

**Top Incomes, Income and Wealth Inequality in the
Netherlands:
The first 100 Years 1914–2014 – what’s next?**

Wiemer Salverda

May 2019



World Inequality Lab

**Top Incomes, Income and Wealth Inequality in the Netherlands:
The first 100 Years 1914–2014 – what’s next?**

Wiemer Salverda¹

AIAS-HSI, University of Amsterdam

To the cherished memory of Tony Atkinson

In 2001 Tony very kindly agreed that we would work together on the top income shares for our two countries, the Netherlands and the UK. I profited enormously from his experience with top incomes and, naturally, with the UK, and, surprisingly, also with my own country. He could actually read Dutch and had much easier access to the pre-war Dutch statistics than I had. He joked about non-existent privacy concerns in the statistics of those days as that highest class of incomes counted one observation only – Tony imagined that would be Henri Deterding, chairman of Royal Dutch Shell up to 1937. I treasure the moments we sat together at Nuffield for work, at the high table, or, equally nicely, in a pub for a beer.

With his guidance we successfully laid the basis for the first 85 years (1914-1999), on which I have built for a summary update of Dutch top incomes to the year 2012 (Salverda, 2013) and on which I base myself for the present paper’s more extensive update to 2014. Tony has seen most of the new material (compare the Graphs section below) in July 2016 and responded, even on holiday, with some suggestions and questions. He liked chart books, well this is one. It is really very sad that we have not been able to finish this together. He liked the ‘100 years’ completion of the series, and anyone who knew him would have wished him a century in good health.

¹ In addition to the persons who have provided support before when studying the preceding years (see Salverda and Atkinson, 2007, and Salverda, 2013), I am particularly grateful to Eelco de Jong for his treatment of the IPO microdata for the present period and to Facundo Alvaredo and the World Inequality Database (wid.world/) for the financial support enabling this.

Introduction	4
1. Updating income inequality 2001-2014.....	5
1.1 Top shares of gross income	5
<i>Point 1 (Table 1): Gross income inequality has increased</i>	5
1.2 Top shares of disposable income and effective tax rates	5
<i>Point 2 (Table 2): Net income inequality has increased as well</i>	5
<i>Point 3 (Table 2): Income redistribution has lagged behind gross-income inequality growth....</i>	6
<i>Point 4 (Table 3): Tax rates did continue to redistribute.....</i>	7
<i>Point 5: Three important caveats.....</i>	7
1.3 Sources of income.....	7
<i>Point 6 (Table 4): The composition by sources of income has changed drastically.....</i>	7
<i>Point 7 (Table 5): Wage earnings have become radically more important at the top.....</i>	10
1.4 Wider distribution and the middle class	10
<i>Point 8 (Table 6): The Gini coefficient confirms the rise in inequality</i>	10
<i>Point 9 (Table 7): Let's contemplate the Middle-40% as it seems to harbour diverging trends</i>	11
2. The unit of analysis: Tax units versus Persons versus Households	12
<i>Point 10 (Table 8): The choice of the unit of analysis affects inequality outcomes significantly</i>	12
<i>Point 11 (Table 9): The concentration of persons with wage incomes in the units is decisive..</i>	13
<i>Point 12 (Table 10): Persons and households with labour earnings have strongly shifted upwards</i>	14
3. The (household) distribution of wealth 2006-2014	15
3.1 Wealth over the distribution of household wealth	15
A. All households	15
<i>Point 13: Wealth is primarily household-driven</i>	15
<i>Point 14 (Table 11): The Dutch wealth inequality is extreme and has increased significantly..</i>	16
<i>Point 15 (Table 12): Housing wealth has declined generally, financial wealth in the Bottom-50% only.....</i>	17
<i>Point 16 (Table 13): Mortgage debt plays a highly significant role, skewed to the bottom 90%</i>	17
B. Labour households	18
<i>Point 17 (Table 14): Labour household numbers have shrunk down from the upper half of the wealth distribution.....</i>	19
<i>Point 18 (Table 15.A): Labour households' wealth fell behind in the distribution.....</i>	19
<i>Point 19 (Table 15.B): Labour household wealth has shifted towards the Top-10%, closing some of the gap with other households.....</i>	20
<i>Point 20 (Table 16): Labour households housing wealth has dwindled while financial wealth grew</i>	20
<i>Point 21 (Table 17): Labour households bear the brunt of mortgage debt.....</i>	21

3.2 Wealth over the distribution of household incomes	21
A. All households	22
<i>Point 22 (Table 18): The income distribution is stable and more equal than the wealth distribution.....</i>	22
<i>Point 23 (Table 19): The wealth distribution over incomes is much less unequal than over wealth</i>	22
<i>Point 24 (Table 20): The housing price crisis affects the wealth of higher incomes more</i>	24
<i>Point 25 (Table 21): Mortgage debt spreads much more evenly over the income fractiles.....</i>	24
B. Labour households	24
<i>Point 26 (Table 22): Labour households shift up the income distribution.....</i>	24
<i>Point 27 (Table 23): Labour-household wealth generally declines but increases within the Top-5%</i>	25
<i>Point 28 (Table 24): Labour households' shifts towards higher incomes.....</i>	27
4. The next 100 years and the DINA linking to the National Accounts	28
<i>Point 29 (Table 25): Wages are much better captured statistically than other primary incomes</i>	28
5. Concluding remarks	31
References	33
Appendix Graphs Top incomes 1914 – 2014	36

Introduction

This paper presents in 30 concise points and 26 tables both an update and four different extensions to the by now traditional series of the top-income shares. The update concerns the evolution of top incomes in the Netherlands, which now includes the years 2013 and 2014, going beyond the previous coverage up to 1999 in a joint work (Atkinson and Salverda, 2003, 2005; Salverda and Atkinson, 2007) and up to 2012 in a brief WID note (Salverda, 2013). The text of this paper focuses on the years 2001-2014 while the appendix includes the same type of graphs as before (Atkinson and Salverda, 2003) but now covering the full 100-year period. The first of the four extensions adds detail on the income distribution below the top including a take on the middle class, in line with the current approach of the World Inequality Database, albeit for the period 2001-2014 only. The second extension specifies the effects on fractiles of the distribution that are exerted by the choice of the unit of observation: fiscal unit, household, or individual. The third extension concerns the distribution of *wealth*, on its own but also in conjunction with the distribution of incomes. It pays particular attention to 1) the position of households depending on labour earnings, who are the majority of all households and receive the large majority of total income, and 2) mortgage debt, which plays a strong role in the Netherlands. Unfortunately, the wealth data are not available for years earlier than 2006.

The main findings for the period since 2001 are that

- 1) that income inequality – as measured by the top incomes, but also the Gini coefficient – has increased,
- 2) that all of this inequality growth (or even more) can be attributed to an increasingly unequal distribution of wage earnings,
- 3) which in turn is largely due to the growing incidence of second earners, be it within a tax unit or a household,
- 4) while at the same time wealth inequality is extremely high in the Netherlands and has also increased rapidly in recent years, both partly due to the large role of (mortgage) debt.

Along the way, I add some observations about estimating lower and upper bounds to the Gini coefficient including missing ‘non-filers’, and about the cohesion of the Middle-40% as a fractile, because its upper end, the 9th decile, often begs to differ from the 6th to 8th deciles, briefly considering another definition for the Middle class and its rather different outcomes.

Finally, the fourth extension of the paper concerns issues for consideration when looking to the future beyond 2014, “the second century” of top incomes and wealth, with regard to available data on income and wealth in the Netherlands, as well as some issues for further discussion with regard to the integration of inequalities of incomes and wealth with the national accounts (DINA), which figures high on the research agenda of the WID. In my view, we would be well advised to combine and compare different approaches – tax units, individuals and households –, to think about the household as, in practice, the inevitable unit of analysis for the wealth distribution, and to seek radical improvement of the statistical observation of primary incomes other than wage earnings, in particular for working towards DINA.

1. Updating income inequality 2001-2014

In this first section I endorse the approach of the top incomes literature for the sake of consistency with the previous results since 1914: the focus is and remains tax units and total income is adjusted for non-filers (see effect in Table 8 compared to Table 1).

1.1 Top shares of gross income

Point 1 (Table 1): Gross income inequality has increased

Between 2001 and 2014 the Top-10% share has increased (+2.4 percentage points – further ‘Pcpt’ – or +8%), where the year 2007 seems a bit of an outlier (but see Table 4). Within the top the strongest rise was in the Next-4% while the very top (0.1%) tended to fall. The Bottom-50% suffered most of the decline (-2.3 Pcpt or -12%) and did so rather continuously. The Middle-40% stagnated, but within that segment the part of deciles 6 to 8 (“60-80”) fell (-1.0 Pcpt) while decile 9 (“Second 10%”) increased: +0.9 Pcpt.

Table 1 Fractile income shares, per cent of total gross income*

	Total € billion	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top- 10%	Second vintile	Top-5%	Next- 4%	Top-1%	Top- 0.5%	Top- 0.1%
2001	313	19.9	50.4	33.2	17.2	29.7	11.0	18.7	12.1	6.6	4.3	1.5
2002	326	19.4	50.7	33.4	17.3	29.8	11.1	18.7	12.2	6.5	4.2	1.4
2003	334	19.2	50.9	33.4	17.5	29.8	11.2	18.6	12.3	6.4	4.1	1.4
2004	348	18.9	50.6	33.2	17.5	30.4	11.3	19.2	12.5	6.7	4.3	1.5
2005	358	18.8	50.5	33.0	17.5	30.7	11.3	19.3	12.5	6.8	4.4	1.6
2006	373	18.7	50.4	32.9	17.6	30.8	11.4	19.5	12.6	6.8	4.4	1.7
2007	395	18.8	49.5	32.3	17.3	31.7	11.3	20.5	12.9	7.6	4.8	1.5
2008	408	18.9	50.4	32.9	17.6	30.7	11.3	19.3	12.6	6.8	4.3	1.5
2009	413	18.7	50.8	33.0	17.8	30.6	11.6	19.1	12.6	6.4	4.0	1.4
2010	419	18.7	50.6	32.9	17.8	30.7	11.5	19.2	12.7	6.4	4.0	1.3
2011	426	18.5	50.6	32.8	17.8	31.0	11.6	19.4	12.8	6.5	4.1	1.5
2012	434	18.1	50.7	32.7	18.0	31.1	11.7	19.4	13.0	6.5	4.0	1.3
2013	440	18.0	50.7	32.6	18.1	31.3	11.8	19.5	13.0	6.5	4.1	1.4
2014	449	17.6	50.3	32.2	18.1	32.1	11.9	20.2	13.3	7.0	4.4	1.5
<i>Pcpt</i>		<i>-2.3</i>	<i>-0.1</i>	<i>-1.0</i>	<i>0.9</i>	<i>2.4</i>	<i>0.9</i>	<i>1.5</i>	<i>1.2</i>	<i>0.3</i>	<i>0.1</i>	<i>-0.0</i>
<i>% 2001</i>	<i>+43%</i>	<i>-12%</i>	<i>0%</i>	<i>-3%</i>	<i>+5%</i>	<i>+8%</i>	<i>+8%</i>	<i>+8%</i>	<i>+10%</i>	<i>+5%</i>	<i>+2%</i>	<i>-2%</i>

*) Total income corrected for non-filers; missing income attributed to bottom decile.

1.2 Top shares of disposable income and effective tax rates

Point 2 (Table 2): Net income inequality has increased as well

Between 2001 and 2014 the Top-10% net-income share has increased (+1.0 Pcpt or +4%). Within the top this was rather evenly spread, except for the very top (0.1%), which fell (-6%). Again, the Bottom-50% suffered most of the decline (-1.6 Pcpt or -7%). The Middle-40% increased (+0.6 Pcpt), but again not uniformly: the increase was entirely due to decile 9 (+0.6 Pcpt) while deciles 6 to 8 stagnated.

Point 3 (Table 2): Income redistribution has lagged behind gross-income inequality growth

The redistribution from gross incomes to net incomes via income taxation and social has matched roughly only half of the increase in gross-income inequality as measured by the fractiles: while the gross Top-10% share grew by 8% or 2.4 Pcpt, the net share grew by 4% or 1.0 Pcpt.

Table 2 Fractile income shares, per cent of total net-after-tax income*

	Total € billion	Bottom 50%	Middle 40%	60-80	Second 10%	Top 10%	Second vintile	Top 5%	Next- 4%	Top 1%	Top 0.5%	Top 0.1%
2001	192	24.3	49.5	33.4	16.0	26.2	9.9	16.3	10.6	5.7	3.8	1.2
2002	200	24.2	49.7	33.6	16.1	26.1	9.9	16.1	10.5	5.7	3.7	1.3
2003	201	24.1	50.2	33.9	16.2	25.7	10.0	15.7	10.5	5.2	3.3	1.1
2004	207	23.9	49.9	33.7	16.1	26.2	10.0	16.2	10.7	5.5	3.5	1.1
2005	212	23.9	49.6	33.5	16.1	26.5	10.0	16.5	10.7	5.8	3.8	1.4
2006	222	24.3	49.5	33.4	16.0	26.3	10.0	16.3	10.6	5.7	3.7	1.3
2007	238	23.6	48.7	32.8	15.9	27.8	9.9	17.8	11.0	6.8	4.4	1.3
2008	244	23.8	49.6	33.4	16.2	26.7	10.1	16.6	10.8	5.8	3.7	1.2
2009	248	23.5	49.9	33.6	16.4	26.5	10.2	16.4	10.9	5.5	3.5	1.1
2010	249	23.6	49.8	33.4	16.4	26.6	10.2	16.4	10.9	5.5	3.5	1.1
2011	250	23.4	49.9	33.4	16.5	26.7	10.2	16.5	11.0	5.5	3.5	1.1
2012	252	23.2	50.1	33.6	16.5	26.8	10.2	16.5	11.0	5.5	3.5	1.1
2013	256	23.3	50.2	33.6	16.6	26.6	10.3	16.3	10.9	5.4	3.4	1.1
2014	264	22.7	50.0	33.4	16.6	27.3	10.3	16.9	11.1	5.8	3.7	1.2
<i>Pcpt</i>		<i>-1.6</i>	<i>0.6</i>	<i>0.0</i>	<i>0.6</i>	<i>1.0</i>	<i>0.4</i>	<i>0.6</i>	<i>0.5</i>	<i>0.1</i>	<i>0.0</i>	<i>-0.1</i>
<i>% 2001</i>	<i>+38%</i>	<i>-7%</i>	<i>+1%</i>	<i>-0.1%</i>	<i>+4%</i>	<i>+4%</i>	<i>+4%</i>	<i>+4%</i>	<i>+5%</i>	<i>+2%</i>	<i>-1%</i>	<i>-6%</i>

*) Total income corrected for non-filers; missing income attributed to bottom decile, effectively not liable to taxation.

Table 3 Effective tax rates, per cent of gross income per fractile*

	Total	Bottom 50%	Middle 40%	60-80	Second 10%	Top 10%	Second vintile	Top 5%	Next- 4%	Top 1%	Top 0.5%	Top 0.1%
2001	-39	-25	-40	-38	-43	-46	-45	-47	-46	-47	-47	-50
2002	-39	-24	-40	-38	-43	-47	-45	-47	-47	-47	-46	-46
2003	-40	-25	-41	-39	-44	-48	-47	-49	-49	-51	-51	-55
2004	-41	-25	-41	-39	-45	-49	-47	-50	-49	-51	-51	-56
2005	-41	-25	-42	-40	-46	-49	-48	-49	-50	-49	-49	-49
2006	-41	-23	-42	-40	-46	-49	-48	-50	-50	-51	-51	-53
2007	-40	-24	-41	-39	-45	-47	-47	-47	-48	-46	-45	-51
2008	-40	-24	-41	-39	-45	-48	-47	-49	-48	-49	-49	-52
2009	-40	-24	-41	-39	-45	-48	-47	-48	-48	-49	-48	-52
2010	-41	-25	-42	-40	-45	-49	-48	-49	-49	-49	-48	-51
2011	-41	-26	-42	-40	-46	-49	-48	-50	-50	-50	-50	-54
2012	-42	-26	-43	-40	-47	-50	-49	-50	-51	-50	-50	-52
2013	-42	-24	-42	-40	-47	-51	-49	-51	-51	-52	-52	-53
2014	-41	-24	-41	-39	-46	-50	-49	-51	-51	-51	-50	-54
<i>Pcpt</i>	<i>-2</i>	<i>1.3</i>	<i>-1.6</i>	<i>-0.6</i>	<i>-4.3</i>	<i>-4.2</i>	<i>-4.5</i>	<i>-3.5</i>	<i>-3.5</i>	<i>-4.1</i>	<i>0.0</i>	<i>-0.1</i>
<i>% 2001</i>	<i>6%</i>	<i>-5%</i>	<i>4%</i>	<i>2%</i>	<i>10%</i>	<i>9%</i>	<i>10%</i>	<i>7%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>

*) Effective tax rates: percentage difference between gross and net income for the tax units in the fractiles of gross income.

Point 4 (Table 3): Tax rates did continue to redistribute

Nonetheless redistribution is still substantial as Top-10% income levels net after tax are only about half as high as gross. Tax rates (which include social contributions and health insurance) show a clear gradient in cross section from around 20% in deciles 2 to 4 to around 40% in deciles 7 to 9, and 45 - 50% in decile 10. Within the top decile the gradient is weak and it is volatile at the very top. The changes over time between 2001 and 2014 show a comparable gradient – slightly declining in deciles 3 to 6 (2 - 3 Pcpt) and gradually more increasing in deciles 7 to 10 (1 - 4 Pcpt).

Point 5: Three important caveats

I need to mention three caveats with regard to these effective tax rates and social contributions.

First, they include the premiums paid by employers and employees for the large capital-funded occupational pension system of the Netherlands (current savings equal twice GDP). The level of these premiums shows a strong gradient over incomes and the increase over the period in those premiums is almost entirely responsible for the increase in the effective tax rates higher up the distribution. Notably, occupational pensions amount in principle to a postponement of personal income and not to a cross-section inter-personal redistribution of income. In that sense the contributed premiums add to inequality albeit in a dynamic perspective.² This implies that actually little has been done in terms of increased income redistribution during the crisis; the top has (forcibly) saved more for the future.

Second, the Netherlands is characterised by huge mortgage debt for self-owned housing (see Section 3). This is partly due to the fact that interest payments are fully tax-deductible at the marginal rate (only after 2014 modest measures were taken to weaken this link). However, in the income microdata used here CBS fully deducts mortgage interest payments from primary incomes, in line with the United Nations Canberra Group recommendations regarding household incomes. This explains the negative incomes from wealth in Table 4. It implies an underestimation of gross incomes and an overestimation of effective tax rates.

Finally, it shall be noted that these tax rates run exclusively between gross and net incomes, and disregard the preceding redistributive addition of benefits to gross incomes (likely of little significance 100 years ago). Note that those benefits are equally subject to taxation.

1.3 Sources of income

Point 6 (Table 4): The composition by sources of income has changed drastically

Compared to before (1952-1999) we find a continuation of very significant shifts within the income distribution between incomes from different sources, looking at income types only and disregarding the receiving units (note that below we will focus on labour households separately, who receive more than 50% of their total income from wage earnings). In total income wages decline (72 to 70%), income from enterprise remains unchanged (6%), income from wealth (assets including self-owned housing) is surprisingly negative (see Point 5) and declines (-0 to -2%). Note, however, the latter's suddenly higher levels at the top in the year 2007; these are due to a temporary tax relief on dividends retrieved by considerable shareholders in private companies. This explains the higher top share found in Table 1.

² Occupational pension premiums are tax-deductible but future pension payments will be taxed, but commonly at a lower rate than at the time the contributions are made.

Table 4 Composition of gross income within fractiles by sources of income*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total														
W	71.8	72.5	72.8	71.8	71.4	71.9	70.5	71.6	71.8	71.3	71.7	71.4	70.8	70.1
E	6.1	5.8	5.3	5.9	6.5	6.4	6.8	7.1	6.1	6.2	6.3	6.2	6.1	5.8
A	-0.4	-1.0	-1.9	-1.6	-2.0	-2.0	-0.3	-1.8	-1.9	-2.3	-2.7	-2.4	-2.4	-2.1
P	13.7	14.0	14.4	14.6	14.7	14.9	14.7	15.0	15.5	15.9	16.1	16.2	16.3	16.8
T	8.7	8.7	9.3	9.4	9.3	8.8	8.3	8.1	8.5	8.9	8.6	8.6	9.2	9.4
Bottom 50%														
W	37.4	38.2	36.5	35.3	34.2	34.5	36.2	37.3	35.5	33.6	33.9	33.0	31.4	30.7
E	1.6	1.4	1.7	1.1	2.0	2.2	2.0	2.3	1.9	2.7	2.3	2.8	2.6	3.0
A	0.8	0.1	-0.7	-0.1	-0.6	-0.3	-0.3	-0.4	-0.5	-0.8	-0.9	-0.8	-0.7	-1.0
P	34.9	35.5	35.4	35.4	35.9	35.9	35.2	35.3	35.9	36.4	36.5	36.7	36.4	36.0
T	25.4	25.0	27.2	28.3	28.5	27.7	26.9	25.5	27.1	28.1	28.2	28.3	30.3	31.4
Middle 40%														
W	80.4	80.4	79.9	79.0	79.0	79.4	79.4	78.9	78.2	77.7	77.5	76.7	75.4	74.6
E	5.2	4.9	4.5	4.9	5.4	5.3	5.7	5.9	5.4	5.6	6.0	5.8	6.0	5.9
A	-2.6	-2.9	-3.5	-3.4	-3.8	-3.7	-3.7	-3.6	-3.6	-4.2	-4.4	-4.1	-3.8	-3.7
P	11.0	11.4	12.3	12.7	12.9	13.1	13.2	13.4	14.2	14.7	15.3	15.9	16.1	16.6
T	6.1	6.2	6.7	6.8	6.5	5.9	5.4	5.4	5.8	6.1	5.6	5.7	6.3	6.5
Second 10%														
W	88.1	88.2	88.4	87.9	87.6	88.0	87.4	87.5	87.6	87.3	87.5	87.3	86.7	86.4
E	5.3	5.1	4.6	5.1	5.5	5.2	6.0	6.2	5.4	5.7	6.0	5.8	5.8	5.5
A	-3.2	-3.6	-4.1	-4.0	-4.3	-4.3	-4.2	-4.3	-4.3	-4.7	-5.1	-4.9	-4.6	-4.4
P	6.1	6.6	7.1	7.0	7.2	7.3	7.3	7.2	7.7	8.0	8.0	8.2	8.1	8.2
T	3.7	3.8	4.1	4.1	3.9	3.8	3.4	3.4	3.6	3.7	3.5	3.6	4.1	4.3
Top 10%														
W	80.5	81.4	84.0	82.3	81.7	82.2	77.0	80.5	83.2	83.7	84.8	85.1	85.9	84.8
E	10.6	10.3	9.0	10.5	11.1	10.9	11.3	12.1	9.9	9.2	9.2	8.6	8.3	7.0
A	2.5	1.5	0.2	0.4	0.1	-0.4	4.9	0.4	-0.1	-0.1	-1.0	-0.6	-1.2	-0.2
P	4.3	4.5	4.5	4.7	4.8	5.1	4.9	5.2	5.2	5.3	5.3	5.0	5.1	6.5
T	2.1	2.2	2.2	2.1	2.2	2.1	1.9	1.9	1.9	1.9	1.8	1.8	1.9	2.0
Top 5%														
W	75.7	77.0	80.3	78.3	77.5	78.6	70.7	76.0	79.2	80.1	81.7	82.1	83.5	81.6
E	13.0	12.9	11.2	13.1	13.8	13.3	13.6	14.7	12.2	11.3	10.9	10.3	9.5	7.8
A	5.5	4.2	2.4	2.6	2.4	1.6	9.5	2.8	2.2	2.3	1.0	1.6	0.6	2.0
P	3.2	3.9	4.0	4.0	4.2	4.4	4.3	4.7	4.9	4.8	4.7	4.8	4.6	4.7
T	2.6	2.0	2.1	2.0	2.1	2.2	1.8	1.9	1.6	1.5	1.6	1.2	1.8	4.0
Top 1%														
W	60.3	60.2	66.6	64.2	63.8	66.1	52.4	63.6	66.1	68.3	71.5	71.9	75.9	72.0
E	18.3	19.8	17.6	19.8	20.4	18.9	15.5	19.7	18.4	15.4	14.2	13.2	11.5	8.1
A	16.5	15.2	10.8	10.9	10.7	8.7	27.0	11.2	10.1	11.0	8.2	9.4	6.9	9.6
P	4.9	4.8	5.0	5.1	5.1	6.3	5.1	4.6	4.3	4.4	4.4	5.2	4.7	4.6
T								0.9	1.1	1.0	1.6	0.3	1.0	5.8
Top 0.1%														
W	58.3	53.9	64.5	58.0	60.2	65.5	59.5	62.7	69.8	65.6	71.5	71.1	76.1	77.8
E	14.0	19.1	14.4	21.5	18.2	14.8	14.7	19.8	17.4	13.7	15.3	11.5	8.7	3.0
A	23.4	23.6	18.6	15.5	17.9	13.2	20.4	12.1	7.0	15.5	8.0	13.0	9.8	6.9
P	2.3	2.7	2.3	4.4	3.3	6.0	4.2	2.4	4.1	4.9	5.1	4.2	5.1	12.0
T	2.0	0.6	0.2	0.6	0.4	0.6	1.1	3.0	1.7	0.4	0.2	0.4	0.3	0.3

*) W: wages, E; enterprise, A: assets, P: pensions (occupational + public AOW) and T: transfers and other. Sources comprise all incomes of the type, regardless of its importance to the receiving tax units; one tax unit can receive income from different sources. Total income is corrected for non-filers; missing income is equally spread over sources of income.

Pensions clearly increase (13.7 to 16.8%) due to ageing of the population and the expansion of the occupational pension system, but 2.2 of this 3.1 Pcpt increase regards the Top-10%. Finally, transfers (mainly public but partly private, e.g. alimony) show some (cyclical) volatility around a share of 9%.

Table 5 Fractile income shares for wages

	Total	Bottom 50%	Middle 40%	60-80	Second 10%	Top- 10%	Second vintile	Top-5%	Next- 4%	Top-1%	Top- 0.5%	Top- 0.1%
A. Among overall total												
2001	71.8	7.5	40.5	25.4	9.7	24.1	9.8	14.3	10.2	4.0	2.4	0.9
2002	72.5	7.4	40.8	25.5	9.9	24.4	9.9	14.5	10.5	4.0	2.3	0.8
2003	72.8	7.0	40.7	25.2	10.1	25.2	10.2	15.1	10.8	4.3	2.5	0.9
2004	71.8	6.7	40.0	24.7	10.0	25.2	10.1	15.1	10.8	4.3	2.5	0.8
2005	71.4	6.4	39.9	24.6	10.1	25.3	10.2	15.1	10.7	4.4	2.6	1.0
2006	71.9	6.5	40.0	24.6	10.1	25.6	10.2	15.4	10.9	4.6	2.8	1.1
2007	70.5	6.8	39.3	24.2	10.0	24.7	10.1	14.6	10.6	4.0	2.3	0.9
2008	71.6	7.0	39.8	24.5	10.0	24.9	10.1	14.8	10.5	4.3	2.5	0.9
2009	71.8	6.6	39.7	24.2	10.3	25.6	10.4	15.2	10.9	4.3	2.5	1.0
2010	71.3	6.3	39.3	23.8	10.3	25.9	10.4	15.5	11.1	4.4	2.6	0.9
2011	71.7	6.3	39.2	23.6	10.4	26.5	10.5	16.0	11.2	4.7	2.8	1.0
2012	71.4	6.0	38.9	23.2	10.6	26.8	10.7	16.1	11.4	4.7	2.8	0.9
2013	70.8	5.6	38.2	22.5	10.6	27.2	10.7	16.5	11.5	5.0	3.0	1.1
2014	70.1	5.4	37.5	21.9	10.7	27.5	10.8	16.7	11.6	5.1	3.0	1.2
Pcpt	-1.7	-2.1	-2.9	-3.5	1.0	3.4	1.0	2.4	1.4	1.0	0.6	0.3
% 2001	-2%	-28%	-7%	-14%	+10%	+14%	+10%	+17%	+14%	+25%	+25%	+31%
B. Among total of wages												
2001	100	10.4	56.3	35.3	13.6	33.3	13.6	19.7	14.1	5.6	3.3	1.2
2002	100	10.2	56.3	35.2	13.6	33.5	13.6	19.9	14.4	5.4	3.1	1.1
2003	100	9.6	55.9	34.6	13.9	34.5	13.9	20.5	14.7	5.8	3.4	1.3
2004	100	9.3	55.8	34.4	14.0	34.9	14.0	20.9	15.0	6.0	3.5	1.2
2005	100	9.0	55.9	34.4	14.1	35.1	14.1	21.0	14.9	6.1	3.6	1.3
2006	100	9.0	55.7	34.2	14.0	35.3	14.0	21.3	15.0	6.3	3.8	1.5
2007	100	9.6	55.8	34.4	14.1	34.6	14.1	20.5	14.9	5.6	3.2	1.3
2008	100	9.8	55.7	34.2	14.0	34.5	14.0	20.5	14.5	6.0	3.5	1.3
2009	100	9.3	55.3	33.7	14.4	35.4	14.4	21.0	15.1	5.9	3.4	1.4
2010	100	8.8	55.2	33.4	14.5	36.0	14.5	21.5	15.4	6.2	3.6	1.2
2011	100	8.7	54.7	32.9	14.5	36.6	14.5	22.1	15.5	6.5	3.9	1.4
2012	100	8.4	54.5	32.4	14.8	37.2	14.8	22.3	15.8	6.5	3.8	1.3
2013	100	8.0	54.0	31.8	15.0	38.0	15.0	23.0	16.0	7.0	4.2	1.5
2014	100	7.7	53.5	31.2	15.3	38.8	15.3	23.5	16.4	7.1	4.2	1.6
Pcpt		-2.7	-2.8	-4.1	1.7	5.5	1.7	3.8	2.2	1.6	0.9	0.4
% 2001		-26%	-5%	-12%	+13%	+17%	+13%	+19%	+16%	+28%	+28%	+34%

The contributions of the five sources of income differ strongly across the fractiles. In the Bottom-50% wages (37% down to 31%) and asset incomes decline while the other sources increase, particularly for transfers (25% to 31%). The same holds to a lesser extent for the Middle-40%, with wages falling from 80% to 75%, but here transfers stagnate; within this middle the 9th decile shows a wage share comparable to the top which also falls only slightly (88% to 86%). The Top-10%, however, shows quite the opposite: substantial growth to an overwhelming position for wages (81 to 85%) and some growth for pensions, but significant declines for incomes from enterprise and assets and unchanged transfers. Within the Top-10%, the higher the fractile the stronger the growth of the share of wages – it is strongest after all in the Top-0.1% (55% to 78%, Table 4).

Point 7 (Table 5): Wage earnings have become radically more important at the top

The diverging trends of wages between the top and the rest of the distribution have two important implications. First, wages are entirely responsible for the increasing share of the Top-10%; the latter grows by 2.4 Pcpt (Table 1) while the wages received by the Top-10% grow by 3.4 Pcpt (24.1% to 27.5%). A striking decline in self-employed incomes (11% to 7%) helps to balance the two. The decline throws up the question what effect the (un)reliability of enterprise income in statistical observations (see Section 2.3) may have on this development. After all, if self-employment incomes shift down the distribution other incomes will automatically take their place. Though it is reassuring that between 2001 and 2014 the average labour incomes did actually increase (+56% in the Top-10%) indicating how fast self-employment incomes at the top should have grown to prevent being overtaken, it seems worrying that the decline in self-employed incomes concerns primarily a small number with initially very high incomes in the Top-0.1%. Therefore it cannot be excluded a priori that the decline may be an artificial effect motivated by reasons of income taxation.

Second, combined with the declines in the lower fractiles the trends lead to a rapidly increasing concentration of wage incomes in the Top-10% (33% to 39% of all wages), and in the higher fractiles within this Top-10%.

1.4 Wider distribution and the middle class

Point 8 (Table 6): The Gini coefficient confirms the rise in inequality

The Gini coefficient of the gross-income distribution has been growing in each and every year, with the exception of 2004. The total rise amounts to 0.054 points or 13% of the initial level. Increases are relatively strong in 2002-2006 (the wake of the dotcom crisis) and 2009-2014 (the Eurocrisis prolongation of the Financial crisis).

Atkinson and Soegaard (2016) and Aaberge, Atkinson and Modalsli (2016) provide an impression of the evolution of the inequality of total income when including the missing tax units outside the available observations on the basis which top shares are estimated. Thereto they estimate lower and upper bounds for the Gini coefficient. This is done on the assumption that all missing incomes will be lower than any of the ones observed. E.g., in the Dutch case the lowest boundary in the income statistic for 1914 was NLG 650. However, in later years (from 1946 in the Dutch case), when the observations actually cover all possible income levels and the missing tax units are considered as 'non-filers', that assumption may no longer hold. Non-filers are thought to receive on average only 20% of the mean observed income but that does not imply that they will all be concentrated in the distribution below that level. In fact, arbitrary – not necessarily unreasonable, but likely country- and time-dependent – assumptions will be needed to arrive at the distributions that might be expected to represent the lower bound and upper bound respectively. The non-filers may truly be spread over the entire distribution. In a first attempted estimation for 2014 (495,000 missing units with an attributed income of € 4.57 billion), I have spread these incomes over the existing distribution starting from either the bottom or the top to obtain a lower or an upper bound to the Gini coefficient. However, it is impossible to fit all missing units simply in the first or the tenth decile. The attributed size of the income would unduly distort the bottom decile and has to be spread higher up; at the same time the income size allows fitting only a few units in the top (assuming they have the same average income), while the large remaining number will then have to join the bottom decile (with zero incomes) which again implies shifts to higher deciles to maintain the deciles as 10 per cent of the population including missings. Given the fact that we can actually estimate Gini coefficients from the available

observations together with the arbitrariness of the assumptions needed, the added value of estimating lower and upper bounds seems questionable for the period since 1946.

Table 6 Gini coefficient gross incomes of tax units

	Coefficient
2001	0.421
2002	0.416
2003	0.439
2004	0.435
2005	0.440
2006	0.445
2007	0.451
2008	0.453
2009	0.454
2010	0.459
2011	0.460
2012	0.466
2013	0.469
2014	0.475
Points	0.054
% 2001	13%

Point 9 (Table 7): Let's contemplate the Middle-40% as it seems to harbour diverging trends

Finally, I contrast the Middle 40% with a different concept of the Middle class that splits tax units and their gross incomes between three classes of income (compare Vaughan-Whitehead, 2016): a Bottom class (defined as <60% of median tax-unit income, modelled on the often-used poverty line), a Middle class (60 - 200% of median), and a Top class (>200% of median). This implies a different split of fractile shares which are estimated here but for 2011-2014 only.

Looking first at the numbers, the Bottom class is much smaller (a steady but in principle variable 29% instead of the given size of the Bottom-50%), the Middle class exceeds the given size of 40% but shrinks (47% to 46%), and the Top class grows from 24% to 25% and thus encompasses the 9th decile and also the upper half of the 8th decile. The income shares appear to be very strongly skewed towards the Top (compare to Table 1). The Bottom class share is half as large as before but remains unchanged over time; the Middle-class share is more than 10 Pcpt smaller and is now a significantly declining minority (40% to 37%) while the Top class receives a growing majority of all gross incomes (55% to 58% - as against 30% to 32% for the Top-10% in Table 1). Perhaps, an interesting metric to develop might be to follow where the boundary sits between the lower and the upper half of total income. In 2014 that would be almost at the upper cut-off level of the 8th decile; in other words, the upper one-fifth of the decile obtains 50% of total gross income.

Table 7 Three-class distribution of tax units, % of total number and total gross income

	Number			Income sum		
	Bottom class	Middle class	Top class	Bottom class	Middle class	Top class
2011	29.2	47.2	23.6	5.7	39.7	54.6
2012	29.4	46.6	24.0	5.6	38.7	55.7
2013	29.4	46.2	24.4	5.5	38.0	56.5
2014	29.5	45.8	24.7	5.4	37.0	57.6
Pcpt	0.3	-1.4	1.1	-0.3	-2.7	3.0
% 2001	1%	-2.9%	5%	-6%	-7%	6%

2. The unit of analysis: Tax units versus Persons versus Households

Point 10 (Table 8): The choice of the unit of analysis affects inequality outcomes significantly

The tax units comprised in the WID differ between either married/cohabiting partners and single persons (as in the Netherlands) or single persons only (as in the UK since 1990), depending on the country's tax system. Much of the existing analyses and the public debate on income inequality, not only in the Netherlands, concerns households. The Netherlands taxes partners independently for their individual incomes but treats some types of income at the household level (esp. income and costs related to house ownership). The partners' individual incomes are specified but brought together in the household which is the official unit of analysis of the Dutch IPO statistics. Households may comprise other adults apart from partners. In our research we recombine them into tax units by keeping partners as tax units and treating other adults into separate tax units. So, all in all there are three possibilities: tax units including partners, tax units comprised of single persons only (denoted below as 'persons'), and households defined as people maintaining a household together. For a comparison to other countries in the database it is interesting to examine the implications that this threefold choice of the unit of analysis may have for the evolution of income inequality. Therefore, I add to the above tax units now the top shares that are found for persons and households. Persons are considered for the same age bracket, ages 15 and over – called 'adults' here –, as they were for the tax units; households follow the practice of Statistics Netherlands. The absolute numbers differ significantly. Roughly speaking there are 25% more tax units and 75% more persons than households, and 45% more persons than tax units. Evidently, the sum totals of gross income remain unchanged.

Table 8 Top gross income shares for tax units, single persons, and households

	Numbers x1000			Shares in gross income (%)								
	Tax units	Persons	Households	Top-10%			Top-1%			Top-0.1%		
				Tax units	Persons	Households	Tax units	Persons	Households	Tax units	Persons	Households
2001	8,801	12,911	7,132	29.9	31.7	27.4	6.7	7.6	6.0	1.5	1.9	1.3
2002	8,883	12,994	7,194	30.0	31.6	27.4	6.6	7.4	5.9	1.5	1.8	1.3
2003	8,935	13,048	7,245	30.0	31.6	27.4	6.4	7.2	5.7	1.5	1.7	1.3
2004	8,974	13,100	7,286	30.7	32.1	28.0	6.7	7.5	6.0	1.5	1.8	1.3
2005	9,029	13,148	7,338	30.9	32.3	28.2	6.9	7.6	6.1	1.6	1.9	1.4
2006	9,077	13,195	7,382	31.1	32.3	28.3	6.9	7.7	6.2	1.7	2.0	1.5
2007	9,119	13,255	7,432	32.0	33.1	29.4	7.6	8.6	6.8	1.6	1.9	1.4
2008	9,225	13,367	7,505	31.0	31.8	28.2	6.8	7.6	6.1	1.5	1.8	1.3
2009	9,312	13,460	7,579	30.8	31.5	28.0	6.5	7.2	5.7	1.4	1.6	1.2
2010	9,355	13,554	7,638	31.0	31.6	28.2	6.5	7.3	5.8	1.3	1.6	1.1
2011	9,441	13,636	7,715	31.2	31.6	28.3	6.6	7.3	5.8	1.4	1.6	1.2
2012	9,503	13,706	7,768	31.5	31.8	28.4	6.5	7.2	5.8	1.3	1.5	1.1
2013	9,566	13,777	7,824	31.7	31.9	28.7	6.6	7.2	5.9	1.4	1.6	1.2
2014	9,668	13,874	7,893	32.4	32.4	29.3	7.0	7.7	6.2	1.5	1.8	1.3
<i>Pcpt</i>				2.6	0.8	1.8	0.3	0.1	0.2	0.0	-0.1	0.0
% 2001	10%	7%	11%	9%	2%	7%	5%	2%	3%	-1%	-5%	-2%

Note: Persons above the age of 14. Other fractiles are not available. Tax unit outcomes not corrected for non-filers.

Top-10% and Top-1% fractiles grow regardless of the unit of analysis, while Top-0.1% fractiles decline. There are notable differences in the size of the top fractiles depending on the choice of unit. Household-based shares in particular are significantly smaller than those for tax units – 2.0 Pcpt or 9% on average for the Top-10% between 2001 and 2014. That difference is rather stable over time.

Person-based shares by contrast are somewhat larger than for tax units – 0.9 Pcpt or 3%. Intriguingly, the difference declines surprisingly over time. Thus, there is a notable difference in levels which may affect cross-country comparisons of the degree of inequality. This is even more the case for the Top-1% and Top-0.1%: mutual differences are larger and those between tax units and persons do not decline in the way they do for the Top-10%.

Over the period the number of tax units (+10%, for the Top-10%) increases more rapidly than that of persons (+7%) but slightly lags households (+11%). The differences between the three categories can be understood as a 2% to 3% decrease in the number of persons per tax unit or household respectively or, in other words, conversely, a rising share of tax units and households is comprised of single persons. This helps to explain the rather stable gap in fractiles shares between tax units and households as well as the declining gap between tax units and persons. Unsurprisingly, the incidence and growth of single-person households may be smaller at the very top, explaining the larger size and greater stability of the mutual differences. Apparently, though the levels differ, the choice of unit has a modest effect on the evolution of inequality at best – for the Netherlands itself as well as in comparison to other countries.

Point 11 (Table 9): The concentration of persons receiving wage earnings in the units is decisive

These differences in shares combined with the diverging trends in the numbers throw up the question what effects the number of individual incomes in more-person tax units and households may have. I focus on incomes from labour earnings and look at second incomes for tax units first. Salverda and Atkinson (2007, Figure 10.9A) already pointed out that most of the growth in wages at the top between 1977 and 1999 relied on the contributions of second earners.

Table 9 Number and gross income within-fractile shares of second wage earners in tax units, %

	Numbers							Incomes						
	Total	Bottom 50%	Middle 40%	Second 10%	Top-10%	Top-5%	Top-1%	Total	Bottom 50%	Middle 40%	Second 10%	Top-10%	Top-5%	Top-1%
2001	25.0	2.3	41.8	33.1	71.3	68.9	55.7	13.4		14.3	10.3	20.4	18.4	11.3
2002	25.2	2.3	42.1	33.3	72.1	70.3	55.1	13.8	0.8	14.5	10.6	20.8	18.9	10.9
2003	25.2	2.3	41.8	33.1	73.0	71.4	60.7	14.0	0.8	14.6	10.7	21.3	19.7	12.6
2004	25.3	2.3	42.0	33.2	73.0	71.0	58.9	14.0	0.8	14.6	10.7	21.0	19.2	12.0
2005	25.1	2.4	41.5	32.9	73.0	71.5	60.0	14.1	0.9	14.6	10.6	21.1	19.2	11.9
2006	25.7	2.4	42.7	33.9	73.5	72.2	59.3	14.5	0.8	15.1	11.0	21.7	19.8	12.6
2007	26.3	2.6	44.0	35.2	74.3	71.7	57.1	14.7	0.8	15.8	11.6	21.1	18.7	10.1
2008	26.6	2.6	44.4	35.6	75.7	74.0	63.0	15.3	0.9	16.1	12.0	22.7	20.8	13.1
2009	26.5	2.6	43.7	34.7	76.8	75.1	62.4	15.6	0.9	16.0	11.7	23.8	22.0	14.0
2010	26.5	2.7	43.6	34.7	77.3	75.9	64.9	15.9	0.9	16.2	11.9	24.3	22.8	15.2
2011	26.2	2.6	42.7	33.5	78.3	77.2	67.3	16.2	1.2	16.2	11.8	25.1	23.8	17.0
2012	26.0	2.7	42.1	33.1	78.1	77.3	66.8	16.3	1.2	16.2	11.8	25.2	24.0	17.4
2013	25.7	2.7	41.3	32.0	78.0	77.6	70.6	16.4	1.2	16.1	11.5	25.6	24.4	18.6
2014	25.2	2.5	40.4	30.8	77.4	76.9	67.9	16.3	1.1	15.9	11.1	25.3	23.9	17.6
Pcpt	0.2	0.2	-1.3	-2.3	6.1	8.1	12.2	2.9	0.4	1.6	0.7	4.9	5.5	6.3
% 2001	1%	9%	-3%	-7%	9%	12%	22%	21%	52%	11%	7%	24%	30%	56%

In total the frequency of second wage earners stagnates, remaining close to one quarter of all tax units; it actually falls after reaching a peak of 26.6% in 2008. This contrasts with the decline of the total number of wage earners and as a result the percentage of second earners among all wage earners grows from 37 to 39% while that of dual earners taken together is twice as large, lending them a clear three-quarter majority among all employees. However, in the top fractiles the frequency

is not only much higher – some three times –, but also rapidly and continuously increasing. The higher the fractile the larger the increase and, as a result, frequencies become much more similar between the fractiles though they are still somewhat lower at the highest income levels.

The income share of second earners does rise (13% to 16%), in spite of stagnant numbers, implying increased earnings per earner. The income contributions are less skewed towards the top, meaning that in spite of the fact that their earnings grow over the distribution their contribution relative to that of the first earner in the higher-income tax units declines. Nonetheless, in combination with their high and rising frequency, second earners bear responsibility for 2.1 percentage points out of 2.4 of the rising Top-10% share in gross incomes since 2001.

Point 12 (Table 10): Persons and households with labour earnings have strongly shifted upwards

We add the household and individual perspectives for labour earnings to that of the tax units, following the format of Table 8, and directly comparable as the same aggregate totals have been used as denominators. While tax units can have two earners maximum, households may have more (Salverda and Haas, 2014, find 3.3 income earners on average in top deciles across EU for SILC data) and individuals can have only one, evidently. Table 10 spells out the position of labour households, defined as those households that receive more than half their total incomes from wage earnings (discussed in more detail in Section 3) and of labour persons, who are equally defined as receiving more than half their incomes from earnings.

For each of the two categories those depending on labour earnings comprise more than half the total number, and receive between 66% (persons) and 72% (households) of total gross income. Both number and income shares have declined between 2001 and 2014. By contrast, their top income shares have increased, together with their number shares (not shown), up to the very top (+42-43%). Thus, main labour earnings have stagnated on the whole but at the same time they have moved up massively towards higher fractiles of the income distribution.

Among labour persons and labour households, the Top-10% shares have shot up from 35% to 39% for persons and 29% to 35% for households (not shown), both well above the general top share found in Table 1 (32%).

Table 10 Top gross income shares for labour households and labour persons

	Numbers x1000		% total number		Total		Shares in total gross income (%)					
	Persons	Households	Persons	Households	Persons	Households	Top-10%		Top-1%		Top-0.1%	
							Persons	Households	Persons	Households	Persons	Households
2001	7,199	4,088	56	57	69	72	24.1	21.5	4.4	3.3	0.9	0.7
2002	7,289	4,126	56	57	69	72	24.1	21.6	4.3	3.2	0.8	0.6
2003	7,212	4,085	55	56	69	72	24.8	22.4	4.6	3.5	0.9	0.8
2004	7,128	4,047	54	56	68	71	24.7	22.4	4.6	3.5	0.8	0.8
2005	7,113	4,049	54	55	67	71	24.6	22.2	4.6	3.5	1.0	0.8
2006	7,237	4,099	55	56	68	71	24.8	22.6	4.9	3.8	1.2	0.9
2007	7,398	4,152	56	56	66	70	23.3	21.3	3.9	2.9	0.9	0.8
2008	7,573	4,240	57	57	67	71	23.6	21.9	4.5	3.5	1.0	0.8
2009	7,500	4,217	56	56	67	71	24.1	22.5	4.5	3.5	0.8	0.7
2010	7,434	4,191	55	55	67	71	24.3	22.8	4.6	3.6	0.9	0.7
2011	7,443	4,199	55	54	67	71	24.8	23.3	4.9	3.9	1.1	0.9
2012	7,454	4,203	54	54	67	71	25.2	23.7	4.8	3.9	0.9	0.9
2013	7,343	4,153	53	53	67	71	25.5	24.3	5.1	4.3	1.1	0.9
2014	7,328	4,151	53	53	66	70	25.7	24.3	5.1	4.2	1.2	1.0
Pcpt			-2.9	-4.7	-2.3	-1.7	1.6	2.8	0.7	0.9	0.4	0.3
% 2001	+3%	+2%	-5%	-8%	-3%	-2%	7%	13%	16%	28%	42%	43%

Note: Persons above the age of 14. Other fractiles are not available.

3. The (household) distribution of wealth 2006-2014

Unfortunately, microdata on wealth are available for a short period only, 2006-2014, but the period is all the more interesting because of the occurrence of the Financial crisis with the Eurocrisis in its wake. The wealth distribution will be viewed consecutively from two different perspectives: ranking the households and their wealth first by their own wealth (Section 3.1) and, secondly, by their annual incomes (Section 3.2). Inequalities and trends differ significantly between these. In addition, I interlace the perspectives with a distinction between the full sample of all households (sub A.) and the subsample of labour households (sub B.), again defined as receiving at least half their gross annual household income from the gross annual earnings that are contributed by employees as members of the household. More than half of all households belong to this category. Finally, while looking at wealth I will explicitly track the role of mortgage debt for self-owned housing. This plays a highly significant role in the Netherlands in international comparison; the burden of debt is high and has increased from 84% of GDP in 2006 to 103% in 2014, which contrasts with the decline of aggregate net wealth from 192% to 155% over the same period, reaching an amount of euro 1042 billion on 1/1/2014.³

Note, first, that available microdata on wealth are used, which are sample-based. These deviate somewhat from data published by CBS, which since 2011 are based on the observation of the full population. The aggregate totals of the microdata remain up to 4% below published outcomes and subsequently up to 5% above in 2014. Secondly, all wealth figures mentioned here are nominal, non-deflated amounts. Thirdly, all wealth figures exclude entitlements of future occupational pensions (notably, pensions currently paid are part of household incomes). These pensions derive from the most extensive capital-funded pension system worldwide which is organised in private funds under the control of employer associations and trade unions. Its aggregate assets have grown from 109% of GDP in 2006 to 152% in 2014 (in spite of a sharp fall in 2008) and they roughly equal total net wealth (euro 1024 billion in 2014).⁴ However, this wealth may be included in aggregate national wealth but not in individual household wealth as individual entitlements are unknown in the defined benefit system and also uncertain because of capital-market risks, which during the Financial crisis have led to nominal freezes for most pension payments as well as building up future entitlements, and reductions for some.

3.1 Wealth over the distribution of household wealth

A. All households

Point 13: Wealth is primarily household-driven

Extending to the wealth distribution is high on the WID wish list. This can be done for the Netherlands with some important limitations. First, currently statistical data are readily available for a very short period only. Microdata concerning the wealth situation of 1 January, consistent with the IPO income

³ Total net wealth increased to 165% of GDP in 2016 while mortgage debt declined to 98%. Using most recent NA data at the time of writing for all three years.

⁴ Pension fund assets amounted to 177% of GDP on 1/1/2016.

data, cover the recent period since 1/1/2006, whilst tabulated data – largely but not entirely consistent with these microdata for reasons of observation and definition – cover the period 1993-2000. The intermediate period 2001-2005 is missing which is unfortunate because it comprises the dotcom crisis – a highly interesting event especially from a wealth point of view – and also the abolishment in 2000 of the separate wealth tax in the Netherlands, which up to a point became integrated in the income tax. Before 1993 wealth data have strong limitations in terms of available years (from 1950, but not for every year), detail, and consistency with current data. Extending back over that period for the purpose of generating a long-run series would demand a considerable separate research effort. Linking wealth to the income distribution is possible for the recent period given the need for microdata.

Second, the choice of unit of analysis is an issue also here. Data are exclusively available on a household basis. With some assumptions they might perhaps be used for distinguishing tax units, as far as these are derived from the IPO microdata. However, they are not available for individuals for lack of information on legal entitlements of individual partners but often also for sound economic reasons. For the mass of the population – not necessarily for the mass of wealth – wealth formation is effectively based on the household, self-owned housing being the obvious and most important example: around 57% of households own their house and around 85% of them have mortgage debt.

Point 14 (Table 11): The Dutch wealth inequality is extreme and has increased significantly

Total wealth started at euro 1114 billion and first increased by 17% up to 2008 and subsequently decreased by 16%, thus ending in 2014 at euro 1090 billion, slightly below (-2%) the initial level. Notably, the Bottom-50% of the wealth distribution has negative net wealth, balancing possessions and debt for the aggregate fractile, and moves increasingly into net debt after 2009 (0 to -5%). Up to 2009 all fractile shares increase or remain unchanged except the Top-10% share, which declines (58% to 56%). However, the opposite occurs during the rest of the period as the Top-10% share grows to an ever-higher level, from 56% to 67% as of 1/1/2014. Virtually all of that change is concentrated in the Top-5% and Top-1%. The Top-0.1% is available for part of the period only (2009-2014) and registers a substantial increase from 9.1% to 11.5%. I leave it out from the discussion below.

Table 11 Household wealth-fractile shares in total net wealth, 1 January, %

	Total € bln	Gini	%	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%	Top-0.1%
2006	1114		100	-1.5	43.8	24.4	19.4	57.8	42.8	21.4	n.a.
2007	1224	0.764	100	-0.2	43.0	24.1	18.9	57.2	42.7	22.0	
2008	1300	0.759	100	-0.2	43.5	24.5	19.0	56.7	42.2	21.5	
2009	1248	0.776	100	0.1	43.9	24.4	19.5	56.0	41.1	19.8	
2010	1213	0.806	100	-1.3	41.8	22.7	19.1	59.5	44.6	22.3	
2011	1168	0.835	100	-1.8	41.5	22.3	19.2	60.2	45.1	23.0	9.1
2012	1152	0.873	100	-2.2	41.5	22.0	19.5	60.7	45.3	22.7	9.2
2013	1037	0.940	100	-5.3	39.7	20.1	19.6	65.6	49.6	25.5	10.9
2014	1090	0.939	100	-4.8	38.0	19.2	18.8	66.8	51.4	27.5	11.5
Pcpt			-	-3.3	-5.7	-5.1	-0.6	9.0	8.6	6.1	
% 2006	-2%			216%	-13%	-21%	-3%	+16%	+20%	+28%	

Notes: Top-0.1% is available from published tabulated data based on integral observation since 2011 but not available from the research sample. Gini is not derived from the microdata but calculated by CBS on the data available in early 2017.

The Gini coefficient of the wealth distribution (including the negatives of net debt) rises from 0.764 in 2007 to 0.940 and 0.939 in 2013 and 2014 respectively, which is a level comparable to if not exceeding those of the USA and Switzerland (cf. Salverda, 2015, and Salverda and Van Bavel, 2017).

Point 15 (Table 12): Housing wealth has declined generally, financial wealth in the Bottom-50% only

More detail is available about the composition of wealth? The main split is between wealth of self-owned housing versus all other types of wealth, here indicated as 'financial wealth'. It shows that households across the entire distribution suffer from the decline in housing values. Total housing wealth falls from close to half of total wealth to one third. Though the decline is relatively strong at the top, the importance of housing in their wealth is small and the positive effects of financial wealth easily carry the day for them. The Top-10% suffers a housing decline of 2.6 Pcpt against a gain in financial wealth of 11.6 Pcpt which taken together equal the 9.0 Pcpt gain of Table 11. Similarly, for the Top-1% a -0.7 Pcpt housing loss dwindles in comparison with a 6.8 Pcpt financial advantage. In absolute terms the Middle-40% is a big loser (-7.9 Pcpt) of the housing price crisis that came in the wake of the Financial crisis.

Financial wealth declines amazingly little as a result of the Financial crisis, and it actually grows by 21%, especially in the year 2014. It provides the complementary share to housing and rises from slightly more than half to two thirds of total wealth. It remains positive for all fractiles, including the Bottom-50% in spite of a decline. It grows across the board in the upper half, but clearly more for the Top-10% (+32%) than for the Middle-40% (+15%).

Table 12 Household wealth-fractile shares of housing and financial wealth in total net wealth, %

	Total € billion	%	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%
A.	B.	Self-owned housing (net of mortgage debt)							
2006	520	46.7	-3.7	29.2	15.9	13.3	21.3	12.2	3.1
2007	585	47.8	-2.1	29.1	16.1	13.0	20.8	12.1	3.3
2008	633	48.7	-2.5	29.9	16.7	13.2	21.3	12.5	3.4
2009	620	49.6	-1.9	29.7	16.2	13.4	21.9	12.8	3.1
2010	533	44.0	-3.0	26.4	13.8	12.6	20.6	11.9	2.9
2011	504	43.2	-3.6	26.1	13.4	12.7	20.7	11.8	2.8
2012	482	41.9	-3.9	25.2	12.7	12.5	20.6	11.8	2.8
2013	364	35.1	-6.7	22.1	10.2	11.9	19.6	11.1	2.5
2014	369	33.9	-6.1	21.3	9.8	11.4	18.7	10.6	2.4
Pcpt		-12.8	-2.3	-7.9	-6.1	-1.9	-2.6	-1.6	-0.7
% 2001	-29%	-27%	61%	-27%	-38%	-14%	-12%	-13%	-24%
C.	D.	Financial wealth							
2006	593	53.3	2.2	14.6	8.5	6.1	36.5	30.6	18.3
2007	638	52.2	2.0	13.9	8.0	5.9	36.3	30.6	18.6
2008	667	51.3	2.3	13.6	7.9	5.7	35.4	29.8	18.1
2009	629	50.4	2.0	14.2	8.2	6.0	34.1	28.3	16.7
2010	680	56.0	1.7	15.4	8.8	6.6	39.0	32.6	19.4
2011	664	56.8	1.9	15.4	8.9	6.5	39.5	33.3	20.1
2012	670	58.1	1.7	16.3	9.3	7.0	40.1	33.5	19.9
2013	673	64.9	1.3	17.6	9.9	7.6	46.0	38.6	23.0
2014	720	66.1	1.3	16.8	9.4	7.4	48.1	40.8	25.1
Pcpt		12.8	-1.0	2.2	0.9	1.3	11.6	10.2	6.8
% 2006	+21%	+24%	-43%	+15%	+11%	+21%	+32%	+33%	+37%

*) Financial wealth is all net wealth except net self-owned housing wealth

POINT 16 (Table 13): Mortgage debt plays a highly significant role, and is skewed to the bottom 90%

Total gross debt grows in size (+31%) and also as a percentage of total gross wealth, from 32% to 40% in 2013, and then falls to 38%. The Bottom-50%'s share in total gross debt has grown from 34% to 46%, drawing in 10% from the Middle-40%, where the share declined from 53% to 43%, and 2% from the Top-10%, which fell from 13% to 11%. The decline is relatively small for the Top-1% (-6%).

For the Bottom-50% debt exceeds gross wealth, which explains their net debt (Table 11). For the Middle-40% debt grows to more than half of their gross wealth (58%) with a slight concentration in the 6th to 8th deciles (not shown). At the top of the wealth distribution the burden of debt to gross wealth is significantly less (below 10%) and non-increasing.

Table 13 Household net wealth-fractile shares in total gross debt, %

	Total € billion	% gross wealth	%	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%
2006	516	31.7	100	34.1	52.8	41.8	10.9	13.1	7.7	2.6
2007	553	31.1	100	32.4	54.2	43.0	11.2	13.4	7.9	2.6
2008	597	31.5	100	34.4	53.1	42.5	10.6	12.5	7.4	2.5
2009	619	33.1	100	34.8	52.7	42.3	10.4	12.5	7.2	2.5
2010	640	34.5	100	38.3	49.7	39.4	10.3	12.0	7.1	2.4
2011	653	35.9	100	39.8	48.5	38.4	10.0	11.7	7.0	2.4
2012	673	36.9	100	40.6	47.8	37.9	9.9	11.6	6.7	2.2
2013	681	39.6	100	46.2	42.9	33.7	9.2	10.9	6.5	2.2
2014	678	38.4	100	46.1	42.8	33.6	9.2	11.1	6.7	2.4
Pcpt		6.7		12.0	-9.9	-8.2	-1.7	-2.0	-1.0	-0.2
% 2006	+31%	+21%		+35%	-19%	-20%	-15%	-16%	-13%	-6%

*) Net wealth plus mortgage debt

B. Labour households

Labour households deserve special attention as they are the majority of all households, and gross wages equal more than 70% of total gross income (Table 4).

Table 14 Labour household number shares among all households by net wealth-fractiles, %

	Total number x1000	%	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%
A. Labour households shares in numbers within wealth fractiles									
2006		57	54	64	68	54	43	40	40
2007		57	55	64	68	52	43	39	41
2008		57	57	63	67	51	39	33	19
2009		58	58	62	66	50	40	36	35
2010		57	59	60	64	49	41	37	35
2011		57	59	59	62	48	39	36	29
2012		56	59	57	61	47	39	36	34
2013		56	60	54	58	45	38	35	34
2014		55	59	54	57	44	37	35	34
Pcpt		-2	5	-10	-11	-9	-6	-5	-6
% 2006		-4%	+10%	-16%	-16%	-17%	-13%	-12%	-15%
B. Labour households shares in numbers over wealth fractiles									
2006	4024	100	47	45	36	9	8	3	1
2007	4066	100	48	44	35	9	8	3	1
2008	4117	100	49	44	35	9	7	3	0
2009	4200	100	50	43	34	9	7	3	1
2010	4189	100	51	42	33	8	7	3	1
2011	4155	100	52	41	33	9	7	3	1
2012	4163	100	52	41	32	8	7	3	1
2013	4152	100	54	39	31	8	7	3	1
2014	4110	100	54	39	31	8	7	3	1
Pcpt			7	-6	-5	-1	-1	0	0
% 2006	+2%		+14%	-13%	-13%	-14%	-10%	-9%	-12%

Point 17 (Table 14): Labour household numbers have shrunk down from the upper half of the wealth distribution

Numbers change little and grow slightly over the period (+2%). However, their growth lags other households (self-employed, pensioners, owners of enterprise and capital). Subsequently, their shares in the total number decline and they do so across the board in the upper half of the wealth distribution to the advantage of the lower half (+10%). The decline is strongest in the Middle-40% (-16%) but differs little from the top-10% (-13%). The downward move shifts labour households from a position of underrepresentation in the Bottom-50% to overrepresentation.

Table 15 Labour household net wealth shares over wealth-fractiles, %

Total € billion	%	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%	
A. Labour household wealth-fractile shares in total net wealth									
2006	47.9	-2.2	26.4	16.1	10.3	23.6	16.7	8.4	
2007	48.6	-0.7	25.5	15.8	9.8	23.8	17.1	9.1	
2008	41.6	-1.0	25.5	15.9	9.6	17.2	10.6	3.1	
2009	45.0	-0.6	25.3	15.5	9.7	20.3	13.8	6.1	
2010	43.9	-1.8	23.3	14.0	9.3	22.4	15.9	7.4	
2011	41.4	-2.2	22.7	13.5	9.2	20.9	14.5	6.5	
2012	42.2	-2.4	22.0	12.9	9.1	22.6	16.1	8.0	
2013	39.7	-4.8	20.1	11.4	8.8	24.3	17.8	9.5	
2014	38.7	-4.2	18.9	10.6	8.3	24.0	17.8	9.6	
Pcpt % 2006	-9.1 -19%	-2.0 91%	-7.5 -28%	-5.5 -34%	-2.0 -20%	0.4 +1%	1.1 +7%	1.2 +15%	
B. Labour household wealth-fractile shares in total labour household wealth									
2006	533	100	-4.6	55.2	33.6	21.6	49.4	34.9	17.5
2007	594	100	-1.5	52.6	32.4	20.1	49.0	35.2	18.7
2008	541	100	-2.3	61.1	38.2	23.0	41.2	25.5	7.5
2009	561	100	-1.3	56.2	34.6	21.6	45.1	30.7	13.6
2010	532	100	-4.1	53.0	31.9	21.1	51.1	36.2	16.9
2011	484	100	-5.2	54.9	32.5	22.3	50.4	35.1	15.6
2012	486	100	-5.8	52.3	30.7	21.6	53.5	38.1	19.0
2013	411	100	-12.0	50.7	28.6	22.1	61.3	44.8	23.9
2014	422	100	-10.9	48.9	27.5	21.5	62.0	46.1	24.8
Pcpt % 2006			-6.3 135%	-6.3 -11%	-6.2 -18%	-0.1 -1%	12.6 +25%	11.1 +32%	7.3 +42%

Point 18 (Table 15.A): Labour households' wealth fell behind in the distribution

The share in total wealth of labour households was close to half (47.9%) in 2006 but fell most strongly by 9.1 percentage points up to 2014. Consequently, the labour household share in wealth (38%) is currently well below their share in the number of households (55%) and far below their share in gross incomes (70%) as we will see below. Their average wealth is far below the general average.

They are responsible for most of the net debt of the Bottom-50% (-4.2% out of -4.8%, Table 11) but other households have actually witnessed a stronger increase. In the Middle-40% their wealth fell most strongly (-28%), twice as fast as for the total (-13%, Table 11). Their Top-10% share as a whole changed very little but their Top-5% and Top-1% did increase though significantly less than for the other types of households.

Point 19 (Table 15.B): Labour household wealth has shifted towards the Top-10%, closing some of the gap with other households

The picture for wealth among labour households begs to differ from the downward movement of their numbers in Table 14.B. Their own wealth distribution grows significantly more uneven. The share which belongs to the overall Top-10% has increased from 49% to 62% and now more closely resembles the total distribution where the share grew from 58% to 67%. As a result, their wealth shows much stronger growth at the top (+42%) than on average (+28%, Table 11). In 2014 their average wealth in the Top-1% (euro 4.1 million up from 3.3 million in 2006) even exceeds the general Top-1% average (€4.0 million up from 3.4 million). Apparently, some households which for their incomes depend on wage earnings, have made great upward moves in recent years.

Table 16 Labour household net wealth-fractile shares of housing and financial wealth in total net wealth, %

	Total € billion	%							
		Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%	
A. Self-owned housing wealth (net of mortgage debt)									
2006	259	23.3	-3.5	18.0	10.9	7.1	8.8	4.6	1.1
2007	294	24.0	-1.8	17.5	10.8	6.7	8.3	4.3	1.1
2008	298	22.9	-2.3	17.5	11.0	6.5	7.7	3.8	0.6
2009	291	23.3	-1.8	17.1	10.5	6.5	8.0	4.1	0.9
2010	232	19.1	-2.8	14.5	8.6	5.8	7.5	3.8	0.7
2011	205	17.5	-3.4	13.8	8.1	5.7	7.1	3.6	0.6
2012	187	16.2	-3.7	12.8	7.4	5.4	7.0	3.6	0.8
2013	107	10.4	-6.1	10.3	5.5	4.8	6.2	3.0	0.5
2014	107	9.9	-5.5	9.6	5.1	4.5	5.8	2.8	0.5
Pcpt		-13.4	-2.0	-8.4	-5.8	-2.5	-3.1	-1.8	-0.7
% 2001	-59%	-58%	56%	-47%	-53%	-36%	-35%	-38%	-59%
B. Financial wealth									
2006	273	24.6	1.3	8.4	5.2	3.3	14.8	12.1	7.3
2007	300	24.5	1.1	8.0	4.9	3.1	15.5	12.8	8.0
2008	243	18.7	1.3	7.9	4.9	3.0	9.5	6.8	2.5
2009	270	21.6	1.2	8.2	5.0	3.2	12.3	9.6	5.2
2010	301	24.8	1.0	8.8	5.3	3.4	15.0	12.0	6.7
2011	279	23.9	1.2	8.9	5.4	3.5	13.8	10.9	5.9
2012	299	26.0	1.2	9.2	5.5	3.7	15.5	12.4	7.2
2013	304	29.3	1.3	9.8	5.9	3.9	18.2	14.8	8.9
2014	314	28.9	1.3	9.3	5.6	3.8	18.2	15.0	9.1
Pcpt		4.3	-0.0	0.9	0.4	0.5	3.4	2.9	1.9
% 2006	+15%	+18%	-2%	+11%	+8%	+16%	+23%	+24%	+26%

*) Financial wealth is all net wealth except net self-owned housing wealth

Point 20 (Table 16): Labour households housing wealth has dwindled while their financial wealth grew

The housing wealth of labour households crashed as it fell by 59%, twice as much as on average (-29%, Table 12). Actually, their monetary decline between 2006 and 2014 equalled the fall of total housing wealth (€ 151 billion). Most of this fall occurred between 2011 (205 billion) and 2013 (107 billion) and their negative housing wealth has spread astoundingly over the distribution to include even the 5th decile from 2012 on. The Eurocrisis and concomitant austerity policies have taken a toll not only on employment and earnings but also on labour's wealth. Though this contrasts with an increase in their financial wealth (+15%) that has lagged average growth (+21%) and offered nor more than € 40 billion compensation for the € 150 billion housing decline.

Table 17 Labour household net wealth-fractile shares of labour-household mortgage debt, %

	Total		%							
	€ billion	% gross wealth		Bottom-50%	Middle-40%	60-80	Second-10%	Top-10%	Top-5%	Top-1%
2006	428	26.3	100	38.0	51.7	42.2	9.5	10.3	6.1	2.0
2007	453	25.5	100	35.8	53.3	43.5	9.8	10.9	6.5	2.2
2008	486	25.6	100	39.1	51.9	42.7	9.2	9.0	4.7	0.9
2009	505	27.1	100	39.2	51.2	42.1	9.0	9.7	5.4	1.8
2010	523	28.2	100	43.0	47.4	38.6	8.8	9.6	5.6	1.8
2011	528	29.0	100	44.8	46.2	37.7	8.5	9.0	5.2	1.5
2012	543	29.8	100	45.7	45.1	36.7	8.4	9.2	5.3	1.6
2013	547	31.9	100	51.6	39.8	32.2	7.6	8.7	5.2	1.8
2014	535	30.3	100	51.6	39.6	32.0	7.6	8.8	5.3	1.9
<i>Pcpt</i>		4.0	-	13.6	-12.1	-10.2	-1.9	-1.5	-0.7	-0.0
<i>% 2006</i>	+25%	15%		+36%	-23%	-24%	-20%	-15%	-12%	-2%

Point 21 (Table 17): Labour households bear the brunt of mortgage debt

These households' mortgage debt increased by 25%, less than average (+31%, Table 13). Nonetheless, they are responsible for 80% of total mortgage debt and 4.0 percentage points out of the total 6.7 points increase. After a rapid increase from 38% to 52%, more than half of all mortgage debt of labour households is now owned by their Bottom-50%, having shifted downwards from all higher fractiles. This is a logical consequence of the ranking of households by their wealth, nonetheless the effect is much stronger concentrated than for all households in general. Clearly, debt concentrates among labour households. This provides food for further research as it may hamper their geographical mobility and affect their labour market behaviour (job mobility).

3.2 Wealth over the distribution of household incomes

The above ranking of households by their own wealth offers valuable insights into the effects of different types of wealth and of debt. Those at the top of the distribution are the 'rich'. However, the concept of rich is often used also for those at the top of the income distribution. It is important to realise that the two are not the same. Income is a flow and wealth a stock, and the latter may be built from the former if large enough to allow saving, and for long years it may be trailing the income position, while vice-versa once wealth has been built income might start to trail. Debt brings down wealth and ultimately concentrates at the bottom of the wealth distribution as we have already seen, but debt will usually be taken on based on (expected) income and is therefore unlikely to concentrate at the bottom of the income distribution. Systematic scrutiny of the wealth distribution of households when they are ranked by their incomes is warranted, and draws a very different picture of the wealth distribution as we will see, again first for all households and next for the same sample of labour households that we discussed above. Interestingly, combining with incomes also allows considering what I call the 'simultaneous' or 'wealth-cum-income' top shares, which concern those households which are found at the top of both distributions at the same time. For that I will focus on three simultaneous fractiles: within the two top deciles: *Top-10x10*, within the two top quintiles: *Top-5x5*, and within the top one per cent: *Top-1x1*, all three being fully identical subsamples of households in the two distributions. Naturally, the national totals of wealth remain unchanged and therefore are not replicated in the tables below.

A. All households

Point 22 (Table 18): The income distribution is stable and more equal than the wealth distribution

To provide a point of reference the income distribution of households is shown which is consistent with the wealth data above and below. It basically follows the data as provided by Statistics Netherlands.

Total income (again not deflated) equals about two thirds of GDP and 40% of household net wealth. The income did grow (+23%) while total wealth hardly changed, on balance. The income distribution diverges strongly from the wealth distribution (Table 11). The income-Bottom-50% receives some 22% of total gross income while before it was negative on wealth, the Middle-40% holds about half which is around 10 percentage point more than of wealth before, and the Top-10% receives some 28% of income, less than half its two-thirds wealth share.

Interestingly, the income shares of the simultaneous fractiles decline significantly (around -14%). This largely reflects their decline in numbers, which is shown in the right-hand part of Table 19 (note that all other numbers equal the fractiles as mentioned), except for the Top-1x1 where incomes decline (-14%) more than the numbers (-4%).

Table 18 Household income-fractile shares in total gross income, %

	Total € billion	Bottom - 50	Middle -40	60-80	Second- 10	Top-10	Top-5	Top-1	Top- 10x10	Top 5x5	Top 1x1	
2006	352	100	22.9	49.5	33.0	16.5	27.6	17.2	5.9	10.3	5.8	1.8
2007	367	100	22.8	49.4	32.9	16.4	27.8	17.4	6.1	10.3	5.8	1.7
2008	388	100	22.4	48.7	32.4	16.3	28.9	18.4	6.7	12.1	7.5	3.4
2009	401	100	22.8	49.5	33.0	16.5	27.7	17.3	5.9	10.1	5.9	1.9
2010	406	100	22.8	49.8	33.1	16.6	27.5	17.0	5.6	9.6	5.4	1.7
2011	412	100	22.7	49.7	33.0	16.7	27.6	17.1	5.7	9.5	5.3	1.8
2012	419	100	22.6	49.8	33.1	16.7	27.6	16.9	5.5	9.0	4.7	1.2
2013	428	100	22.3	50.0	33.1	16.9	27.8	17.1	5.6	8.4	4.5	1.2
2014	434	100	22.1	49.7	32.9	16.9	28.1	17.4	5.8	9.1	5.1	1.6
Pcpt	82		-0.8	0.3	-0.2	0.4	0.5	0.2	-0.1	-1.2	-0.8	-0.3
2006	23		-3	1	-1	3	2	1	-2	-12	-13	-14

Point 23 (Table 19): The wealth distribution over incomes is much less unequal than over wealth

By definition increasing net debts concentrate at the lower end in the wealth distribution and we found substantial concomitant shifts of households across that distribution. If we look now at the distribution of wealth over the income distribution, however, this a priori concentration and the related downward shifts over the fractiles disappear. The income-Bottom-50% disposes of a substantial share of more than one quarter of total net wealth, which even exceeds their income share. The income-Middle-40% holds a good 40% of wealth while it receives half of total income. The Top-10% owns around a couple of percentage points more in wealth than their share in incomes. Its wealth share is much more comparable to that income share than to the wealth-Top-10% share in wealth (58-67%, Table 11). Similarly, the Top-1% share in wealth (around 10%) exceeds that in income (around 6%) and remains far below is wealth-Top-1% wealth share (20-27%, Table 11).

The three simultaneous top shares in wealth are substantially larger than their income shares: up to 29% versus 12% for the Top-10x10, 20% versus 7% for the Top-5x5, and 13% versus 3% for the Top-1x1. They comprise a far smaller part of wealth-Top-10% wealth (up to 67%, Table 11) than of income-Top-10% wealth (32%). At the top of the wealth distribution all households have large wealth

while within the top of the income distribution, as well as within lower fractiles, the very uneven distribution of wealth is retained which concentrates top wealth in a few hands only. Thus, the simultaneous fractiles encompass the great majority (72 to 100%) of wealth of the income-Top-10%, -5% and -1% respectively. This occurs in spite of the fact that their shares in the number of households (right-hand Table 19) indicate declining frequencies. From one quarter down to one fifth of the income-Top-10% belong also to the wealth-Top-10%, while the fractions are smaller for the Top-5% (declining from one fifth to one sixth) and the top-1% (stable at one eighth).

Over time, as for income, most income-fractile shares of wealth hardly change over time, including the broad top shares but not the simultaneous shares which increase substantially – apparently driven by the increase in wealth inequality. Nonetheless, the stability contrasts strikingly with the strong decline of the wealth-bottom-90% and the equally strong rise of the wealth-top for wealth.

Table 19 Household income-fractile shares in total gross wealth, %

	Bottom - 50%	Middle -40%	60-80	Second - 10%	Top- 10%	Top-5%	Top-1%	Top- 10x10	Top 5x5	Top 1x1	Number shares		
											Top- 10x10	Top 5x5	Top 1x1
A. Wealth distribution													
2006	25.3	42.3	28.3	14.0	32.4	22.8	10.0	26.3	18.0	7.8	3.1	1.4	0.2
2007	25.2	42.9	28.8	14.2	31.9	22.4	10.0	26.1	17.9	8.1	3.1	1.3	0.2
2008	24.5	40.4	27.5	12.9	35.1	26.3	14.9	29.3	16.9	13.3	3.3	1.6	0.5
2009	26.7	42.6	28.9	13.7	30.7	21.7	10.0	24.8	17.1	7.9	3.1	1.4	0.3
2010	26.6	42.2	28.4	13.8	31.2	21.8	10.2	25.9	17.5	8.1	3.0	1.3	0.3
2011	26.9	41.2	28.2	13.0	31.9	22.2	11.2	26.7	18.1	9.3	2.9	1.3	0.3
2012	28.4	42.9	29.4	13.5	28.7	19.5	7.8	23.7	15.3	5.7	2.8	1.2	0.2
2013	29.1	43.1	29.3	13.8	27.9	18.9	7.7	24.1	15.6	5.9	2.6	1.1	0.2
2014	26.9	40.6	28.0	12.6	32.5	23.3	10.7	28.7	20.1	9.1	2.7	1.2	0.2
Pcpt	1.6	-1.7	-0.3	-1.4	0.1	0.6	0.7	2.4	2.0	1.3	-0.4	-0.2	0.0
% 2006	6%	-4%	-1%	-10%	0%	2%	7%	9%	11%	17%	-13%	-14%	-4%

Table 20 Household income-fractile shares of net housing and financial wealth in total net wealth, %

	Total	Bottom- 50%	Middle- 40%	60-80	Second- 10%	Top-10%	Top-5%	Top-1%	Top- 10x10	Top 5x5	Top 1x1
A. Self-owned housing wealth (net of mortgage debt)											
2006	46.7	14.1	22.7	15.5	7.2	9.9	5.6	1.3	6.7	3.3	0.6
2007	47.8	14.7	23.3	16.1	7.1	9.9	5.7	1.6	7.5	5.0	1.1
2008	48.7	14.8	23.7	16.5	7.2	10.2	5.8	1.7	8.4	5.6	1.5
2009	49.6	16.2	23.7	16.6	7.1	9.7	5.6	1.4	7.5	5.0	0.9
2010	44.0	14.9	20.7	14.6	6.1	8.4	4.6	1.2	6.6	4.3	0.8
2011	43.2	15.2	20.0	14.2	5.9	7.9	4.3	1.1	6.1	4.2	0.7
2012	41.9	15.1	19.5	13.9	5.6	7.3	3.9	0.9	5.8	3.8	0.5
2013	35.1	13.9	15.9	11.5	4.4	5.2	2.9	0.6	4.5	3.1	0.4
2014	33.9	13.6	15.1	11.1	4.0	5.2	2.8	0.6	4.6	3.2	0.4
Pcpt	-12.8	-0.6	-7.6	-4.4	-3.2	-4.7	-2.8	-0.7	-2.1	-0.1	-0.2
% 2006	-27%	-4%	-34%	-29%	-44%	-47%	-50%	-51%	-32%	-3%	-36%
B. Financial wealth											
2006	53.3	11.2	19.6	12.8	6.8	22.5	17.2	8.7	19.6	14.7	7.2
2007	52.2	10.5	19.7	12.6	7.1	22.0	16.7	8.4	21.2	15.8	7.7
2008	51.3	9.6	16.8	11.0	5.8	24.9	20.5	13.1	25.8	21.2	14.0
2009	50.4	10.5	18.9	12.2	6.7	21.0	16.1	8.6	20.3	15.4	8.0
2010	56.0	11.7	21.5	13.8	7.6	22.9	17.1	8.9	21.6	15.9	8.1
2011	56.8	11.7	21.1	14.0	7.2	24.0	17.9	10.1	21.8	16.0	9.1
2012	58.1	13.3	23.4	15.5	7.9	21.5	15.5	6.8	18.8	13.1	5.4
2013	64.9	15.2	27.1	17.8	9.3	22.6	16.0	7.1	18.0	12.4	5.1
2014	66.1	13.4	25.5	16.9	8.6	27.3	20.5	10.1	23.5	17.5	8.5
Pcpt	12.8	2.2	5.9	4.1	1.8	4.8	3.4	1.4	3.9	2.8	1.3
% 2006	24%	20%	30%	32%	26%	21%	19%	16%	20%	19%	19%

Note: Both panels have the same denominator as in Table 19 and can be directly compared as well as added up mutually.

Point 24 (Table 20): The housing price crisis affects the wealth of higher incomes more

As in Table 12 before, we have split between housing and financial wealth, which is now allocated over the income distribution. Declining housing values again affect the entire distribution but the decline is stronger at the top. The wealth-Top-10% share declines rather little, from 21 to 19%, while the income-Top-10% housing wealth share is halved from 10 to 5%. The higher-income households will be younger, given the importance of market incomes at the top (Table 4), and unsurprisingly they will face higher mortgage debts (Table 20). The gains in financial spread also from the bottom to the top and tend to be weaker at higher income levels, thus compensating less for the housing decline. In the simultaneous fractiles housing wealth falls somewhat less than in the Top-10% as a whole while the increase in financial wealth is about the same.

Point 25 (Table 21): Mortgage debt spreads much more evenly over the income fractiles

The income perspective on debt contrasts strongly with the wealth perspective of Table 13. The distribution of mortgage debt, 13 to 11% for the wealth-Top-10%, is twice as strongly geared towards the income Top-10% top (25 to 27%). The debt share of the bottom 80% falls while it increases for the top, up to +14% for the Top-1%. However, in the simultaneous top fractiles it falls substantially of increases little (Top-1x1 +4%).

Table 21 Household income-fractile shares of total gross mortgage debt, %

	Total % gross wealth	%	Bottom- 50%	Middle - 40%	60-80	Second- 10%	Top- 10%	Top-5%	Top-1%	Top- 10x10	Top 5x5	Top 1x1
2006	31.7	100	18.5	56.1	38.3	17.8	25.5	14.8	3.9	7.3	3.8	1.0
2007	31.1	100	18.0	55.6	37.4	18.1	26.4	15.6	4.4	7.3	1.6	0.9
2008	31.5	100	19.5	54.3	36.8	17.5	26.2	15.6	4.1	7.6	2.1	1.7
2009	33.1	100	18.1	55.5	37.3	18.2	26.4	15.5	4.2	6.8	1.6	1.1
2010	34.5	100	18.6	55.0	37.1	17.9	26.4	15.5	4.2	6.4	1.4	0.8
2011	35.9	100	18.1	55.3	37.4	17.9	26.6	16.0	4.6	6.6	1.6	1.2
2012	36.9	100	17.8	55.4	37.2	18.2	26.8	15.9	4.4	6.0	1.1	0.6
2013	39.6	100	17.9	55.2	37.2	18.0	26.9	15.7	4.4	5.6	1.2	0.7
2014	38.4	100	17.8	55.5	37.1	18.4	26.7	15.7	4.5	6.0	1.6	1.1
Pcpt	6.7		-0.7	-0.6	-1.2	0.6	1.3	0.9	0.6	-1.2	-2.3	0.0
% 2006	21%		-4%	-1%	-3%	4%	5%	6%	14%	-17%	-59%	4%

B. Labour households

We now turn to the part labour households play also in the distribution of wealth over incomes. Note that this differs from the part played by wage earnings in Table 4, which accounts for the wage income received by any household while now we restrict ourselves to the more limited sample of households whose income depends for more than 50% on wage earnings.

Point 26 (Table 22): Labour households shift up the income distribution

Labour households still comprise more than half of all households. However, their distribution differs radically from the one ranked by household wealth (Table 14). They are a minority of around one third in the Bottom-50% and a large majority in the upper half, reaching levels of 83-87% in the 9th and 10th decile (Panel A). They are clearly overrepresented with 16% of their numbers in each of these two deciles (Panel B). Over time they tend to shift further upwards, which contrasts again with their

downward shift in the wealth distribution. Within the Top-10% their role grows particularly fast in the Top-1% (58% to 73%) and also in the Top-1x1 (31% to 41%).

Table 22 Labour household number shares among all households by income-fractiles, %

	Total	Bottom-50%	Middle-40%	60-80	Second-10%	Top-10%	Top-5%	Top-1%	Top-10x10	Top-5x5	Top-1x1
A. Labour households shares in numbers within income fractiles											
2006	57%	33%	80%	78%	87%	83%	77%	58%	65%	58%	31%
2007	57%	34%	80%	78%	86%	83%	79%	62%	66%	58%	35%
2008	57%	35%	80%	78%	86%	78%	70%	41%	56%	41%	13%
2009	58%	36%	80%	78%	86%	81%	75%	58%	60%	50%	30%
2010	57%	35%	79%	77%	87%	83%	79%	62%	64%	54%	29%
2011	57%	34%	79%	76%	87%	83%	79%	64%	62%	53%	27%
2012	56%	33%	78%	75%	87%	85%	82%	71%	65%	58%	39%
2013	56%	32%	78%	75%	87%	86%	83%	73%	67%	58%	45%
2014	55%	31%	77%	74%	86%	85%	83%	73%	66%	58%	41%
Pcpt	-2%	-2%	-3%	-5%	0%	3%	6%	15%	1%	0%	9%
% 2006	-4%	-6%	-4%	-6%	+0%	+4%	+7%	+25%	+1%	+1%	+30%
B. Labour households shares in numbers over income fractiles											
2006	100%	29%	56%	41%	15%	14%	7%	1%	1.1%	1.0%	0.5%
2007	100%	29%	56%	41%	15%	14%	7%	1%	1.1%	1.0%	0.6%
2008	100%	31%	56%	41%	15%	14%	6%	1%	1.0%	0.7%	0.2%
2009	100%	31%	55%	40%	15%	14%	6%	1%	1.0%	0.9%	0.5%
2010	100%	30%	55%	40%	15%	15%	7%	1%	1.1%	0.9%	0.5%
2011	100%	30%	56%	40%	15%	15%	7%	1%	1.1%	0.9%	0.5%
2012	100%	29%	56%	40%	15%	15%	7%	1%	1.2%	1.0%	0.7%
2013	100%	28%	56%	40%	16%	15%	7%	1%	1.2%	1.1%	0.8%
2014	100%	28%	56%	40%	16%	16%	8%	1%	1.2%	1.1%	0.7%
Pcpt		-1%	0%	-1%	1%	1%	1%	0%	0.1%	0.0%	0.2%
% 2006		-2%	-1%	-2%	+4%	+7%	+11%	+30%	+5%	+5%	+35%

Point 27 (Table 23): Labour-household wealth generally declines but increases within the Top-5%

The labour-household share in total wealth shows the same decline over incomes as over wealth (Table 15), down from 48% to 39%. However, while the labour-household wealth-Top-10% held between 20% and 24% of total wealth, their income-Top-10% holds 16% to 19% only. The main difference is in the Bottom-50% where they hold up to 5% on an income basis which contrasts up to minus 5% on a wealth basis. The Middle-40% shows, rather similarly, most of the decline over time on both sides – minus around 7 Pcpt. Declines stretch up to the tenth decile now but within the decile strong growth is found for the three simultaneous top shares. The general pattern largely mirrors the shifting household numbers of Table 22. Clearly, some labour households are rising to the top of both the income and the wealth distribution. In the Top-1x1 their absolute number increases from 5,500 to 7,300, their total income from euro 2.2 billion to 3.0 billion (the average rises from euro 396,000 to 413,000), and their net wealth from euro rises from 20.3 billion to 27.1 billion (the average of euro 3.7 million is unchanged) and their mortgage debt grown from euro 2.7 billion to 4.0 billion (the average from euro 566,000 to 738,000).

They suffer large declines in housing wealth across the entire income distribution, which are only somewhat smaller for the simultaneous fractiles. Financial wealth falls for the Bottom-50% but increases for the other half, in particular for the Top-1% and Top-1x1 (+42%).

Table 23 Labour household income-fractile shares of total, housing and financial wealth in total net wealth of all households, %

	Total	Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%	Top- 10x10	Top 5x5	Top 1x1
A. Total net wealth											
2006	47.9	4.6	24.4	14.9	9.5	18.8	11.8	3.2	13.4	5.7	1.8
2007	48.6	4.8	25.0	15.6	9.4	18.7	11.9	3.4	13.7	8.1	2.2
2008	41.6	4.2	23.0	14.4	8.6	14.4	8.5	2.3	9.5	4.0	1.3
2009	45.0	5.3	23.8	14.7	9.1	15.9	9.6	2.8	10.7	5.6	1.6
2010	43.9	4.9	22.3	13.4	8.9	16.7	10.3	3.1	12.0	6.4	1.8
2011	41.4	4.3	21.2	12.9	8.3	15.9	10.0	3.3	11.2	5.9	2.0
2012	42.2	4.2	21.0	12.5	8.6	16.9	10.7	3.2	12.4	6.8	1.8
2013	39.7	4.0	19.3	11.1	8.1	16.4	10.7	3.6	12.8	7.2	2.4
2014	38.7	3.3	17.6	10.2	7.4	17.9	12.0	3.8	14.2	8.4	2.5
Pcpt	-9.1	-1.4	-6.8	-4.7	-2.1	-0.9	0.1	0.7	0.8	2.7	0.7
% 2006	-19%	-30%	-28%	-32%	-22%	-5%	1%	22%	6%	47%	36%
B. Self-owned housing wealth (net of mortgage debt)											
2006	23.3	2.3	13.9	8.7	5.2	7.1	3.7	0.6	4.2	6.2	0.2
2007	24.0	2.6	14.6	9.4	5.2	6.8	3.6	0.7	4.1	6.5	0.4
2008	22.9	2.2	14.5	9.3	5.2	6.2	3.0	0.4	3.6	3.6	0.2
2009	23.3	2.9	13.9	8.9	5.0	6.5	3.3	0.6	3.7	4.5	0.2
2010	19.1	2.2	11.2	7.0	4.2	5.6	2.9	0.5	3.5	5.4	0.2
2011	17.5	1.8	10.5	6.5	4.0	5.2	2.7	0.4	3.3	5.1	0.1
2012	16.2	1.7	9.6	5.9	3.7	4.9	2.5	0.5	3.3	5.7	0.2
2013	10.4	1.0	6.2	3.6	2.6	3.2	1.6	0.2	2.8	6.4	0.1
2014	9.9	1.1	5.6	3.3	2.2	3.2	1.6	0.2	2.7	7.8	0.1
Pcpt	-13.4	-1.2	-8.4	-5.3	-3.0	-3.8	-2.1	-0.4	-1.5	1.6	-0.1
% 2006	-58%	-54%	-60%	-62%	-58%	-54%	-57%	-60%	-35%	27%	-29%
C. Financial net wealth											
2006	24.6	2.3	10.5	6.3	4.2	11.7	8.1	2.5	9.3	7.5	1.7
2007	24.5	2.2	10.5	6.3	4.2	11.9	8.3	2.7	9.6	8.8	1.9
2008	18.7	2.0	8.5	5.2	3.4	8.2	5.5	1.9	5.9	5.0	1.1
2009	21.6	2.3	9.9	5.8	4.1	9.4	6.3	2.2	7.0	6.4	1.4
2010	24.8	2.7	11.0	6.4	4.6	11.1	7.4	2.6	8.5	7.2	1.6
2011	23.9	2.5	10.7	6.4	4.3	10.7	7.4	2.8	7.9	6.8	1.9
2012	26.0	2.5	11.5	6.6	4.9	12.0	8.1	2.8	9.1	7.5	1.6
2013	29.3	2.9	13.1	7.5	5.6	13.3	9.0	3.4	10.0	8.0	2.3
2014	28.9	2.2	12.0	6.9	5.1	14.7	10.3	3.6	11.5	9.3	2.4
Pcpt	4.3	-0.1	1.5	0.6	0.9	2.9	2.2	1.1	2.2	1.9	0.7
% 2006	18%	-5%	14%	10%	21%	25%	27%	42%	24%	25%	42%

Note: The three panels have the same denominator as in Tables 12 and 13 and can be directly compared and also mutually added up.

Table 24 Labour household income-fractile shares of labour-household gross mortgage debt, %

	Total % gross wealth	%										
		Bottom- 50%	Middle - 40%	60-80	Second- 10%	Top- 10%	Top-5%	Top-1%	Top- 10x10	Top 5x5	Top 1x1	
2006	26.3	100	14.1	59.5	40.0	19.5	26.5	14.7	3.3	6.4	3.2	0.6
2007	25.5	100	13.7	58.5	38.5	20.0	27.8	15.9	4.0	6.6	3.3	0.6
2008	25.6	100	15.8	58.0	38.6	19.4	26.1	14.4	2.7	5.7	2.6	0.4
2009	27.1	100	14.0	58.9	38.8	20.1	27.1	15.1	3.5	5.6	2.8	0.5
2010	28.2	100	14.0	58.1	38.2	19.9	27.8	15.8	3.7	5.6	2.7	0.4
2011	29.0	100	13.0	58.8	38.7	20.1	28.2	16.3	4.0	5.6	2.7	0.6
2012	29.8	100	12.6	58.5	38.2	20.3	28.9	16.7	4.3	5.4	2.4	0.4
2013	31.9	100	12.2	58.3	38.1	20.3	29.4	16.8	4.3	5.1	2.3	0.5
2014	30.3	100	11.5	59.0	38.0	21.0	29.5	16.9	4.4	5.5	2.8	0.7
Pcpt	4.0		-2.6	-0.5	-2.0	1.5	3.1	2.2	1.1	-0.9	-0.4	0.1
% 2006	15%		-18%	-1%	-5%	8%	12%	15%	34%	-15%	-11%	19%

Point 28 (Table 24): Labour households' shifts towards higher incomes

Finally, and unsurprisingly, the debt share owned by labour households in the Bottom-50% of the income distribution (around 14%) is much smaller than for the wealth distribution (35-52%, Table 17). The Middle-40% has a somewhat higher share now and the Top-10% a much bigger one (26-30% versus 9-10%). Over time the shares diverge, shrinking for the bottom 80% and expanding for the top 20%, and particularly for the Top-1% (+34%).

4. The next 100 years and the DINA linking to the National Accounts

Looking to the future a quick note is justified about the WID's aim to develop Distributional National Accounts, pointing out some of the challenges to be encountered for the Netherlands.

Point 29 (Table 25): Wages are incomparably better captured statistically than other primary incomes

For linking the income distribution to the National Accounts it is essential to consider the sources of income, if only to distinguish market incomes from redistributed incomes. Distinguishing between types of market incomes too offers important further help as the statistical observation of wage earnings is generally superior to that of incomes from enterprise or wealth. The IPO data provide a clear example. Compared to the Compensation of employees in the National Accounts IPO gross wages offer nearly complete coverage though it still varies over time (94-98%). The very high percentage seems to indicate that little is lost in taxing wages because of untaxed elements, while its steady level suggests that the untaxed part has not been growing. However, other primary incomes are lacking very substantially in this respect as they cover a very meagre 10% to 16% of the N.A.'s Operating surplus, net after deduction of depreciation, and do so with relatively great variation over the years. In total, 30 to 34% of the N.A. are not covered directly by the income statistics. Though that may seem limited and also steady at first sight, the likely effect on the income distribution will be large and perhaps also volatile.

Table 25 Wages and other primary incomes: National Accounts (N.A.) versus income statistics (IPO)

	Wages				Other sources				Total gap	
	N.A.	IPO	(%)	Gap 1	N.A.	IPO	(%)	Gap 2		(%)
2001	238391	224935	94	13456	112807	17592	16	95215	108671	31%
2002	250067	236555	95	13512	113644	15500	14	98144	111656	31%
2003	256910	243041	95	13869	114183	11474	10	102709	116578	31%
2004	260672	249225	96	11447	122934	14671	12	108263	119710	31%
2005	264776	255096	96	9680	134007	16070	12	117937	127617	32%
2006	274119	267868	98	6251	150505	16343	11	134162	140413	33%
2007	290933	278717	96	12216	160850	25287	16	135563	147779	33%
2008	307355	291570	95	15785	164651	21374	13	143277	159062	34%
2009	311679	296079	95	15600	142648	17097	12	125551	141151	31%
2010	310471	298583	96	11888	152023	16257	11	135766	147654	32%
2011	318040	305447	96	12593	156630	15225	10	141405	153998	32%
2012	322825	309474	96	13351	153824	16120	10	137704	151055	32%
2013	324595	311033	96	13562	154605	16094	10	138511	152073	32%
2014	327963	314805	96	13158	156164	24547	16	131617	144775	30%
% 2001	38%	40%	2%	-2%	38%	40%	1%	38%	33%	-1%

Point 30 (Table 26): What may bridge the gap between National Accounts and IPO?

The question really begging for an answer is therefore what can explain the huge gap for other primary incomes – is it definitions or observations? As far as it is not the former it should be the latter, and both play a role. Several candidates may be suggested for bridging the gap. On the N.A. side we find four elements that are presumably included in the net Operating surplus:

- mortgage and other interest paid by households,
- occupational pensions paid to pensioners,
- returns to capital of the colossal pension fund sector, and
- returns to enterprise and capital which are saved and not transferred to households or other countries.

Note that imputed rent is left out from this list as it is actually part of IPO incomes (from wealth).⁵

The first and second items are actually observed in IPO but they are left out by CBS from its definition of primary income: IPO deducts interest payments from primary incomes and classifies occupational pension payments as transfers despite their capital funding. In a first little exercise undertaken for the year 2014 this shift enhances the IPO tax units' total gross income to € 491 billion as against € 445 before. However, the top shares change very little as a result of this albeit a little more with higher incomes within the Top-10%.

IPO pensions significantly exceed N.A. pensions while the IPO interest payments exceed N.A. levels occasionally. It is encouraging nonetheless that distributional information is available and may be used as a step towards DINA.

This contrasts with the third and fourth items, which are not observed in IPO. Taken together they cover most of the gap and more than that since 2009. The distributional aspect of pension funds' returns can perhaps be approached by estimations of individual entitlements (see, e.g., Knoef et al., 2016), if these could be made consistent with N.A. aggregates. However, last but not least, the most important gap concerns retained profits. How to distribute those over households is a major problem of DINA in all countries and what is captured in IPO might seem very little indeed (cf. Piketty et al, 2018, 562, who state that one third of US capital income is reported on tax returns).

Table 26 Elements of primary income that may bridge the N.A. to IPO gap

	Pension payments		Interest paid by households		PF returns	Firm savings	Total	Remaining gap	% of total gap
	IPO	N.A.	IPO	N.A.	N.A.	N.A.	(N.A.)		
2001	22437	15561	20181	25647	13963	30772	85943	22728	21
2002	23792	17144	22298	26601	15094	33605	92444	19212	17
2003	25288	18584	25019	25432	14271	44149	102436	14142	12
2004	27250	19598	25635	25869	12592	51654	109713	9997	8
2005	28749	21266	27372	26464	20034	49275	117039	10578	8
2006	30894	22613	28154	28529	18215	70239	139596	817	1
2007	32036	23632	29820	31985	21727	76555	153899	-6120	-4
2008	33987	24675	32077	35111	21458	57041	138285	20777	13
2009	35050	25596	33089	35009	20468	64451	145524	-4373	-3
2010	36608	26714	33400	34584	20573	78244	160115	-12461	-8
2011	37741	27342	34479	35178	21935	86250	170705	-16707	-11
2012	38172	27808	34720	34331	23996	79624	165759	-14704	-10
2013	38529	27925	34111	32659	24685	68733	154002	-1929	-1
2014	40892	28354	33513	31586	27214	59254	146408	-1633	-1
% 2001	82%	82%	66%	23%	95%	93%	70%	-107%	-105%

N.A. = National Accounts

⁵ However, quantitatively important changes have been made in the estimation of imputed rent recently (CBS, 2017).

5. Concluding remarks

Statistics Netherlands (CBS) maintains highly accurate and detailed data which become available in a provisional version pretty quickly (< 1.5 year).⁶ The data are derived from individual income-tax declarations. These are supplemented by CBS for certain components of income which are not addressed in the tax declarations such as contributions to the occupational pension system or imputed rent for self-owned housing and several types of transfers. Published tabulated data concern households but the microdata (IPO) provide underlying individual information. CBS does not publish top shares within the tenth decile, I am hoping though that they will start doing so with the new IIV data, but this hope may be in vain. CBS has recently made important improvements to the observation of incomes, especially on capital incomes, and started a new series (IIV) based on the comprehensive coverage of the population and no longer using a sample. This will lead to another break in the long-run series next to the start of the IPO survey in 1977 and the major break of the year 2000 in the series based on IPO.

Unfortunately, these advantages have a downside: specific definitions used by CBS. Most important is the treatment of interest paid and occupational pensions received from the extensive Dutch capital-funded pension system – both are left out from primary incomes. Together with a quantitatively drastic change in the treatment of imputed rent, these bear responsibility for the major series break between the years 1999 and 2001 (and the bad quality of data for the year 2000 as a consequence). It illustrates that the way the statistical offices proceed may have important effects. The very precise prescriptions given to the statistical offices by the OECD for inputs in the Income and Poverty Database underline this.

My major question in this respect is whether I should deviate from CBS usage and include the interest and pensions mentioned above and perhaps also attempt a repair of the change in imputed rent (2001-2014)? To this can be added the question what to do with employer contributions – of which occupational pensions premiums are the most important – more generally. Quite likely – in spite of their existence – these were (largely) outside the concept of gross incomes that was used up to 1975, that is before the start of the IPO microdata in 1977. The effect of leaving the employer contributions out from the control total after 1977 is shown in dashed red lines in Graphs 9 and B2 below.

This brings me to another issue that links to the long historical lines which the top incomes literature aims to draw. It is because of the available data at the start 100 years ago that tax units are being used. That consistency is of great importance for analysing long-run trends but at the same time tax units as the sole unit of analysis may hinder a deeper analysis of inequalities. In my view, this holds even stronger for the exclusive use of individual persons. The combination with household-based information – naturally also ridden with national statistical idiosyncrasies up to a point – will be a great analytical help. Dual earners who share a household are the majority of wage earners in most EU countries. Is it now the right time to develop an overlapping series on a household basis in parallel to the tax-units series? In addition, the household basis seems inevitable for expanding the WID to disaggregate wealth data will often, and for the Netherlands exclusively, be based on the

⁶ In the near future IPO will be replaced with a new statistic, IIV, that will offer comprehensive coverage of the population and no longer of a sample only. At the same time the capping of top incomes will be abolished. The new data will largely undo the change in imputed rent CBS made in 2001.

household for lack of legal ownership information within couples and for economic reasons such as the self-owned house which is mostly mirror investment made by the household.

In this paper I have aired also some questions regarding the WID's definition of the Middle-40%. The use of a more flexible concept of the middle class might be advisable.

Finally, for DINA I advocate a strong focus on coming to grips with incomes from enterprise and wealth for bridging the gap with the National Accounts. To this can be added that in my country aggregate income inequality may be increasing only gradually while below that relatively calm surface very substantial shifts between types of incomes are occurring at the same time, with a strong upward shift of wage earners towards the top – largely due to second earners. Introducing more detail on sources of income in the WID seems highly advisable. Figure C shows my modest but still interesting harvest from the WID database. However, the gap that the absence of capital incomes leaves in the income statistics might very significantly distort the evolution of labour incomes within the income distribution and especially at the top, certainly if that gap would also be changing in itself over time.

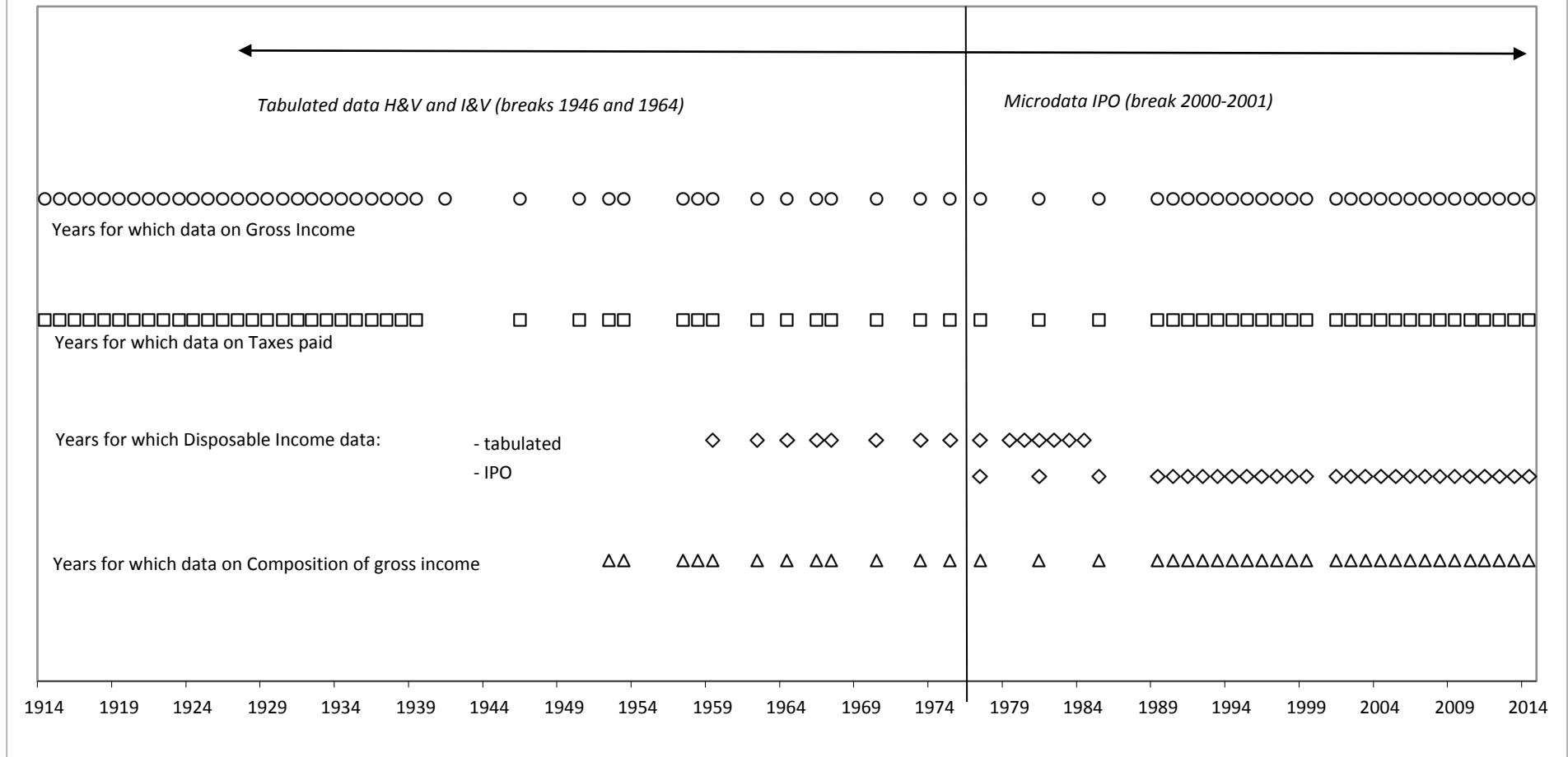
References

- Aaberge, Rolf, Anthony B. Atkinson and Joergen Modalsli (2016). *On the measurement of long-run income inequality: Empirical evidence from Norway, 1875-2013*. Statistics Norway Discussion Paper 847. https://www.ssb.no/en/forskning/discussion-papers/_attachment/279993
- Atkinson, Anthony B., and Wiemer Salverda (2003). Top Incomes in the Netherlands and the United Kingdom over the Twentieth Century. Working Paper 14, Amsterdam Institute for Advanced Labour Studies, Universiteit van Amsterdam. http://www.uva-aias.net/uploaded_files/publications/WP14.pdf
- Atkinson, Anthony B., and Wiemer Salverda (2005). Top Incomes in the Netherlands and the United Kingdom over the Twentieth Century. *Journal of the European Economic Association*, 3:4, 1–32
- Atkinson, Anthony, and Jacob Egholt Soegaard (2016). The long-run history of income inequality in Denmark. *Scandinavian Journal of Economics*, 118:2, 264-291.
- CBS (2017). *Inkomensstatistiek: herziene cijfers*. https://www.cbs.nl/-/media/_pdf/2017/06/revisie-inkomensstatistiek.pdf
- Knoef, Marike, Jim Been, Rob Alessie, Koen Caminada, Kees Goudswaard en Adriaan Kalwij (2016), Measuring retirement savings adequacy: developing a multi-pillar approach in the Netherlands. *Journal of Pension Economics and Finance*. 15 (1): 55–89.
- Salverda, Wiemer, and Anthony B. Atkinson (2007). Top Incomes in the Netherlands over the Twentieth Century. In: Anthony B. Atkinson and Thomas Piketty, editors, *Top Incomes over the Twentieth Century: A Contrast Between Continental European and English-Speaking Countries*. Oxford University Press, 2007, 426–471.
- Salverda, Wiemer (2013). Extending the top-income shares for the Netherlands from 1999 to 2012: An explanatory note. World Top Incomes Database. <http://topincomes.gmond.parisschoolofeconomics.eu/#Country:Netherlands>
- Salverda, Wiemer (2015). Vermogensongelijkheid op recordhoogte. <http://www.mejudice.nl/artikelen/detail/vermogensongelijkheid-op-recordhoogte> (13 April)
- Salverda, Wiemer (2015b). EU policy making and growing inequalities. *European Economy. Discussion Paper 008*. 2015. European Commission, Directorate-General for Economic and Financial Affairs. http://ec.europa.eu/economy_finance/publications/eedp/dp008_en.htm
- Salverda, Wiemer (2017). Individual Earnings and Household Incomes: Mutually Reinforcing Inequalities? *European Journal of Economics and Economic Policies*, 2015, 12:2, 190–203.
- Salverda, Wiemer, and Eelco de Jong (2017). *The Dutch middle class in times of growing income inequality 1990-2014: The crucial rise of dual earners*. AIAS Working Paper 171. <http://www.uva-aias.net/nl/working-papers/aias/2017/the-dutch-middle-class-in-times-of-growing-income-inequality-1990-2014-the-crucial-rise-of-dual-earners>
- Salverda, Wiemer, and Bas van Bavel (2017). CBS meet méér ongelijkheid, maar verkoopt het als minder. <http://www.mejudice.nl/artikelen/detail/cbs-meet-meer-ongelijkheid-maar-verkoopt-het-als-minder> (5 April)
- Vaughan-Whitehead, Daniel, ed. (2016). *Europe's Disappearing Middle Class? Evidence from the World of Work*. ILO and Edward Elgar.

	Top 10%	2nd vintile	Top 5%	2nd 4%	Top 1%	Top 0.5%	Top 0.1%	Top 0.05%	Top 0.01%	Total Tax Units	Total Gross Income million guilders <2000, euros >2000
1969										6,041	
1970	31.34	10.09	21.25	12.61	8.64	5.76	2.13	1.39	0.57	6,120	90,363
1971											
1972											
1973	28.41	9.99	18.42	11.51	6.91	4.49	1.59	1.02	0.36	6,367	125,634
1974											
1975	27.70	10.16	17.54	11.37	6.18	3.95	1.39	0.89	0.33	6,603	165,956
1976											
1977	27.81	10.46	17.35	11.34	6.01	3.81	1.26	0.77		6,838	209,844
1978											
1979											
1980											
1981	28.46	10.89	17.57	11.73	5.85	3.66	1.28	0.81		7,389	266,941
1982											
1983											
1984											
1985	29.10	11.09	18.00	12.09	5.92	3.65	1.21	0.77		7,899	294,504
1986											
1987											
1988											
1989	28.48	10.86	17.62	11.92	5.70	3.52	1.19	0.78		8,228	353,758
1990	28.20	10.87	17.33	11.76	5.56	3.42	1.09	0.68		8,341	409,665
1991	28.11	10.85	17.25	11.71	5.54	3.41	1.14	0.73		8,410	433,681
1992	27.99	10.86	17.13	11.62	5.50	3.39	1.14	0.73		8,475	457,963
1993	27.96	10.98	16.97	11.73	5.24	3.15	0.98	0.60		8,542	461,621
1994	28.28	11.10	17.18	11.85	5.33	3.21	1.00	0.63		8,597	466,212
1995	28.45	11.13	17.32	11.95	5.37	3.23	1.00	0.61		8,663	482,064
1996	28.24	11.02	17.22	11.83	5.39	3.28	1.06	0.69		8,726	494,892
1997	28.21	10.98	17.23	11.77	5.46	3.34	1.11	0.72		8,789	511,447
1998	28.03	10.97	17.06	11.76	5.29	3.21	1.00	0.61		8,853	536,373
1999	28.09	10.96	17.13	11.75	5.38	3.28	1.08	0.69		8,917	566,734
2000	28.02	10.81	17.21	11.60	5.61	3.53				9,000	293,078
2001	29.69	10.97	18.72	12.08	6.64	4.32	1.51			9,101	313,188
2002	29.82	11.11	18.72	12.17	6.55	4.23	1.45			9,112	326,388
2003	29.84	11.23	18.61	12.25	6.36	4.07	1.45			9,243	334,208
2004	30.44	11.29	19.16	12.50	6.66	4.25	1.45			9,309	347,700
2005	30.69	11.35	19.34	12.53	6.81	4.40	1.58			9,377	358,279
2006	30.84	11.37	19.47	12.62	6.84	4.43	1.68			9,442	373,043
2007	31.72	11.26	20.46	12.89	7.57	4.81	1.55			9,582	395,361
2008	30.69	11.35	19.35	12.58	6.76	4.33	1.48			9,619	407,738
2009	30.56	11.49	19.07	12.64	6.43	4.03	1.42			9,717	412,845
2010	30.71	11.53	19.18	12.73	6.45	4.03	1.30			9,804	419,224
2011	30.95	11.59	19.36	12.83	6.53	4.08	1.37			9,892	426,331
2012	31.16	11.74	19.43	12.95	6.47	4.01	1.30			9,969	433,670
2013	31.34	11.82	19.52	13.00	6.52	4.09	1.37			10,060	439,733
2014	32.11	11.88	20.23	13.26	6.96	4.40	1.49			10,166	448,581

Appendix Graphs Top incomes 1914 – 2014

Figure 1 Years for which data in the Netherlands 1914-2014



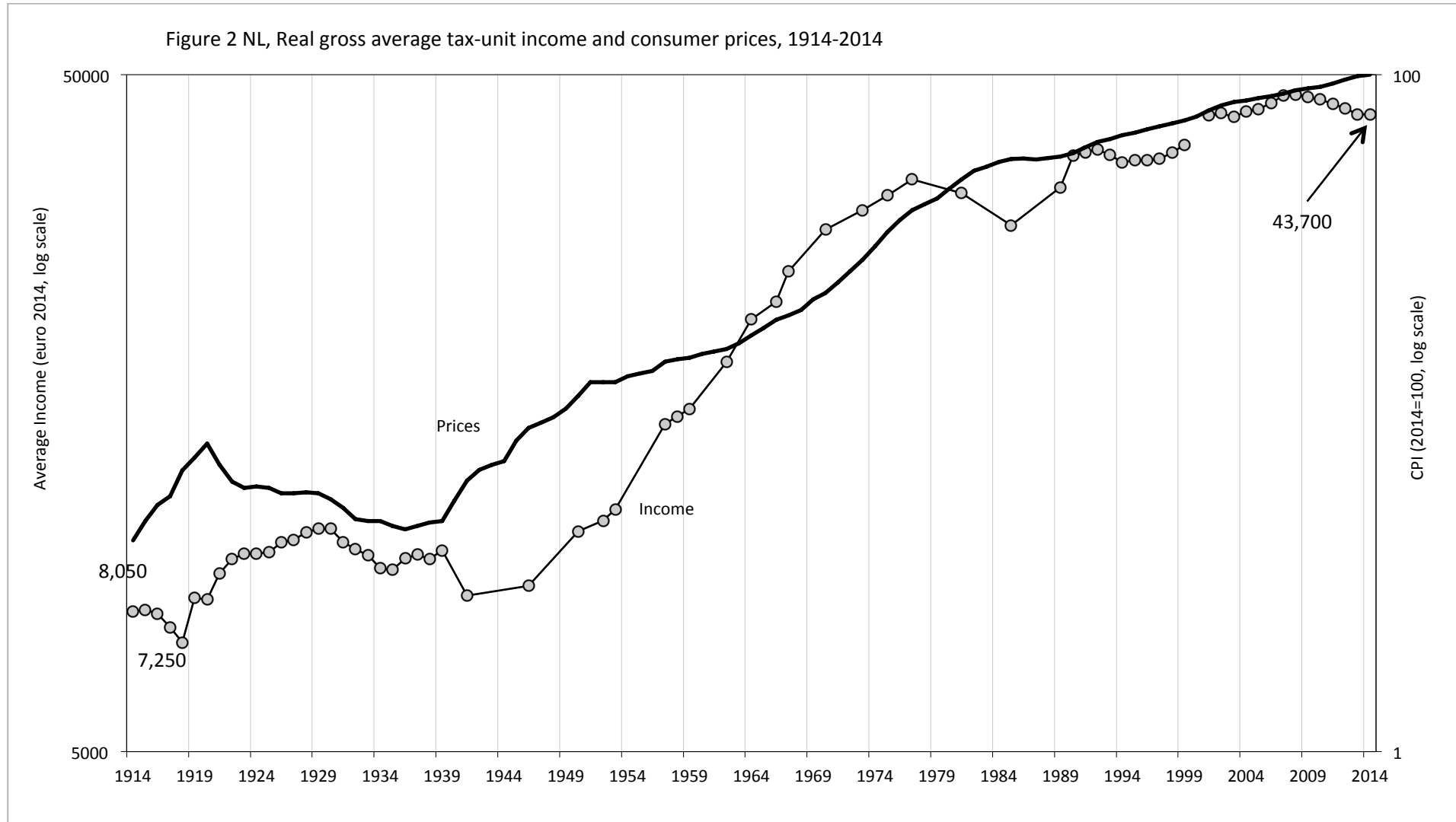


Figure 3A NL, Gross-income shares of Top 10%, 5% and 1%, 1914-2014

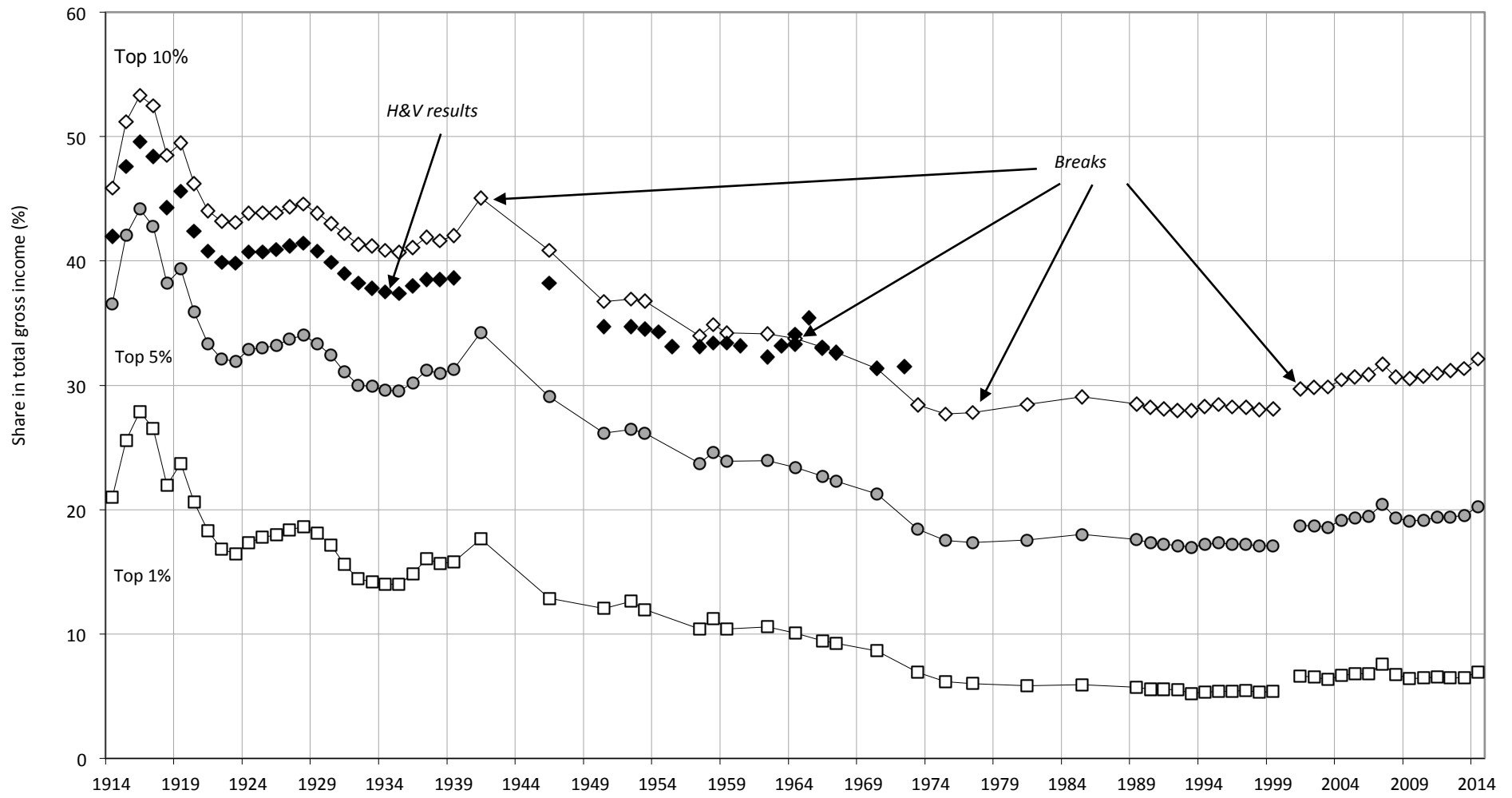


Figure 3B NL, Gross-income shares of Top 0.5% and 0.1%, 1914-2014

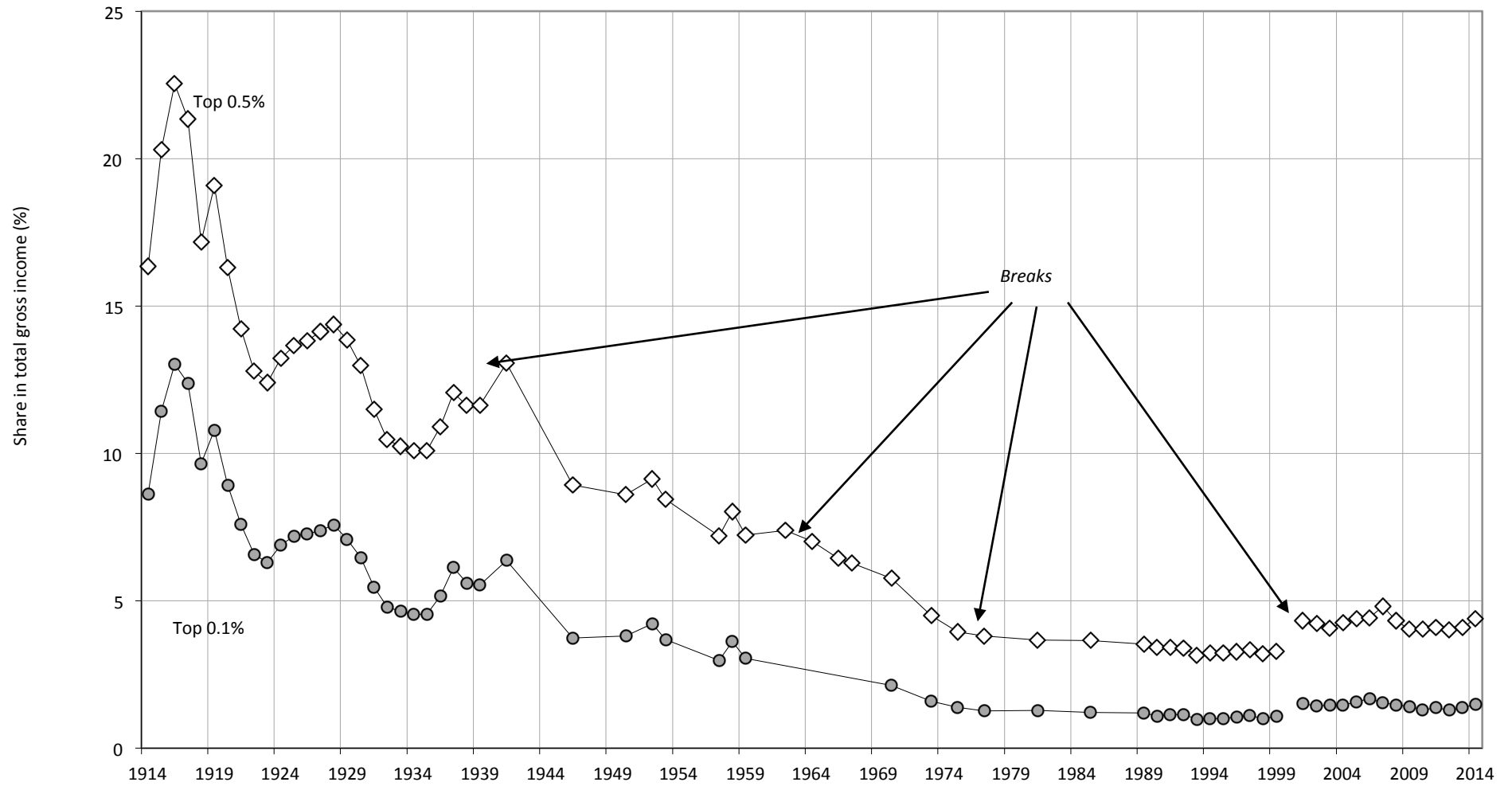


Figure 3C NL, Gross-income shares of "Next 4%" and Second Vintile Group, 1914-2014

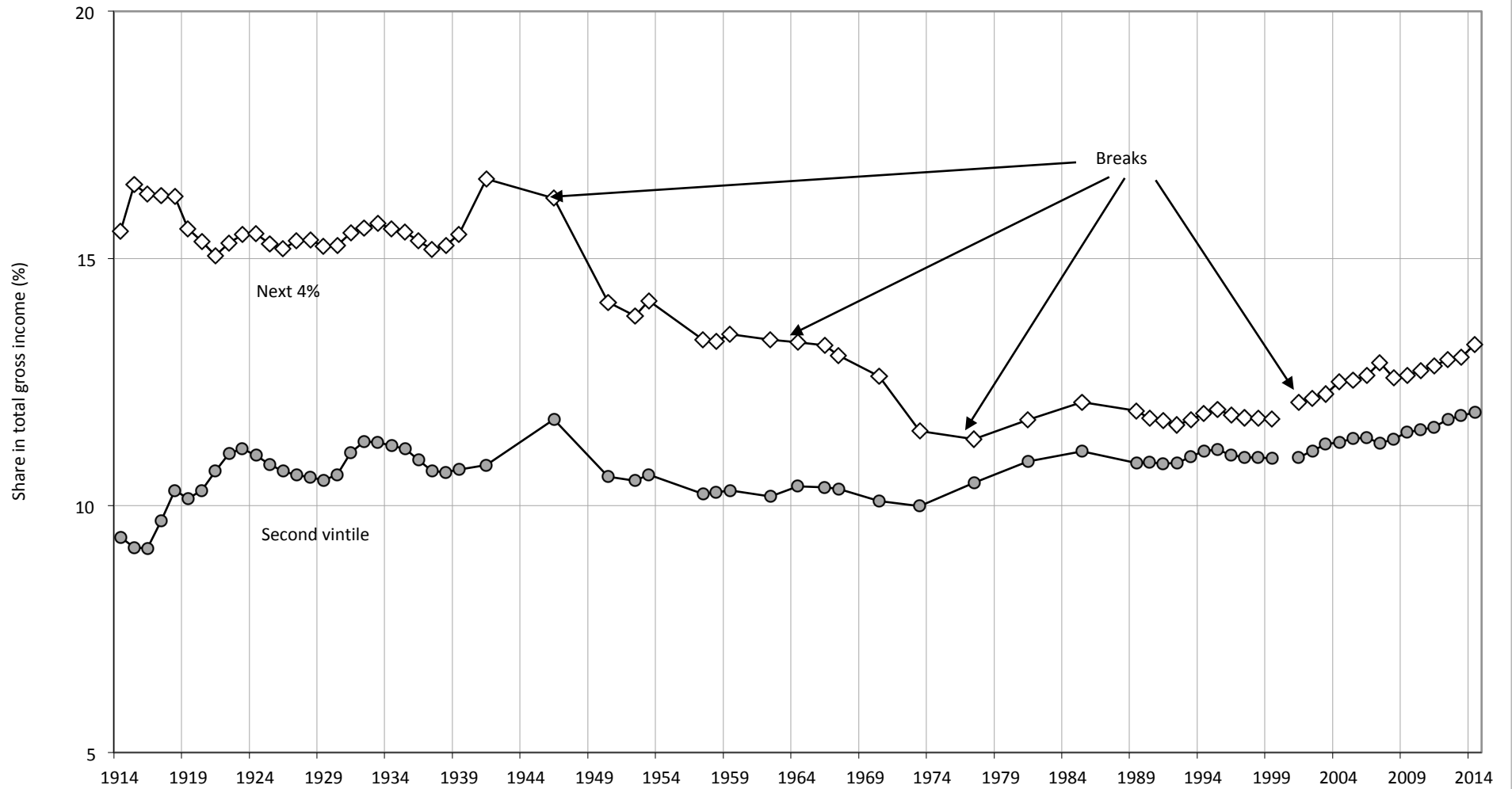


Figure 4A NL, Gross-income shares-within-shares, 1914-2014

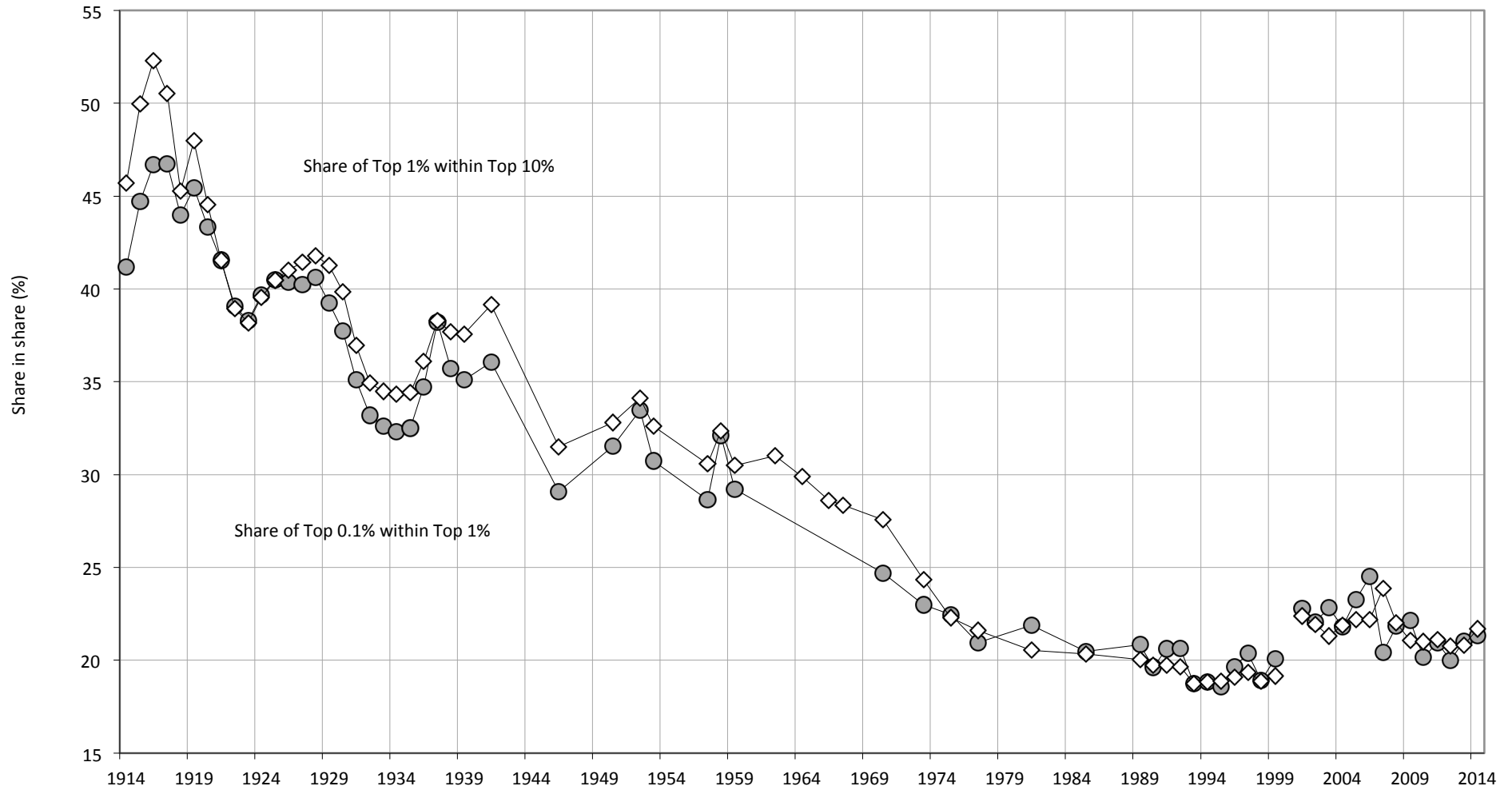


Figure 4B NL, Pareto-Lorenz coefficients of gross incomes, 1914-2014

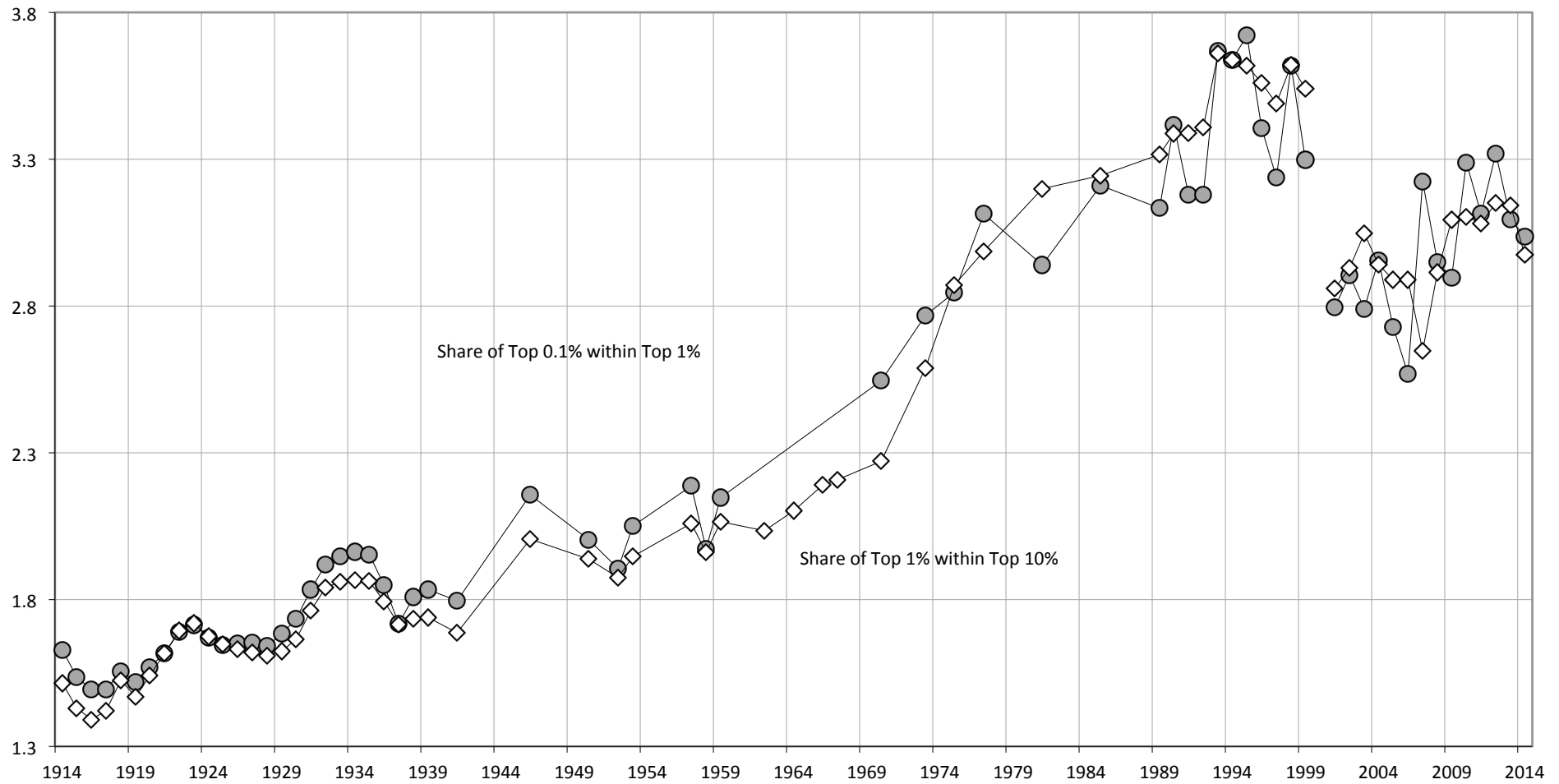


Figure 5 NL, Disposable-income shares-within-shares (%), 1959-2014

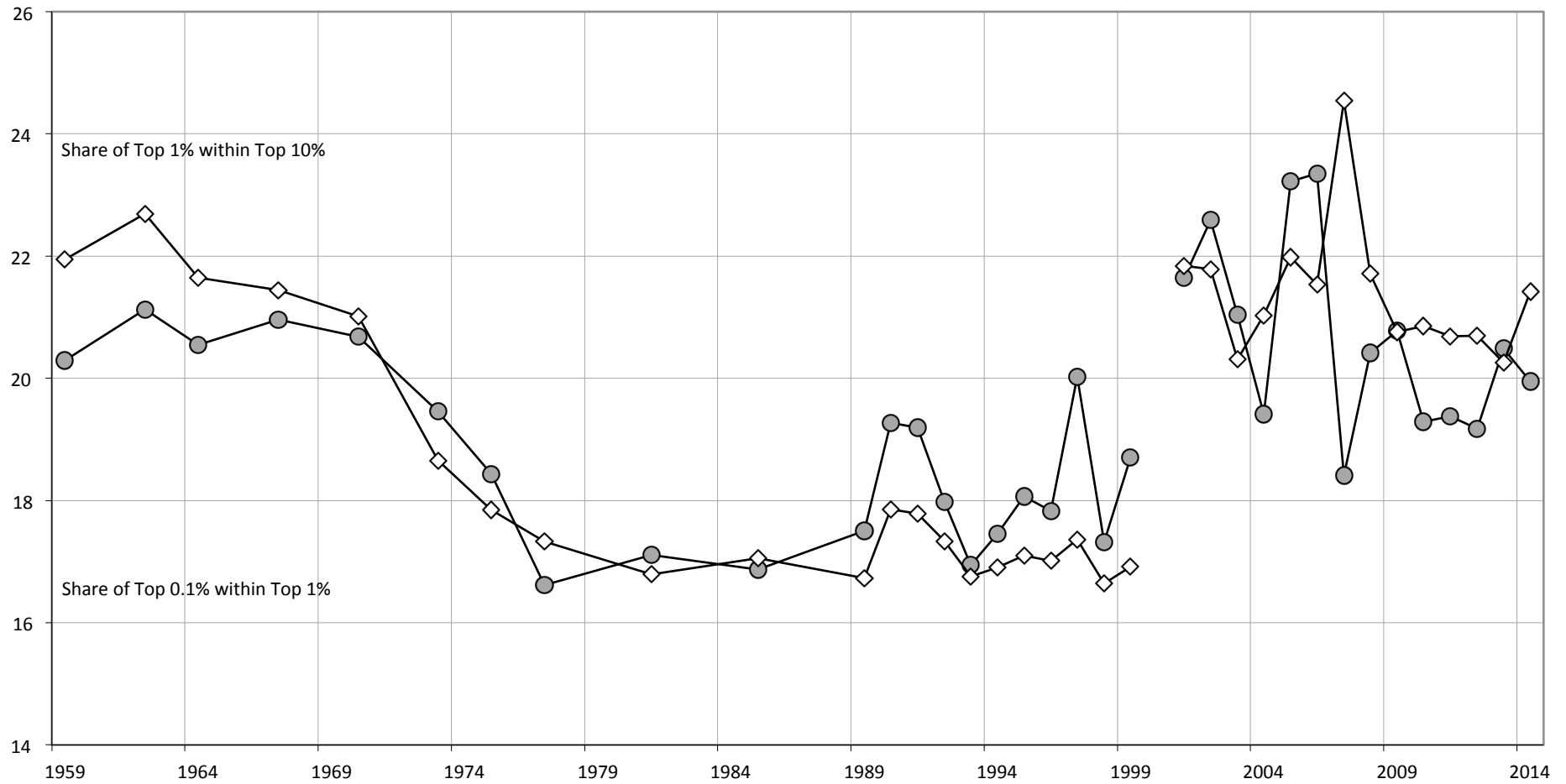


Figure 6 NL, Ratio of disposable-income to gross-income top shares, 1959-2014

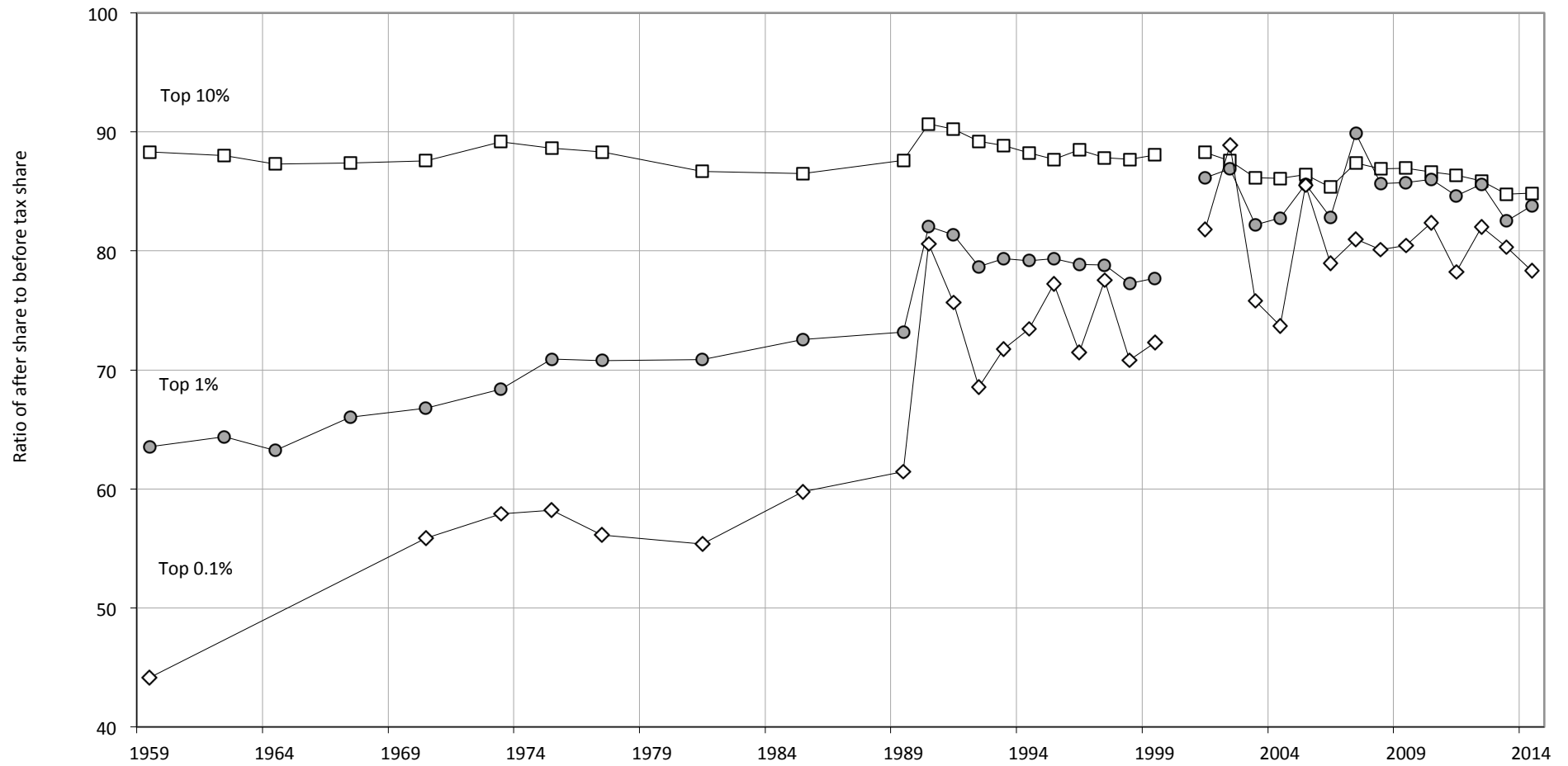


Figure 7 NL, Capital income shares in gross income Top 10%, 1% and 0.1%, 1952-2014

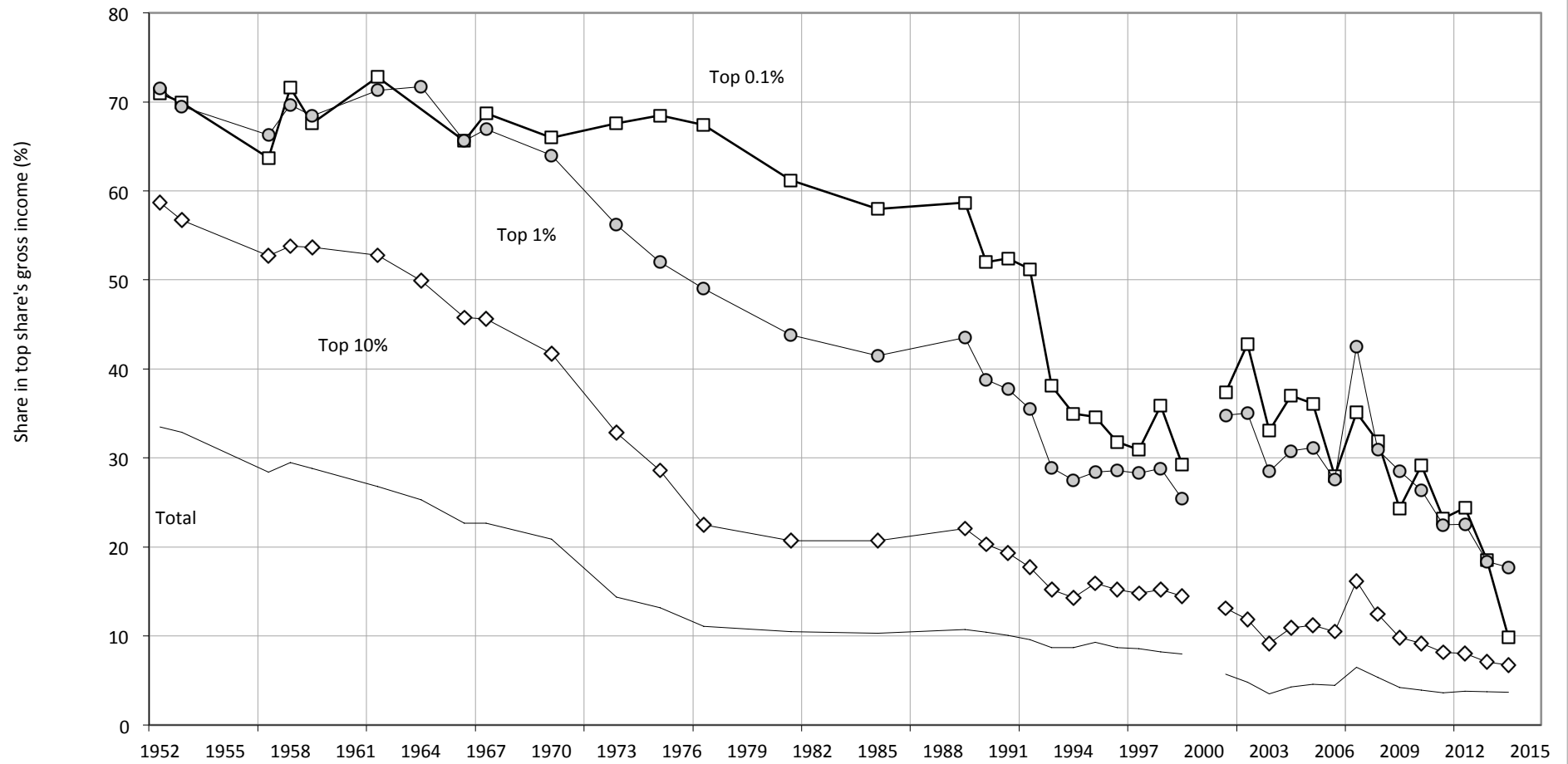


Figure 8 NL, Composition of gross-income Top 1%, 0.5% and 0.1% by source of income, 1952-1977-1999-2014

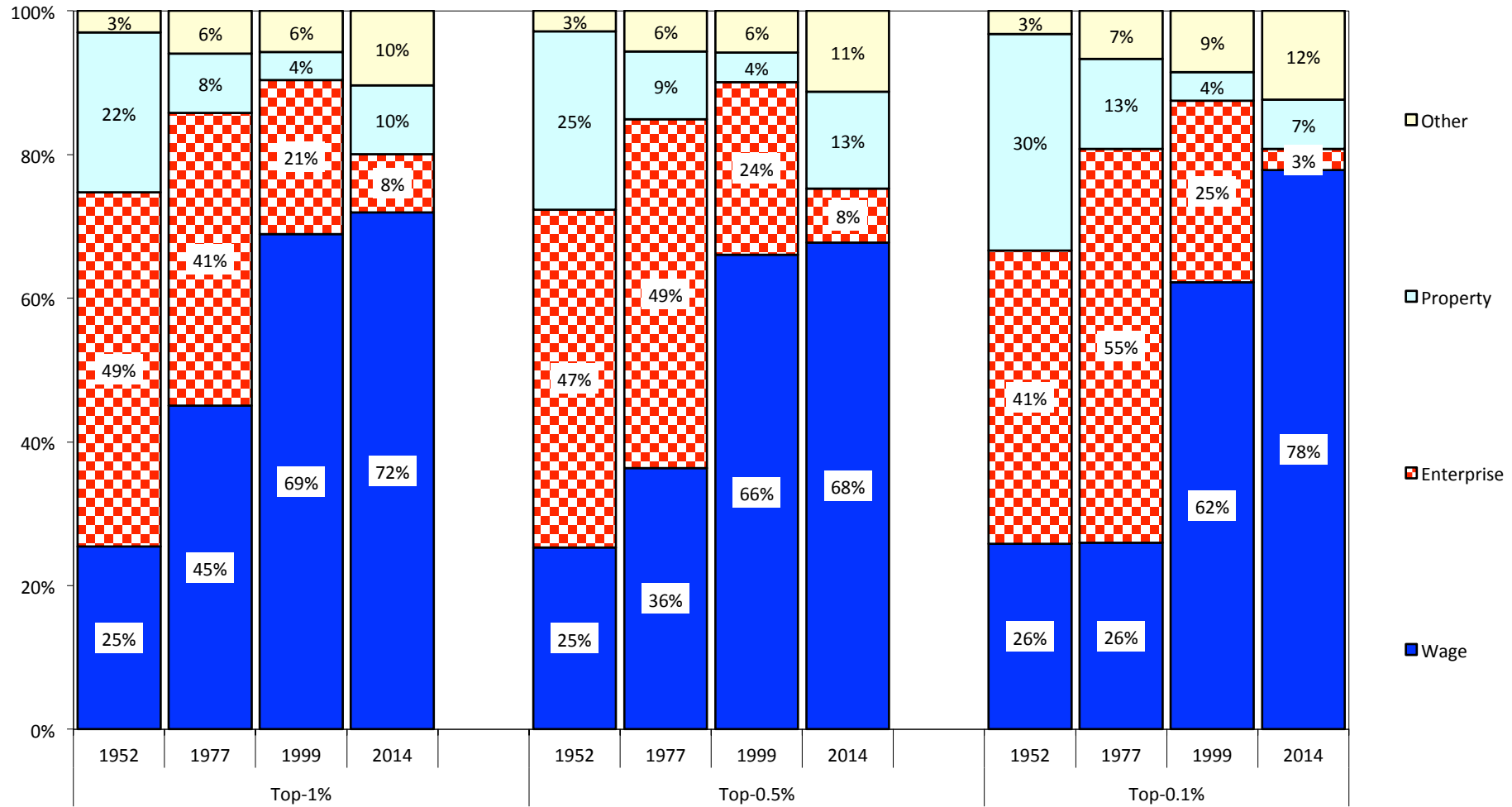


Figure 9 NL, Wage-income contributions tot gross- income Top 10%, 1% and 0.1%, 1952-2014

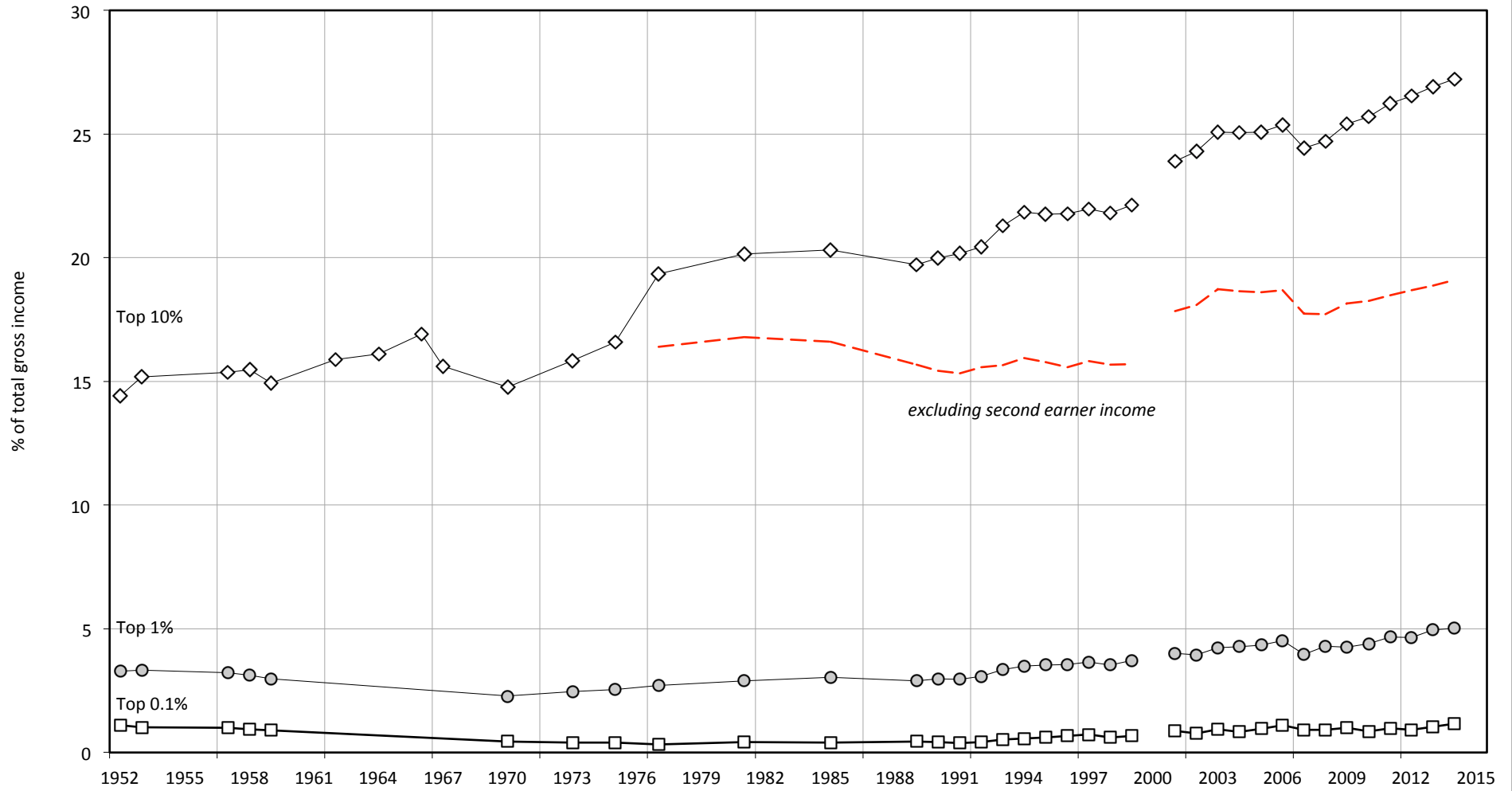


Figure 9(2) NL, Wage-income contributions tot gross- income Top 1% and 0.1%, 1952-2014

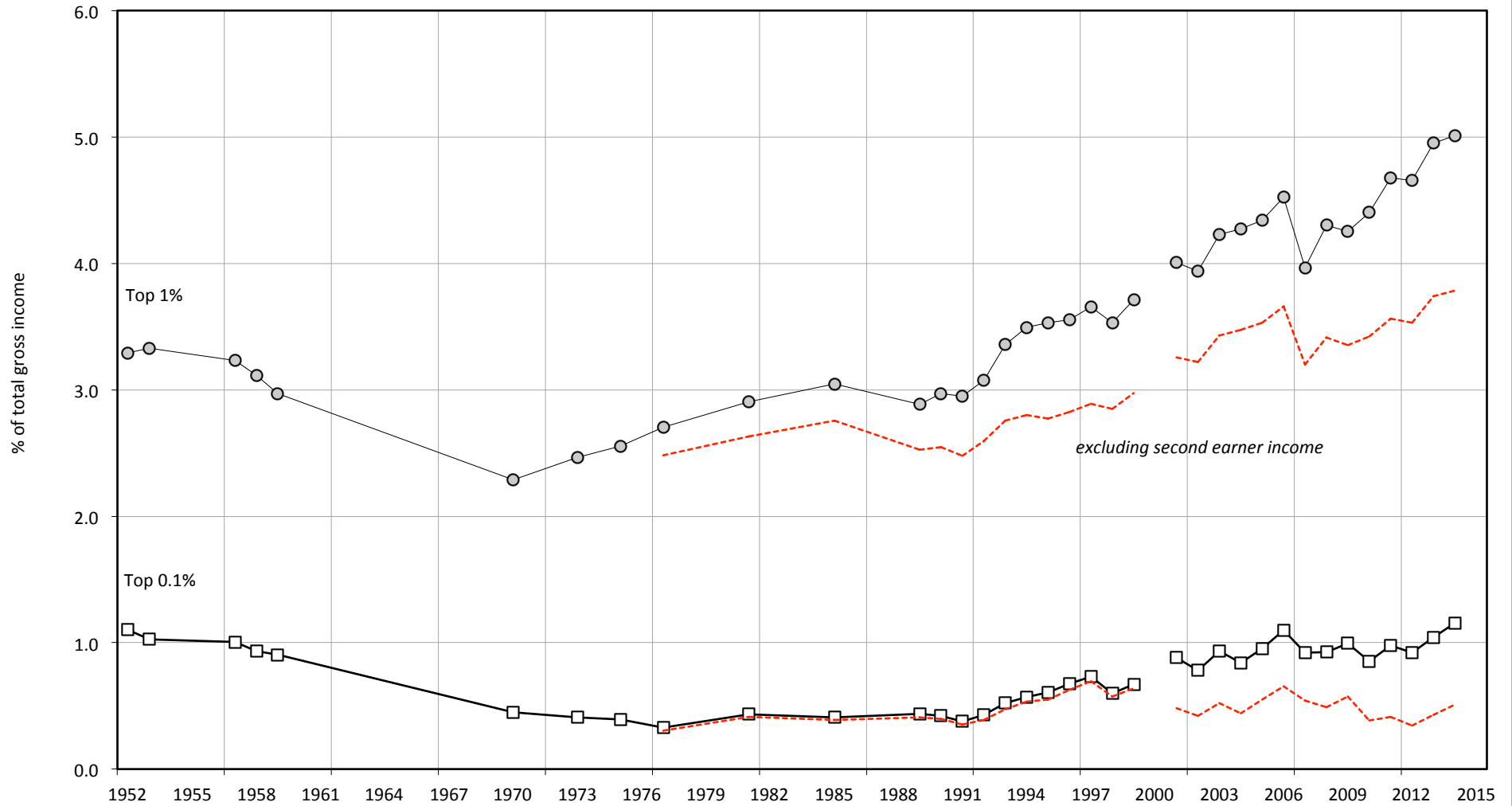


Figure 9(3) NL, Wage-income contributions tot gross- income Top 0.1%, 1952-2014

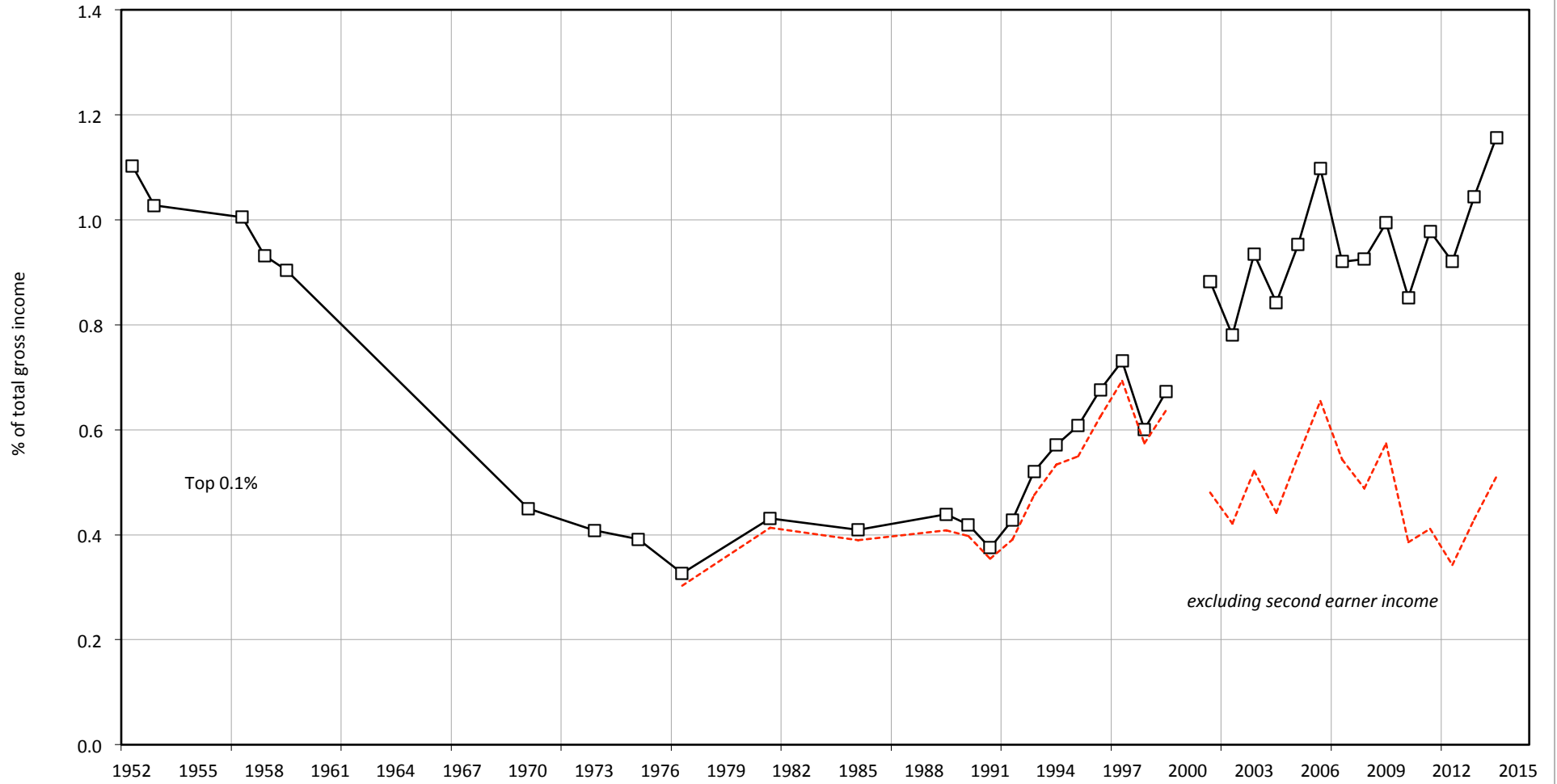


Figure 10 NL, Effective direct tax rates on gross income Top 10%, 1% and 0.1%, 1914-2014

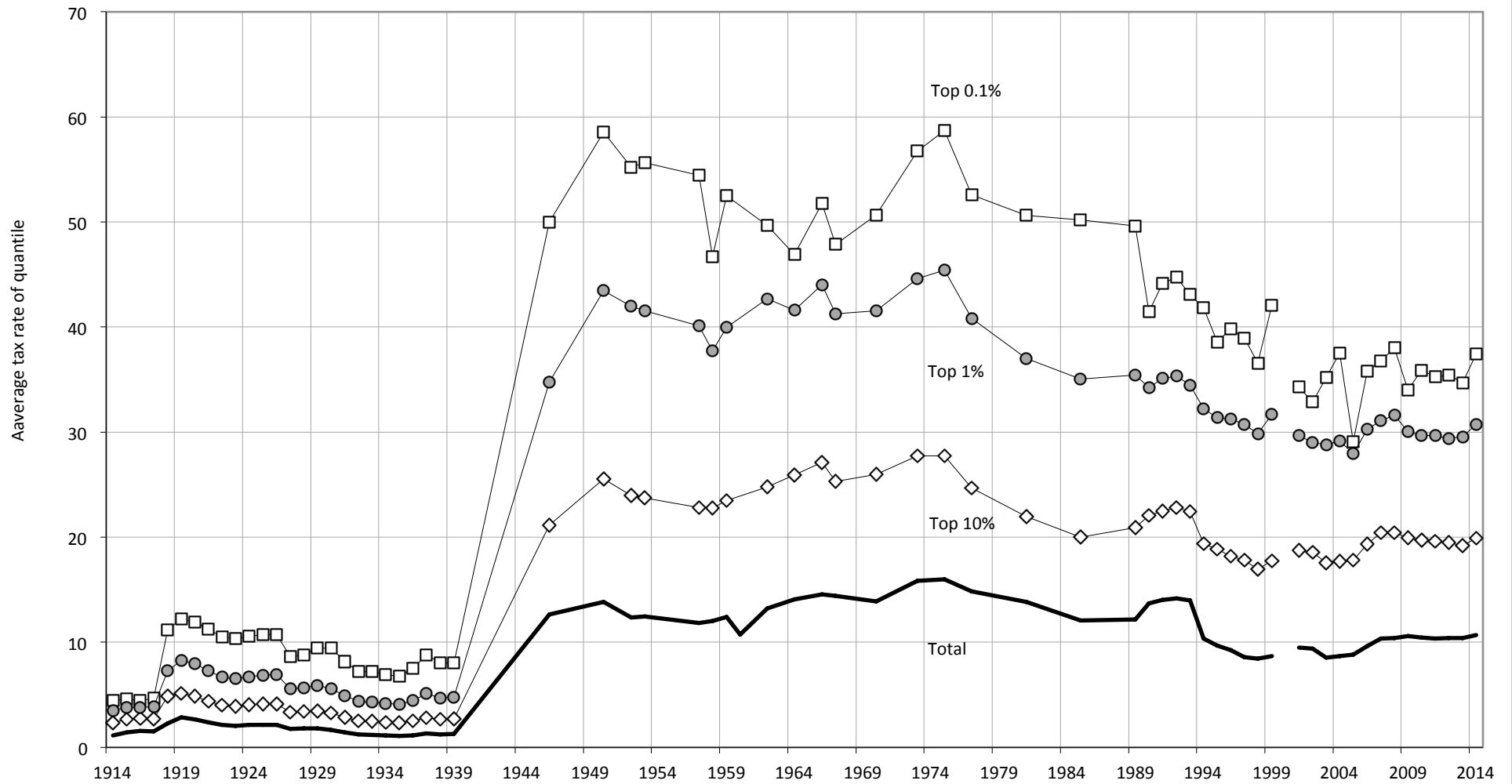


Figure 11 NL, Relative direct effective tax rates on gross-income Top 10%, 1% and 0.1% to total, 1914-2014

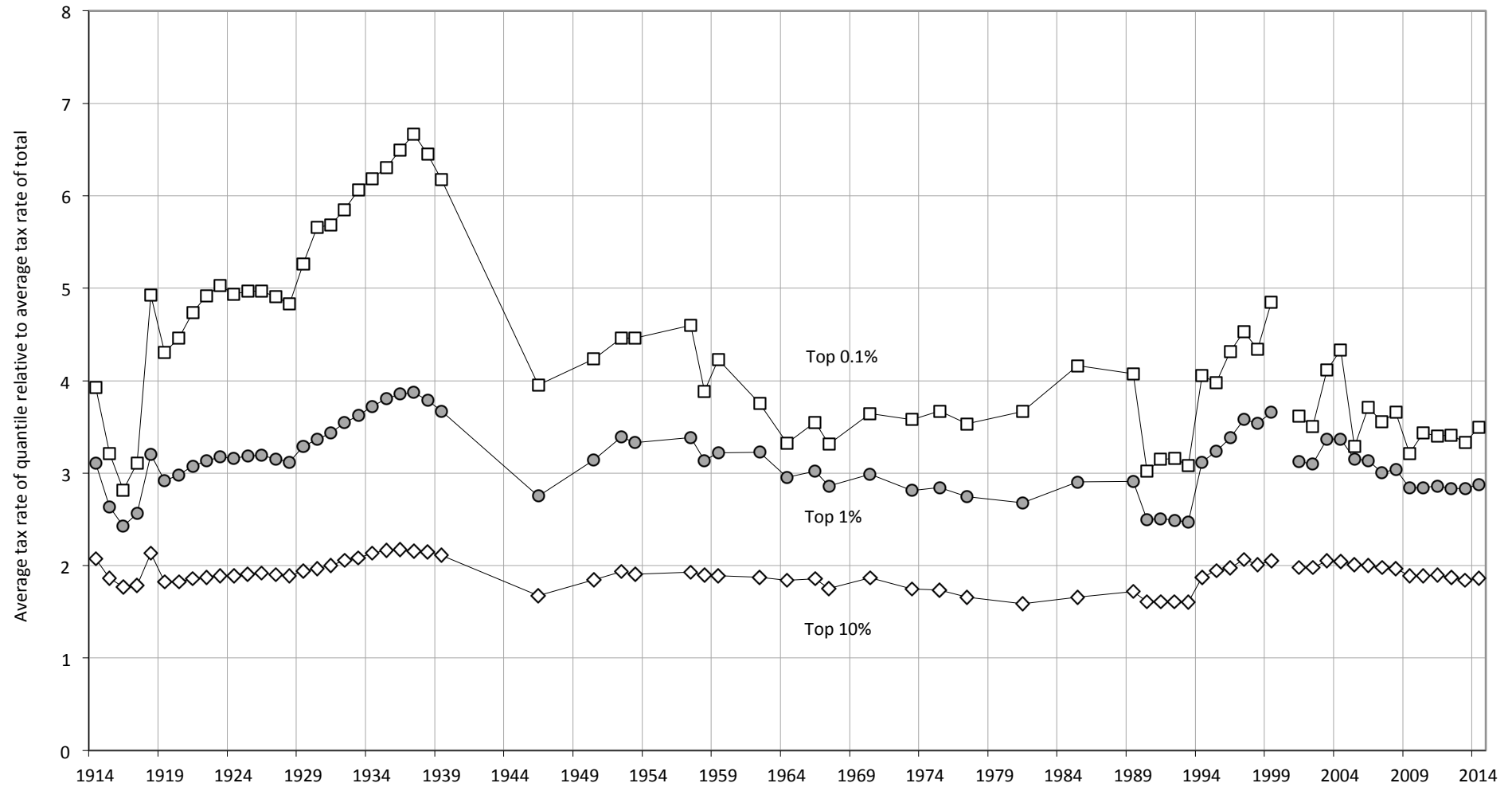


Figure B1 Tax Units (X 1000) in NL, 1914-2014

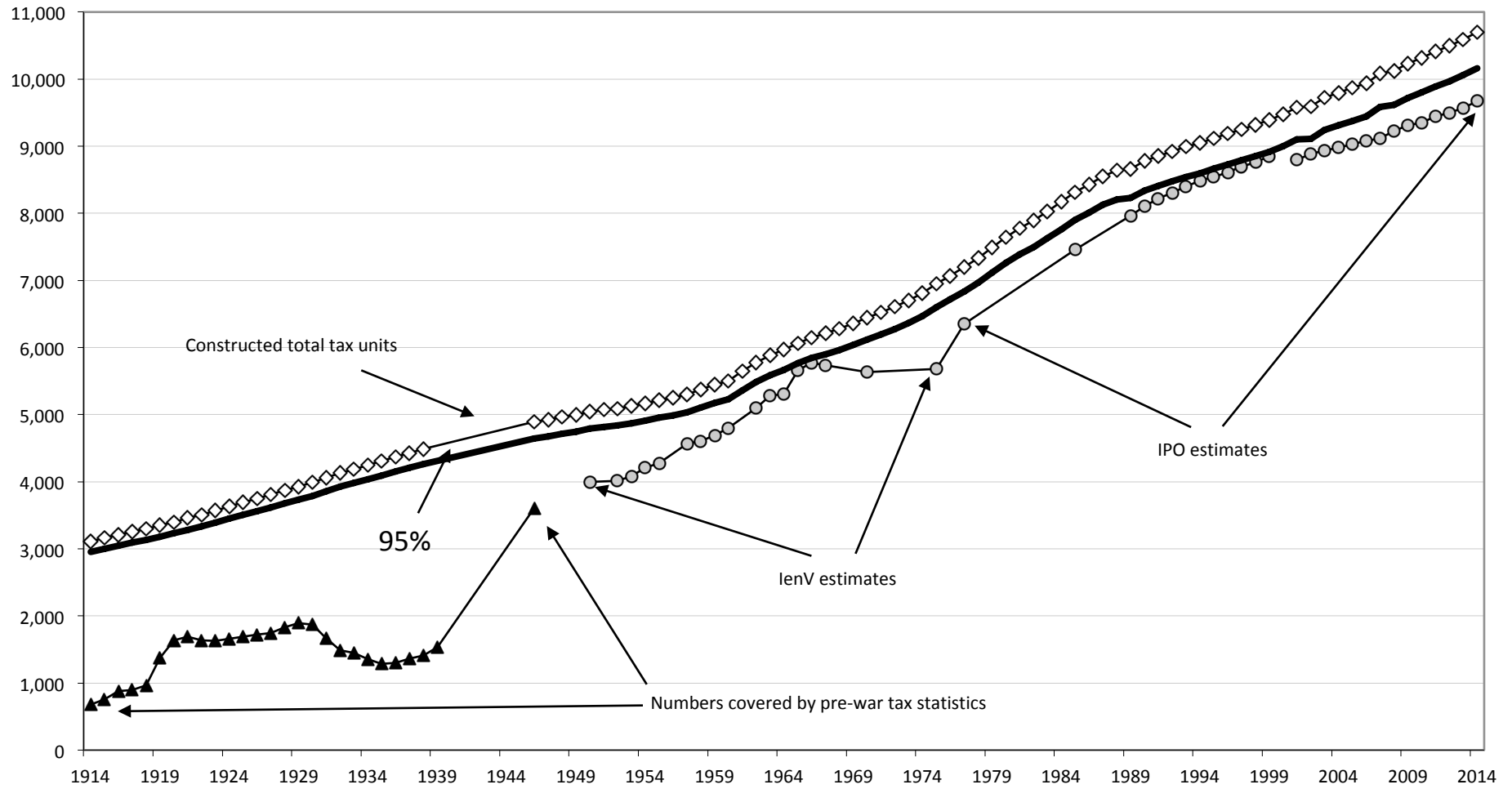


Figure B2 NL, Control total of gross income and known gross income as % of National Accounts personal-income total, 1914-2014

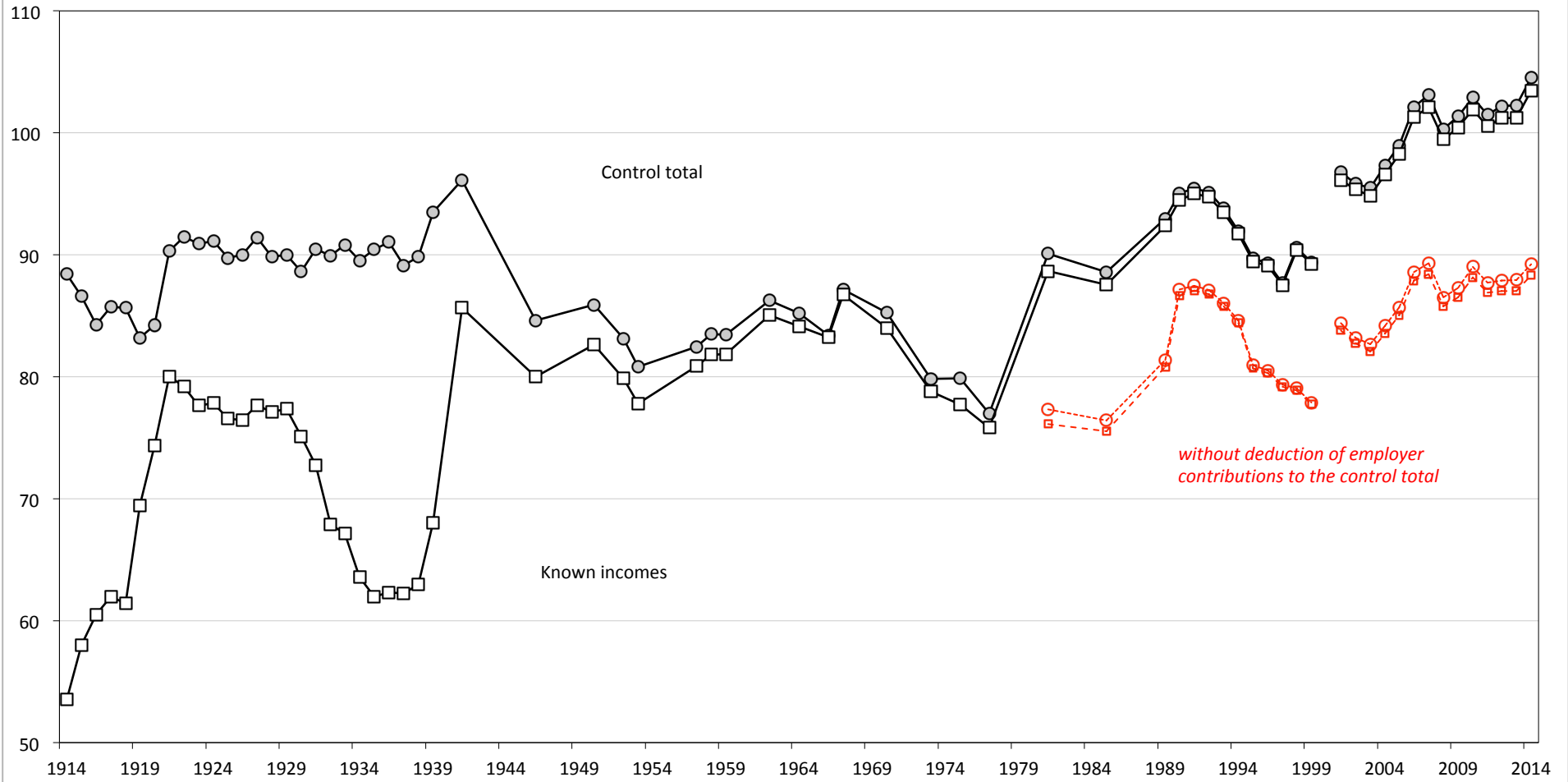
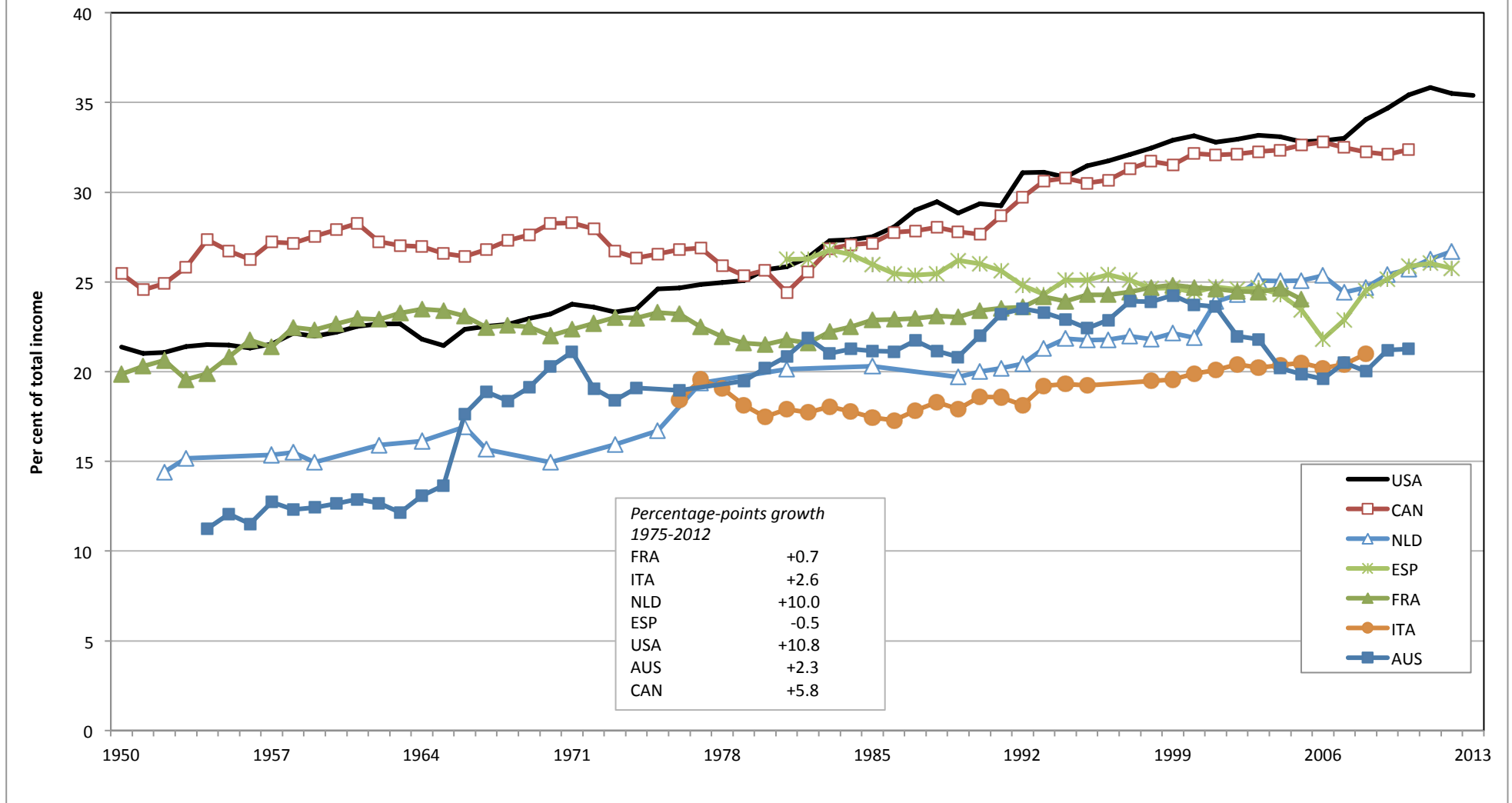


Figure C. Income Top-10% shares, labour earners only (WTID)



Note: Total Top-10% share growth between parentheses. Source: Salverda (2017), Figure 2.