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The Distributional Impact of State Taxes for South Australian Households¹

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1 INTRODUCTION

This paper provides the distributional household impact of state taxation for South Australian households. All the major forms of state taxation are considered, including the following:

- 1) Insurance tax
- 2) Land tax
- 3) Motor vehicle registration
- 4) Gambling Tax
- 5) Stamp duty for motor vehicles and housing (separate)
- 6) Emergency Services levy

2 METHODOLOGY AND ASSUMPTIONS

This report relies heavily on an analysis of the *ABS' Household Expenditure Survey* (HES). The most recent survey was undertaken in 2009-10 and provides a very detailed account of the expenditure of around 9,800 households. NATSEM makes a number of important changes to this survey to ensure the survey data is as relevant and accurate as possible for policy analysis in the current financial year – 2013-14.

The survey data, in particular incomes and all expenditure items are inflated to December 2013 levels. Each of the 711 commodities measured in the HES are updated on a state-by-state basis using the latest ABS CPI information at the expenditure class level. Income levels are updated based on the SAS-NATSEM Household Budget

Report's income data – which largely relies upon ABS national accounts and survey data from the *ABS Survey of Income and Housing*.

An update to the survey data is required to ensure that the population is in line with known population changes since the survey was undertaken in 2009-10. We use known population changes between December 2009 and December 2013 by age and sex and region (capital city and rest of state) from ABS Demographic Statistics. These changes are applied to the original HES weights to ensure the population matches the best estimates for South Australia and Australia.

Some items in this ABS survey are known to undercount expenditure. The most relevant example is gambling expenditure. To overcome such undercounts expenditure for each tax is adjusted to ensure totals align with known taxation aggregates provided by the South Australian Department of Treasury and Finance.

With all these changes we have a detailed data set that closely matches the household expenditure patterns for both Australia and South Australia as of December 2013.

To better understand the distributional impact of each form of state taxation this report compares the expenditure and income shares of households to income and wealth quintiles². We also consider how each tax impacts different family types.

A tax which incurs a greater share of expenditure or income for low income households is said to be regressive. Where high income households spend a greater share the tax is said to be progressive. A typical regressive tax in Australia would be tobacco excise since low income households, on average, devote a greater share of their expenditure to smoking than higher income households. Personal income

² Disposable household income is split into 'equivalised income' quintiles at the household level using the modified-OECD adjustment which weights the first adult in the household with a value of one, subsequent adults at 0.5 and children at 0.3. Household disposable income is divided by the OECD factor to adjust for household size. No adjustments are made to (net) wealth.

taxation is a case of a progressive tax as higher income groups pay proportionately more than low income groups.

This report provides results for both income and wealth levels. For some taxes the results may differ substantially in terms of progressivity in respect to income and wealth. A key driver of this is likely to be high wealth, low income households. Since assets are accumulated through time it is often the case that relatively low income households, such as pensioner households, have significant assets but low incomes. Very strong growth in house prices over the past 15 years exacerbates this phenomena. Since most household wealth in Australia is tied up in the family home and most families are reluctant to tap into that wealth NATSEM would suggest that income levels are generally a more relevant measure for determining the impacts of taxation at the household level.

This report ascribes the full expenditure amount as the incidence on the household. Technically, the incidence, or 'burden' is determined by the relative responsiveness of the buyer and seller of a good or service (relative elasticity of demand and supply).

3 RESULTS

3.1 Insurance Tax

The ABS Expenditure Survey provides detailed information on insurance payments by households. Insurance stamp duty can be calculated by applying the appropriate rate as applies to each type of insurance in South Australia. Given sampling error a small adjustment was required to all household expenditure to ensure insurance tax aligned with estimates of insurance taxation for South Australia.

Table 1. State Tax Distribution by Household Income Level³

Household Type	Income Quintile	Income Quintile	Income Quintile	Income Quintile	Income Quintile	All
Category	1	2	3	4	5	
<i>Insurance Tax</i>	\$285	\$352	\$392	\$538	\$689	\$461
<i>Land Tax⁴</i>	\$88	\$43	\$94	\$131	\$170	\$105
<i>Registration</i>	\$312	\$443	\$636	\$668	\$677	\$547
<i>Gambling Tax</i>	\$421	\$476	\$549	\$619	\$749	\$563
<i>Stamps - Motor</i>	\$78	\$123	\$225	\$259	\$149	\$167
<i>Stamps - Housing</i>	\$238	\$423	\$392	\$1,306	\$2,005	\$871
<i>Emergency Services</i>	\$55	\$99	\$163	\$226	\$321	\$173
<i>Emergency Services (old)</i>	\$35	\$51	\$81	\$99	\$125	\$78
Total State Tax	\$1,477	\$1,960	\$2,451	\$3,746	\$4,760	\$2,887
Share of Expenditure						
<i>Insurance Tax</i>	0.54%	0.53%	0.49%	0.47%	0.36%	0.44%
<i>Land Tax</i>	0.24%	0.09%	0.13%	0.13%	0.10%	0.12%
<i>Registration</i>	0.85%	0.89%	0.89%	0.65%	0.41%	0.64%
<i>Gambling Tax</i>	1.15%	0.95%	0.77%	0.60%	0.45%	0.66%
<i>Stamps - Motor</i>	0.21%	0.25%	0.32%	0.25%	0.09%	0.20%
<i>Stamps - Housing</i>	0.65%	0.85%	0.55%	1.26%	1.21%	1.02%
<i>Emergency Services</i>	0.15%	0.20%	0.23%	0.22%	0.19%	0.20%
<i>Emergency Services (old)</i>	0.10%	0.10%	0.11%	0.10%	0.08%	0.09%
Total State Tax	3.79%	3.74%	3.38%	3.57%	2.81%	3.28%
<i>Share of Disposable Income</i>	5.79%	4.13%	3.49%	3.99%	3.05%	3.67%

Table 1 outlines the distributional incidence upon households of each of the major state taxes. For insurance we observe that in dollar terms for 2013-14 insurance taxation increases as income increases. The lowest 20 per cent of households with respect to income spend \$285 on insurance taxation compared to \$689 for the top 20 per cent of households. In per cent terms of total expenditure the bottom quintile spends a larger share of expenditure relative to the higher income groups. This is a consistent result across the full income distribution – the higher a household’s income the smaller share of either expenditure is spent on insurance tax. Insurance tax is a mildly regressive form of state taxation in South Australia.

³ Low income households have a higher state taxation share relative to income than expenditure. On average, they spend more than they earn. This can be related to running down savings or the use of debt.

⁴ Land taxation estimates are based on very small sample sizes in the ABS HES and caution should be taken in interpreting the distributional impacts for this tax.

Appendix A provides estimates of the impact of each tax with regard to wealth levels and family type. With respect to wealth, insurance is strongly progressive indicating that many high wealth low income families have a relatively large expenditure share of insurance payments – and therefore insurance taxation.

Insurance taxation has a strongest incidence on couple only families and least incidence on single parents.

3.2 Land Tax

Land taxation is based on land taxation expenditure category in the HES for South Australian households. NATSEM cautions that the sample size is very small and the final estimates required significant adjustment to ensure total land tax aligned with total revenue from the administration data sets. As such, we do not have confidence in the distributional impacts for this tax. The impact of the land tax is only the ‘legal’ incidence and not the final impact that may be felt by renters.

With that caveat in mind, we do find that the overall impact on South Australian households is \$105 per year and that the top income groups devotes around twice that of the bottom income quintile. With regard to total expenditure the tax is regressive with the lowest income group devoting a share of expenditure more than double that of the highest income group.

We do find that the tax is not regressive with respect to wealth, indicating that the tax impacts high wealth, lower income families. This lessens the concerns around the regressive nature of this tax.

3.3 Motor Vehicle Registration

Motor vehicle registration is collected in the ABS HES. For some households the value reflects both compulsory registration and compulsory insurance. To ensure total revenue matches the state government administration data adjustments at the household level were made. We would expect the HES to provide a sound basis for distributional modelling of registration for motor vehicles.

Table 1 shows that motor vehicle registration costs the average household in South Australia \$547 in 2013-14. The top income quintile spends \$677 which is more than twice the bottom quintile (\$312). As a share of expenditure registration is regressive with the bottom income group devoting more than double the share of the top income group.

With respect to wealth registration is regressive with the highest wealth households spending roughly half the amount low wealth households as share of expenditure. Registration has a strongest incidence on couple only families and least incidence on single parents.

3.4 Gambling Tax

Gambling taxation estimation is based on the HES net value of gambling for each household. This is an estimate of net profit (generally a loss for most households). Gambling taxation is estimated as a share of this loss and aligned to the state government estimate for gambling taxation. The HES covers a range of different forms of gambling, each of which are covered in this analysis. We treat the taxation as applying to the total gambling losses for households rather than modelling each form of gambling separately. There is some debate around the actual incidence of gambling taxation as to whether the incidence falls upon the venue or the gambler. NATSEM has not explicitly modelled the true incidence (which is likely to vary by type of gambling) and is simply recording gambling expenditure but not necessarily the true incidence.

Gambling taxation is estimated to have an average cost to households of \$563 per year in 2013-14. The lowest income group providing \$421 and the highest income group \$749. Gambling is shown to be highly regressive with the bottom income group spending around 1.15 per cent compared to just 0.45 per cent for the top income group relative to expenditure.

With respect to wealth gambling is also regressive with the highest wealth households spending roughly half low wealth households as share of expenditure. Gambling has a strongest incidence on lone persons and least incidence on families with children.

3.5 Motor Vehicle Stamp Duty

Stamp duty for motor vehicles is based on the purchase costs in the HES. The HES does provide a net value in that trade-in values are deducted from the purchase price. We have no way of unpicking the purchase price of the new or used vehicle. We apply the stamp duty schedule to the trade-in price and adjust all household values to ensure we meet the known revenue totals from the administration data.

While we do not expect precision for estimates for individual households we do expect that the distributional analysis should be robust notwithstanding sample size issues.

Stamp duty for motor vehicles adds \$167 per year to the expenditure of the South Australian households, on average. The lowest income groups devote \$78 per year while the top income group devotes \$149. The middle income groups devote the most with \$259 per annum for quintile 4 and slightly less for quintile 3. On a share basis the middle income category (quintile 3) devotes the largest share of expenditure while the highest income group the lowest share.

NATSEM has not analysed the reasons for why the middle income groups have a higher burden than either low or middle income groups. We do note that the top income quintile has a relatively lower level of car purchase in the sample. Top income households do have a higher expenditure on cars and estimated stamp duty but the sample with a car purchase in the top income groups is much smaller than other categories. NATSEM cautions that the sample size is particularly small and great caution should be taken in interpreting this distributional analysis of motor vehicle stamp duty⁵.

With respect to wealth motor vehicle duty is regressive with the highest wealth households spending less than half low wealth households as share of expenditure. Motor vehicle stamp duty has a strongest incidence on couple only families and least incidence on single parents.

Due to the small sample nature of car purchase in South Australia caution should be used in interpreting the distributional analysis.

⁵ The HES sample has only 12 South Australian households with a motor vehicle purchase in the top quintile.

3.6 Home Purchase Stamp Duty

Stamp duty for housing is based on the value of houses purchased in the three most recent years. Since the survey is taken in 2009-10 this implies the houses were purchased in either that year or the two prior. House values are increased in line with house price growth to 2013-14.

Stamp duty is found to be clearly progressive with the lowest income group devoting just \$238 compared to \$2,005 for the highest income group. As a share of income the highest group devotes around double that of the lowest income group. The fourth highest income group devotes a slightly higher share of income than the top income group.

NATSEM notes that the sample size is relatively small for the modelling of property stamp duty, however, we have undertaken similar analysis for the ACT and the distributional results are broadly similar with a highly progressive result.

With respect to wealth home purchase stamp duty is progressive with the highest wealth households spending ten times low wealth households as share of expenditure. Stamp duty on homes has a strongest incidence on couple with children and least incidence on single parents.

Home purchase stamp duty has a significantly larger impact on Adelaide than on other regions of South Australia. Adelaide's share of expenditure nearly double that of the rest of South Australia (1.13 per cent compared to 0.59 per cent).

3.7 Emergency Services Levy

Emergency service levy is based on the estimated house value in the HES. We have estimated the levy for both the old levy with more generous concessions and the less concessional approach adopted recently by the Government.

The new approach doubles revenue but is a more progressive tax. The old system was mildly regressive. We find that under the new system the bottom 20 per cent of households with respect to income devote 0.15 per cent of expenditure to this tax compared to 0.19 per cent for the top income group. The levy overall is a relatively minor impost compared to some other state taxes with the average impost to all households at \$173 in 2013-14. Under the old scheme this value was just \$78 per

annum for 2013-14. Each quintile paid less but in a more regressive distribution of payments.

The emergency services levy is strongly progressive with respect to wealth, particularly under the new levy. For families the levy impacts most strongly upon couple only families and least upon single parents.

3.8 All State Taxation in South Australia

On average, South Australian households are expected to spend around \$2,887 on state taxation in 2013-14. The bottom quintile spends around \$1,477 and the top around \$4,760. Total state taxation as a share of expenditure is mildly regressive with the bottom 20 per cent of households devoting 3.79 per cent to these taxes while the top devote 2.81 per cent. The middle 20 per cent devote 3.38 per cent. With respect to disposable income the taxes are, in aggregate, more regressive with the top group devoting 3.05 per cent compared to 5.79 per cent for the bottom.

The removal of gambling taxation provides a less regressive result for state taxation with the bottom quintile's expenditure share at around 2.7 per cent and the top income group at 2.4 per cent. Excluding the top income group state taxation is broadly proportional with respect to expenditure. With respect to disposable income state taxation would remain regressive.

With regard to wealth we find that state taxation is generally progressive, however the results are not linear with the second bottom quintile having a larger share of expenditure than either the third or fourth top quintiles.

With regard to family type we find that state taxation in South Australia impacts most strongly upon couple only families with respect to expenditure share and lone persons with respect to disposable income. For both these metrics single parents are impacted the least.

The more significant stamp duty taxation on housing in Adelaide is the main driver of state taxation overall having a more significant impact on Adelaide than the rest of the state. As a share of expenditure Adelaide households devote 3.39 per cent of expenditure compared to 2.86 per cent in the regions outside the capital.

4 CONCLUSION

The NATSEM analysis demonstrates the regressive nature of the existing state taxes in South Australia with respect to total expenditure. However, the nature of individual taxes varies. The most progressive is stamp duty on home purchase and the most regressive is stamp duties on motor vehicle purchase and land taxation⁶⁷. The emergency services levy under the less concessional arrangement is now also a progressive form of taxation with respect to expenditure.

State taxes consume around 3.28 per cent of expenditure in South Australia, or \$2,887 in 2013-14. With respect to disposable income this is around 3.67 per cent. The lowest income group's share of disposable income is around 5.79 per cent compared to 3.05 per cent for the highest income group.

With regard to wealth state taxation is progressive, however that result is not a clear linear relationship. Overall, couple only families and lone persons have the largest share of their expenditure and disposable income spent on state taxation. Single parents are least impacted by state taxation.

State taxation is a larger share of income and expenditure in Adelaide compared to the rest of South Australia. Largely this is driven by stamp duty on house purchases.

⁶ NATSEM has limited confidence in the land taxation distributional impacts due to a very small sample in the ABS HES for land taxation.

⁷ This result assumes that the full incidence of each tax falls upon the household.

5 REFERENCES

ABS (2014) *Australian National Accounts, National Income, Expenditure and Product*, 5206.0

ABS (2012) *Household Expenditure Survey and Survey of Income and Housing*, 6503.0

SAS-NATSEM (2015) *Household Budget Report* (forthcoming).

6 APPENDIX A

Table A1. State Tax impact by wealth level, Households, December 2013

Household Type	Wealth Quintile	Wealth Quintile	Wealth Quintile	Wealth Quintile	Wealth Quintile	All
Category	1	2	3	4	5	
<i>Insurance Tax</i>	\$201	\$314	\$423	\$498	\$752	\$461
<i>Land Tax</i>	\$1	\$51	\$14	\$23	\$438	\$105
<i>Registration</i>	\$414	\$623	\$492	\$584	\$624	\$547
<i>Gambling Tax</i>	\$491	\$627	\$345	\$586	\$765	\$563
<i>Stamps - Motor</i>	\$154	\$187	\$122	\$191	\$181	\$167
<i>Stamps - Housing</i>	\$59	\$845	\$748	\$699	\$2,014	\$871
<i>Emergency Services</i>	\$25	\$103	\$137	\$193	\$407	\$173
<i>Emergency Services (old)</i>	\$27	\$61	\$72	\$90	\$143	\$78
Total State Tax	\$1,344	\$2,750	\$2,282	\$2,774	\$5,181	\$2,887
Share of Expenditure						
<i>Insurance Tax</i>	0.25%	0.35%	0.47%	0.47%	0.52%	0.44%
<i>Land Tax</i>	0.00%	0.07%	0.02%	0.02%	0.33%	0.12%
<i>Registration</i>	0.89%	0.83%	0.64%	0.62%	0.46%	0.64%
<i>Gambling Tax</i>	1.06%	0.84%	0.45%	0.62%	0.57%	0.66%
<i>Stamps - Motor</i>	0.33%	0.25%	0.16%	0.20%	0.13%	0.20%
<i>Stamps - Housing</i>	0.13%	1.13%	0.97%	0.74%	1.49%	1.02%
<i>Emergency Services</i>	0.05%	0.14%	0.18%	0.20%	0.30%	0.20%
<i>Emergency Services (old)</i>	0.06%	0.08%	0.09%	0.10%	0.11%	0.09%
Total State Tax	2.72%	3.60%	2.89%	2.89%	3.81%	3.28%
<i>Share of Disposable Income</i>	2.78%	3.96%	3.22%	3.38%	4.23%	3.67%

Table A2. State Tax impact by family type, Households, December 2013

Household Type						All
Category	Couple/Children	Single Parent	Couple Only	Lone Person	Other/Group	Total
<i>Insurance Tax</i>	\$599	\$305	\$467	\$296	\$501	\$461
<i>Land Tax</i>	\$89	\$0	\$148	\$97	\$109	\$105
<i>Registration</i>	\$794	\$359	\$555	\$278	\$740	\$547
<i>Gambling Tax</i>	\$405	\$244	\$809	\$422	\$741	\$563
<i>Stamps - Motor</i>	\$235	\$226	\$153	\$81	\$226	\$167
<i>Stamps - Housing</i>	\$1,666	\$451	\$823	\$470	\$606	\$871
<i>Emergency Services</i>	\$268	\$122	\$177	\$99	\$169	\$173
<i>Emergency Services (old)</i>	\$110	\$58	\$80	\$55	\$76	\$78
Total State Tax	\$4,058	\$1,706	\$3,132	\$1,745	\$3,092	\$2,887
Share of Expenditure						
<i>Insurance Tax</i>	0.40%	0.24%	0.58%	0.42%	0.44%	0.44%
<i>Land Tax</i>	0.06%	0.00%	0.20%	0.21%	0.11%	0.12%
<i>Registration</i>	0.57%	0.43%	0.76%	0.61%	0.73%	0.64%
<i>Gambling Tax</i>	0.29%	0.29%	1.11%	0.92%	0.73%	0.66%
<i>Stamps - Motor</i>	0.17%	0.27%	0.21%	0.18%	0.22%	0.20%
<i>Stamps - Housing</i>	1.19%	0.54%	1.13%	1.03%	0.60%	1.02%
<i>Emergency Services</i>	0.19%	0.15%	0.24%	0.22%	0.17%	0.20%
<i>Emergency Services (old)</i>	0.08%	0.07%	0.11%	0.12%	0.08%	0.09%
Total State Tax	2.88%	1.92%	4.25%	3.58%	3.00%	3.28%
<i>Share of Disposable Income</i>	3.34%	2.62%	4.44%	4.61%	2.77%	3.67%

