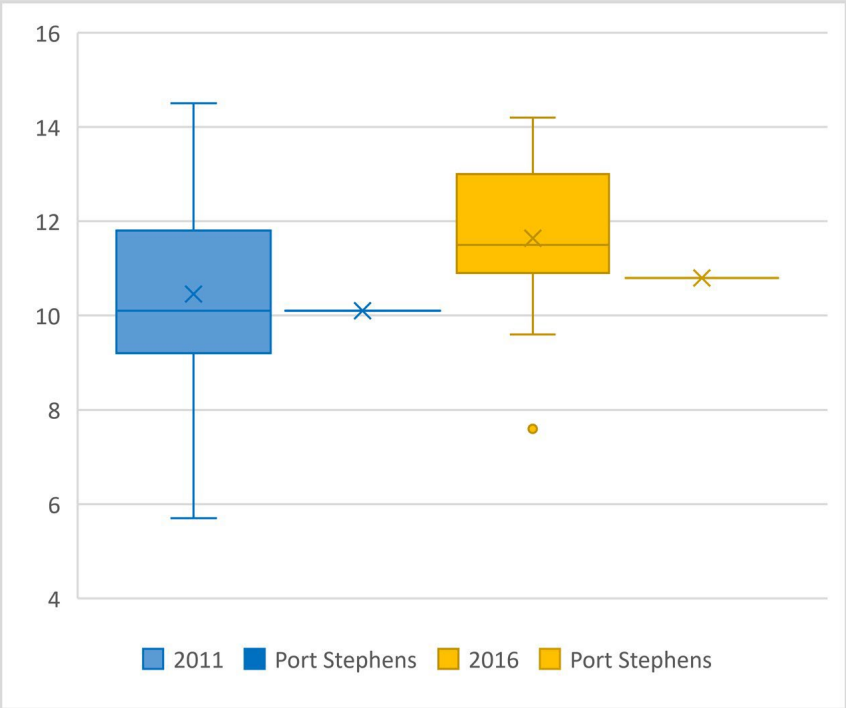
The results for Port Stephens Council are consistent with the stress experienced in the typical peer group council. This suggests that no particular vulnerability exists for people with mortgages in the Port Stephens local government area. Moreover, when interpreting Figure 19 we should be mindful of the relatively low extant local government tax burden, as well as the outstanding rate and fee data (which is the best for the entire peer group).

FIGURE 19. HOUSEHOLD STRESS (MORTGAGE GREATER THAN OR EQUAL TO 30% OFHOUSEHOLD INCOME)



It is also important to consider household stress for those who rent their dwelling. These people do not pay local government taxes directly. However, the rates are likely to be at least partially factored into weekly rental payments by property owners. Household stress for this group was low in a relative sense for the 2016 census and thus does not suggest a need for special arrangements at Port Stephens. Moreover, it should be remembered that a portion of the rate increases for residential rental properties will probably be exported as a deduction on federal taxes. Accordingly, only a portion of the rate increase could be justifiably passed on in new rental agreements.

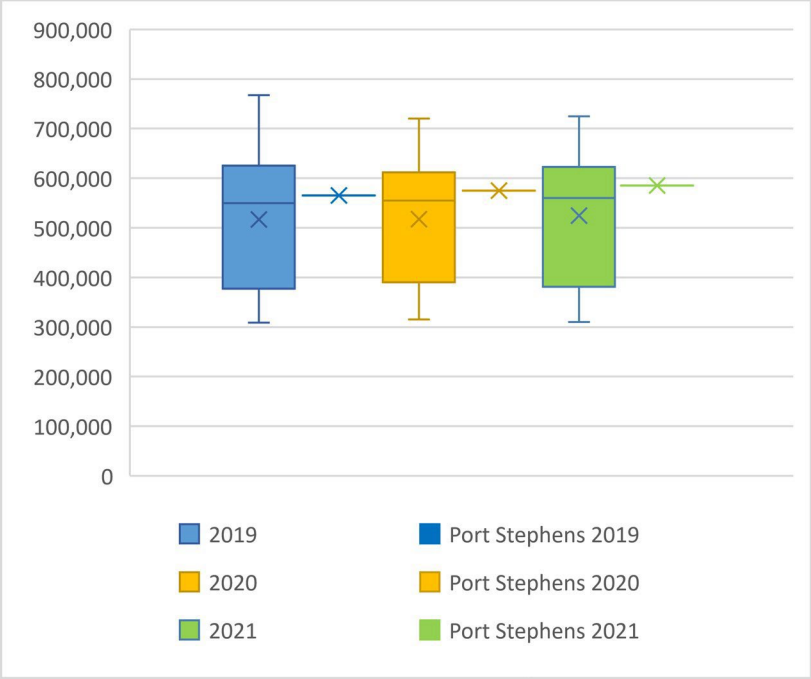
FIGURE 20. HOUSEHOLD STRESS (RENT GREATER THAN OR EQUAL TO 30% OF HOUSEHOLD INCOME)



The underlying determinant of both kinds of household stress is the increase in house prices. In Figure 21, we provide a comparison of the median sales price for Port Stephens relative to the peer group. Prices are slightly elevated compared to the typical council suggesting that stress rates are unlikely to fall in the next census.

Increases to house prices are also a good indication of the size of the unrealised capital gains (or unearned wealth) which the unimproved land tax tries to capture (Drew, 2021). It is clear from Figure 1 that residents are experiencing strong and consistent increases in wealth through the appreciation of their real estate assets (in2018 median house prices increased by $55,000 on previous levels and were followed up by increases of over $10,000 per annum in the next two years). The local government tax regime is designed to claw back a little of this unearned wealth and thus is a particularly morally defensible tax (Drew, 2021). From the figures provided by the ABS, it is clear that only a tiny fraction of unearned wealth is indeed being captured. Indeed, far less is captured than the rate of capital gains tax that applies to non-residential assets.

FIGURE 21. HOUSES (MEDIAN SALES PRICE)



In sum, it is clear that residential ratepayers have the capacity to pay more appropriate levels of taxation. Moreover, capacity to pay could be improved further by reducing the base rate. In Section 5, we will conduct robust modelling to empirically estimate the total tax take that should be expected from a local government that has the demographic and business characteristics of Port StephensCouncil. However, prior to this, we will briefly examine some of the relevant data withrespect to the other major group of local government taxpayers in the area – the non-farm business cohort.

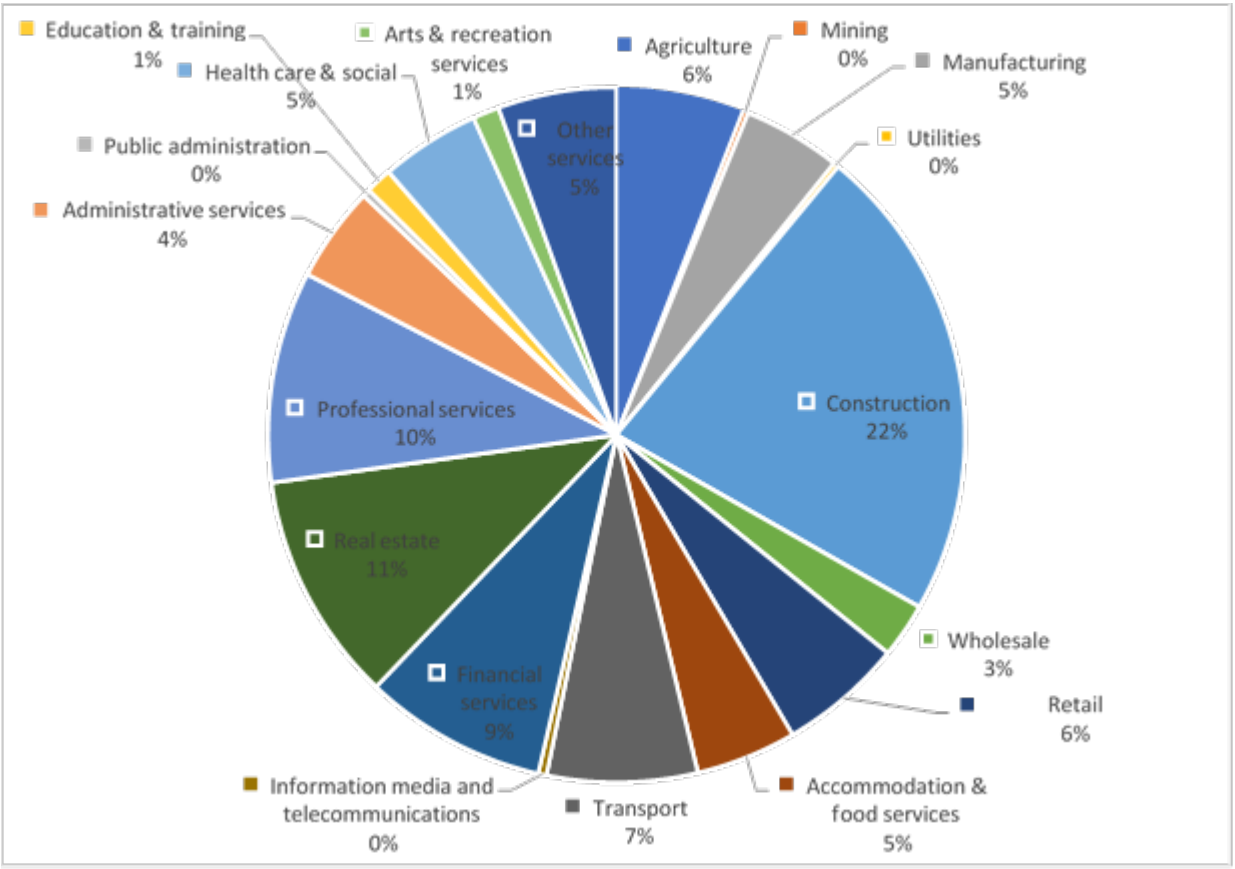
4. BUSINESS INCOME VARIABLES

The public policy response to COVID-19 has placed immense demands on certain kinds of business. Small retailers, food and hospitality, as well as tourist and recreation operators were especially hard hit. However, some other business segments were only marginally affected, including most agriculture except for fruit growing and other labour intensive enterprises. Moreover, some categories of business enterprise even benefitted from COVID policies, such as health and social care.

Figure 22 presents the ABS statistics by business category for 2020. The largest number of enterprises relates to construction (which benefitted from the federal stimulus package), professional services (which probably experienced mixed outcomes depending on the profession) and real estate (that has been the beneficiary of strong demand for non-capital-city assets as well as rental investments). Somewhat surprisingly, accommodation and food services, retail, arts and recreation only represent a relatively small proportion of the Port Stephens business cohort. These businesses experienced significant disruptions and still face further potential obstacles. However, they represent only a small part of the taxpayer category cohort.[9] This suggests that it would be appropriate to develop targeted hardship policies for

the relatively small proportion of affected businesses rather than make concessions to the whole ratepayer category.

FIGURE 22. CATEGORIES OF BUSINESS (2020)

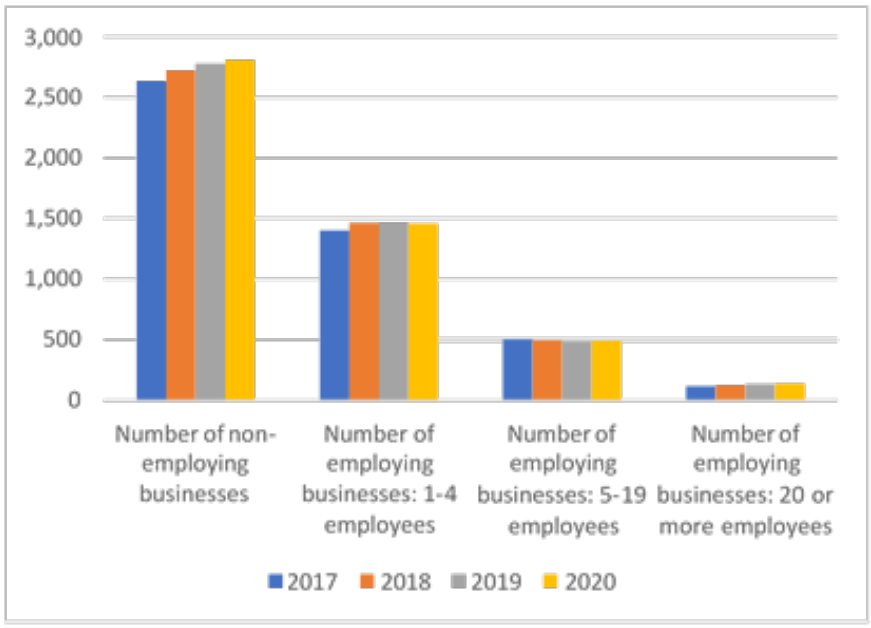


[9] Retail also includes large grocery chains and the like that experienced a boom during the COVID lockdowns.

Indeed, Figure 23 demonstrates that business numbers were largely unaffected bythe

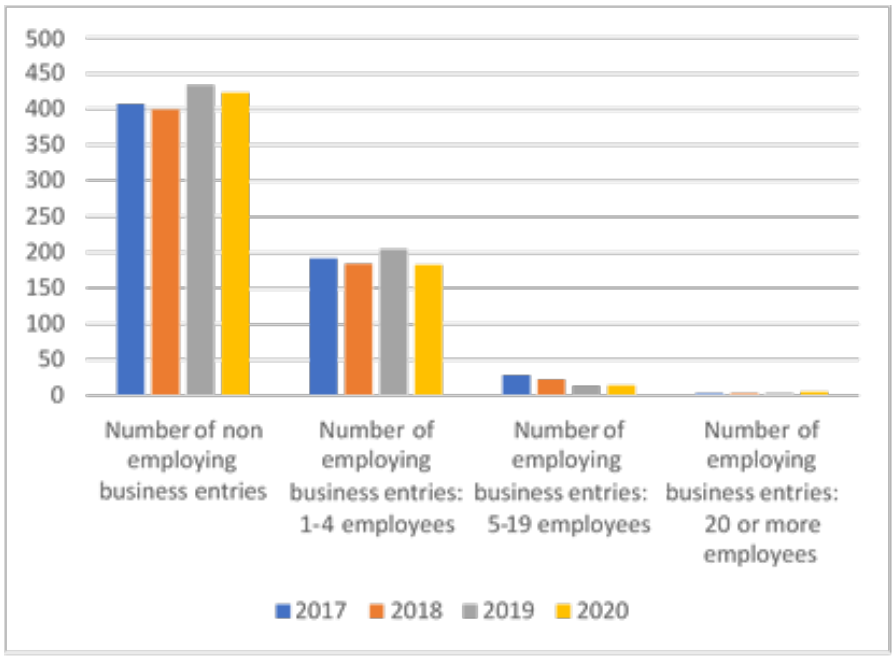
early COVID-19 policy response (although matters might appear to be worse when the 2021 data comes to hand).

FIGURE 23. NUMBER OF BUSINESSES



Moreover, business entries were only marginally reduced in 2020 and were broadly consistent with 2018 numbers.

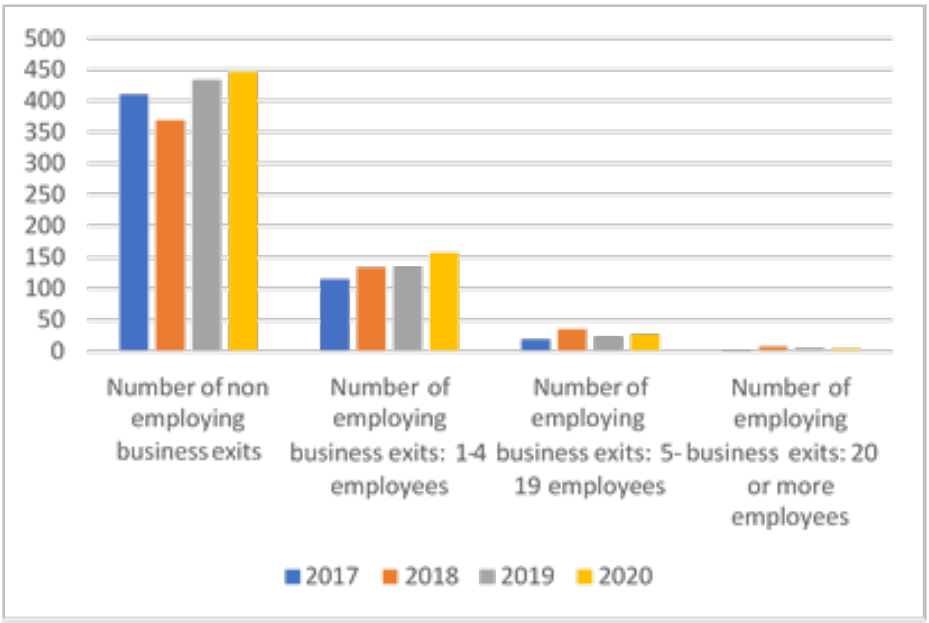
FIGURE 24. BUSINESS ENTRIES



However, business exits were higher in 2020 and were particularly noticeable amongst small businesses (self-employed and those employing fewer than four people). In fact, the bulk of the exits occurred in businesses with a turnover of less than $200,000 (ABS, 2020). Indeed, this data can be used to make an argument

against the extant practice of Port Stephens Council that stipulates a base rate for business. A regime of this kind places a disproportionate burden on small enterprises that are struggling. It would thus be difficult to defend on either moral oreconomic grounds. Moreover, the increase in exits is likely to be located in the industries most exposed to the policy decision-making of the federal and state governments. It would thus be prudent to develop hardship policies to address the specific needs of this category of ratepayer.

FIGURE 25. BUSINESS EXITS



Unfortunately, data are not available for incorporated income associated with large businesses, such as national and multinational enterprises. However, the ABS does provide data on unincorporated business income that can provide us with a sense of relative business conditions. In Table 4, we tabulate the most recent data available (2018). Comparison reveals that Port Stephens' unincorporated business income is typical of the peer group (as measured by the median) and better than average. This further supports arguments against any atypical taxation response for the business category.

TABLE 4. UNINCORPORATED BUSINESS INCOME, 2018

Council	Median Unincorporated Business Income	Mean Unincorporated Business Income
Port Stephens	12165	23008
Coffs Harbour	12188	24483
Lake Macquarie	12849	27614
Maitland	8902	21616
Newcastle	12725	39021
Port Macquarie-Hastings	11630	24414
Shellharbour	12905	22882

Shoalhaven	14064	24180
Tweed	11827	21128
Wollongong	12212	27621
Cessnock	7992	13945
Muswellbrook	1592	6367
Singleton	435	-68
Tamworth	6064	14863
Wagga Wagga	13443	28734
Average	10066.2	21320.53
Standard Deviation	4127.645	9157.521
Median	12165	23008
Quartile 1	8447	17995.5
Quartile 3	12787	26048.5
Interquartile Range	4340	8053
Port Stephens	12165	23008

In sum, we find that the ABS data indicates that business stress is concentrated in a relatively small number of enterprises that have been most exposed to the COVID public policy response. It would thus be appropriate to have tailored hardship provisions designed for this group. Moreover, business conditions appear to be typical in a relative sense and this suggests that typical taxation policies ought to be appropriate. However, we remind readers of the comparatively low rates of taxation paid by residential and farm business landowners in Port Stephens. When considered with respect to the relatively higher than typical (in terms of the median for 2021) local government taxes paid by non-farm businesses, a case could be made to direct most of a potential SRV burden on to the residential and farm
business cohorts. This would reduce the gap somewhat, improve distributive justice and introduce less stress to the local economy. Moreover, we note that a base rate applies to business and strongly urge Council to reconsider this aspect of its tax structure since it effectively requires small businesses, who have mostly struggled under COVID, to subsidise the reasonable tax obligations of national and multinational enterprises. Removing this base rate would ensure that the businesses with the strongest capacity to pay must pay their share and hence meet long- established principles of distributive justice (Messner, 1952; Drew, 2021).

The decision around how the taxation burden should be distributed amongst categories of ratepayer is ultimately a political decision. However, the total tax take expected of a local government area with the general characteristics of Port Stephens can be accurately measured using the empirically sophisticated multiple regression analysis. Multiple regression analysis allows us to control for a much broader array of variables known to affect capacity to pay than any financial ratio. Moreover, by using a panel of data (over multiple years) we are able to produce more accurate estimates that take into account changes over time. Indeed, by employing a special technique called fixed-effects multiple regression, we can evencontrol for important time invariant unobserved effects. These latter factors cover those characteristics of the local government area that do not change over time, such as distance to desirable beaches.

5. ECONOMETRIC ANALYSIS OF TOTAL RATE CAPACITY

Regression analysis is the most sophisticated statistical approach available to understand the required tax take of a given local authority. Specifically, regression analysis allows econometricians to determine the mean response of a dependent variable with respect to changes to multiple independent variables. The authors of this Report are experienced applied econometricians with an extensive publication record of work of this kind in all the leading academic journals on local government. Moreover, the body of scholarly work underpinning the theory and practice of econometrics is voluminous. Interested readers are referred to Kennedy (2003) for a synoptic account.

The final model specification that we employ in our analysis can be expressed as follows:

$$\mathbf{T}_{it} = \alpha\alpha_i + \beta\beta_1 \mathbf{A}_{it} + \beta\beta_2 \mathbf{I}_{it} + \mu\mu_{it} \qquad t = 1..4$$

Where **T** is the total tax take (that is the sum of all categories of taxation) expected of a local government, **A** is the disaggregated assessment data, **I** is a vector of relevant income data for particular local government areas at specific times and μ is an idiosyncratic error term. The subscript *it* refers to the i^{th} council entity and the t^{th} year. Here we included all sixty-seven councils categorised as broadly similar under the extant federal government classification system[10]. Log transformations were employed to counter skewness when econometric diagnostics tests revealed the need to do so. We also conducted and satisfied all other relevant diagnostic tests. Table 5 provides the definition for each variable as well as summary data.

[10] 2021 financial year data was missing for two of the councils hence the disparity in the *n* figure presented in Table 6. We used appropriate regression techniques to mitigate the very small number of missing data points.

TABLE 5. DEFINITIONS AND MEANS OF VARIABLES, 2018-2021

Variable	Definition	Similar Councils
Rates		
Rates (ln)	Total taxation (rate) take, logged	10.736
Assessments		
Residential (ln)	Number of residential assessments, logged	10.278
Farm	Number of farm assessments, divided by 100 Number	6.729
Business (ln)	of business assessments, logged	7.504
Income Controls		
Median employee income	Median employee income (lagged), divided by 1,000 Median	50.363
Median unincorporated business income	unincorporated business income (lagged), divided by 1,000	12.159
Aged (ln)	Proportion of people on an aged pension, logged Proportion	2.275
DSP	of people on a disability support pension	3.286
Newstart (ln)	Proportion of people on a Newstart allowance, logged	0.954
Carer	Proportion of people on a carers' pension	1.198
Single (ln)	Proportion of people on a single parent pension, logged	-0.329

In Table 6, we detail the coefficients and standard errors yielded by our fixed-effects regression. These results were used in subsequent calculations to predict the average total tax expected of a council with Port Stephens' characteristics.

TABLE 6. MULTIPLE REGRESSION RESULTS, 2018-2021 INCLUSIVE

	Extended Cohort
Number of residential assessments (ln)	0.889** (0.164)
Number of farm assessments	0.004 (0.012)
Number of business assessments (ln)	0.0.082* (0.035)
Median employee income	0.016** (0.005)
Median unincorporated income	0.011** (0.004)
Welfare receipts	Yes**
n	278
Coefficient of Determination	0.8574

+p < 0.10, *p < 0.05, **p < 0.01. Standard errors in parentheses

In Table 7, we present the shortfall in total tax take (i.e. the difference between the average tax take predicted by the regression and actual total tax take as stated in the relevant audited financial statements). It is noteworthy that the shortfall over the four financial years analysed exceeded $36 million that explains the acute fiscal stress currently experienced by Port Stephens Council. We also provide details of the percentage increase that would have been required for each particular year to ensure that the property taxes levied at Port Stephens were consistent with expectations relative to the wide cohort of similar NSW local governments. The differences between the predictions of the model and the deficiency (suggested in Figure 2 through to Figure 6 inclusive) are reflective of both the broader and more inclusive cohort used for the regression, as well as an additional year of data. This is why scholars tend to use methods, such as regression analysis, which allow for larger cohorts, longer data panels and more input variables. It also explains why we assert that greater reliance should be placed on this econometric evidence.

TABLE 7 EXPECTED TOTAL TAX TAKE PREDICTED BY THE FIXED-EFFECTS REGRESSION,2018-2021 INCLUSIVE

Council	Year	Total Tax Take Shortfall	Suggested Increase
Port Stephens	2018	$ 7,725.48	19.21%
Port Stephens	2019	$ 8,828.92	21.32%
Port Stephens	2020	$ 9,492.72	22.14%
Port Stephens	2021	$10,325.70	23.25%

If the objective was simply to ensure that a satisfactory level of taxation was levied, then the model would suggest permanent increases of *at least* seven percent per annum (above the rate cap) for each of three years. Making these changes over at least three years is unavoidable, given the size of the deficiency. However, doing so means that we will continue to add to the gross shortfall during the transition phase.In addition, the picture for financial sustainability at Port Stephens Council is grim and there is already some repair work to undertake arising from the chronic deficiency in tax receipts over many years.

Accordingly, it is recommended that council apply for an increase at least equivalent to eight percent (8%) above the cap for each of three (3) years.

It should be noted that community engagement may well result in a change to the timing, size and duration of the annual rate increases.

6. RECOMMENDATIONS FOR ALLOCATING RATE INCREASES

The empirical evidence that we have presented in this Report clearly demonstrates that existing levels of taxation receipts at Port Stephens are inadequate. This has obvious implications for financial sustainability. It also makes it unlikely that future generations of local taxpayers have been treated fairly. Indeed, residential and farm-business ratepayers have been paying a discount rate of taxation on a broad basket of local public goods and services over an extensive time period. This has clearly led to high levels of fiscal illusion, as evidenced by the community response to the last Port Stephens SRV proposal. This must be addressed in order to ensure the financial capacity of Council to meet local resident expectations.

We recommend an increase to taxation that is equivalent to a permanent increase of eight percent above the rate cap for each of at least three years. The cumulative effect of increases of this nature would pull Council up to around the average level of taxation expected of a local government area that exhibits the income characteristics of Port Stephens Council. It would also assist in recouping some of the $36 million intaxation

receipt shortfall experienced in the last four years alone.

In addition, we recommend that any SRV approved is weighted so that it improves distributive justice between rateable categories. In essence, most of the SRV should fall on residential and farm ratepayers. In particular, farm businesses receive an effective discount on the real tax liability actually realised when compared to residential landowners. Farm businesses also receive a much more substantial tax discount relative to non-farm business.

To improve capacity to pay, base rates should either be eliminated or reduced substantially[11]. We understand the reservations about reducing or eliminating the base rate with respect to strata title and high-density dwellings. However, we also believe that it is important to ensure distributive justice for owners of residential land that has relatively low valuations. Furthermore, the matter is important for capacity to pay reasons, as we have already set out. Matters are much simpler for farmland and business assessments where there are far fewer good reasons to cling to a base rate. We acknowledge that changes to the local government taxation system has political risks and requires community engagement and considerable deliberation.
We thus suggest that Port Stephens Council establishes a working group to consider the matter in detail and that this is duly conveyed to IPART in any SRV application.

It is vital that a SRV is approved in the next round of applications (from November 2022). Indeed, in view of the gravity of the situation it is unfortunate that Council was not able to apply for a SRV in the previous round. Failure to secure a SRV in the next round of applications will place Council's finances in grave jeopardy and visit financial problems on both current and future Port Stephens ratepayers.

[11] Indeed if base rates are retained then they must be based on the actual costs of providing a councilstructure as discussed in Drew (2021) and not on an apparently arbitrary number.

REFERENCES

Australian Bureau of Statistics (ABS). (2021). *Data By Regions*. ABS: Canberra.

Baum, S., Flanagan, M., Mitchell, W. and Stimson, R. (2018). Wage inequality across Australian labour market regions. *Australasian Journal of Regional Studies,*24(2), 124-146.

Buchanan, J. (1997). The Balanced Budget Amendment: Clarifying the Arguments. *Public Choice,* 90: 117-138.

Dollery, B. E., Crase, L. and Johnson, A. (2006). *Australian Local GovernmentEconomics,* University of New South Wales Press: Sydney.

Dollery, B. E. Johnson, A. and Byrnes, J. (2008). Cost Shifting in Australian Local Government: An Analysis of the Spatial Impact of Pensioner Rate Concession Rebates in New South Wales. *Australian Geographer,* 39(4), 467-478.

Dollery, B. E., Wallis, J. L. and Allan, P. (2006). The Debate That Had to Happen ButNever Did: The Changing Role of Australian Local Government. *Australian Journal ofPolitical Science,* 41(4), 553-567.

Drew, J. (2020a). *Reforming Local Government*. Springer Palgrave: Singapore.Drew, J. (2021). *Saving Local Government*. Springer Palgrave: Singapore.

Drew, J. and Dollery, B. (2020). Introduction to the Special Edition of Public Administration Quarterly: The Economics and Politics of financial Unsustainability in Local Government. *Public Administration Quarterly*, doi.org/10.37808/paq.44.2.1.

Drew, J. and Miyazaki, M. (2020). The moral justification and practice of intergovernmental equalisation grants to local government–A subsidiarity perspective. *Australian Journal of Public Administration*, doi: 10.1111/1467-8500.12445.

George, H. (2010). *Progress and Poverty*. Robert Schalkenbach Foundation: NewYork.

Grant, B. and Drew, J. (2017). *Local Government in Australia: History, Theory andPublic Policy.* Springer Palgrave: Singapore.

Independent Pricing and Regulatory Tribunal (IPART) (2020). *Special VariationIncrease: Port Stephens Council 2019-20*. IPART: Sydney.

Kennedy, P. (2003). *A Guide to Econometrics.* MIT Press: Cambridge.

Messner, J. (1952). *Social Ethics: Natural Law in the Modern World*. Transl. J.Doherty. B Herder Book Co: St Louis.

New South Wales Parliament (1993). *Local Government Act.*

Oates, W. E. (1972). *Fiscal federalism.* Harcourt Brace Jovanovich: New York.

Oates, W.E. (1999). An Essay on Fiscal federalism. *Journal of economic Literature*,37(3), 1120-49