Top incomes and the glass ceiling[1]

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Abstract

This paper studies the glass ceiling by analyzing the presence of women at the top of the income distribution using tax record data reported for a sample of countries with individual taxation. Extending most of the associated literature, the glass ceiling is examined in relation to the distribution of total incomes, thereby bringing self-employment and capital income into the picture. We show that female presence at the top of the distribution has increased, but that these changes do not seem to apply to the very top percentiles, especially in Denmark and the UK. When we look at the gradient in income as one moves up the distribution, we note that the difference between men and women has become larger in the UK, but not in Norway, although Norway displays a lower share of women in almost all top percentiles compared to the other countries in our sample. The analysis of the composition of income reveals that in the UK women have more investment income and less earned income, with the proportion from self-employment being similar for men and women over time. More dramatic changes in composition appear for Spain.

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1. Introduction: A glass ceiling for incomes?

The glass ceiling is typically discussed in terms of earnings referring either, loosely, to the fact that women earn on average less than men or, more specifically, to the fact that women are under-represented at the top of the pay distribution. For instance, Albrecht, Björklund and Vroman (2003) in their study on Sweden define the glass ceiling as a"phenomenon whereby women do quite well in the labor market up to a point after which there is an effective limit on their prospects". They add that "The existence of a glass ceiling would imply that women's wages fall behind men's more at the top of the wage distribution than at the middle or bottom". A similar approach to detect the presence of a glass ceiling is adopted by Arulampalam, Booth and Bryan, 2007, who focus on a sample of 11 European countries and show that indeed a glass ceiling is there both in the raw gender gap and in conditional wage distributions. Recent evidence on the relative absence of women at the top of the earnings distribution is provided by Guvenen, Kaplan and Song, 2014. Using U.S. data for the period 1981-2012 they show that there have been visible increases in gender equality at the top and that over a thirty year period the share of females among top earners has increased by more than a factor of 3. In 2012, though, the earnings share of females was only 18% of the earnings of all individuals in the top 0.1 percent, and 11% of the earnings of the top 1 percent, with all of the increases in the top 0.1 percent taking place in the 1980s and 1990s, and almost no improvement in the last decade.

Here we are concerned with under-representation at the top, but we would like to shift the focus from earnings to income. We consider the glass ceiling in terms of total incomes, where this includes self-employment income in addition to wages and salaries, and capital income as well as earned income. At the top of the income distribution, these sources of income are important, and they may change the picture. Equal pay and laws outlawing discrimination in employment do not apply to the self-employed, where women may also be disadvantaged. According to Boden (1999) who focuses on the U.S., women's lower wage returns to observed worker characteristics have a positive and significant effect on women's decision to switch from wage employment to self-employment. Williams (2012), who looks at a set of European countries report similar results. It is therefore important to understand how self-employment income contributes to the overall gender gaps.

There is evidence that in some countries women have owned a significant fraction of total wealth and hence have received a significant share of capital income. Edlund and Kopczuk (2009) use the share of women in the top percentiles of the wealth distribution as a measure of the changes in inherited versus self-made wealth and point out that the share of women in the top of the wealth distribution peaked in the U.S. in the Sixties to then decline by 2000, especially in top percentiles. Have the gains by women in terms of

earnings, such as the declining gender gap over recent decades in many OECD countries (Gregory, 2009; Ponthieux and Meurs, 2014), been offset – or re-inforced - by what has happened to capital income?

We look for evidence of the presence of a glass ceiling using tax record data. This data source has not been used to assess gender outcomes before. A rare exception is the 2013 release by Statistics Canada (2013), which reported that the proportion of women in the top 1 per cent in Canada had risen from 11 per cent in 1982 to 21 per cent in 2010. Tax record data are particularly suited to study dynamics at the top of the income distribution and provide information on different income sources. The fact that there is little with which to compare the Canadian statistic reflects the fact that the personal income tax in the US and France, two of the countries most studied in the top income literature, is levied on the joint income of couples, so that individual incomes are not recorded in the tax data. There are however a number of countries that apply individual income taxation. In this paper, we use data from a selection of these countries to examine the gender composition of top incomes and the way in which it has changed over time.

As stated, the paper makes use of information from income tax records. As such, it is subject to evident limitations. The data are drawn from an administrative process and reflect the underlying tax legislation in their definitions of income and of the tax unit. The administrative process doubtless has many shortcomings, and tax data are affected by avoidance and evasion. The strengths and weaknesses of income tax data have been extensively discussed in the recent literature on top incomes initiated by Piketty (2001). Here we consider only the aspects that are likely to influence the conclusions regarding the gender dimension.

First, the form of the income tax may affect the selection of countries, and time periods, covered. The results relate only to countries, and to years, for which the income tax is operated on an independent basis, taxing husbands and wives separately. These countries may differ systematically in terms of the gender distribution of income from those that operate joint taxation. Pressure for independent taxation, and its ultimate introduction, may have reflected an increased importance of wives' incomes. We may therefore be looking at countries, and periods, when there is less gender inequality.

Secondly, in the case of couples, the attribution of income to the individuals depends on the practices of the tax authorities. They receive information from employers, banks, property registers, etc, and the taxpayers are obliged to check and if necessary provide additional information. In the case of Norway, "in some cases this may lead to capital income, such as bank interest, being allocated to the husband, and hence over-stating the male share. Inspection of the micro-data does however show that the receipt of large capital incomes for both spouses is not uncommon at the top end of the

distribution."[2] The same may apply to other countries. It is also possible that a given total income for a couple from a particular source is automatically divided into two equal parts, in which case gender inequality may be understated. The attribution of income to individuals may also depend on the decisions taken by spouses, and in progressive systems there may be an incentive to allocate some income components to spouses with lower income, generally women. This will tend to dampen our measurement of the extent of a glass ceiling. This incentive may change over time, with shifts in tax progressivity.

It is possible that the propensity for tax evasion differs by gender. If women were more tax compliant than men, our measure of the glass ceiling may be underestimated. Kleven, Knudsen, Kreiner, Pedersen and Saez (2011) in their tax enforcement field experiment in Denmark show that the role of social variables such as age and gender is small compared to that of information in the decision to evade. However, their estimates reveal that being female is always negatively associated with the probability of evading taxes. Research based on survey evidence about attitudes towards tax evasion, i.e. tax morale, highlights that women are more willing to comply.[3] Torgler and and Valev (2012) using 3 waves of the WVS/EVS data show that women consider tax evasion less justifiable than men[4] and that the gender gap in attitudes towards tax evasion has not changed over time with the changing economic role of women in society. According to this evidence, though our measure of glass ceiling may underestimate its real extent,[5] the changes over time we may observe should not be influenced.

We begin by examining in Section 2 the gender composition of top incomes in five countries. How far are women under-represented in the top income groups? How has this changed in recent decades? Following the parallel with the literature on a glass ceiling for earnings, we describe the shape of the distribution in terms of a Pareto distribution, and see how the coefficients differ by gender. We then consider the different sources of income, and these are the subject of Section 3, where we examine for a selection of our countries the breakdown of income into earnings, self-employment income and capital income. The trends revealed show that it is interesting to go back further in time, and in Section 4 we make use of tabulated data for earlier years for New Zealand. The main conclusions are summarised in Section 5.

[2] We are grateful to Jørgen Modalsli for this information.
[3] For a critical discussion of this literature, see Slemrod and Weber (2012) who point out that the absence of a direct measure of evasion in the surveys, makes it hard to infer how tax morale affects levels of tax evasion.
[4] Similar results are found by McGee (2012).
[5] Also laboratory experiments tend to find that women are more compliant than men (see Kastlunger, Dressler, Kirchler, Mittone and Voracek, 2010 and references cited therein).

2. Evidence for recent decades for five countries

The gender composition of top income groups in the UK from 1995/96 to 2011/12 is shown in Figure 1. The data for 1995/96 to 2010/11 are drawn from micro dataset of the Survey of Personal Incomes (no data were released for 2008/9) which gives a representative sample of the UK population of taxpayers.[6] Note that data points based on less than 20 (unweighted) observations were not considered in the analysis. A similar approach was used with the Australian data. The 2011/12 figures are based on the published tabulations of the Survey of Personal Incomes – see Atkinson (2007).[7] In each case, the income groups are defined as percentages of the total population aged 15 and over, and relate to total gross income. The results for net of tax income are shown in Figure A1 in the Appendix.

There are two immediate conclusions to be drawn from Figure 1. The first is that the proportion of women in the top income groups has been rising over the period 1995/96 to 2011/12. In 1995/96, women made up 20.0 per cent of the top 10 per cent, and this figure has increased to 28.3 per cent in 2011/12; in 1995/96, women made up 10.7 per cent of the top 1 per cent, and this has increased to 16.8 per cent. To make a comparison with the Canadian case, over 16 years in the UK the representation of women in the top 1 per cent has increased by 6 percentage points, whereas the Canadian percentage increased by 10 percentage points over a period of 28 years. In other words, the rate of increase is essentially the same in the two countries.

The second conclusion is that the rate of increase in the proportion of women in the UK is smaller at the higher ranks.[8] There is a fanning out in Figure 1. Indeed, for the top 0.1 per cent, there is little sign of an increase in women's representation over the period 1995/96 to 2011/12. As a result, the gradient with income has become more marked: the under-representation of women increases more sharply as one moves up the income scale. In 1995/96, in moving from the top 10 per cent to the top 0.5 per cent the percentage of

[6] The datasets are available through the UK data archives. Crown copyright material is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland.
[7] The results from the tabulations are close to those from the micro-data: for example, for 2010/11, the share of women in the top 10 per cent is 28.3 per cent in the micro-data and 28.1 per cent from the tabulations, and the share of the top 1 per cent is 16.8 per cent in the micro-data and 16.9 per cent from the tabulations.
[8] This is consistent with the available evidence on earnings in several other countries. In the U.S., for instance, Guvenen, Kaplan and Son (2014) show that the improvement in women's position is visible in the bottom 99 percentiles but not in the top 1. From a different angle, Bertrand, Black, Jensen and Lleras-Muney (2014) - studying the effect of the law on gender quotas in Norway - show that the policy improved the representation of female employees at the very top of the earnings distribution (top 5 highest earners) within firms that were mandated to increase female participation on their board, but those gains did not trickle –down to the rest of the distribution.

women fell by 9 percentage points; in 2010/11 a similar move saw a drop in the percentage of women of 14 percentage points.

Comparison across five countries

The UK results are now compared with those from micro-data for four other countries. One is a country that may be expected to be relatively similar (Australia, shown in Figure 2A); two countries are from Scandinavia (Denmark, shown in Figure 2B, and Norway in Figure 2C); and one is a country that may be quite different (Spain in Figure 2D).[9] For details of the methods used, see the World Top Incomes Database, and for Australia, Atkinson and Leigh, 2007, for Denmark, Atkinson and Søgaard, 2014, for Norway, Aaberge and Atkinson, 2010, and for Spain, Alvaredo and Saez, 2010.

The first comparison is for the most recent year (2010 or 2011). Here the findings are rather surprising. To begin with, the proportion of women in the top income groups are virtually identical in the case of the UK and Denmark, and in Norway are lower for the top 10 and 1 per cent, whereas we had expected the proportion to be higher in Scandinavia. See the summary Figure 3A. It is Spain that stands out as having a higher proportion, with women accounting for nearly a third of those in the top 10 per cent. The proportion falls as one moves up the income scale, but the Spanish proportion remains above that in the UK and in Scandinavia. Spain falls behind Australia for the top 0.1 per cent, reflecting the fact that the gradient in Australia for women is much less steep.

The series for Australia is relatively short (starting in 2003), but for the other countries start in the 20th century, and in the case of Denmark go back to 1980. (Results based on tabulated data going back to the 1950s in New Zealand are presented below.) Figure 3B shows the change over time in the proportion of women in the top 1 per cent. Apart from Norway, the series show a clear upward trend. In the case of Norway, there was an increase in the proportion in the top 10 per cent and top 5 per cent, but not for groups above this level. The series for Denmark and the UK appear to be more or less parallel; that for Spain rises faster. If the same graph is plotted for the top 0.1 per cent, it shows little or no trend in the UK and Scandinavia, but a rise in Spain and, to an even greater extent, in Australia; see Figure 3C.

[9] The analysis on Australia is based on a 1%-2% sample of Australian taxpayers. The reference population is the number of people aged 15 and over. For Spain, results for 1999-2001 are based on "Panel de Declarantes de IRPF 1999-2009" which covers 2% of total tax filers. Results for 2002-2010 are based on "Muestra de Declarantes de IRPF": it includes between 6% and 8% of total tax filers. Here, the reference population is the number of people aged 20 and over.

All of the series cover the first years of the recent economic crisis. There are some indications in the figures for individual countries, that the proportion of women fell after 2009 (except in Norway and in the UK). In Spain the proportion of women fell in all income groups from 2009 to 2010, see figure 2D. The drop for the highest percentiles is more marked and started earlier.

There are evident differences across the five countries, both in the current gender composition of the top income groups and in the way that it is changing over recent decades.

The shape of the distribution

In the labour economics literature, Albrecht, Björklund and Vroman (2003) demonstrate an increasing log wage gap between men (M) and women (W) in the upper tail of the earnings distribution. This may be seen in terms of fitting separate Pareto distributions for men and women in the upper tail. Writing the cumulative distribution function as $1- F(Y) = A_i\, y^{-\alpha}{}_i$, where i = M or W, we obtain

$$\text{Log}_e y = \text{constant} + (1/\alpha)\, \text{Log}_e(1/(1-F))$$

This shows the gradient in income as one moves up the distribution, and the difference in the gradient can be taken as a measure of the extent to which there can be said to be a glass ceiling. Where $(1/\alpha_W) < (1/\alpha_M)$, then the distribution of income dies away faster for women. (Put differently, the ratio of women to men in the income group with y or more then falls with y according to $A_w/A_m\, y^{-(\alpha}{}_W{}^{-\alpha}{}_M)$.)

The Pareto curves and equations for the UK are shown in Figure 4A for 1997/98 and Figure 4B for 2010/11. Omitted are ranges containing fewer than 20 (unweighted) observations. The fact that the curve for women is on the right of the curve for men tells us that there are fewer women than men at each percentile, and the fact that the slope is flatter tells us that they are disappearing faster. In both cases, we find that the slope is less for women than for men, implying that the Pareto coefficient is greater. In this sense, the upper tail is less concentrated for women. The slope for women appears to be similar in 2010 to that in 1997/98, whereas that for men has become steeper. This suggests that the glass ceiling in terms of income in the UK has become more apparent.

In contrast, the evidence from the Norwegian data suggests that the gap has narrowed. The income gradient is summarised in Figure 4C, which shows the fitted slope from a linear regression on the observations in the top 5 per cent for each of the years from 1993 to 2011 (except 2005). This shows that the slope was (in 1993) and remains (2011) greater for men than for women. There

was some narrowing, so that the gap today is a little smaller. However, most of the narrowing took place in the 1990s.

A rise in the slope for women may similarly be seen in Australia, where Figure 4D shows the upper tail in 2003 and Figure 4E that in 2011. Ranges containing fewer than 20 observations are also omitted. It is however clear by eye that the Pareto distribution does not provide a good fit.

3. Gender and the composition of top incomes

In this section, we consider the breakdown of total gross income into three main components: earned income, self-employment income and investment income.

Figures 5A and 5B show for the UK the composition of income of the top 1 per cent by the three categories and for men and women separately. Taking the period 1995 to 2010 as a whole, the main conclusion is that women have rather more investment income and less earned income, with the proportion from self-employment being similar for men and women. In 2007, for example, women received a quarter of their income from investments, whereas for men the figure was around 15 per cent.

More dramatic changes in composition are shown for Spain in Figures 5C and 5D, constructed on a similar basis for the top 1 per cent (excluding capital gains). Capital income is larger for women than for men, as is self-employment income. There has been a marked rise in the share of wage income for women.

4. Going back further in time

The patterns revealed so far reflect both the developments of recent decades and longer-term forces changing our societies. It is therefore interesting to go back further in time where possible. In this section, we examine the evidence from tabulated data for New Zealand going back to the 1950s.

New Zealand

In the case of New Zealand, statistics began to be published on an individual basis in 1953/4. They only show the numbers by gender, not the total incomes, but are particularly valuable since they are broken down by the principal source of income, showing separate distributions for those receiving salary and wages, those receiving investment income and those who are self-employed.

Figure 6 shows the percentage of women in top income groups, defined in terms of gross income, in New Zealand over the period since 1953.[10] This shows, first, the very low representation of women in the top income groups at the beginning of the period: around 7 per cent of the top 1 per cent. The proportion remained consistently low until the mid-1970s, when the percentage of women began to rise. The proportion of women in the top 1 per cent reached 16 per cent in 1989.

Secondly, the mid-1970s saw an inversion of the ranking of the three curves in Figure 6. At the outset, in the 1950s, the proportion of women, at around 10 per cent, was *higher* for the top 0.1 per cent than the 7 per cent for the top 1 per cent. In turn, the proportion for the top 1 per cent was higher than the proportion of 5 per cent women in the top 10 per cent of income recipients. This is the reverse of the pattern found in the countries examined earlier, and in New Zealand there was indeed a reversal in the mid-1970s, so that there are now more women in the top 10 per cent than in the top 1 per cent.

The same pattern is found for the gradient, as estimated by least squares lines fitted to the Pareto curves (y plotted against 1/N using tabulated data for the top 5 per cent of the total population). Figure 7 shows the values for $(1/\alpha)$ for men and women. Initially, the line for women is above that for men, indicating that the gradient is steeper and that top incomes are more concentrated for women. This is consistently true until the beginning of the 1970s when the lines cross, and the gradient is somewhat steeper for men.

In order to seek to understand the changes over time, we can make use of the separate distributions given according to the principal source of income. In the top 1 per cent in 1953 (those with incomes above $2,818 a year)[11], then we see that this contains 14,323 people, of whom 1,013 were women (7 per cent). The main source at this time was self-employment (78 per cent), with 18 per cent receiving salary or wages as the main source. Only 4 per cent had investment income as the main source. This is important, since women were poorly represented among the other two groups: they constituted 1.7 per cent of those with wages and salaries, and 5.5 per cent of the self-employed. In contrast, among those with investment income as the main source they constituted a majority (63 per cent). In fact, women made up more than 60 per cent of this group throughout the top 10 per cent of total income recipients, as is shown in Figure 8. As a result, a large proportion of the women in the top income ranges had investment income as their principal source: 71.4 per cent of the top 1 per cent in 1953.

[10] The tax year in New Zealand begins on 1 April; references to the tax year are, for brevity, to the calendar year in which the tax year commenced.

[11] Although at that time it would have been £1,409. New Zealand switched from pounds to dollars on 10 July 1967, at the ratio of £1 = $2.

The dominance of women among those with investment income was however declining over time, as is demonstrated by Figure 8. By the 1970s, the proportion of women was below 50 per cent. Nor was this compensated by a rise in representation among the other two groups. In 1975, when the top 1 per cent contained 21,960 people, the proportion with wages and salaries as the main source had risen to 49 per cent, but among these only 2.5 per cent were women.

The low share of women in the top income population among those with earned incomes up to the mid-1970s is in line with other evidence that there was little change in the gender distribution over this period. Martin (1997, Table 6) calculated the median total incomes of women actively engaged in the labour market aged 15 to 59 in each of the quinquennial censuses. As a percentage of the male median, the median income of women were 51.2 per cent in 1951 and 52.0 per cent in 1970, but then increased to 56.2 per cent in 1981 and 67.1 per cent in 1991.

5. Conclusions

The glass ceiling needs to be examined in relation, not only to the distribution of earnings, but also to the distribution of total incomes, bringing self-employment income and capital income into the picture. In countries with independent taxation of couples, it is possible to investigate the proportion of women in the top income groups. In this paper we have focused on a selection of countries over different time spans and showed that female presence in the top of the distribution has increased, but that these changes do not seem to apply to the very top percentiles. When we look at the gradient in income as one moves up the distribution both for men and for women, we note that the difference between men and women has become larger in the UK, but not in Norway and Australia.

When we turn to the composition of income, taking the period 1995 to 2010 as a whole, the main conclusion for the UK is that women have rather more investment income and less earned income, with the proportion from self-employment being similar for men and women. More dramatic changes in composition appear for Spain, where capital income is larger for women than for men, as is self-employment income and where there has been a marked rise in the share of wage income for women.

This paper provides new evidence on gender disparities adopting a measure of inequality between gender which has not been used before and which can complement, on the one side, the literature on top incomes which overlooks the gender dimension; on the other, the literature on earnings gaps which provides information on differences in wages but it silent on other income components that may well contribute to the overall picture of gender inequalities.

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Figures

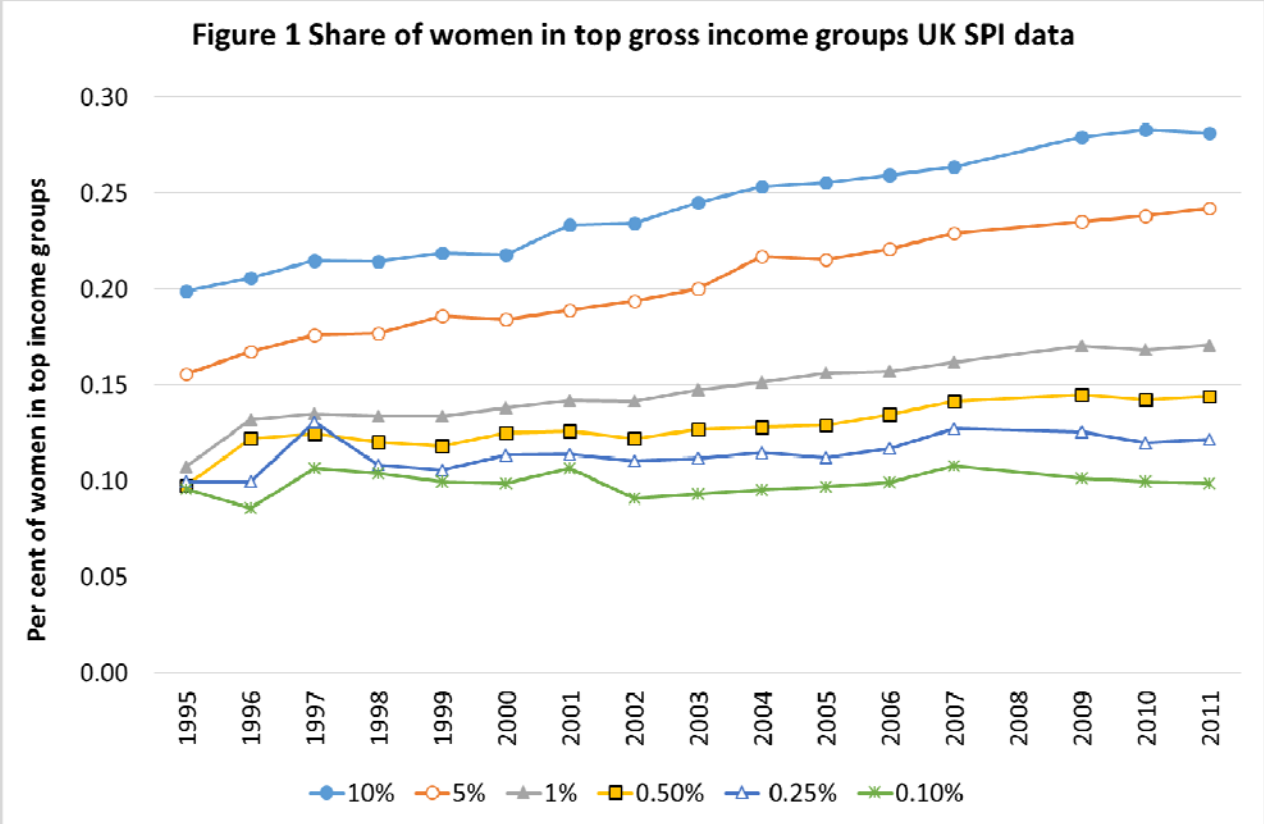


Figure 1 Share of women in top gross income groups UK SPI data
Per cent of women in top income groups
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
10%
5%
1%
0.50%
0.25%
0.10%

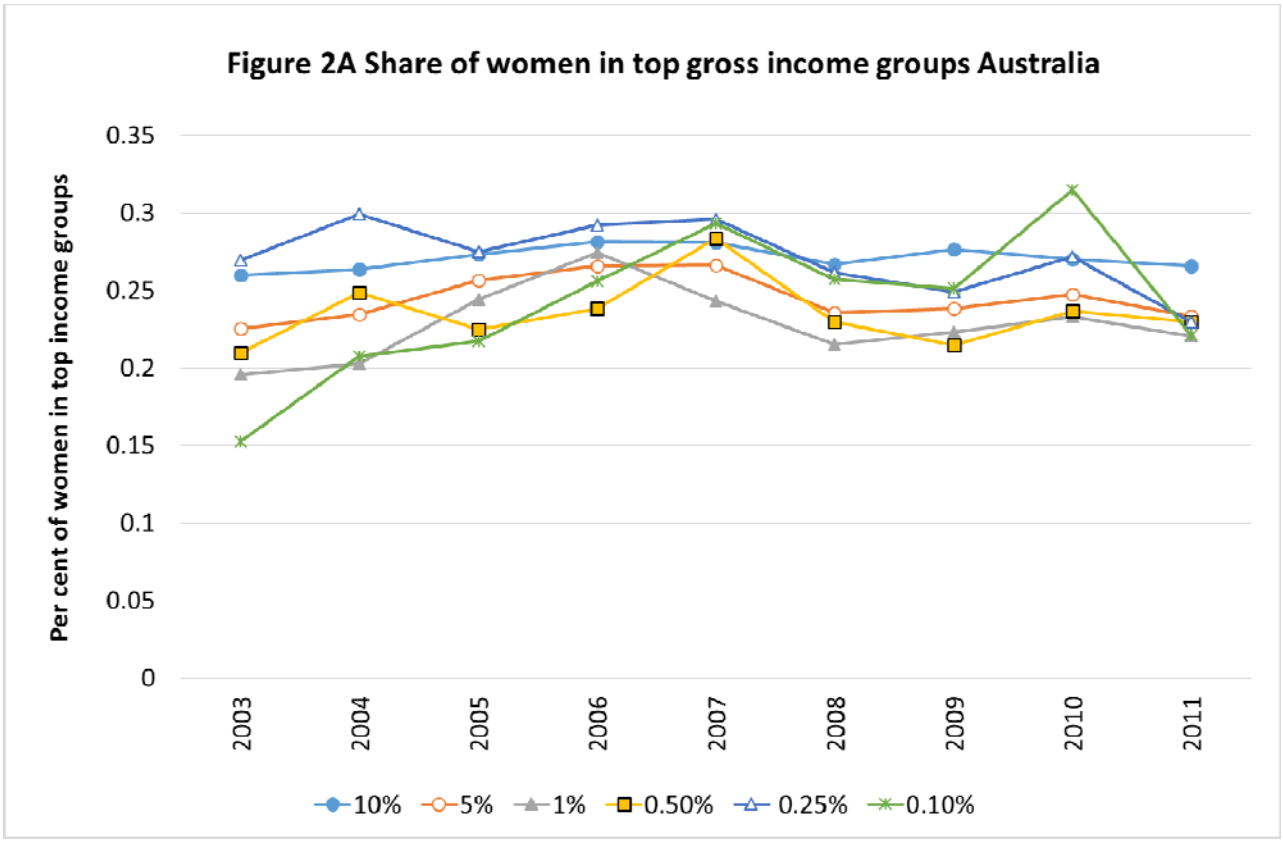


Figure 2A Share of women in top gross income groups Australia
Per cent of women in top income groups
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
10%
5%
1%
0.50%
0.25%
0.10%

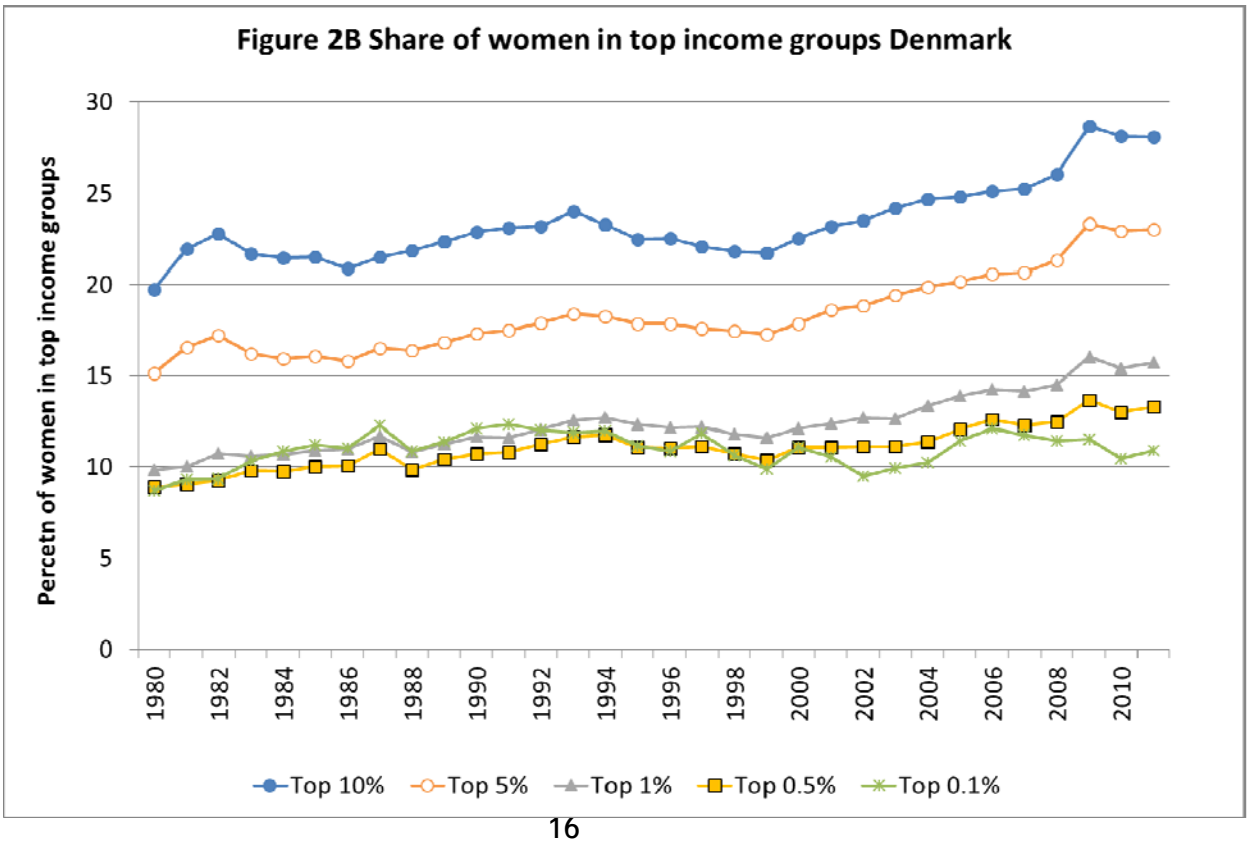


Figure 2B Share of women in top income groups Denmark
Percetn of women in top income groups
30
25
20
15
10
5
0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
Top 10%
Top 5%
Top 1%
Top 0.5%
Top 0.1%

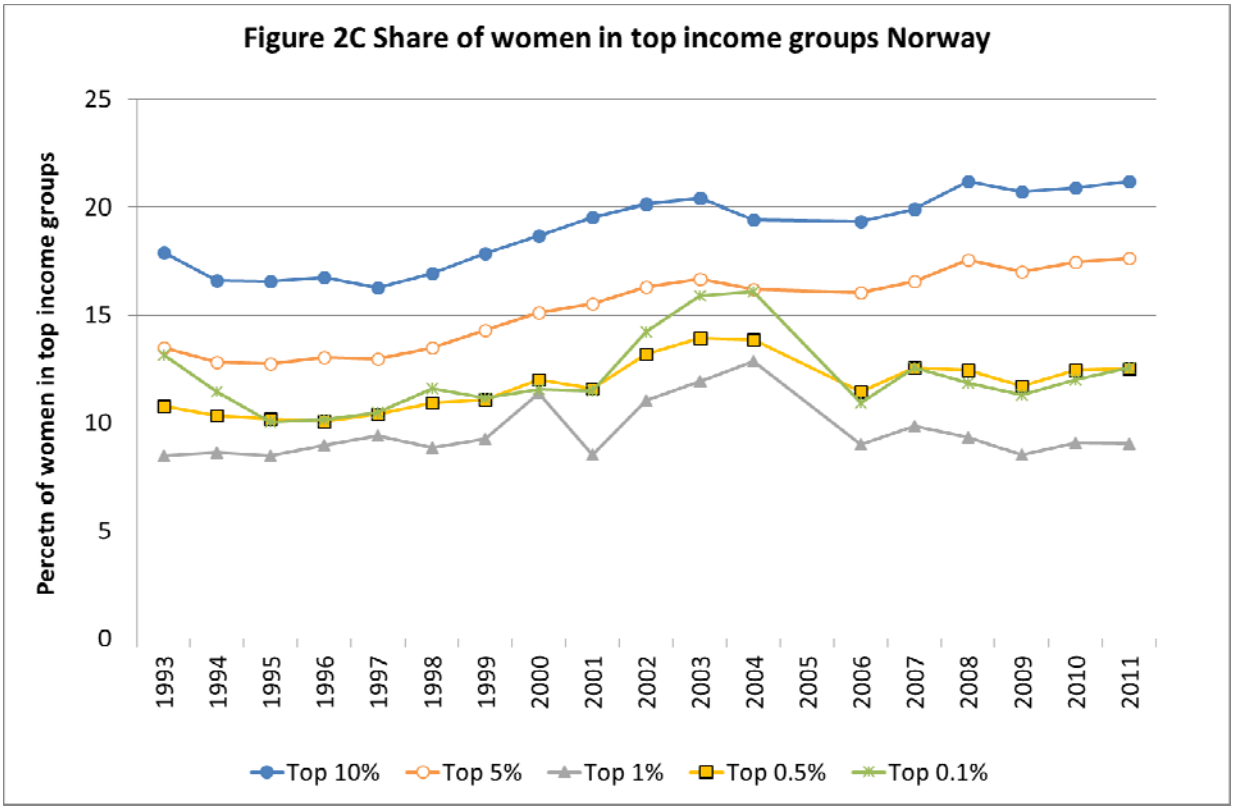


Figure 2C Share of women in top income groups Norway
Percetn of women in top income groups
25
20
15
10
5
0
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Top 10%
Top 5%
Top 1%
Top 0.5%
Top 0.1%

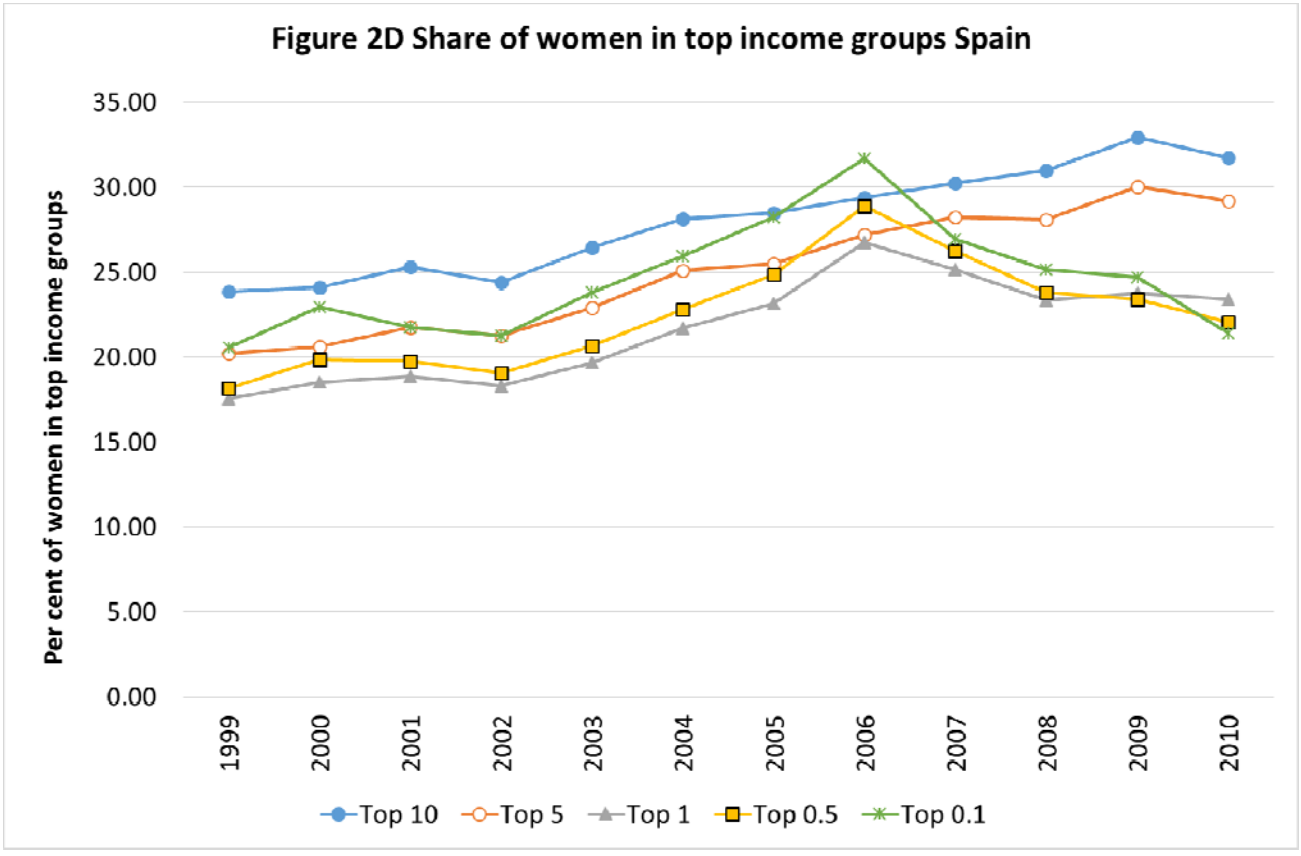


Figure 2D Share of women in top income groups Spain
Per cent of women in top income groups
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Top 10
Top 5
Top 1
Top 0.5
Top 0.1

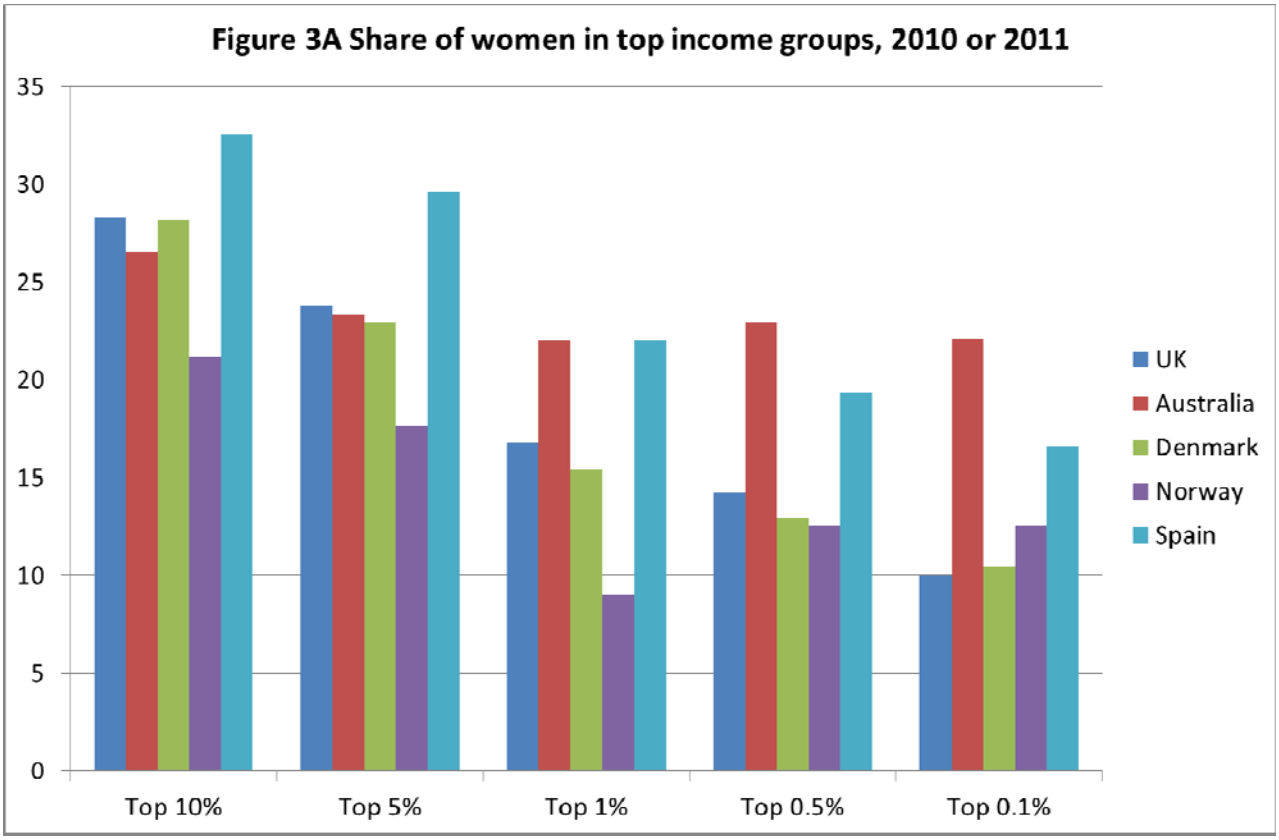


Figure 3A Share of women in top income groups, 2010 or 2011
35
30
25
20
15
10
5
0
Top 10%
Top 5%
Top 1%
Top 0.5%
Top 0.1%
UK
Australia
Denmark
Norway
Spain

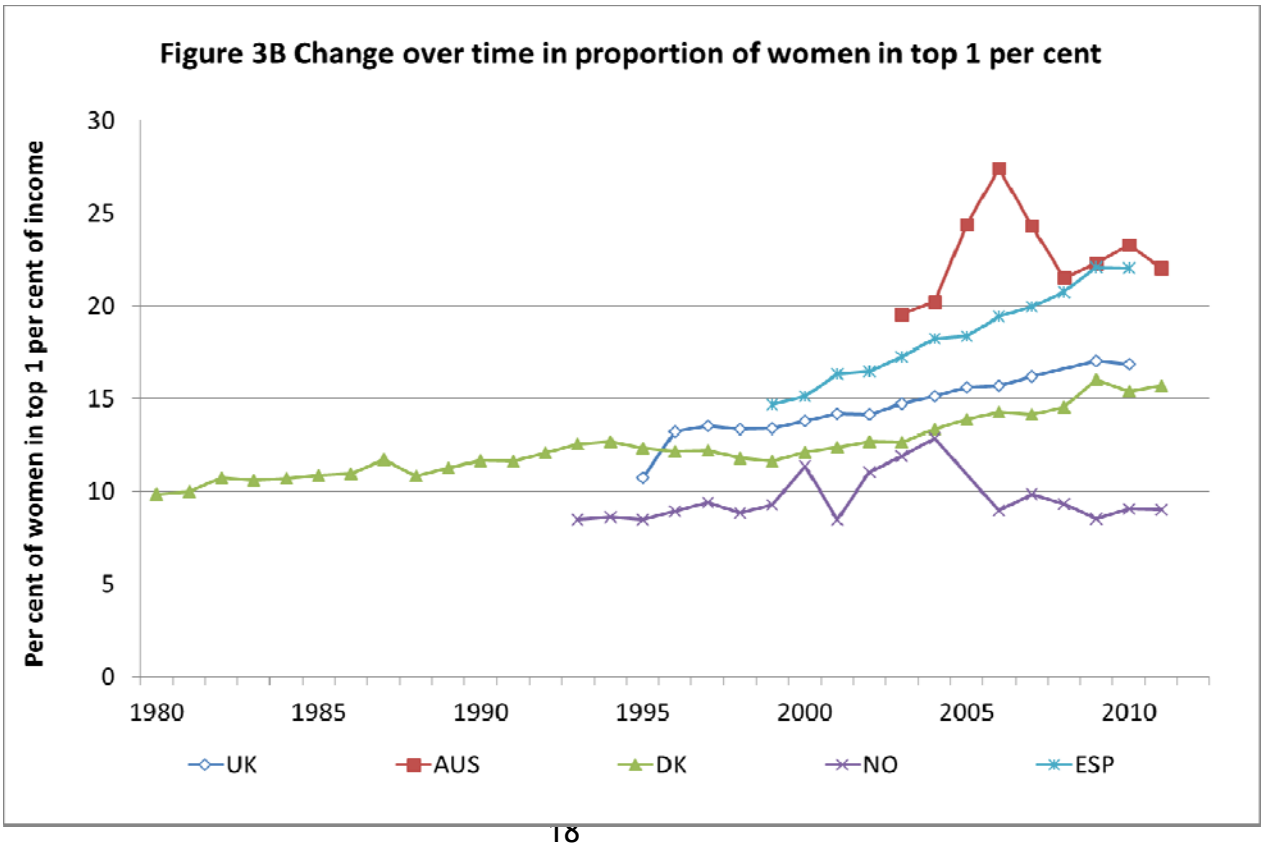


Figure 3B Change over time in proportion of women in top 1 per cent
Per cent of women in top 1 per cent of income
30
25
20
15
10
5
0
1980
1985
1990
1995
2000
2005
2010
UK
AUS
DK
NO
ESP

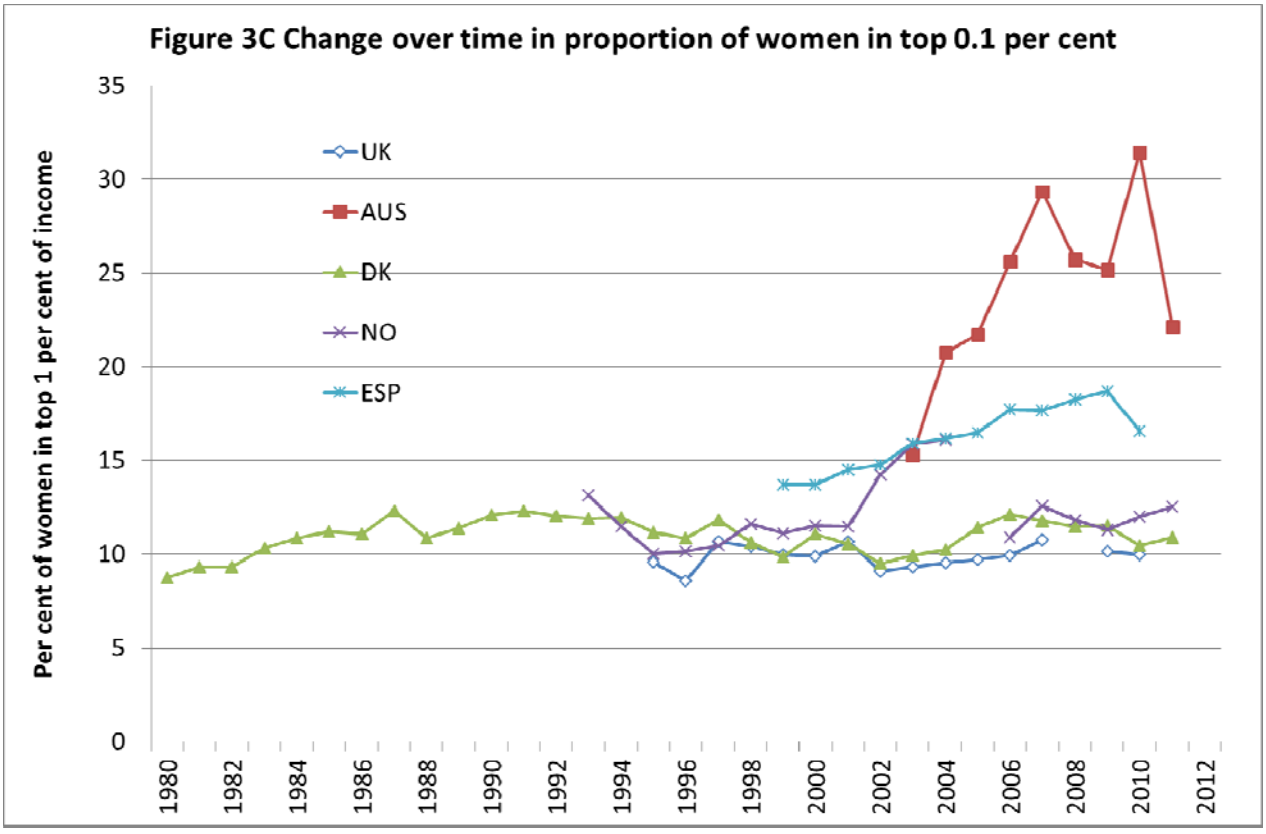


Figure 3C Change over time in proportion of women in top 0.1 per cent
Per cent of women in top 1 per cent of income
35
30
25
20
15
10
5
0
UK
AUS
DK
NO
ESP
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012

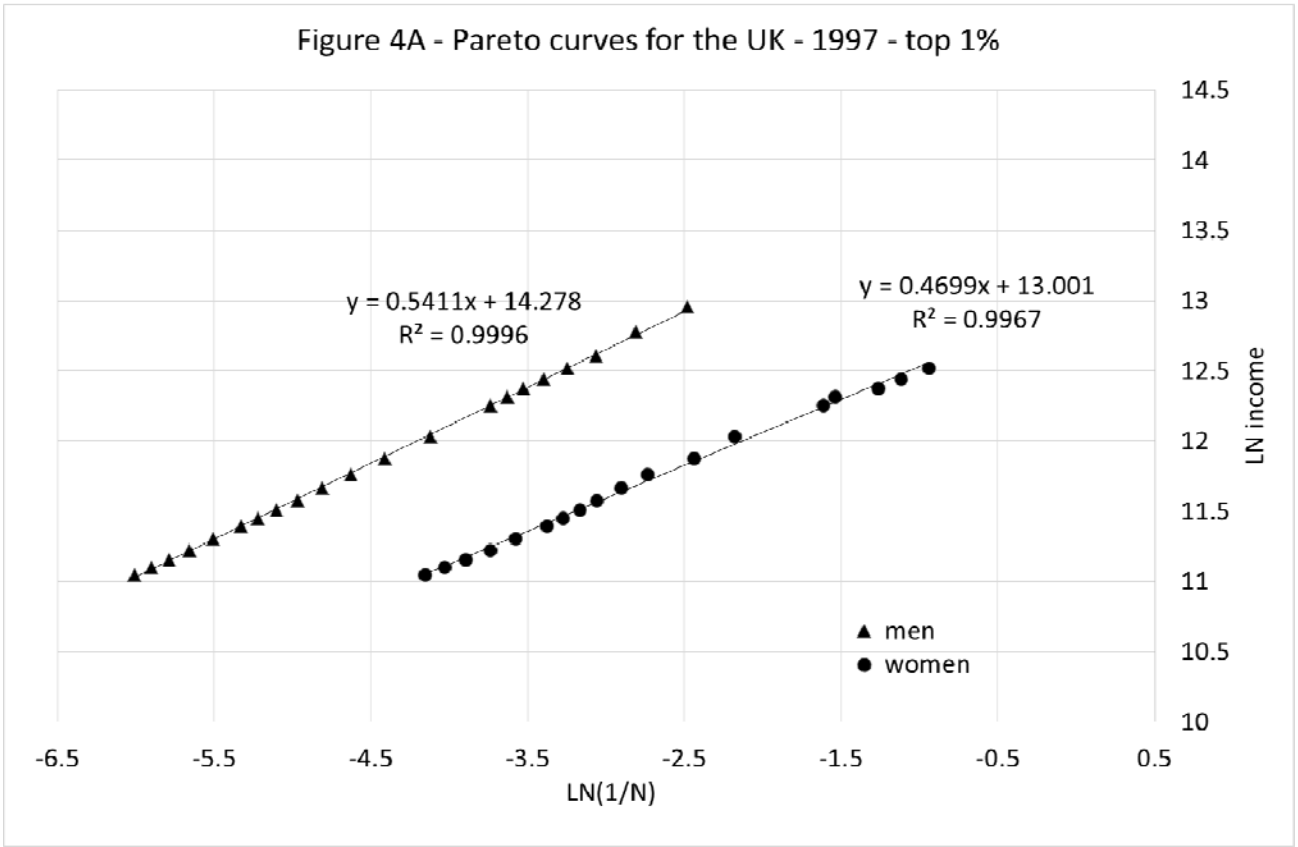


Figure 4A - Pareto curves for the UK - 1997 - top 1%
y = 0.5411x + 14.278
R² = 0.9996
y = 0.4699x + 13.001
R² = 0.9967
men
women
LN income
LN(1/N)
14.5
14
13.5
13
12.5
12
11.5
11
10.5
10
-6.5
-5.5
-4.5
-3.5
-2.5
-1.5
-0.5
0.5

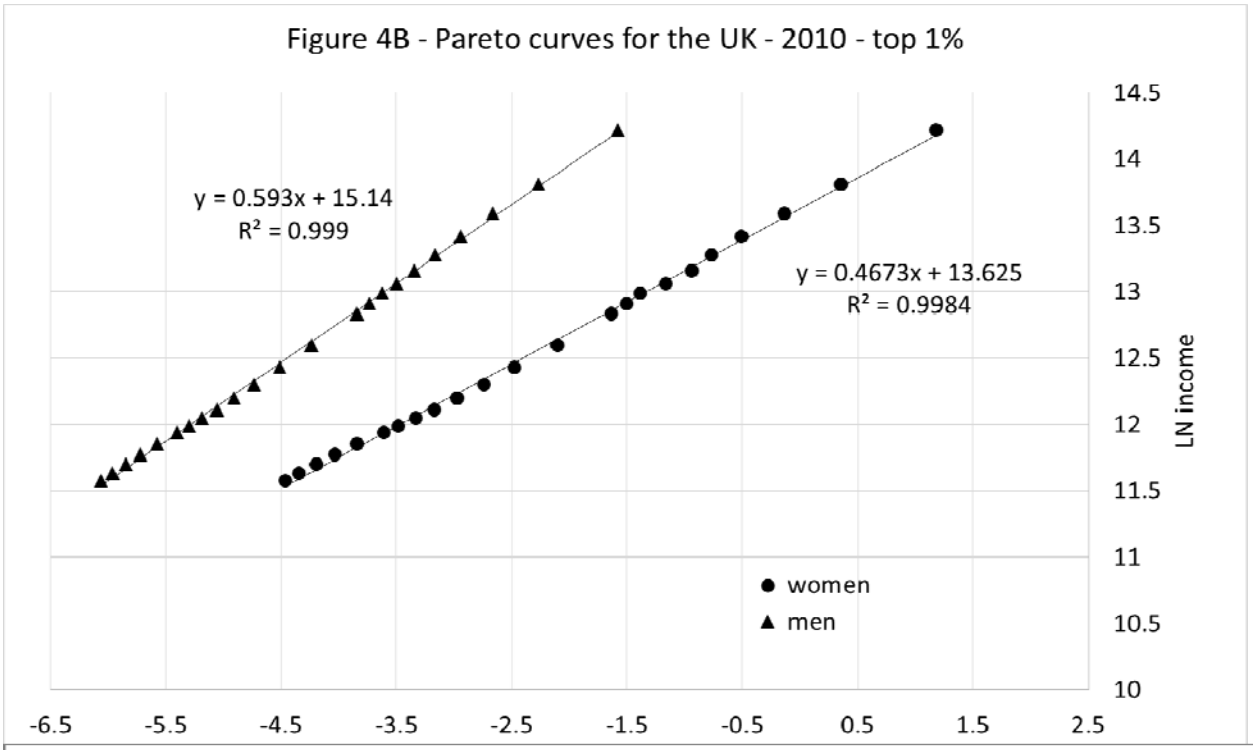


Figure 4B - Pareto curves for the UK - 2010 - top 1%
y = 0.593x + 15.14
R² = 0.999
y = 0.4673x + 13.625
R² = 0.9984
women
men
LN income
14.5
14
13.5
13
12.5
12
11.5
11
10.5
10
-6.5
-5.5
-4.5
-3.5
-2.5
-1.5
-0.5
0.5
1.5
2.5

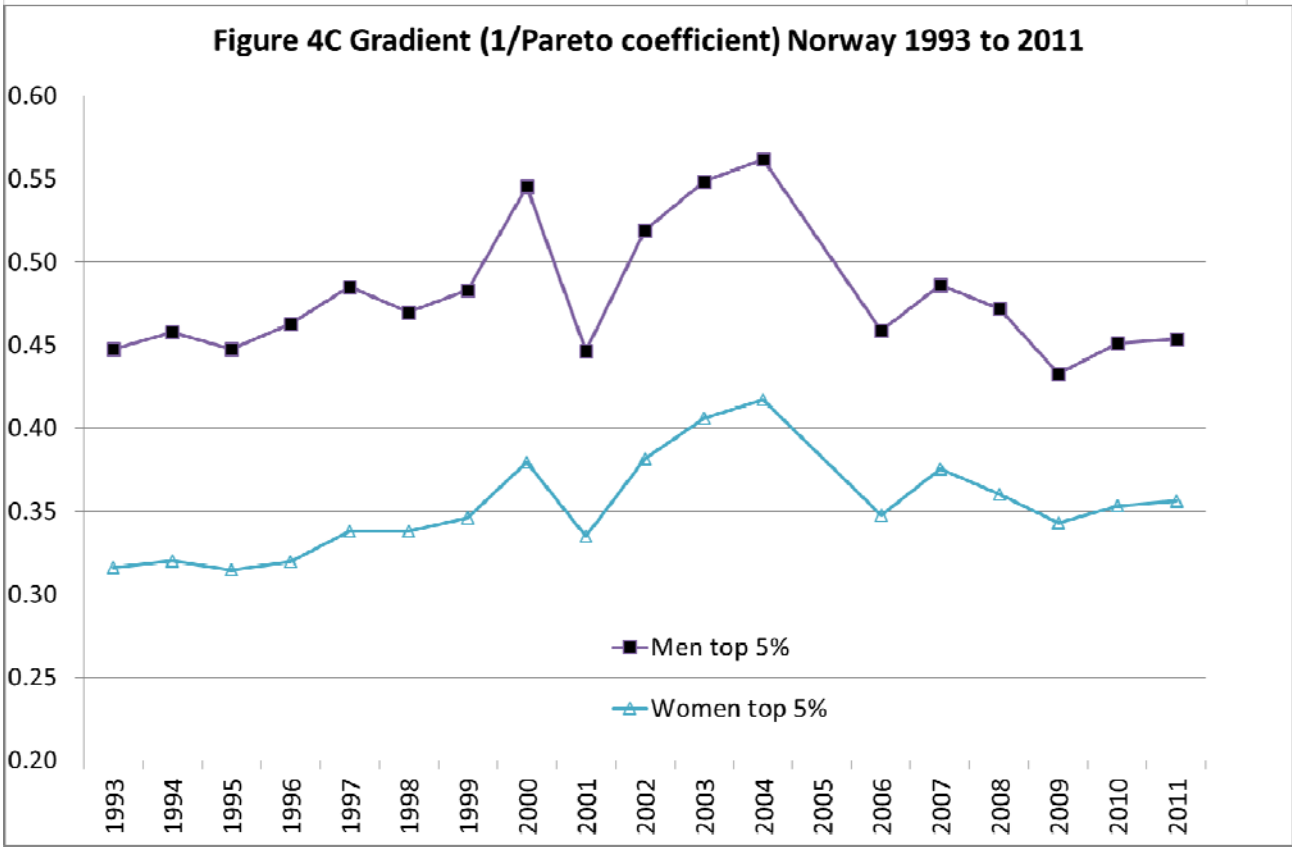


Figure 4C Gradient (1/Pareto coefficient) Norway 1993 to 2011
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
Men top 5%
Women top 5%
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011

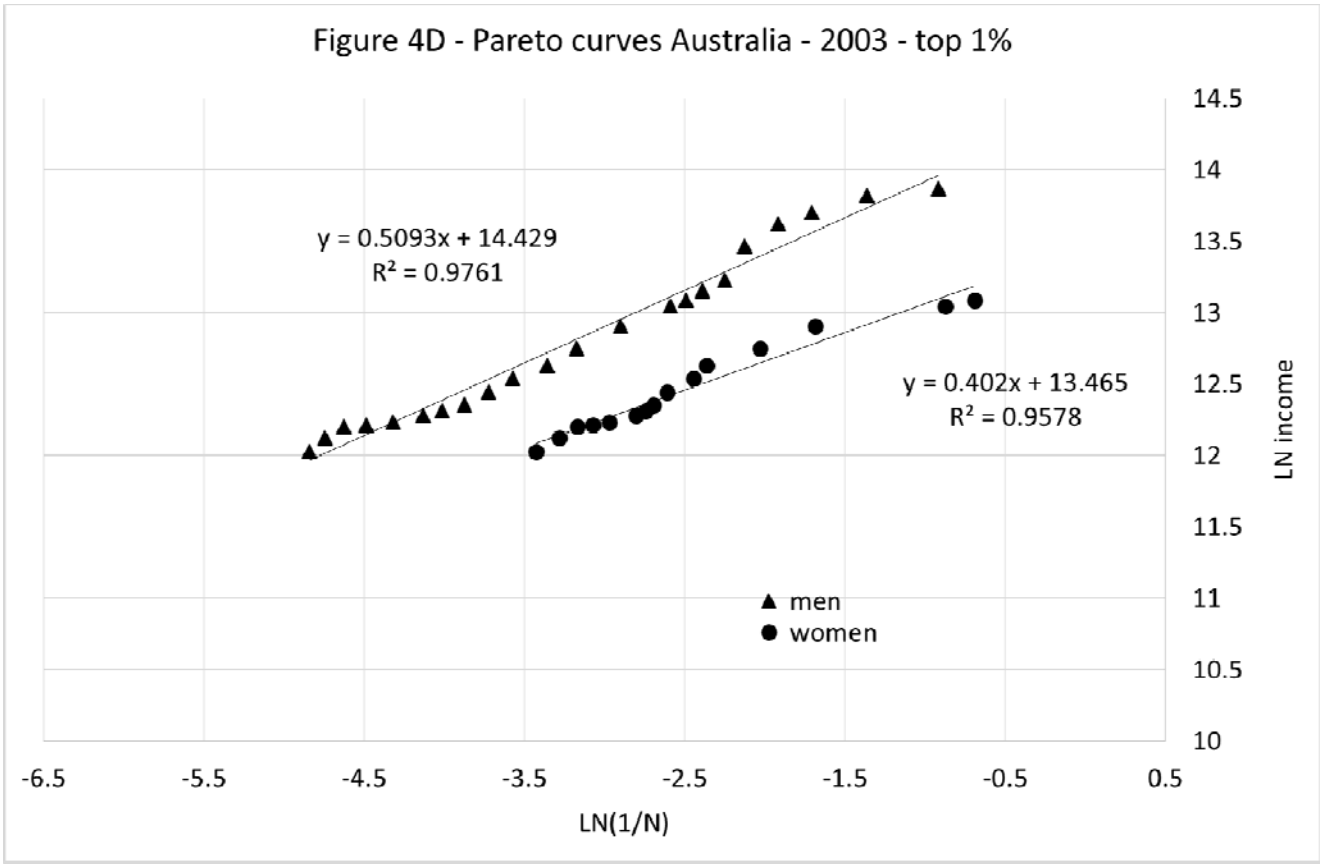


Figure 4D - Pareto curves Australia - 2003 - top 1%
y = 0.5093x + 14.429
R² = 0.9761
y = 0.402x + 13.465
R² = 0.9578
men
women
14.5
14
13.5
13
12.5
12
11.5
11
10.5
10
LN income
-6.5
-5.5
-4.5
-3.5
-2.5
-1.5
-0.5
0.5
LN(1/N)

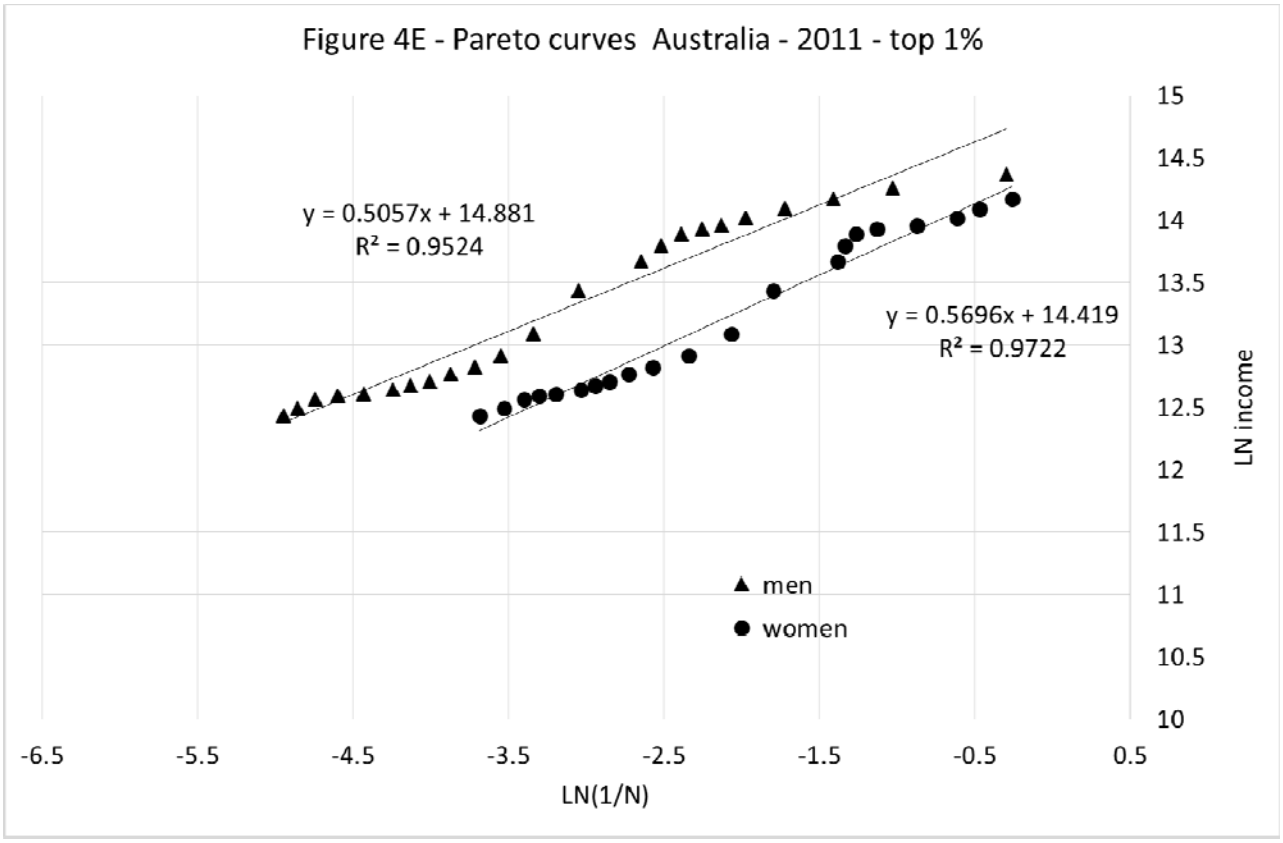


Figure 4E - Pareto curves Australia - 2011 - top 1%
y = 0.5057x + 14.881
R² = 0.9524
y = 0.5696x + 14.419
R² = 0.9722
men
women
LN(1/N)
LN income
15
14.5
14
13.5
13
12.5
12
11.5
11
10.5
10
-6.5
-5.5
-4.5
-3.5
-2.5
-1.5
-0.5
0.5

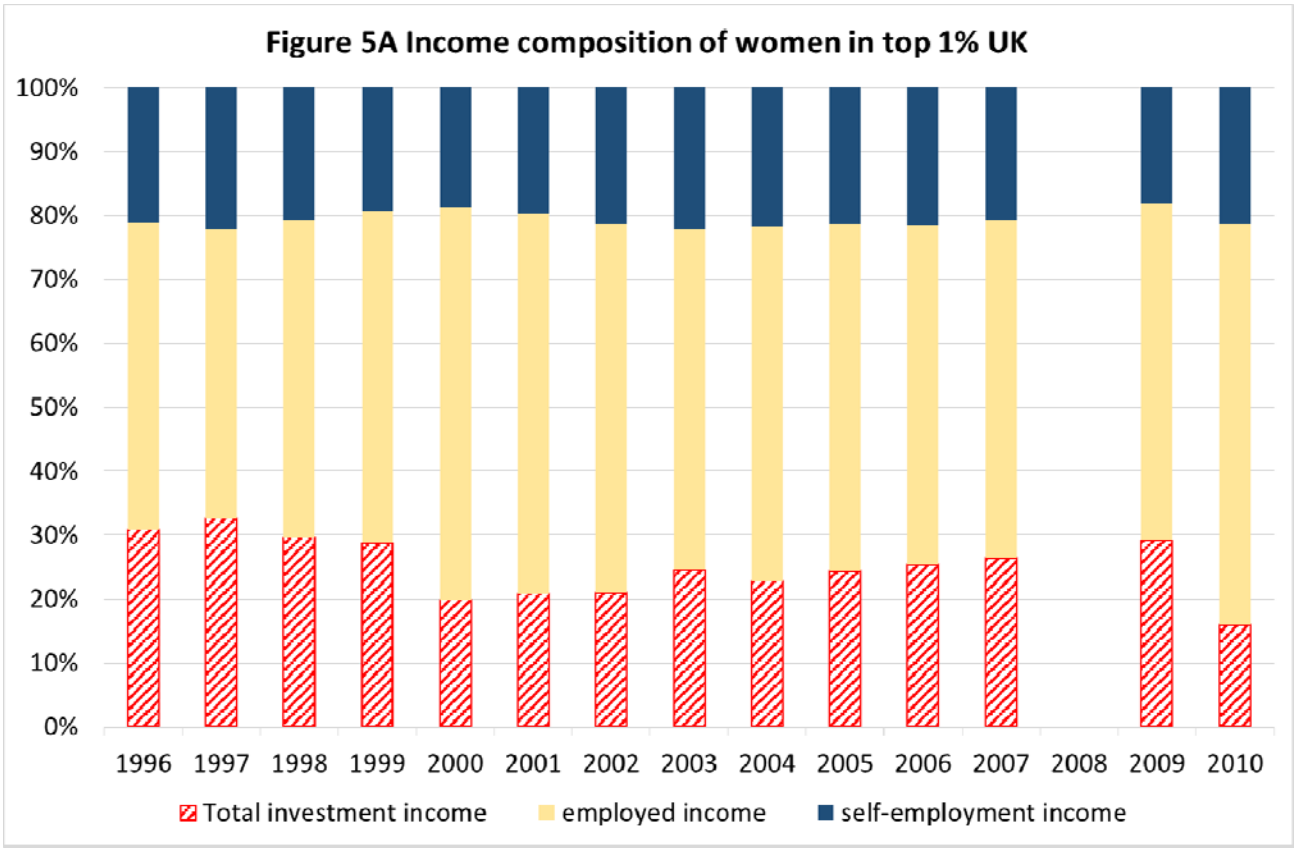


Figure 5A Income composition of women in top 1% UK
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Total investment income
employed income
self-employment income

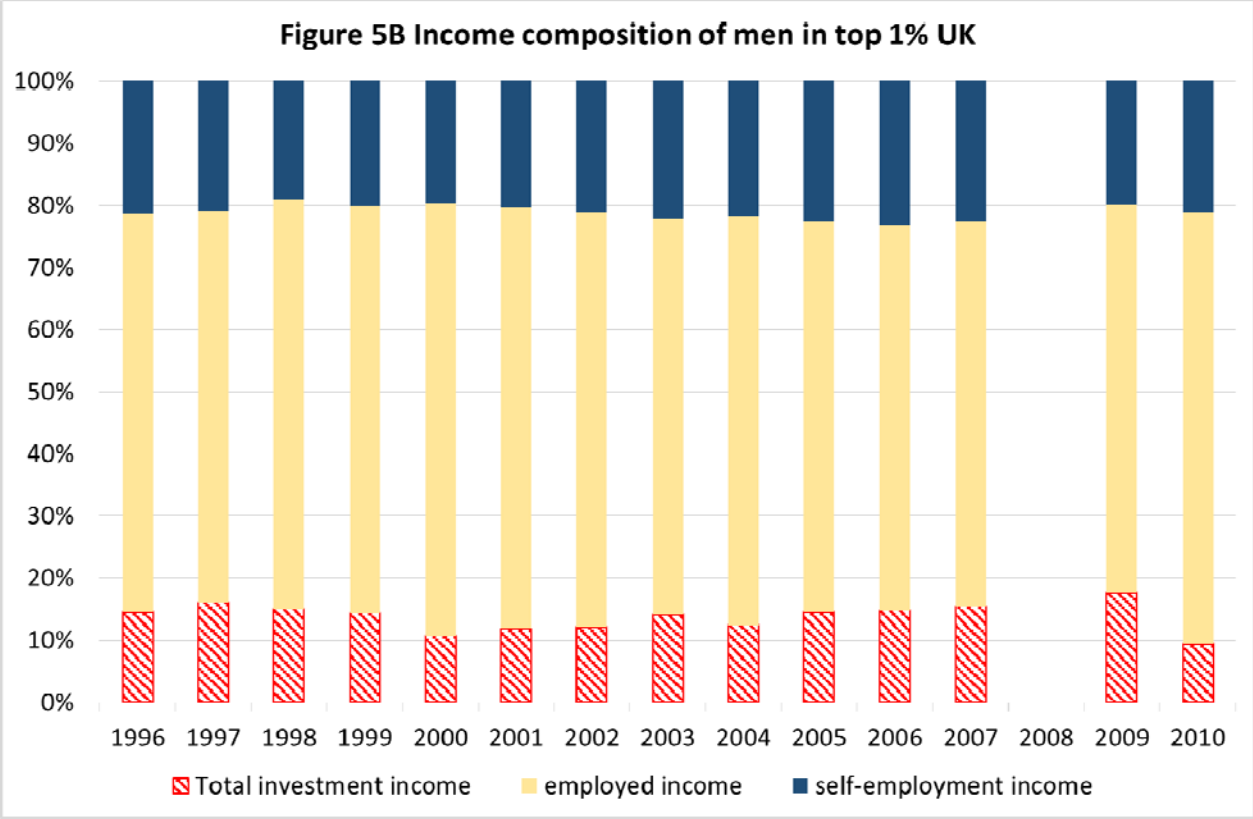


Figure 5B Income composition of men in top 1% UK
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Total investment income
employed income
self-employment income

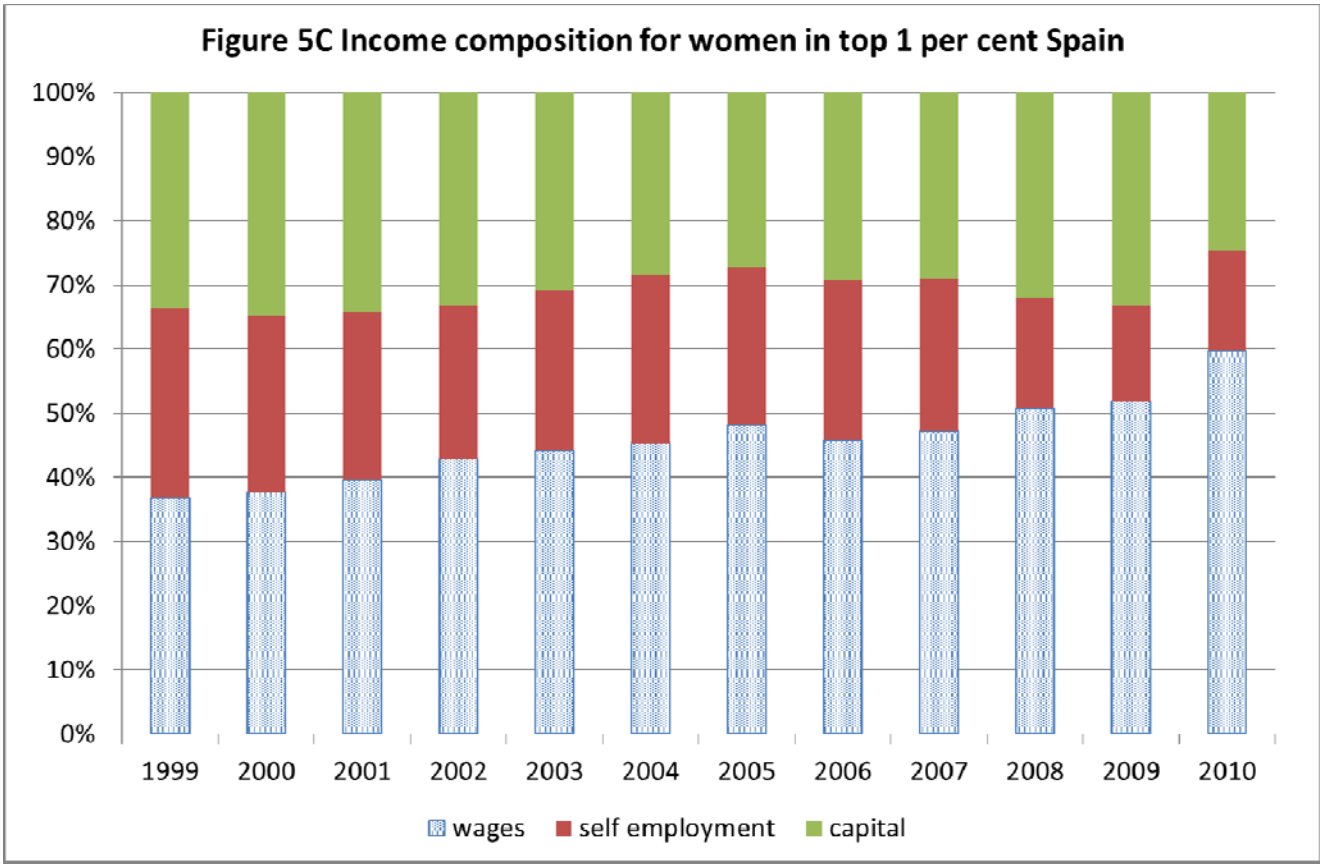


Figure 5C Income composition for women in top 1 per cent Spain
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
wages
self employment
capital

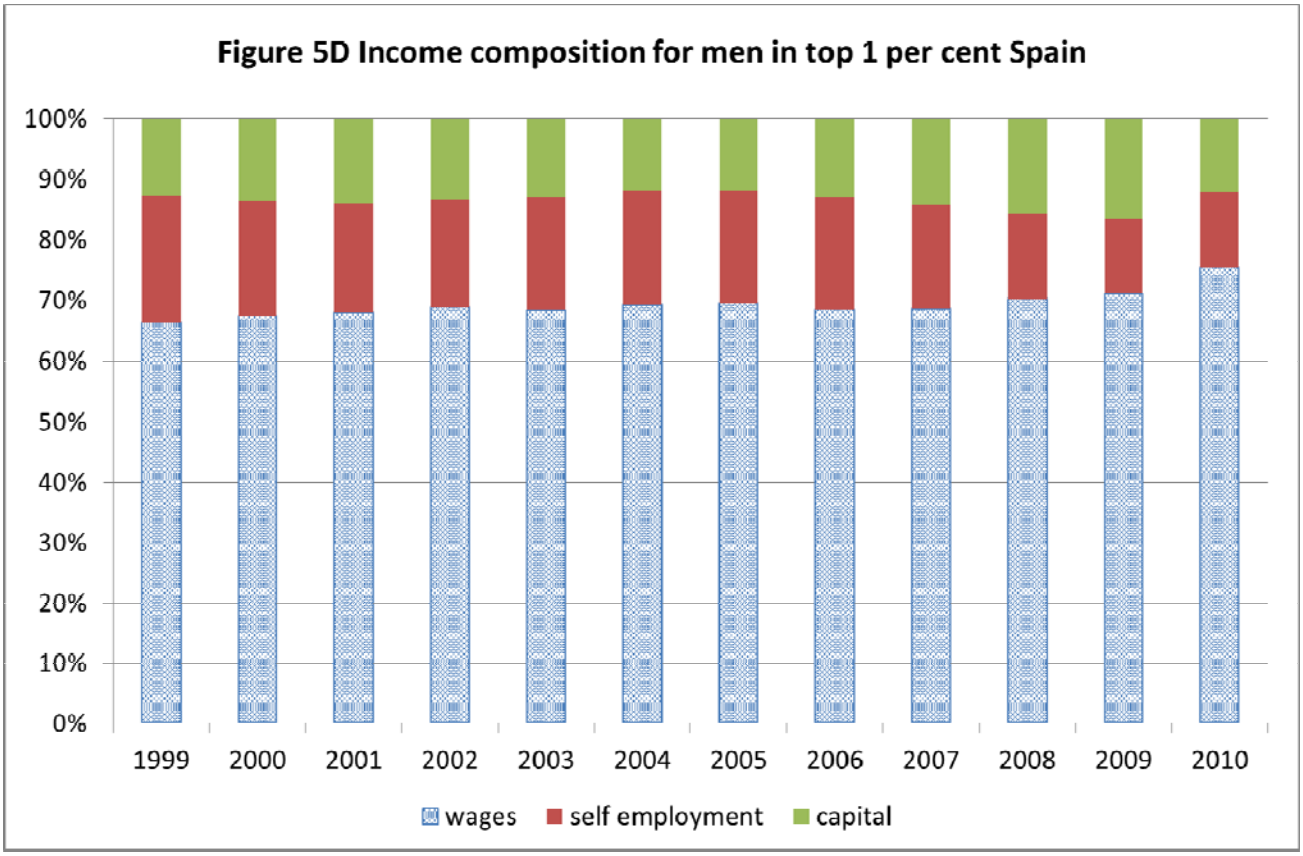


Figure 5D Income composition for men in top 1 per cent Spain
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
wages
self employment
capital

Figure 6: Percentage of women in top income groups New Zealand

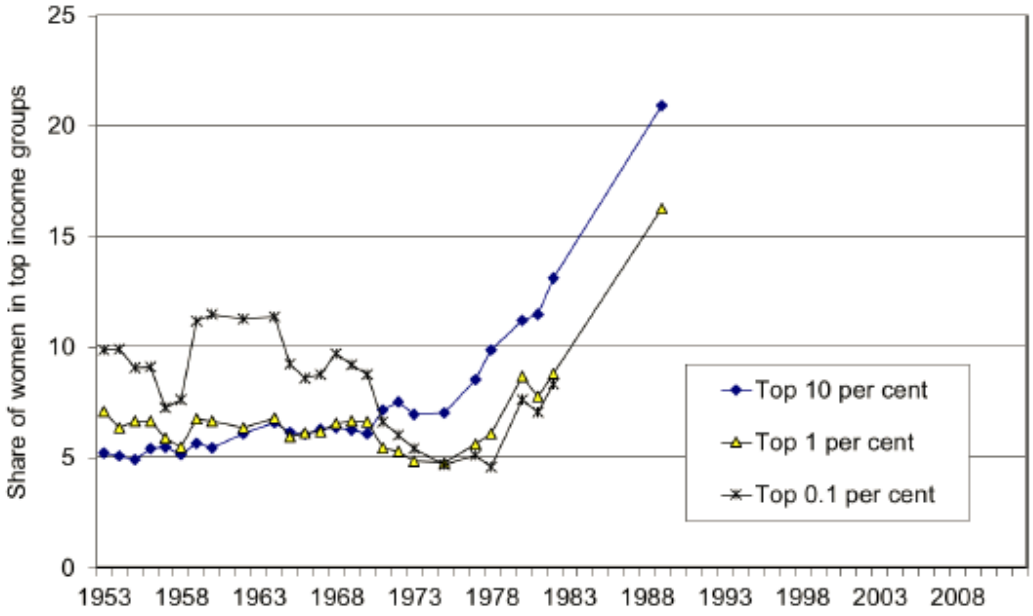


Figure 7: Gradient (1/Pareto coefficient) New Zealand

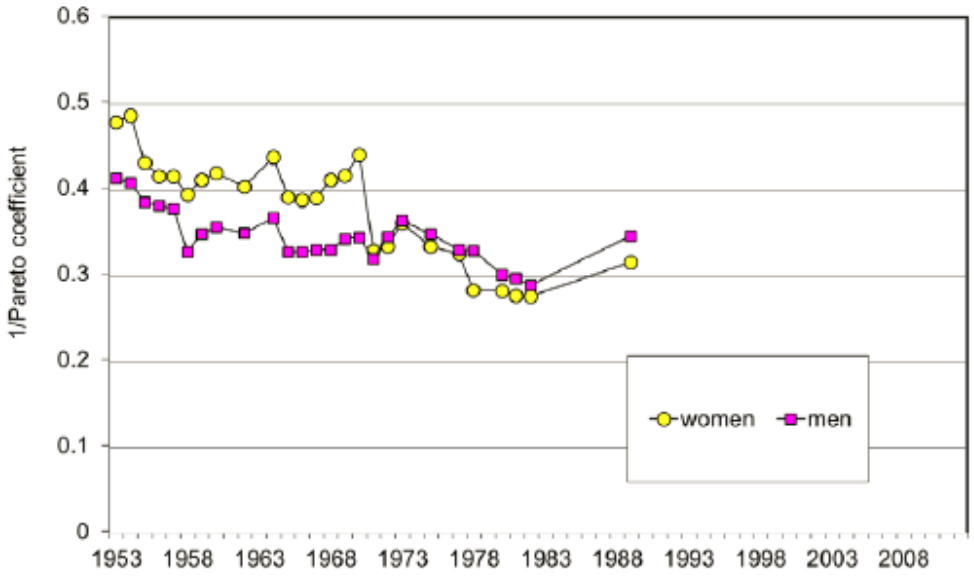
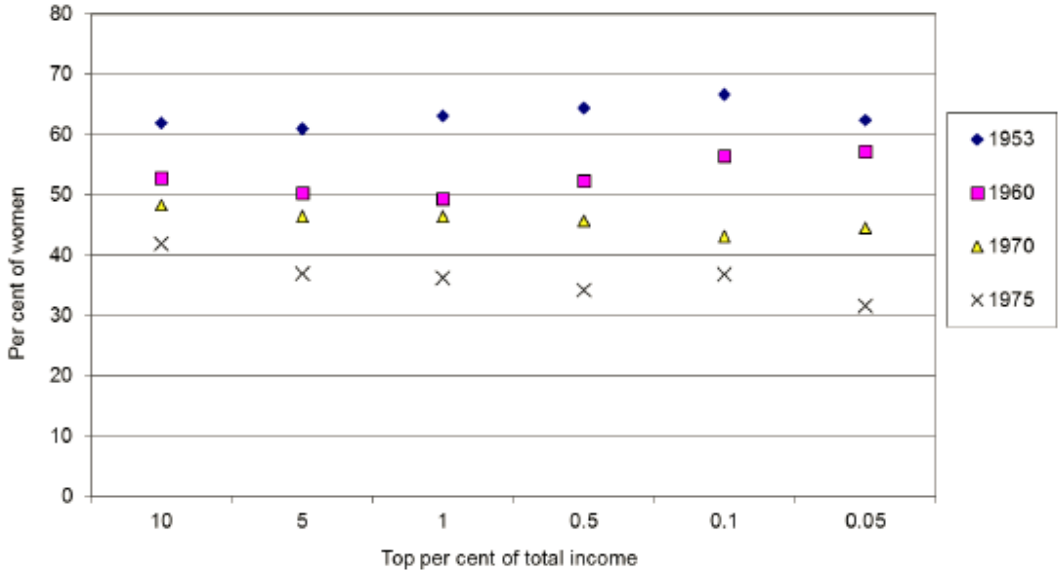


Figure 8: Women as per cent of those with investment income as main source



Appendix

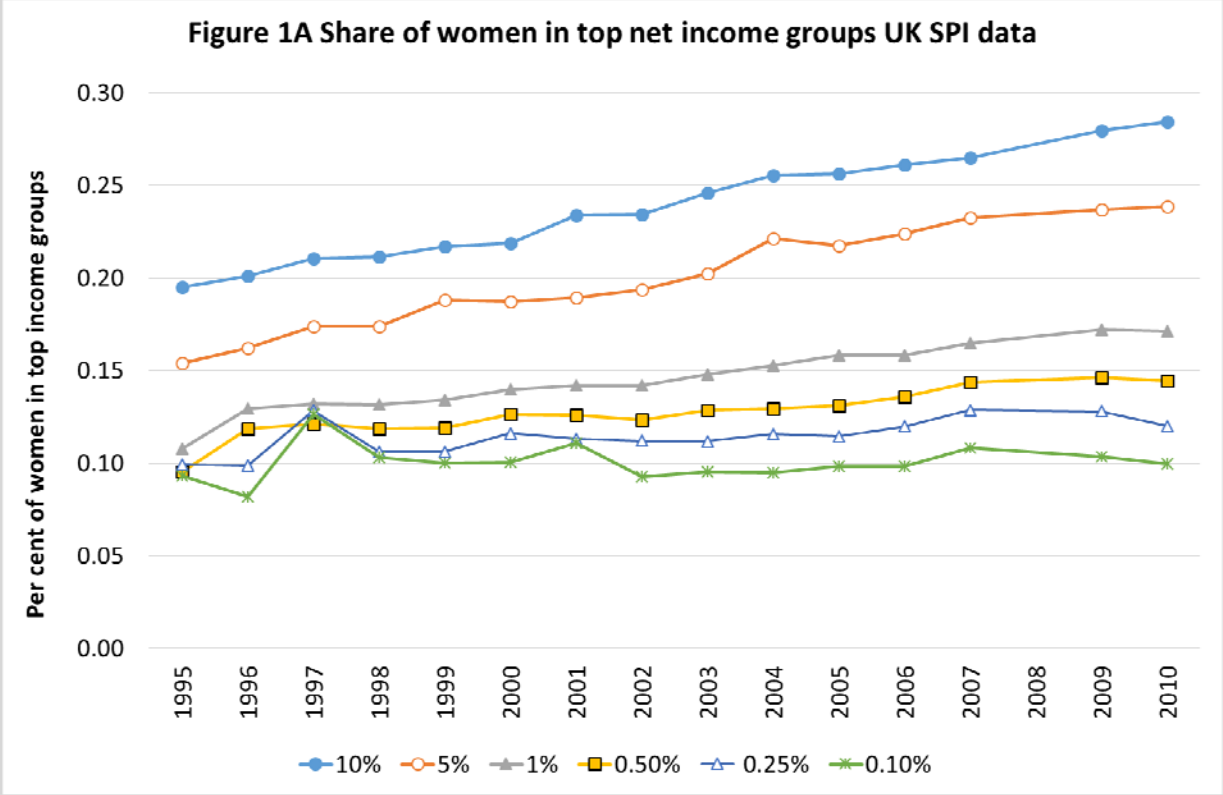


Figure 1A Share of women in top net income groups UK SPI data
Per cent of women in top income groups
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
10%
5%
1%
0.50%
0.25%
0.10%