Top Wealth Shares in Australia 1915-2012[*]

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Abstract

Combining data from surveys, inheritance tax records, and rich lists, we estimate top wealth shares for Australia from World War I until the present day. We find that the top 1 percent share declined by two-thirds from 1915 until the late-1960s, and rose from the late-1970s to 2010. The recent increase is sharpest at the top of the distribution, with the top 0.001 percent wealth share tripling from 1984 to 2012. The trend in top wealth shares is similar to that in Australian top income shares (though the drop in the first half of the twentieth century is larger for wealth than income shares). Since the early twentieth century, top wealth shares in Australia have been lower than in the UK and US.

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1. Introduction

The study of wealth inequality in Australia has a distinguished heritage. In a famous 1914 paper, Italian statistician Corrado Gini, drew on inheritances and land values collected by the state of Victoria in the early-1910s.[1] The high quality of Australian national statistics compiled and analysed by statisticians such as Timothy Coghlan and GH Knibbs meant that in the decades after Federation, Australia not only enjoyed some of the highest living standards in the world, but had some of the best statistics in the world.

Unfortunately, the fragmentary nature of information on Australian wealth holdings has been reflected in the scholarship on the topic. Most studies have used a couple of wealth surveys, a few years of inheritance tax data, or a few years of rich lists. Because each data source has its limitations, there are advantages in drawing them together. In this sense, our project is a little like an impressionist painting: out of many different datapoints, we hope to produce a work that provides deeper insights into the subject.

Our analysis of top wealth shares is grounded in three sources: wealth surveys, inheritance tax records and rich lists. In each case, we have endeavoured to draw upon all of the available data from the twentieth century onwards.[2]

To preview our results, we find a considerable reduction in top wealth shares across the period from World War I to the late-1970s, followed by a steady increase thereafter. Australian wealth inequality appears to track income inequality quite closely.

The remainder of the paper is structured as follows. Section 2 discusses the methodology for estimating wealth inequality, and the key literature. Section 3 presents estimates of top wealth shares, combining results from our three methods. The final section concludes.

2. Methodology

In their survey of wealth inequality, Davies and Shorrocks (2000) identify five possible data sources for estimating the distribution of wealth: wealth surveys, inheritance tax records, rich lists, wealth tax data, and investment income data. We cannot use wealth tax data (since Australia did not have a broad-based wealth tax), and we opt not to use the investment income approach due to its heavy reliance on assumed rates of return.[3]

Below, we discuss in turn the three data sources that we use to create our estimates of top wealth shares in Australia. We then present the results in graphical form, combining

estimates using different methodologies. Appendix Tables A1, A2 and A3 separately set out the results from each methodology.

2.1 Wealth Surveys

Of the three sources, wealth surveys are the most reliable for judging wealth inequality, since they have good coverage across the population (except perhaps at the very top of the distribution: see Moore, Stinson and Welniak 2000), and aim to cover multiple sources of wealth and debt. The main challenge that arises is one of comparability. This may arise in how wealth is surveyed. For example, a survey that asks about 20 sources of wealth is likely to come up with a different estimate than one which only asks about two sources of wealth. Another issue is the unit of analysis. While wealth surveys almost always ask about total household wealth, some then report a single observation per household, while others report one observation per person. The effect of the former approach is to underweight large households in any analysis.

Our analysis draws upon five Australian wealth surveys: one for which we have only tabulations, and four for which we have microdata. We begin with the war survey of 1915, conducted by the Commonwealth Bureau of Census and Statistics (the precursor to the Australian Bureau of Statistics). This survey arrived at a final wealth figure by asking 21 questions about assets and three questions about debts. The results were meticulously tabulated and analysed at the time by Knibbs (1918), and we use these tabulations in our analysis. Although Knibbs suggested at the time that Australia should conduct a decennial census of wealth, wealth has never been included in the Australian census.

The next survey we use is the 1987 Australian Standard of Living Study, which asked about six categories of wealth, as well as whether respondents had a home mortgage.[4] We use the microdata from this survey to carry out our analysis. After this, we use the Household, Income and Labour Dynamics in Australia (HILDA) Survey. HILDA included questions about wealth in its 2002, 2006 and 2010 surveys, and we use microdata from each of these waves. Our analysis was kindly carried out for us by the Melbourne Institute's Roger Wilkins. We drop all respondents aged under 18, and divide household wealth by the number of responding adults in the household.

There are other Australian wealth surveys that we opt not to use. The 1966-67 Australian Survey of Consumer Finances and Expenditures (see Podder and Kakwani 1976; Schneider

2004) appears to underweight large households, and we opt not to use it on the basis that our inheritance tax records cover this period. The 1994 National Social Science Survey lists all items in categories (rather than dollar amounts), and does not allow us to subtract mortgage debt. And the ABS Household Wealth and Wealth Distribution Surveys (conducted in 2003-04, 2005-06, 2009-10) are harder to analyse than the HILDA survey due to the well-known difficulties in analysing ABS microdata.

The precise wording of the wealth questions in the surveys that we use are set out in Appendix I.

2.2 Inheritance Tax Records

The use of inheritance tax records to estimate inequality dates back to the work of Coghlan (1906) and Mallett (1908). Underlying this approach is that the dead are representative of the living. In effect, this approach 'blows up' the inheritance tax distribution by multiplying it by the inverse of the mortality rate. Put another way, if death is a random sampling technique, then the inheritance tax returns can tell us about wealth inequality among the living.

As Atkinson (2008) points out, researchers such as Coghlan (1906) and Young (1917) were quick to note that tabulations that did not separate deceased estates by age and gender were not particularly informative. Because the distribution of wealth tends to fan out over the lifecourse, it is necessary to take account of the age at death if one is to properly convert inheritance tax data to wealth inequality. In addition, it is necessary to account for the fact that the rich tend to outlive the poor, by making some form of social mortality adjustment.

These issues make much of the available inheritance tax data unusable, since it does not contain tabulations of estate size by age and gender. In benchmarking the results of the war census against the inheritance tax returns, Knibbs (1918) uses data from the Victorian and New South Wales probate tax returns. However, these appear to be custom tabulations, as the tables published in the state yearbooks of the era do not provide such a level of disaggregation. After extensive contact with the Australian Taxation Office, we have only been successful in obtaining inheritance tax tabulations at the national level for the period 1953-54 to 1978-79. Prior to 1953, it appears that the ATO did not tabulate inheritance tax returns by age and gender. The Australian inheritance tax was abolished on 1 July 1979. For more detail on the operation and abolition of Australian inheritance taxes, see Pedrick (1981), Saunders (1983), Duff (2005) and Gilding (2010).

For each date and gender cell, we compute the estate multiplier as the product of the average mortality from the cell (sourcing historical Australian mortality rates from the Human Mortality Database: Wilmoth and Shkolnikov 2012) and the social differential mortality factor from Clarke and Leigh (2011). We multiply the number of decedents by the estate multiplier and obtain a distribution of gross estate brackets for the living population. We then estimate the amounts corresponding to each fractile (0.05 percent, 0.1 percent, 0.25 percent, 0.5 percent, 1 percent and 2 percent) using a Pareto approximation (Kopczuk and Saez 2004) and net worth estimates from Gunton (1975) and the Australian Treasury (2007). For some years, the estate tax data does not cover the top 0.05 percent of the population. Here we assume that the Pareto coefficient is the same as the one for the top 0.1 percent. Since the parameters vary considerably over two or more groups, if the data also did not cover the 0.1 percent and/or 0.25 percent, we applied the parameters obtained in the closest year with full data,

To date, other researchers have made only partial use of Australian inheritance tax data. Gunton (1975) presents estimates for 1953 to 1969 (but without adjusting for social mortality differences), while Ablett (1983) reports wealth inequality estimates for 1976-77. Other estimates include Harrison (1979), who re-analyses the estimates for 1967-68 that were presented in Gunton (1971), and Raskall (l977, 1978), who averages inheritance tax data for 1966-67 to 1972-73. Other noteworthy research includes an extensive literature review by Piggott (1984) and an analysis of inequality of Victorian estates by Rubinstein (1979) which covers a long timespan (1860-1974), but does not account for the age of the deceased. Similarly, Shanahan (2001) analyses estate records from South Australia in 1905-1915 (without accounting for socioeconomic differences in mortality). His study estimates that the top 1 percent then held around 30 percent of wealth.

Our results are adjusted using the social mortality multiplier of Clarke and Leigh (2011), who analyse survey respondents who participated in the HILDA survey during 2001-2007, and then subsequently died. The authors find that the relative risk of mortality between the poorest and richest income quintile was 1.9 times higher and this translated into a life expectancy gap (at age twenty) of six years. They also note that area-level incomes have no significant impact on mortality risk (after controlling for individual characteristics), which suggests that an individual-level mortality analysis is likely to be more precise than a regional-level mortality analysis. In our analysis of inheritance tax data, we assume a mortality-wealth gradient that matches Clarke and Leigh's mortality-income gradient.

There are limitations to the precision of these estimates. Estimates based on inheritance tax returns could be biased by tax underreporting, which could potentially have grown over time. Our estimates also suffer from measurement error within age-gender cells (we use tables that present figures in ten-year age bands) and within wealth cells. It is also possible that the mortality-wealth gradient has changed over time.

Unlike the other two data sources, our inheritance tax estimates cover tax years, which in Australia run from 1 July to 30 June. For expositional simplicity, we refer to tax years by the starting year (for example, we refer to the tax year 1978-79 as '1978').

2.3 Rich Lists

In 1983, *Business Review Weekly* (now known as *BRW Magazine*) began publishing an annual list of the richest Australians. While ad hoc rich lists have a long lineage, annual rich lists are a more recent phenomenon, with *Forbes Magazine* commencing its US rich list in 1982, and the *Sunday Times* commencing its UK rich list in 1989.[5]

Surprisingly little use has been made of these lists by Australian economists. Exceptions include Siegfried and Round (1994), who analyse the competitiveness of industries in which rich-listers made their fortunes, and careful descriptive work by sociologists and heterodox economists (Gilding 1999; Stilwell and Ansari, 2003; Stilwell and Jordan 2007; Chesters 2011; Murray and Chesters 2012).

Atkinson (2008) lists a number of limitations of rich lists. First, wealth information may not be public, and subsequent inquiries can throw up additional information. For example, in 2005, journalist Stephen Mayne published the 'Crikey Revised Wealth' rich list: pointing to what he regarded as errors or omissions in the BRW 200 rich list. Second, even when assets are known, it may be difficult to value them accurately. Third, the choice to list families or individuals can significantly affect the rich list ranking. Fourth, assets can be more visible than debts (Atkinson gives the example of Robert Maxwell, who was listed on the UK rich list before his death revealed massive debts). And fifth, geographic criteria can be somewhat arbitrary. For example, the BRW rich list continued to include Rupert Murdoch until 1995, despite the fact that Murdoch renounced his Australian citizenship in 1985.

We focus on the 1984-2012 rich lists, which cover around 200 people or families (we drop the 1983 rich list, which included only about 100 people).[6] With Australia's adult population rising from 9 million to 13 million during this period, the BRW 200 rich list therefore

comprises between 0.0021 and 0.0015 percent of the adult population. For consistency, we estimate the share of wealth held by the richest 0.001 percent of adults, which equates to approximately the 90 richest people in earlier years, and 130 in later years. We also estimate the wealth share of the top 0.0001 percent (which is based on the wealth of the richest 9 to 13 people). In both cases, we use an external wealth denominator, being household private wealth estimates from the Australian Treasury and the Australian Bureau of Statistics, appropriately spliced.[7]

Following Atkinson (2008), we also look at inequality within the rich list, by estimating the gini coefficient within the rich list and the share of wealth held by the top one-quarter. Exploiting an additional feature of these data, we also estimate the share of rich list wealth held by women (excluding family holdings for the purposes of this analysis). For these three purposes, we use everyone that appears on the rich lists.

3. Estimating Top Wealth Shares

In Figure 1, we present our estimates of top 1 percent wealth share. In 2010, this group is those households with a per-adult wealth of $2.4 million or more. Our estimates combine survey data and inheritance tax data for the period 1915-2010. The series starts with 1915, when we estimate that the top 1 percent held 34 percent of all household wealth; a similar figure to that estimated by Shanahan (2001) for South Australia in the early-twentieth century. By 1953 when our inheritance tax series starts, the top 1 percent share was down to 15 percent. The next year, this was down to 11 percent, and fluctuated around 10 percent through the rest of the 1950s.

In the 1960s wealth concentration declined further still, with the top 1 percent share reaching its lowest point in 1968 at 6 percent. Wealth inequality then rose slightly during the 1970s, with our last inheritance tax estimate being 7 percent in 1978 (the tax was then abolished). Our next estimate is a survey-based estimate of 10 percent in 1987, suggesting a modest rise in wealth inequality during the 1980s. We then have another break until 2002, when we estimate that the top 1 percent held 12 percent of household wealth. This estimate rises to 16 percent in 2006, before falling back to 11 percent in 2010.

This estimate seems to suggest a rise in top wealth inequality in 2006, but we are cautious about reading too much into the estimate, since it seems to be driven by a small number of respondents in the survey. For example, if we exclude the top 0.1 percent (between 13 and 20

respondents in the HILDA dataset), and estimate the income share of those between the 99th and 99.9[th] percentiles, the estimates are 8.7 percent (2002), 10.5 percent (2006), 9.4 percent (2010).

Figure 1. Top 1 percent wealth share
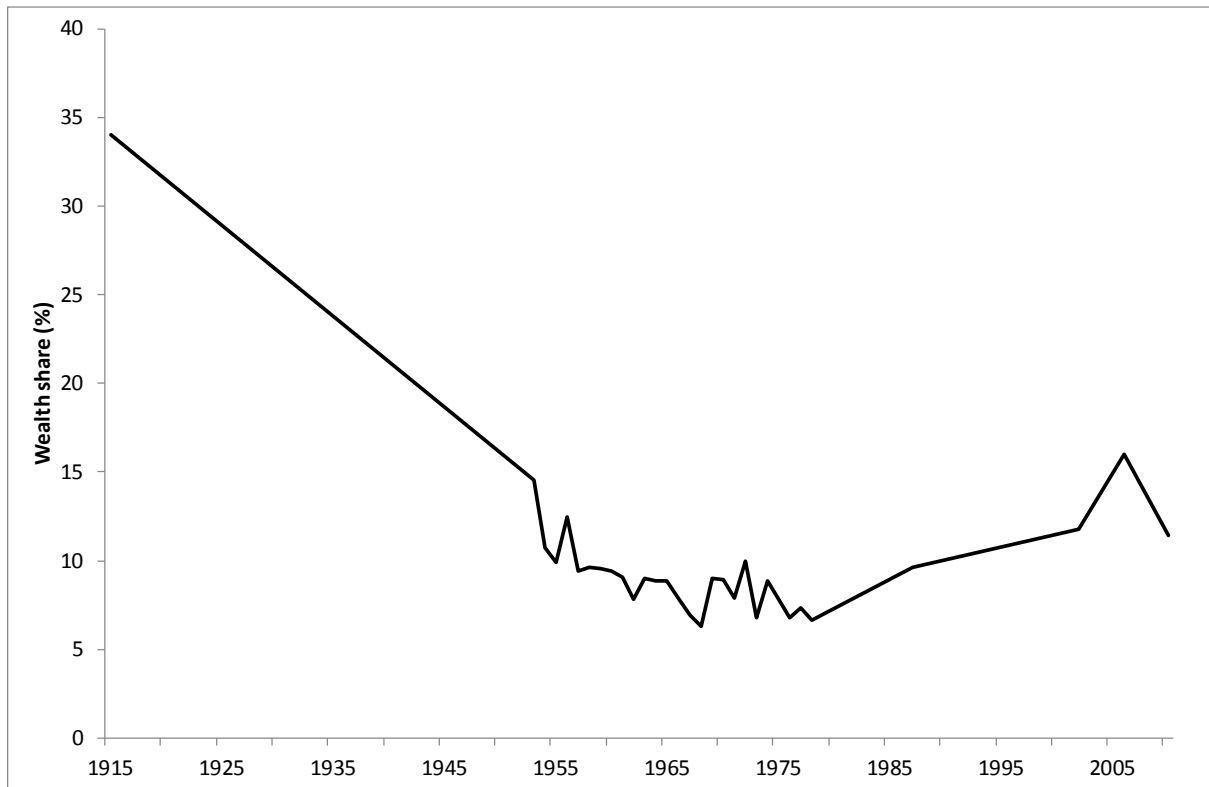
Examination of the very top groups in Figure 2 (top 0.1 percent and 0.5 percent) helps to explain the overall pattern in Figure 1. To put these figures into perspective, in the 2010 survey, the top 0.5 percent are households with a per-person wealth exceeding $3.4 million, while the top 0.1 percent are households with a per-person wealth exceeding $6.1 million.

The top 0.1 percent held 13 percent of total wealth in 1915. This share dropped to 5 percent in 1953 and was down to 2 percent by 1957. The top 0.1 percent share remained at around 2 percent of total wealth for much of the next half-century, with the exception of one-off spikes in 1972 and 2006. As Figure 2 illustrates, the top 0.5 percent share explains most of the top 1 percent and 2 percent movements: a fall in the initial 50 years and an increase from the early 1970s. Thus, the movements of the top 1 percent and 2 percent shares are primarily due to changes taking place within the very top of the top 1 percent.

Figure 2. Top 0.1 percent and 0.5 percent wealth shares
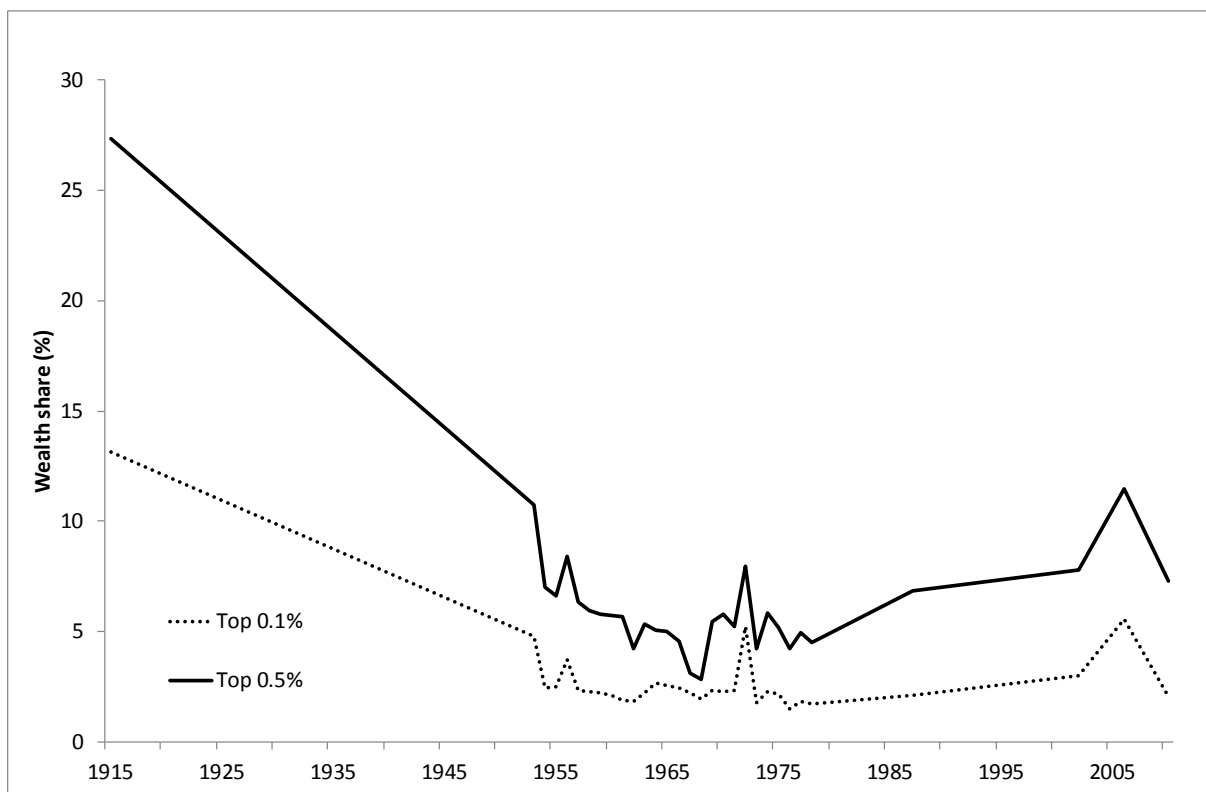
Figure 3 displays the per cent female within the top 1 percent group. The fraction of women among top wealth holders almost doubled from 30 percent in 1915 to 55 percent in 1968. After a sudden decline in the early 1970s, the fraction of top 1 percent wealth held by women continued to fluctuate until the late-1970s. In 2010, women held 50 percent of top 1 percent wealth in Australia. These levels and trends are similar to the US (Kopczuk and Saez 2004). Overall, there has been considerable (but variable) gender equalization in the holding of wealth over this period.

Figure 3. Share of top 1 percent wealth held by women
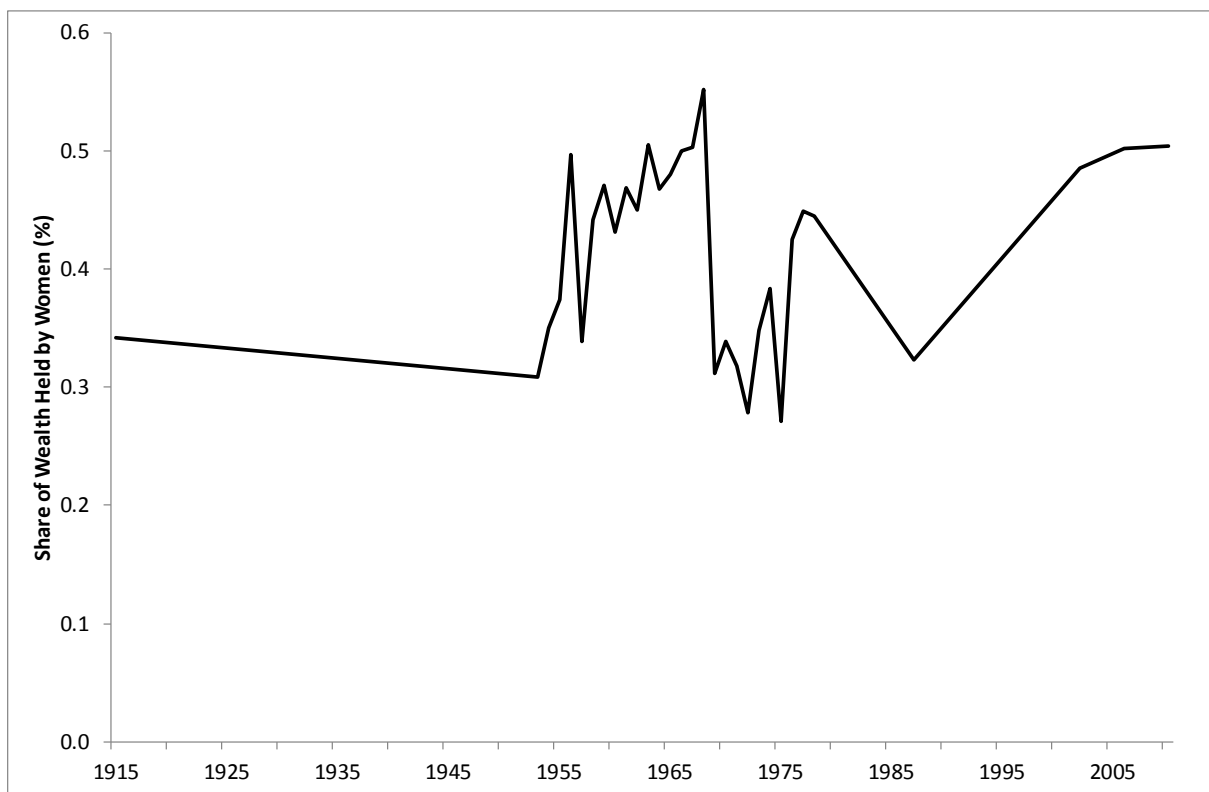
Comparing top wealth shares to top income shares, Figure 4 indicates that the drop in inequality during the first half of the twentieth century is more dramatic for wealth than for income. While we estimate that the top 1 percent wealth share fell by two-thirds from 1915 to 1953, Atkinson and Leigh (2007) estimate that the top 1 percent income share fell from 12 percent in 1921 to 9 percent in 1953. Over the post-war decades, top income shares fell more sharply than top wealth shares, with the top 1 percent income share nearly halving (to 5 percent) from the early-1950s to the late-1970s. And from 1978 to 2009/2010, the increase in top 1 percent wealth shares has been similar to the increase in top 1 percent income shares, with the top 1 percent wealth share rising from 6 percent to 11 percent, and the top 1 percent income share rising from 5 percent to 9 percent.

Figure 4. Comparing Top 1% Wealth and Income Shares
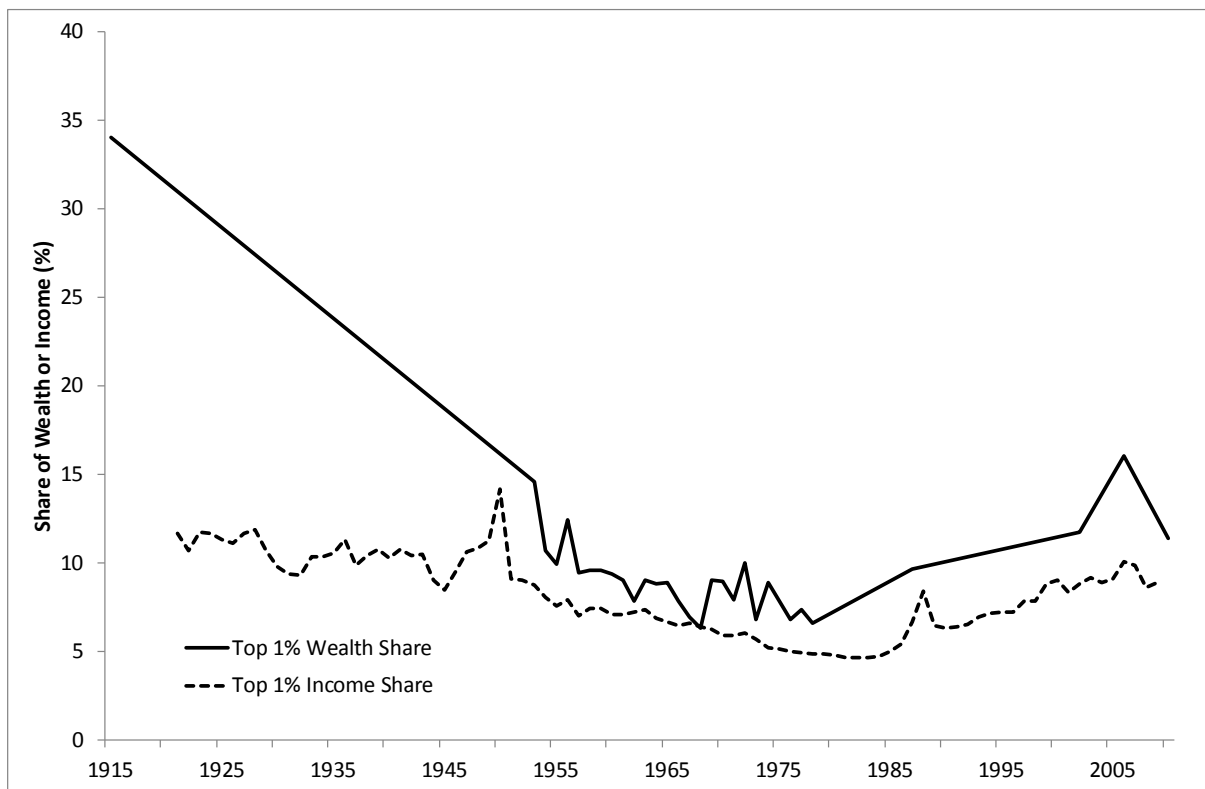
We now compare the Australian top wealth series with comparable series constructed using the estate multiplier technique for the U.S. (Kopczuk and Saez 2004) and the U.K. (Atkinson and Harrison 1978, p.159 for years up to 1972; UK Inland Revenue statistics cited in Kopczuk and Saez 2004 for 1976 onwards.). In all three countries, top wealth shares fell throughout the 1915-2010 period (Figure 5). The U.S. displays the smallest drop in this period with wealth declining from 38 percent to 19 percent. In contrast, the U.K. decline is the most dramatic: the top 1 percent held around 61 percent of national wealth in 1923 but this share declined steeply to 20 percent by the end of the 1970s, converging with the U.S. series. Finally, Australian top wealth holders held a significantly lower share of national wealth in this period than in the U.S. or the U.K.

Figure 5. The top 1 percent wealth share in Australia, United States and United Kingdom
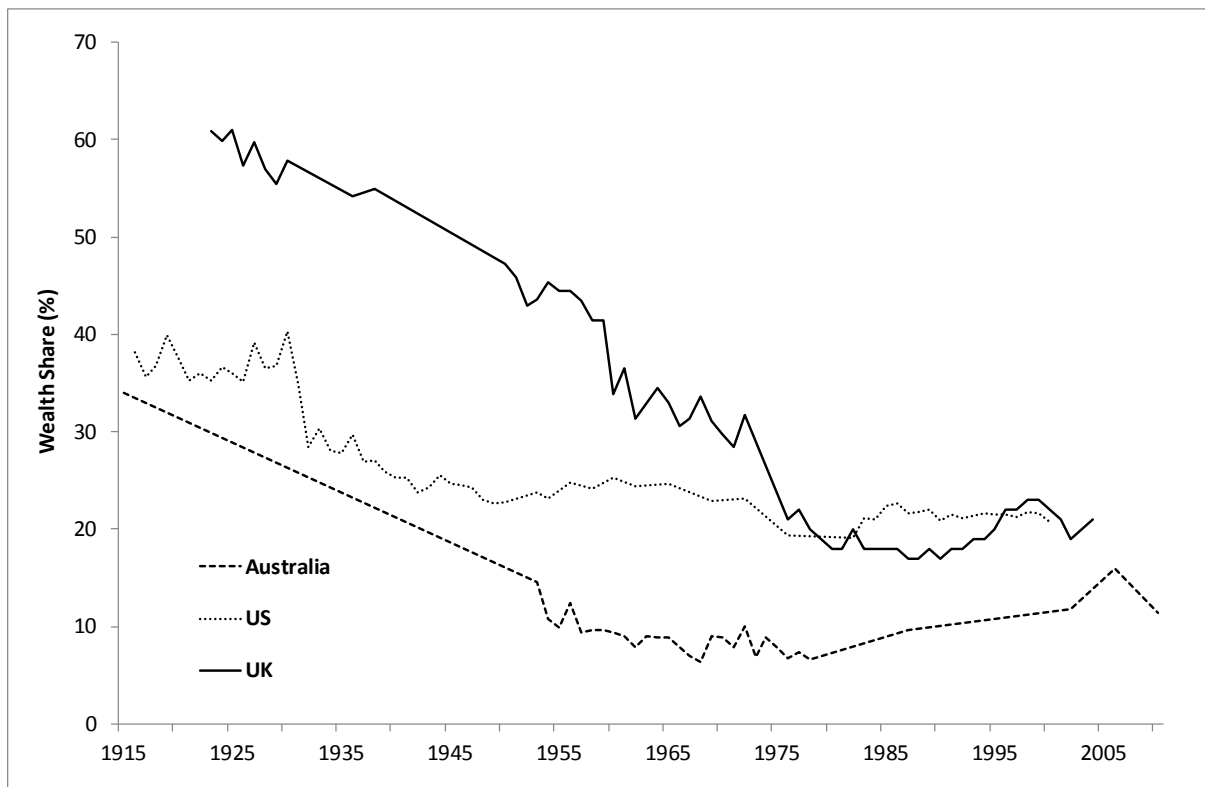
Moving further up the distribution, Figure 6 shows estimates of the top 0.001 percent and the top 0.0001 percent, drawn from the annual rich lists compiled by BRW Magazine. We find that both shares have risen over this period. From 1984 to 2012, the top 0.001 percent (the richest 1/100,000[th] of the adult population) tripled its share of household wealth from 0.8 percent to 2.8 percent. Over the same period, the top 0.0001 percent (the richest one-millionth of the adult population) quintupled its share of household wealth from 0.25 percent to 1.4 percent. This rapid rise is consistent with what has been observed by Kopczuk and Saez (2004) for the top 0.0002 percent wealth share in the US.

Figure 6. Top 0.001 percent and 0.0001 percent wealth shares
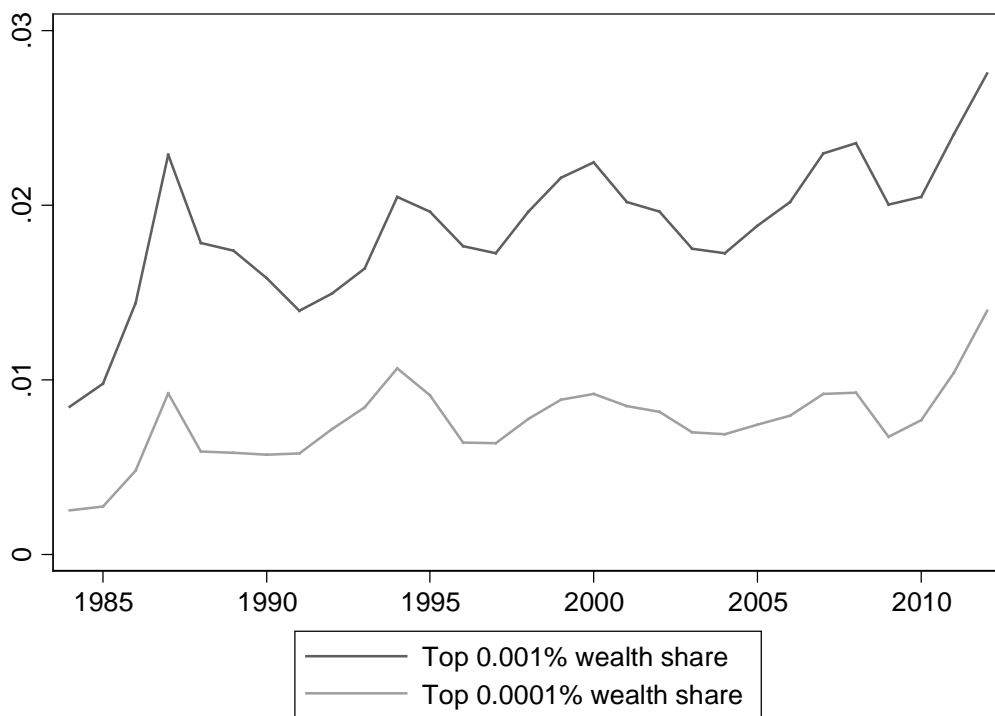
Figure 7 uses all members of the rich list, and estimates inequality among the super-rich. This shows a less marked upwards trend than Figure 6, with the gini coefficient among rich listers rising from 0.45 in 1984 to above 0.6 in 1992-1994, before falling to around 0.5 for the following decade. In 2012, the rich list gini rose to 0.6. Interestingly, the gini for household net wealth across the population is around 0.6 in the HILDA surveys (2002, 2006 and 2010). This suggests that wealth inequality within the super-rich is similar to the level of wealth inequality across the entire population.

The share of rich list wealth held by the top quartile followed a very similar pattern, starting around 60 percent in the mid-1980s, rising to 75 percent in 1994, dropping back to 60 percent, and rising to 71 percent in 2012. This figure is similar to that which was estimated by Atkinson (2008) for the super-rich in Germany and the United States.

Figure 7. Wealth inequality among the richest 200 Australians

Gini coefficient among the rich 200 (solid line, left scale)
Share held by top quartile (dashed line, right scale)
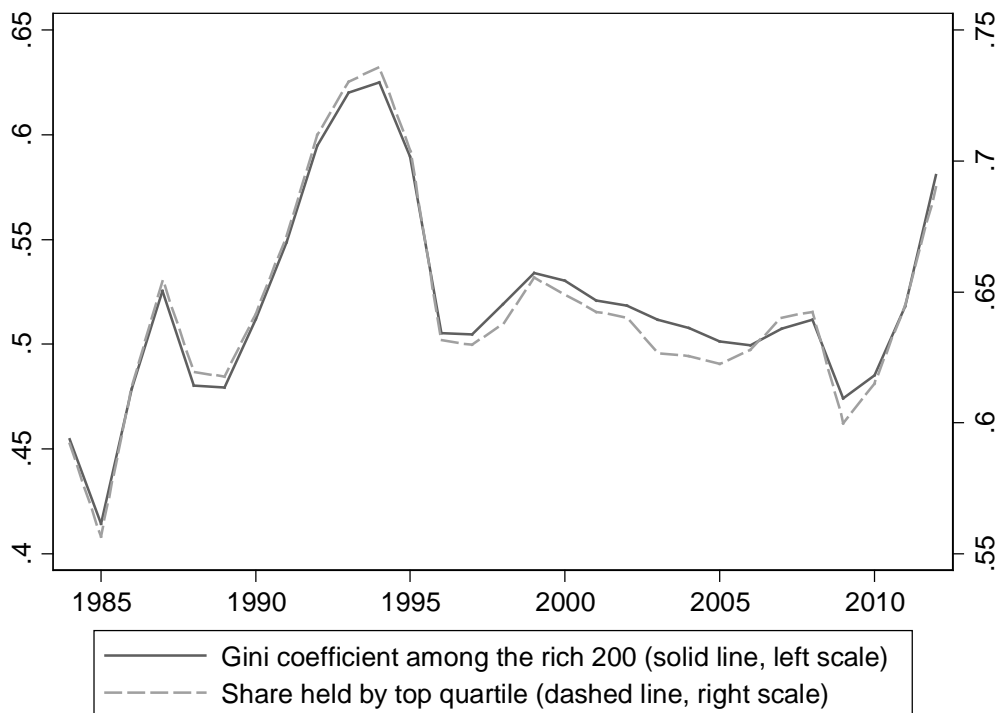
In Figure 8, we also estimate the share of super-rich wealth that is held by women, and observe a significant increase over the three decades for which we have data, with the share rising from 0.6 percent in 1984 to at least 2 percent since 1991. In 2012, the share of rich list wealth held by women leaped to 21 percent, a rise that was largely due to the surging mining wealth of Australia's richest woman, Gina Rinehart. Excluding Rinehart, the share of rich list wealth held by women in 2012 would have been 3 percent – an order of magnitude below the share of top 1 percent wealth held by women (Figure 3).

Figure 8. Share of rich 200 wealth held by women

Note: Excludes family-held wealth.
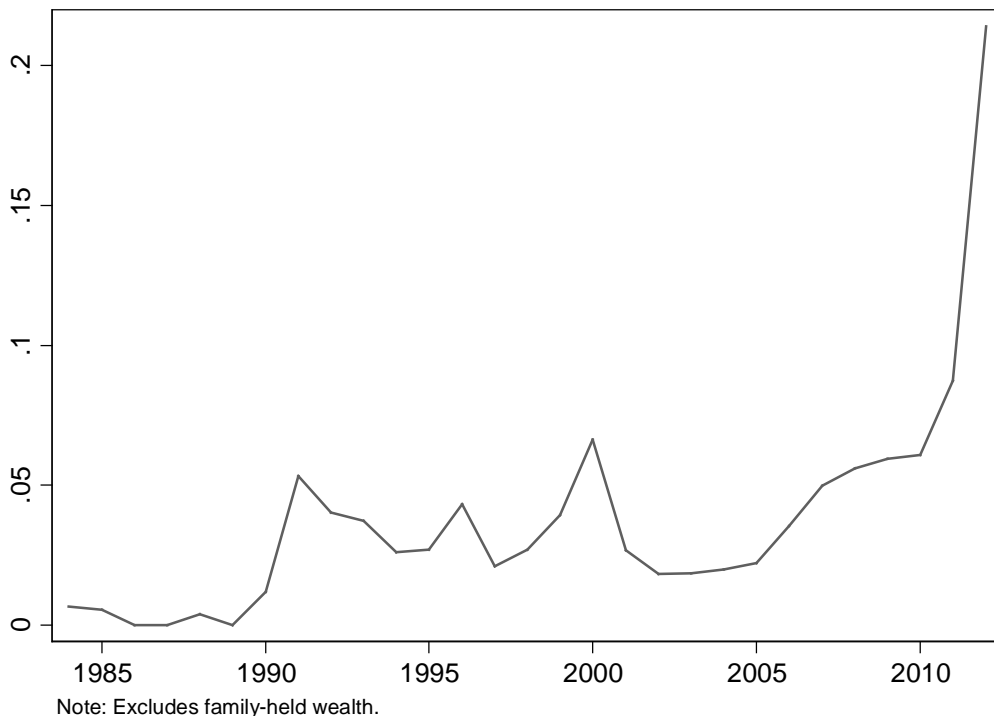
4. Conclusion

Using data from surveys, inheritance tax records and rich lists, we estimate wealth inequality over the period 1915-2010. We observe a dramatic drop from World War I to the 1950s, followed by a steady decline during the 1950s and 1960s. Since the late-1970s, top wealth shares in Australia have risen substantially, with the top 1 percent share rising from 7 percent in 1978 to 11 percent in 2010. As with top income shares, the increase in inequality has been even more pronounced at the top of the distribution, with the top 0.001 percent wealth share tripling from 1984 to 2012. Wealth inequality has risen not only across the population, but

even within the BRW rich list. Australia's level of top wealth inequality may be lower than the UK and US, but the rise over recent decades has been significantly nonetheless.

What factors drove the fall and rise of wealth inequality in Australia? One important contributor is likely to have been taxation. Income tax rates increased from the 1910s to the 1950s, and fell during the 1980s and 1990s. Similarly, the abolition of federal inheritance taxes in 1979 is likely to have increased wealth inequality over subsequent decades (although the introduction of broad-based capital gains taxation in 1985 is likely to have had a countervailing impact).

Additionally, the same set of factors that affect income inequality are likely to have helped shape wealth inequality. Restrictive trade policies in the interwar and post-war decades may have limited the market reach of Australia's largest firms. Since the early-1980s, the globalisation of 'superstar' labour markets (such as for CEOs) probably contributed to more inequality in English-speaking countries. Skill-biased technological change likely contributed to some portion of the rise in top income inequality (and therefore in top wealth inequality) during the past three decades.

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Appendix Tables

Table A1: Estimates from inheritance tax records

Year	Top 0.1% share	Top 0.5% share	Top 1% share	Top 2% share	Female share of Top 1%
1953-1954	4.811	10.721	14.576	20.129	0.308
1954-1955	2.463	7.036	10.707	16.068	0.350
1955-1956	2.503	6.634	9.918	14.140	0.374
1956-1957	3.707	8.394	12.445	17.468	0.496
1957-1958	2.345	6.339	9.423	14.474	0.339
1958-1959	2.297	5.938	9.603	14.121	0.442
1959-1960	2.238	5.766	9.589	14.156	0.471
1960-1961	2.125	5.708	9.390	14.022	0.431
1961-1962	1.882	5.699	9.054	14.451	0.469
1962-1963	1.816	4.226	7.846	13.148	0.450
1963-1964	2.225	5.356	9.028	13.444	0.505
1964-1965	2.647	5.060	8.832	13.542	0.468
1965-1966	2.554	5.026	8.882	13.491	0.480
1966-1967	2.456	4.554	7.844	12.465	0.500
1967-1968	2.206	3.139	6.943	11.923	0.503
1968-1969	1.921	2.813	6.328	11.029	0.551
1969-1970	2.313	5.455	9.026	13.777	0.312
1970-1971	2.259	5.788	8.923	12.984	0.339
1971-1972	2.352	5.205	7.909	12.287	0.318
1972-1973	5.241	7.933	10.004	13.828	0.279
1973-1974	1.761	4.223	6.793	9.955	0.349
1974-1975	2.270	5.869	8.881	13.188	0.383
1975-1976	2.142	5.164	7.831	11.797	0.271
1976-1977	1.494	4.248	6.768	9.737	0.425
1977-1978	1.814	4.953	7.357	11.109	0.449
1978-1979	1.731	4.522	6.615	9.262	0.445

Table A2: Estimates from survey records

Year	Top 0.1% share	Top 0.5% share	Top 1% share	Top 2% share	Female share of Top 1%
1915	13.12	27.36	33.98	47.19	0.342
1987	2.12	6.86	9.66	15.35	0.323
2002	3.02	7.82	11.76		0.486
2006	5.56	11.465	16		0.502
2010	2.06	7.27	11.4		0.504

Table A3: Estimates from the BRW200 Rich Lists

Year	Top 0.001% share	Top 0.0001% share	Gini within BRW200	Top quartile share within BRW200	Female share of BRW 200 wealth
1984	0.008	0.003	0.455	0.592	0.007
1985	0.010	0.003	0.414	0.557	0.005
1986	0.014	0.005	0.479	0.614	0.000
1987	0.023	0.009	0.525	0.655	0.000
1988	0.018	0.006	0.480	0.619	0.004
1989	0.017	0.006	0.479	0.618	0.000
1990	0.016	0.006	0.512	0.642	0.012
1991	0.014	0.006	0.549	0.671	0.053
1992	0.015	0.007	0.595	0.710	0.040
1993	0.016	0.008	0.620	0.730	0.037
1994	0.020	0.011	0.625	0.736	0.026
1995	0.020	0.009	0.590	0.704	0.027
1996	0.018	0.006	0.505	0.632	0.043
1997	0.017	0.006	0.505	0.630	0.021
1998	0.020	0.008	0.519	0.638	0.027
1999	0.022	0.009	0.534	0.655	0.039
2000	0.022	0.009	0.530	0.649	0.066
2001	0.020	0.008	0.521	0.642	0.027
2002	0.020	0.008	0.519	0.640	0.018
2003	0.018	0.007	0.512	0.627	0.019
2004	0.017	0.007	0.508	0.626	0.020
2005	0.019	0.007	0.501	0.622	0.022
2006	0.020	0.008	0.500	0.628	0.035
2007	0.023	0.009	0.507	0.640	0.050
2008	0.024	0.009	0.512	0.642	0.056
2009	0.020	0.007	0.474	0.600	0.059
2010	0.020	0.008	0.485	0.615	0.061
2011	0.024	0.010	0.518	0.645	0.087
2012	0.028	0.014	0.581	0.690	0.214

Appendix I: Wealth Survey Questions

1915 Census

Wealth component of the census asked the following:

'What was the approximate value of Real and Personal Property owned or held by you in Australia at 30th June, 1915, comprising : —
Assets on 30th June, 1915 —
(i.) Cash in hand
(ii.) Money at current account in Banks, &c.
(iii.) Fixed deposits in Banks, Buildings Societies, &c.
(iv.)   (a) Government and other Public Debentures. &c.
        (b) Shares and Debentures in Companies
(v.) Debts due to you (a) Mortgages on Land
                      (b) Other Debts
(vi.) Value of Stock-in-trade
(vii.) Value of Live Stock
(viii.) Plant, including Machinery, Tools, Implements, Rolling Stock, used for trade purposes
(ix.) Furniture and Fittings used for trade purposes
(x.) Estimated Value of Goodwill of Business
(xi.)   (a) Value of your Land inclusive of Improvements
        (b) Value, exclusive of Improvements
        (c) If not Sole Owner, value of your Interest .
(xii.)   (a) Value of your Leases from Private Persons
        (b) Value of your Leases from the Crown
(xiii.) Value of Share of Net Assets in Partnership or Syndicate undertakings
(xiv.) Household Furniture and Effects and Personal Effects (including Vehicles and Plant used for other purposes than trade or occupation)
(xv.) Value of Interests as a Beneficiary in Trust Estates
(xvi.) Property not enumerated above, exclusive of Life Assurance and Friendly Society Policies
Total Assets . . . . . . £

Liabilities on 30th June, 1915—
(i.) Bank Overdraft
(ii.) Amounts owing by you (other than Mortgages on Land)
(iii.) Amounts owing by you on Mortgages on Land
Total Liabilities £

Difference between Assets and Liabilities . . £

1987 Australian Standard of Living Study

Wealth estimate is the sum of:

- Value of first car (five categories)
- Value of second car (five categories)
- Value of boat (five categories)
- Value of holiday house (five categories)
- Value of caravan (five categories)
- Value of home (in thousands of dollars)

We include the full value of the home for those who have paid off their mortgage, and half the value for those who have not paid off their mortgage.

2002, 2006 & 2010 Household, Income and Labour Dynamics in Australia (HILDA) surveys

The following description draws on Summerfield et al. (2012), which provides more detail on HILDA's wealth modules.

Wealth in the HILDA survey is derived by combining answers from a household survey and from each of the person-level surveys in that household. The household survey wealth questions cover:

- Cash and equity investments, trust funds, life insurance;
- Home and other property assets and debts;
- Business assets and debts;
- Children's bank accounts (ie. those aged under 15);
- Collectables and vehicles, and

In the 2006 survey, a separate question was asked about overdue household bills. In the other surveys, this was assumed to be covered by a question about 'other debts' (though perhaps not well).

The person survey questions cover:

- Bank accounts and credit card debt;
- Superannuation;
- HECS debt; and
- Other personal debts (in 2006, these were asked for at a more disaggregated level and overdue personal bills were also explicitly asked for).

Notes

[1] Gini (1914), translated into English by Giovanni Maria Giorgi, and republished as Gini (2005).

[2] For the 18th and 19th centuries, there is relatively little material available on wealth inequality. Exceptions include Thomas (1991), who estimates the share of land grants in 1788-1821 that went to the top groups; and Rubinstein (2004), who estimates the richest 200 Australians over the period 1788-2004.

[3] The investment income approach uses the amount of investment income stated on income surveys, and scales this up using assumed rates of return. It has been applied by a number of Australian studies (eg. Dilnot 1990; Baekgaard and King 1996; Kelly 2001). However, it depends on the assumption that all assets are income-earning (which misses wealth held in primary residences, motor vehicles, boats, artworks, etc), and ignores heterogeneity in rates of return.

[4] The 1987 survey is the data source that we are least confident about (indeed, the second-author opted not to use it in another study – see Leigh 2007). We incorporate it here because of it is the only available datapoint in the 1980s or 1990s.

[5] For example, the *New York Tribune* published a list of 4,047 American millionaires in 1892 (Watkins 1907, cited in Atkinson 2008), while the Communist Party of Australia regularly published pen-portraits that were subsequently compiled into a booklet titled *Who's Running Australia?* (cited in Stilwell and Jordan 2007).

[6] The number of people on the lists varies significantly, for reasons that are not immediately apparent. The 1983 'Rich 100' list in fact included 143 people. From 1984-1992, the list included over 200 people (with the 1989 list having 265 entries). Since 1993, the 'BRW200' list has included fewer than 200 people in most years. Indeed, the 2002 list included only 172 entries.

[7] The two wealth series are a Treasury wealth series, most recently published as Goldbloom and Craston 2008 (covering 1960-2007) and ABS 2012 (covering 1991 onwards). Over the overlap period (1991-2007), the Treasury wealth series is 93 percent of the ABS wealth series. Conceptually, the Treasury series is slightly closer to the BRW wealth concept, since it consolidates the household and business sectors, and values assets of unincorporated entities at market value (rather than replacement cost). We therefore use the Treasury series as the household wealth denominator for 1984-2007, and then use the ABS household wealth estimate for 2008-2012, scaled down by a factor of 0.93.