Top Incomes and Income Inequality in the Netherlands:

The first 100 Years 1914-2014 – what's next?

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FIRST DRAFT IN 20 POINTS, *PLEASE DO NOTCITE OR CIRCULATE*   6 September 2017

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 better access to the pre-war Dutch statistics than I had. He joked about non-existent privacy concerns in those day as likely Henri Deterding, chairman of Royal Dutch Shell, would be the single person observed in the highest class of incomes. I treasure the moments we sat together at Nuffield for work or the high table, or in a pub for a beer.

With this guidance we successfully laid the basis for the first 85 years (1914-1999) (Atkinson and Salverda, 2003, 2005; Salverda and Atkinson, 2007). I have built on these results for a summary update of Dutch top incomes to the year 2012 (Salverda, 2013) and, naturally, I build on it now for the present, more extensive update to 2014. Tony has seen most of the new material (compare the Graphs section below) in July 2016 and responded with some suggestions and questions. 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.

Contents

Introduction

This paper is a first version, in 20 concise Points which help to present the main conclusions for the current period, 2001–2014. These will be written out and further detailed after this round. The paper integrates the basics of the 2012 update adding detail beyond the top shares in gross income. It includes in the appendix the same graphs as before which show the full 100-year period.

The main messages are that inequality – as measured by the top incomes, but also the Gini coefficient – increased, that all of this growth (or even more) can be attributed to an increasingly unequal distribution of wage earnings, which in turn is largely due to the growing incidence of second earners, be it within a tax unit or a household. Along the way, I venture some doubts about estimating lower and upper bounds to the Gini coefficient including missing 'non-filers' and about the cohesion of the Middle-40%, as the 9th decile often begs to differ, showing another definition for the Middle class that leads to rather different outcomes.

In addition, the paper throws up several questions that need an answer for the continuation after this first century: how to proceed with the unit of analysis and the wealth distribution, and how to link to the National Accounts for the benefit of the DINA project? In my view, we would be well advised to combine and compare different approaches – tax units, persons and households –, to think about the household as the inevitable unit of analysis for the wealth distribution, and to seek improvement of the statistical coverage of primary incomes other than wage earnings in particular for working towards DINA.

1. Update 2001-2014

1.1 Top shares of gross income

Point 1 (Table 1): Gross income inequality increased

Between 2001 and 2014 the Top-10% share has increased (+2.4 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 rather continuously. The Middle-40% stagnated, but within that segment the part in deciles 6 to 8 ("60-80") fell (-1.0 pcpt) while decile 9 ("Second 10%") increased: +0.9 pcpt.

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

	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	19.9	50.4	33.2	17.2	29.7	11.0	18.7	12.1	6.6	4.3	1.5
2002	19.4	50.7	33.4	17.3	29.8	11.1	18.7	12.2	6.5	4.2	1.4
2003	19.2	50.9	33.4	17.5	29.8	11.2	18.6	12.3	6.4	4.1	1.4
2004	18.9	50.6	33.2	17.5	30.4	11.3	19.2	12.5	6.7	4.3	1.5
2005	18.8	50.5	33.0	17.5	30.7	11.3	19.3	12.5	6.8	4.4	1.6
2006	18.7	50.4	32.9	17.6	30.8	11.4	19.5	12.6	6.8	4.4	1.7
2007	18.8	49.5	32.3	17.3	31.7	11.3	20.5	12.9	7.6	4.8	1.5
2008	18.9	50.4	32.9	17.6	30.7	11.3	19.3	12.6	6.8	4.3	1.5
2009	18.7	50.8	33.0	17.8	30.6	11.6	19.1	12.6	6.4	4.0	1.4
2010	18.7	50.6	32.9	17.8	30.7	11.5	19.2	12.7	6.4	4.0	1.3
2011	18.5	50.6	32.8	17.8	31.0	11.6	19.4	12.8	6.5	4.1	1.5
2012	18.1	50.7	32.7	18.0	31.1	11.7	19.4	13.0	6.5	4.0	1.3
2013	18.0	50.7	32.6	18.1	31.3	11.8	19.5	13.0	6.5	4.1	.4
2014	17.6	50.3	32.2	18.1	32.1	11.9	20.2	13.3	7.0	4.4	1.5
pcpt	-2.3	-0.1	-1.0	0.9	2.4	0.9	1.5	1.2	0.3	0.1	-0.0
% 2001	-12%	0%	-3%	5%	8%	8%	8%	10%	5%	2%	-2%

*) 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 increased

Between 2001 and 2014 the Top-10% net-income share has increased (+1.0 pcpt or +4%). Within the top this was rather equally spread, except for the very top (0.1%,) which now 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 lagged behind gross-income inequality growth

Though the redistribution from gross incomes to net incomes via income taxation and social contributions is still strong it has matched roughly only half of the increase in gross-income inequality as measured by the fractiles.

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

	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	24.3	49.5	33.4	16.0	26.2	9.9	16.3	10.6	5.7	3.8	1.2
2002	24.2	49.7	33.6	16.1	26.1	9.9	16.1	10.5	5.7	3.7	1.3
2003	24.1	50.2	33.9	16.2	25.7	10.0	15.7	10.5	5.2	3.3	1.1
2004	23.9	49.9	33.7	16.1	26.2	10.0	16.2	10.7	5.5	3.5	1.1
2005	23.9	49.6	33.5	16.1	26.5	10.0	16.5	10.7	5.8	3.8	1.4
2006	24.3	49.5	33.4	16.0	26.3	10.0	16.3	10.6	5.7	3.7	1.3
2007	23.6	48.7	32.8	15.9	27.8	9.9	17.8	11.0	6.8	4.4	1.3
2008	23.8	49.6	33.4	16.2	26.7	10.1	16.6	10.8	5.8	3.7	1.2
2009	23.5	49.9	33.6	16.4	26.5	10.2	16.4	10.9	5.5	3.5	1.1
2010	23.6	49.8	33.4	16.4	26.6	10.2	16.4	10.9	5.5	3.5	1.1
2011	23.4	49.9	33.4	16.5	26.7	10.2	16.5	11.0	5.5	3.5	1.1
2012	23.2	50.1	33.6	16.5	26.8	10.2	16.5	11.0	5.5	3.5	1.1
2013	23.3	50.2	33.6	16.6	26.6	10.3	16.3	10.9	5.4	3.4	1.1
2014	22.7	50.0	33.4	16.6	27.3	10.3	16.9	11.1	5.8	3.7	1.2
pcpt	-1.6	0.6	0.0	0.6	1.0	0.4	0.6	0.5	0.1	0.0	-0.1
% 2001	-7%	1%	-0.1%	4%	4%	4%	4%	5%	2%	-1%	-6%

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

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

Tax rates (which include social contributions and health insurance) show a clear gradient 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 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).

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

	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	-25	-40	-38	-43	-46	-45	-47	-46	-47	-47	-50
2002	-24	-40	-38	-43	-47	-45	-47	-47	-47	-46	-46
2003	-25	-41	-39	-44	-48	-47	-49	-49	-51	-51	-55
2004	-25	-41	-39	-45	-49	-47	-50	-49	-51	-51	-56
2005	-25	-42	-40	-46	-49	-48	-49	-50	-49	-49	-49
2006	-23	-42	-40	-46	-49	-48	-50	-50	-51	-51	-53
2007	-24	-41	-39	-45	-47	-47	-47	-48	-46	-45	-51
2008	-24	-41	-39	-45	-48	-47	-49	-48	-49	-49	-52
2009	-24	-41	-39	-45	-48	-47	-48	-48	-49	-48	-52
2010	-25	-42	-40	-45	-49	-48	-49	-49	-49	-48	-51
2011	-26	-42	-40	-46	-49	-48	-50	-50	-50	-50	-54
2012	-26	-43	-40	-47	-50	-49	-50	-51	-50	-50	-52
2013	-24	-42	-40	-47	-51	-49	-51	-51	-52	-52	-53
2014	-24	-41	-39	-46	-50	-49	-51	-51	-51	-50	-54
pcpt	1.3	-1.6	-0.6	-4.3	-4.2	-4.5	-3.5	-3.5	-4.1	0.0	-0.1
% 2001	-5%	4%	2%	10%	9%	10%	7%	8%	8%	8%	8%

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

Point 5: 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 the premiums is almost entirely responsible for the increase in the effective tax rates higher up the distribution. In addition, occupational pensions lead 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. This implies that little has been done in terms of increased income redistribution during the crisis.

Second, the Netherlands is characterised by huge mortgage debt for self-owned housing, well over 100% of GDP). 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 shrink the link). However, in the income microdata used here CBS fully deducts mortgage interest payments from primary incomes, in line with 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 redistributive addition of benefits to gross incomes (likely of little significance 100 years ago). Note that those benefits are also taxed.

1.3 Sources of income

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								4.6	4.3	4.4	4.4	5.2	4.7	4.6
	4.9	4.8	5.0	5.1	5.1	6.3	5.1							
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.

Point 6 (Table 4): The composition of incomes changed drastically

Compared to before (1952-1999) we find a continuation of very significant shifts within the income distribution between incomes from different sources. 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 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. Pensions clearly increase (14 to 17%) due to ageing of the population and the growth of the occupational pension system. Finally, transfers – mainly public but partly private, e.g. alimony) show some (cyclical) volatility around a share of 9%.

Table 5 Top fractile 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 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 became drastically more important at the top

The diverging trends of wages at 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. On the one hand 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, but on the other 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% only of which the artificiality for tax reasons cannot be excluded a priori.

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%), and in turn in the higher fractiles within the Top-10%.

1.4 Wider distribution and middle class

Table 6 Gini coefficient gross incomes of tax units

	Covered
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 8 (Table 6): Gini coefficient confirms rise in inequality

The Gini coefficient of the 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 Euroscrisis 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 all possible income levels and the missing tax units are considered as 'non-filers', that assumption no longer holds. 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 income of € 4.57 billion), I have spread these incomes over the existing distribution starting from either the bottom or the top to obtain either a lower or an upper bound to the Gini coefficient. However, all the missing units cannot be allocated simply to the first or the tenth decile. The size of the income would unduly distort the bottom decile and has to be spread higher up; at the same time the size allows fitting only a few in the top (assuming they have the same average income), while the large remaining number will still join the bottom decile (with zeros incomes) which again implies shifts to higher deciles. 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.

Point 9 (Table 7): Let's think in more detail about the Middle

Finally, a different allocation of the tax units and their gross incomes which splits between three classes of income: 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) (compare Vaughan-Whitehead, 2016), provides a different split of fractile shares. This is estimated here for 2011-2014 only.

Looking first at the numbers the Bottom class is much smaller (a steady 29% instead of the given size of 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 part 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; 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 an 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.

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. What's next? The next 100 years, wealth, and DINA

2.1 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 either include married/cohabiting partners or concern single persons only, depending on the country's tax system. The Dutch system taxes partners independently for their individual incomes but treats some types of income at the household level (e.g. from house ownership and possibly other assets). The partners' incomes are separately specified but brought together in the household in the Dutch IPO statistics. For a comparison to other countries in the database it is interesting to try and see what implications choosing individual persons as tax units might have. In addition, much of the analysis and the public debate on income inequality concern households, which are also the basic unit of the IPO data. I have experimented with both single persons and household as the unit of analysis to fathom possible effects on the top shares. Persons are considered for the same age bracket, ages 15 and over – called 'adults' here –, as for tax units. The absolute numbers differ strongly, roughly speaking there are twice as many tax units as households and three times as many persons. The sum totals of gross income are identical.

First, the number of tax units (+10%) increases more rapidly than that of persons (+7%) or households (+2%). The differences can be understood as a 6% increase in the number of adults per household, and a 2% decrease of adults per tax unit. The Top-10% income shares of persons show little change over time while those of tax units (9%) and households (16%) clearly grow. So do households at the Top-1% (31%) and Top-0.1% (47%). As a result the person shares, which initially exceed the other two, come much closer and are eventually rapidly surpassed by the household shares after 2008. Clearly, the choice of unit has intriguing effects on the evolution of inequality.

Table 8 Top shares a for common tax units, single persons, and households

| | Numbers x1000 | | | Shares in gross income (%) | | | | | | | | |
| | | | | Top-10% | | | Top-1% | | | Top-0.1% | | |
	Tax units	Persons	House-holds	Tax units	Persons	House-holds	Tax units	Persons	House-holds	Tax units	Persons	House-holds
2001	8,801	12,911	4,088	29.9	31.7	29.9	6.7	7.6	4.6	1.5	1.9	1.0
2002	8,883	12,994	4,126	30.0	31.6	30.0	6.6	7.4	4.5	1.5	1.8	0.9
2003	8,935	13,048	4,085	30.0	31.6	30.9	6.4	7.2	4.8	1.5	1.7	1.1
2004	8,974	13,100	4,047	30.7	32.1	31.3	6.7	7.5	4.9	1.5	1.8	1.1
2005	9,029	13,148	4,049	30.9	32.3	31.4	6.9	7.6	5.0	1.6	1.9	1.1
2006	9,077	13,195	4,099	31.1	32.3	31.7	6.9	7.7	5.4	1.7	2.0	1.3
2007	9,119	13,255	4,152	32.0	33.1	30.7	7.6	8.6	4.2	1.6	1.9	1.2
2008	9,225	13,367	4,240	31.0	31.8	31.0	6.8	7.6	5.0	1.5	1.8	1.2
2009	9,312	13,460	4,217	30.8	31.5	31.7	6.5	7.2	4.9	1.4	1.6	1.0
2010	9,355	13,554	4,191	31.0	31.6	32.2	6.5	7.3	5.1	1.3	1.6	1.0
2011	9,441	13,636	4,199	31.2	31.6	32.8	6.6	7.3	5.4	1.4	1.6	1.2
2012	9,503	13,706	4,203	31.5	31.8	33.3	6.5	7.2	5.5	1.3	1.5	1.2
2013	9,566	13,777	4,153	31.7	31.9	34.3	6.6	7.2	6.1	1.4	1.6	1.3
2014	9,668	13,874	4,151	32.4	32.4	34.6	7.0	7.7	6.0	1.5	1.8	1.5
pcpt				3.5	0.7	4.7	0.3	0.1	1.4	0	-0.1	0.5
% 2001	10%	7%	2%	9%	2%	16%	5%	2%	31%	-1%	-5%	47%

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

Point 11 (Table 9): The concentration of persons with incomes 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-persons tax units or households may have. Here I focus on incomes from labour earnings and look at second incomes for both tax units (with maximum 2) and households (Salverda and Haas, 2014, find 3.3 income earners on average in top deciles across EU). 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.

In total the frequency of second earning stagnates, remaining close to a quarter of all tax units; it actually falls after 2008. This contrasts with the decline of all 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, implying 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 higher income levels.

The income share of second earners does rise (13 to 16%), contrary to the numbers, implying increased earnings per person. 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 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.

Table 9 Number and income within-fractile shares of second wage earners, %

	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%*

2.2 Extending to the (household) distribution of wealth 2006-2014

Point 12: Wealth is primarily household-driven

Extending to the wealth distribution is high on the WID wish list. This can be done with important limitations only. First, currently statistical data are readily available for a very short period. Microdata concerning the wealth situation of 1 January, consistent with the IPO income data, cover the recent period since 1/1/2006 only, whilst tabulated data – largely but not entirely consistent with the microdata – 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 was 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, demanding a separate research effort. Linking wealth to the income distribution is possible for the recent period only when microdata are available
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 be used to distinguish tax units, as far as they are derived from the IPO microdata. However, they are not available for individuals for good 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 an obvious example.
I only discuss wealth net of debt here. Note also that the wealth distribution excludes entitlements of the occupational pension system – these are known in the aggregate and impossible to individualise.

Point 13 (Table 10): The Dutch wealth distribution is extremely uneven

Notably, the Bottom-50% of the wealth distribution has no net wealth, balancing possessions and debt, 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 the change is concentrated in the Top-5% and Top-1%. The Gini coefficient of the wealth distribution (0.940 in 2013 and 2014 including the negatives of net debt) grows to levels comparable to if not exceeding those of the USA and Switzerland (cf. Salverda, 2015, and Salverda and Van Bavel, 2017).

Table 10 Household wealth-fractile shares in total net wealth, %

	Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%	Top-0.1%
2006	-1.5	43.8	24.4	19.4	57.8	42.8	21.4	n.a.
2007	-0.2	43.0	24.1	18.9	57.2	42.7	22.0	
2008	-0.2	43.5	24.5	19.0	56.7	42.2	21.5	
2009	0.1	43.9	24.4	19.5	56.0	41.1	19.8	
2010	-1.3	41.8	22.7	19.1	59.5	44.6	22.3	
2011	-1.8	41.5	22.3	19.2	60.2	45.1	23.0	9.1
2012	-2.2	41.5	22.0	19.5	60.7	45.3	22.7	9.2
2013	-5.3	39.7	20.1	19.6	65.6	49.6	25.5	10.9
2014	-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	
% 2001	*216%*	*-13%*	*-21%*	*-3%*	16%	20%	28%	

Note: Top-0.1% is available from published tabulated data based on integral observation since 2011 but not available from the research sample.

Table 11 Household *wealth*-fractile shares of housing and financial wealth in total net wealth, %

	Total	Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%
A.	**Self-owned housing (net of mortgage debt)**							
2006	46.7	-3.7	29.2	15.9	13.3	21.3	12.2	3.1
2007	47.8	-2.1	29.1	16.1	13.0	20.8	12.1	3.3
2008	48.7	-2.5	29.9	16.7	13.2	21.3	12.5	3.4
2009	49.6	-1.9	29.7	16.2	13.4	21.9	12.8	3.1
2010	44.0	-3.0	26.4	13.8	12.6	20.6	11.9	2.9
2011	43.2	-3.6	26.1	13.4	12.7	20.7	11.8	2.8
2012	41.9	-3.9	25.2	12.7	12.5	20.6	11.8	2.8
2013	35.1	-6.7	22.1	10.2	11.9	19.6	11.1	2.5
2014	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	*-27%*	*61%*	*-27%*	*-38%*	*-14%*	*-12%*	*-13%*	*-24%*
B.	**Financial wealth**							
2006	53.3	2.2	14.6	8.5	6.1	36.5	30.6	18.3
2007	52.2	2.0	13.9	8.0	5.9	36.3	30.6	18.6
2008	51.3	2.3	13.6	7.9	5.7	35.4	29.8	18.1
2009	50.4	2.0	14.2	8.2	6.0	34.1	28.3	16.7
2010	56.0	1.7	15.4	8.8	6.6	39.0	32.6	19.4
2011	56.8	1.9	15.4	8.9	6.5	39.5	33.3	20.1
2012	58.1	1.7	16.3	9.3	7.0	40.1	33.5	19.9
2013	64.9	1.3	17.6	9.9	7.6	46.0	38.6	23.0
2014	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*
% 2001	*24%*	*-43%*	*15%*	*11%*	*21%*	*32%*	*33%*	*37%*

Point 14 (Table 11): Housing wealth declined generally, financial wealth in the Bottom-50% only

More detail is available about the composition of wealth, but how far shall we go? The split between wealth of self-owned housing versus all other types of wealth, here indicated as 'financial wealth', shows that households across the entire distribution suffered from the decline in housing values. In total housing wealth fell from close the half to one third. Though the decline was relatively strong at the top, the importance of housing in their wealth is much less and the positive effects of financial wealth easily carry the day for their fractiles. 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 10; similarly for the Top-1% a -0.7 pcpt housing loss dwindles in comparison with a 6.8 pcpt financial advantage. In absolute term the Middle-40% is a big loser (-7.9 pcpt) of the housing price crisis that came in the wake of the Financial crisis.

Point 15 (Table 12): The wealth distribution over incomes is much less unequal

By definition increasing net debts concentrate at the lower end of the wealth distribution and substantial shifts of households across the distribution will go together with these changes. If we look at the distribution of wealth over the income distribution (compare Table 8 for households) this a priori concentration and the concomitant shifts disappear. The Bottom-50% disposes of a substantial share of more than one quarter of total net wealth, and the Middle-40% has more than 40%. The Top-10% of the income distribution has a share in wealth (around 30%) that is well comparable to its share in incomes. The Top-1% share in wealth (around 10%) exceeds that in income (around 5%) though.

Table 12 Household income-fractile shares in total net wealth, %

| | Over incomes | | | | | | | Over incomes and wealth simultaneously | | | | | |
| | | | | | | | | Income shares | | | Number shares | | |
	Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%	Top-10x10	Top 5x5	Top 1x1	Top-10x10	Top 5x5	Top 1x1
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
% 2001	6%	-4%	-1%	-10%	0%	2%	7%	9%	11%	17%	-13%	-14%	-4%

Point 16 (Table 12): Top-wealth-cum-top-incomes have maintained themselves better

Three 'simultaneous' shares: 10x10, 5x5, and 1x1 (where incomes and wealth top fractiles 10%, 5%, and 1% overlap with each other), are much smaller than the pure wealth top shares (Table 10) but they encompass most of the wealth of the wealth-over-income top shares and do so increasingly (Table 12). Their wealth shares have grown in spite of the fact that their shares in the number of households has declined.

Table 13 Household income-fractile shares of housing and financial wealth in total net wealth, %

	Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%
A. Self-owned housing (net of mortgage debt)							
2006	14.1	22.7	15.5	7.2	9.9	5.6	1.3
2007	14.7	23.3	16.1	7.1	9.9	5.7	1.6
2008	14.8	23.7	16.5	7.2	10.2	5.8	1.7
2009	16.2	23.7	16.6	7.1	9.7	5.6	1.4
2010	14.9	20.7	14.6	6.1	8.4	4.6	1.2
2011	15.2	20.0	14.2	5.9	7.9	4.3	1.1
2012	15.1	19.5	13.9	5.6	7.3	3.9	0.9
2013	13.9	15.9	11.5	4.4	5.2	2.9	0.6
2014	13.6	15.1	11.1	4.0	5.2	2.8	0.6
pcpt	-0.6	-7.6	-4.4	-3.2	-4.7	-2.8	-0.7
% 2001	-4%	-34%	-29%	-44%	-47%	-50%	-51%
B. Financial wealth							
2006	11.2	19.6	12.8	6.8	22.5	17.2	8.7
2007	10.5	19.7	12.6	7.1	22.0	16.7	8.4
2008	9.6	16.8	11.0	5.8	24.9	20.5	13.1
2009	10.5	18.9	12.2	6.7	21.0	16.1	8.6
2010	11.7	21.5	13.8	7.6	22.9	17.1	8.9
2011	11.7	21.1	14.0	7.2	24.0	17.9	10.1
2012	13.3	23.4	15.5	7.9	21.5	15.5	6.8
2013	15.2	27.1	17.8	9.3	22.6	16.0	7.1
2014	13.4	25.5	16.9	8.6	27.3	20.5	10.1
pcpt	2.2	5.9	4.1	1.8	4.8	3.4	1.4
% 2001	20%	30%	32%	26%	21%	19%	16%

Note: Both panels have the same denominator as in Table 12 and can be directly compared as well as added up mutually. Totals are identical to those of Table 11.

Point 17 (Table 13): The housing price crisis affects higher incomes more

As in Table 11 we split housing and financial wealth across the income distribution. Declining housing values again affect the entire distribution but the decline is now stronger at the top: over wealth the Top-10% is from 21 to 19%, over incomes 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 (not shown). The financial gains spread also from the bottom to the top and tend to be weaker at higher income levels, compensating less for the housing decline.

Table 14 Labour household income-fractile shares of total, housing and financial wealth in total net wealth of all households, %

		Bottom 50%	Middle 40%	60-80	Second 10%	Top-10%	Top-5%	Top-1%
A.	**Total wealth**							
2006		47.9	4.6	24.4	14.9	9.5	18.8	11.8	3.2
2007		48.6	4.8	25.0	15.6	9.4	18.7	11.9	3.4
2008		41.6	4.2	23.0	14.4	8.6	14.4	8.5	2.3
2009		45.0	5.3	23.8	14.7	9.1	15.9	9.6	2.8
2010		43.9	4.9	22.3	13.4	8.9	16.7	10.3	3.1
2011		41.4	4.3	21.2	12.9	8.3	15.9	10.0	3.3
2012		42.2	4.2	21.0	12.5	8.6	16.9	10.7	3.2
2013		39.7	4.0	19.3	11.1	8.1	16.4	10.7	3.6
2014		38.7	3.3	17.6	10.2	7.4	17.9	12.0	3.8
pcpt		*-9.1*	*-1.4*	*-6.8*	*-4.7*	*-2.1*	*-0.9*	*0.1*	*0.7*
% 2001		*-19%*	*-30%*	*-28%*	*-32%*	*-22%*	*-5%*	*1%*	*22%*
B.	**Self-owned housing (net of mortgage debt)**							
2006		23.3	2.3	13.9	8.7	5.2	7.1	3.7	0.6
2007		24.0	2.6	14.6	9.4	5.2	6.8	3.6	0.7
2008		22.9	2.2	14.5	9.3	5.2	6.2	3.0	0.4
2009		23.3	2.9	13.9	8.9	5.0	6.5	3.3	0.6
2010		19.1	2.2	11.2	7.0	4.2	5.6	2.9	0.5
2011		17.5	1.8	10.5	6.5	4.0	5.2	2.7	0.4
2012		16.2	1.7	9.6	5.9	3.7	4.9	2.5	0.5
2013		10.4	1.0	6.2	3.6	2.6	3.2	1.6	0.2
2014		9.9	1.1	5.6	3.3	2.2	3.2	1.6	0.2
pcpt		*-13.4*	*-1.2*	*-8.4*	*-5.3*	*-3.0*	*-3.8*	*-2.1*	*-0.4*
% 2001		*-58%*	*-54%*	*-60%*	*-62%*	*-58%*	*-54%*	*-57%*	*-60%*
C.	**Financial wealth**							
2006		24.6	2.3	10.5	6.3	4.2	11.7	8.1	2.5
2007		24.5	2.2	10.5	6.3	4.2	11.9	8.3	2.7
2008		18.7	2.0	8.5	5.2	3.4	8.2	5.5	1.9
2009		21.6	2.3	9.9	5.8	4.1	9.4	6.3	2.2
2010		24.8	2.7	11.0	6.4	4.6	11.1	7.4	2.6
2011		23.9	2.5	10.7	6.4	4.3	10.7	7.4	2.8
2012		26.0	2.5	11.5	6.6	4.9	12.0	8.1	2.8
2013		29.3	2.9	13.1	7.5	5.6	13.3	9.0	3.4
2014		28.9	2.2	12.0	6.9	5.1	14.7	10.3	3.6
pcpt		*4.3*	*-0.1*	*1.5*	*0.6*	*0.9*	*2.9*	*2.2*	*1.1*
% 2001		*18%*	*-5%*	*14%*	*10%*	*21%*	*25%*	*27%*	*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.

Point 18 (Table 14): Labour households bear the brunt of declining housing wealth

Finally, I focus on 'main labour households' (defined as receiving more than half their total income from labour earnings) considering the same issues as covered in Tables 12 and 13. These households bear the brunt of housing declines as they see their wealth fall from 23 to 10%, i.e. they suffer all of the 12.8 pcpt decline of Table 11. This includes notably the Middle-40%: a 8.4 pcpt fall compared to 7.6 pcpt in Table 13. Though their financial wealth grows somewhat (+4.3 pcpt) the decline in the Bottom-50% and the slow growth in the Middle-40% contrast with Table 13, and provide no compensation at all for the housing losses.

2.3 Linking to the National Accounts

Point 19 (Table 16): Wages are much 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. The coverage of the Compensation of employees in the National Accounts that IPO gross wages offers is nearly complete though it still varies over time (94-98%). However, other primary incomes are lacking very substantially compared to the N.A.'s Operating surplus, net after deduction of depreciation, and they do so with relatively great variation over the years (10-16%).

Table 16 Wages and other primary incomes: National Accounts versus income statistics (IPO)

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

Point 20 (Table 17): 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. Several candidates may be suggested for bridging the gap. On the N.A. side we find four elements that should be included in the net Operating surplus:

- mortgage and other interest paid by households,

- occupational pensions paid to pensioners,

- returns to the capital of the colossal pension fund sector, and

- returns to enterprise and capital which are saved and not transferred to households or other countries.

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. The third and fourth items are not observed in IPO. Taken together they cover most of the gap and more than that since 2009. However, precise definitions and measurement warrant more attention to pin down the gap more conclusively.

Table 17 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

Further to this, the question can be asked whether occupational pensions and interest deductions shall actually be included in IPO primary income for a correct determination of top shares and inequality in general? In a first little exercise for the year 2014 this enhances the IPO tax unit 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%. The Gini coefficient grows from 0.475 to 0.481.

3. Concluding remarks

Statistics Netherlands (CBS) maintains highly accurate and detailed data which become pretty quickly available in a provisional version (< 1.5 year).[2] 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 later this year, but this may be in vain.

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 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 the top incomes literature aims to draw. It is because available data at the start 100 years ago that tax units are being used. The 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 sole use of individual persons. The combination with household-based information – up to a point also ridden with national statistical idiosyncrasies – 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.

In the paper I have aired also some questions regarding the WID's definition of the Middle-40%.

Finally, for DINA I advocate a strong focus on coming to grasps 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

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[2] Later this autumn IPO will be replaced with a new statistics, 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.

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.

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Graphs 1914 – 2014

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

Figure 2 NL, Real gross average tax-unit income and consumer prices, 1914-2014
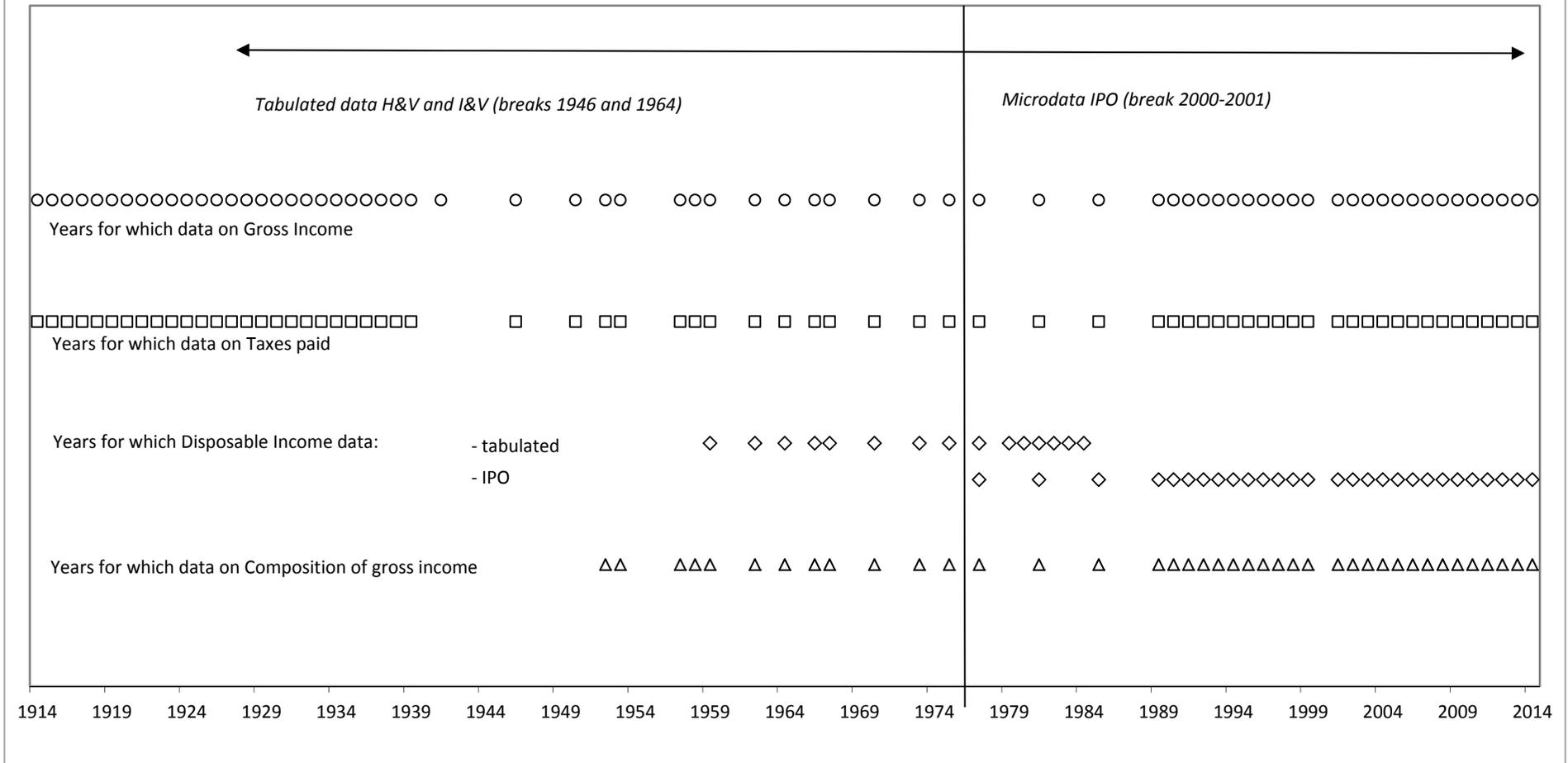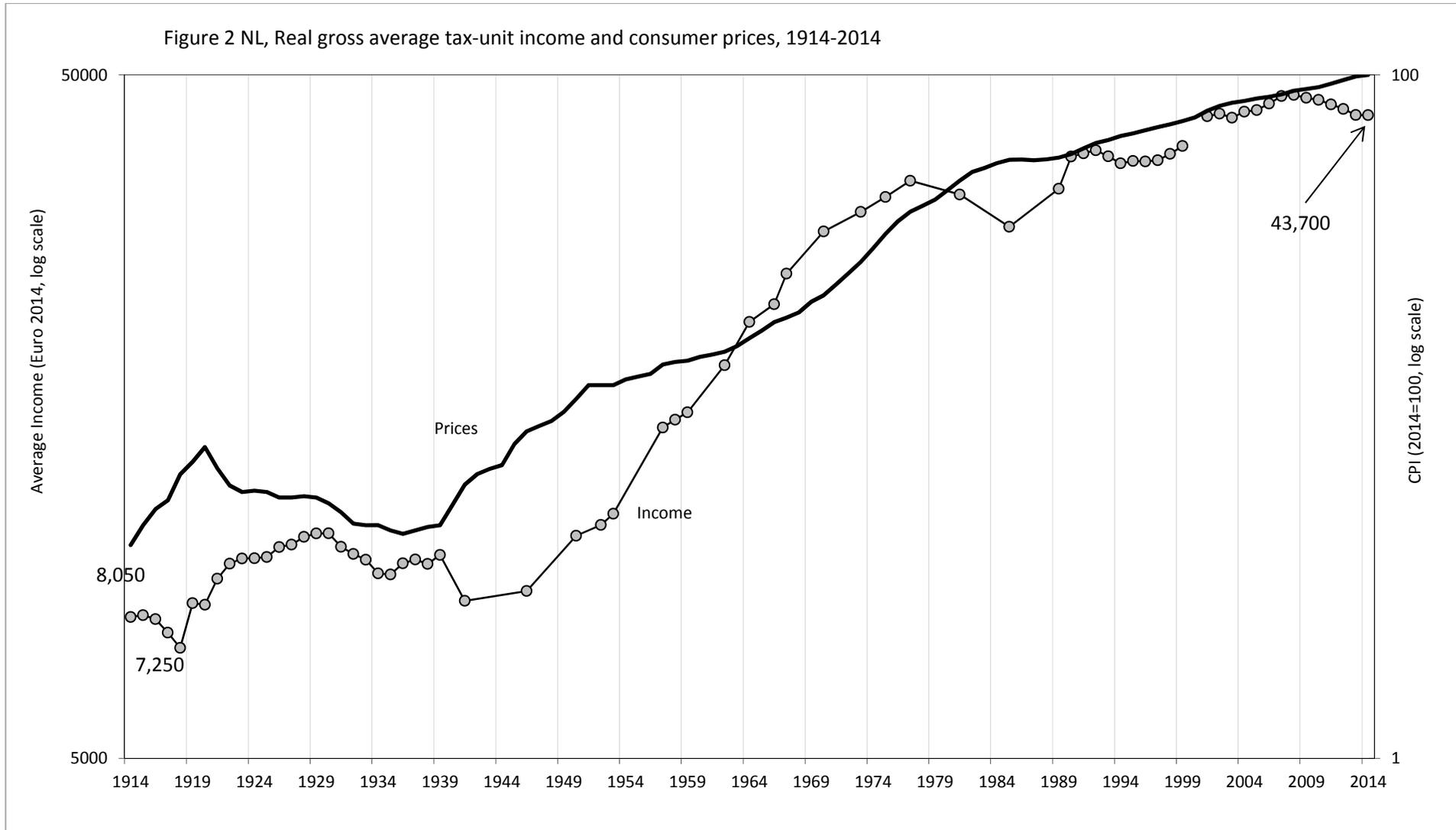
Figure 3A NL, Gross-income shares of Top 10%, 5% and 1%, 1914-2014
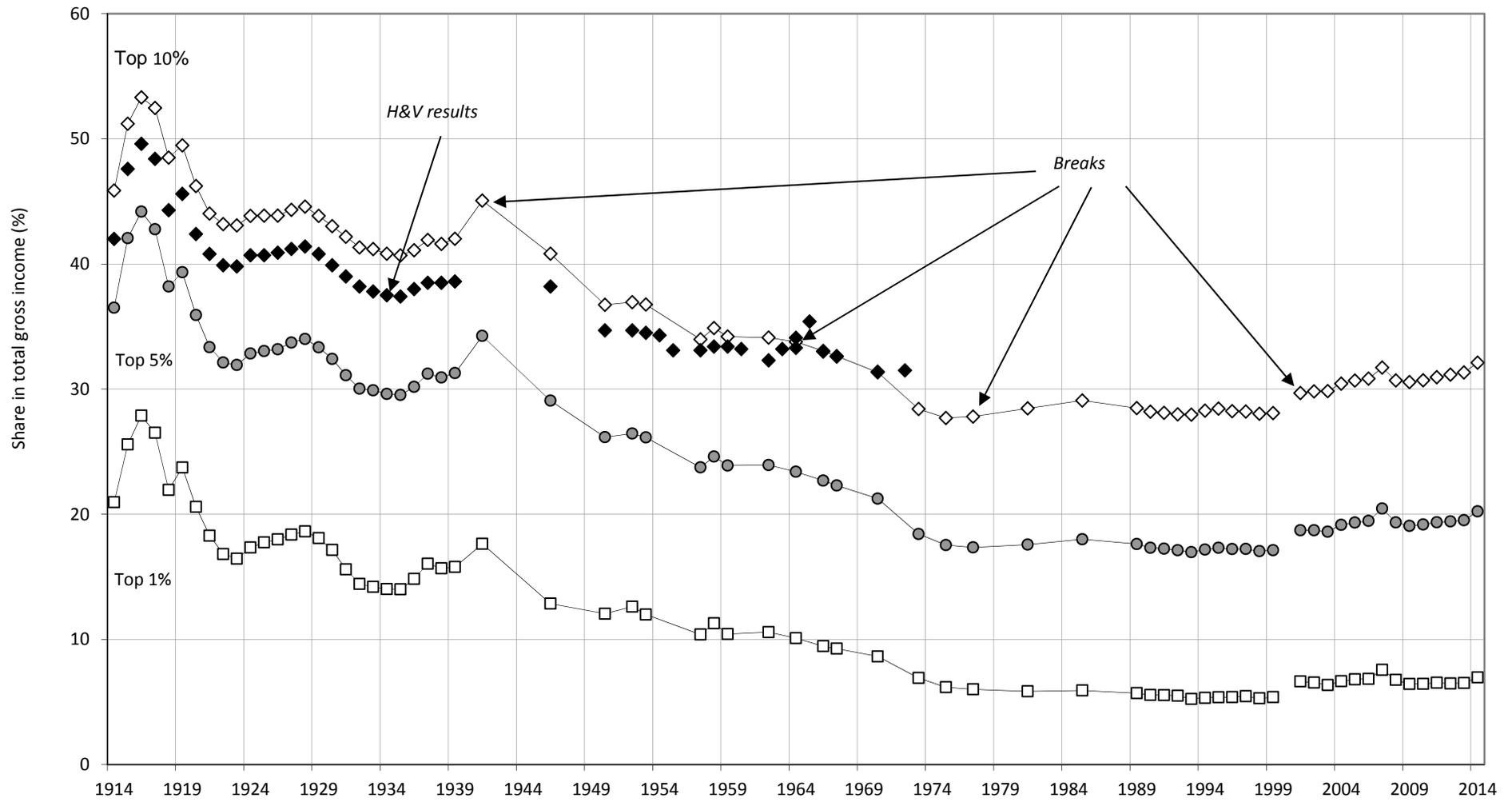
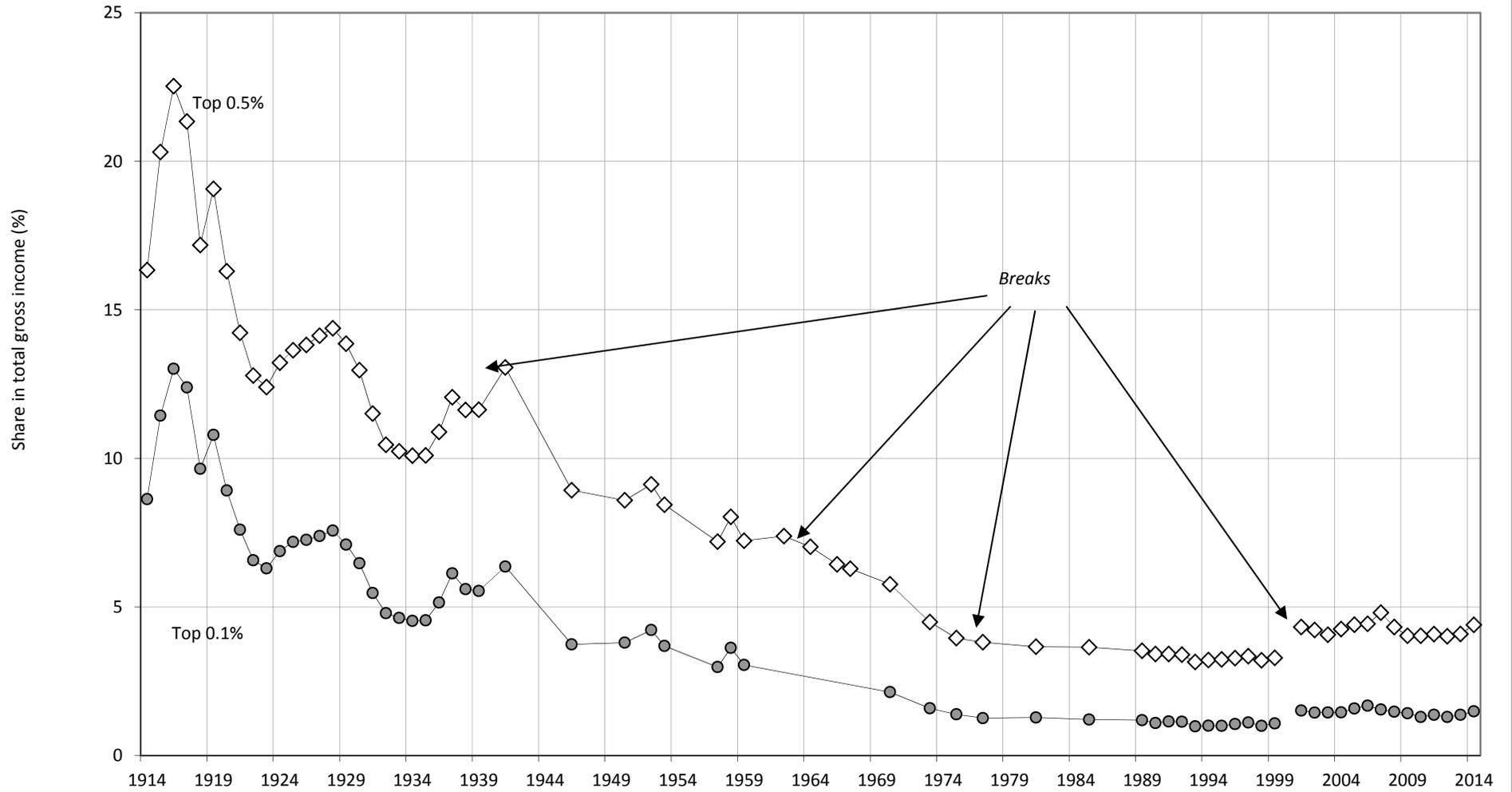Figure 3B NL, Gross-income shares of Top 0.5% and 0.1%, 1914-2014

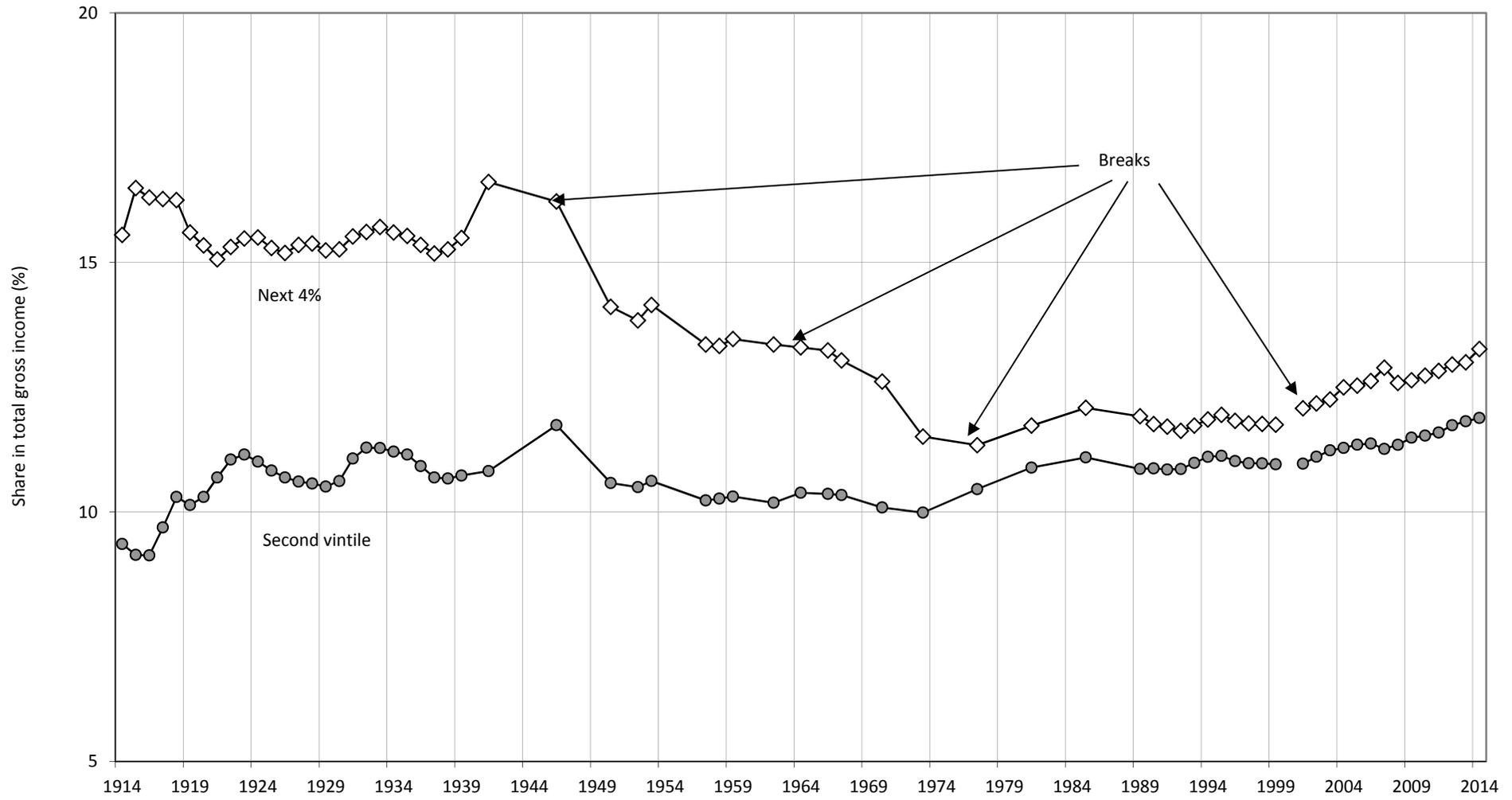Figure 3C NL, Gross-income shares of "Next 4%" and Second Vintile Group, 1914-2014

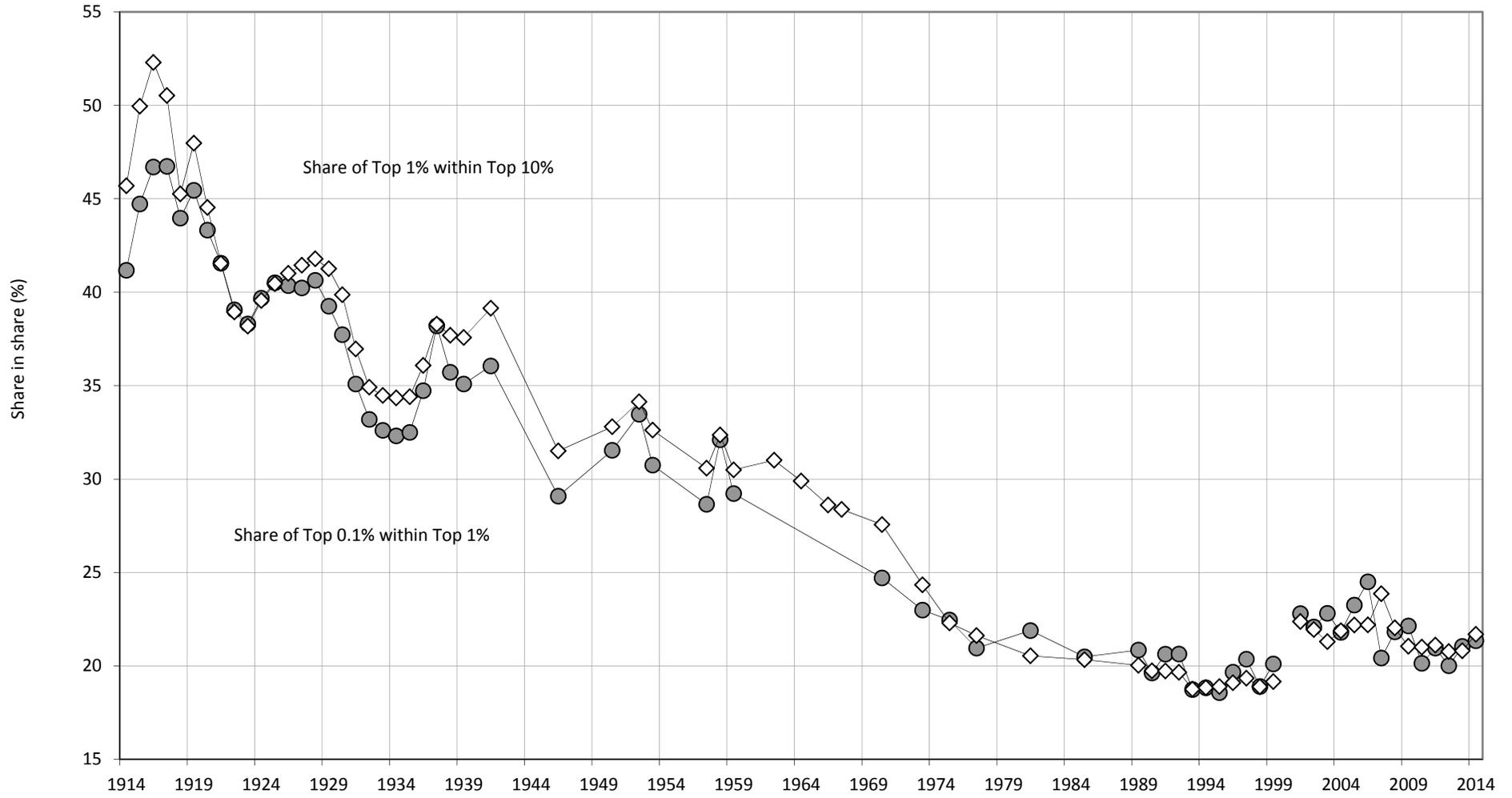Figure 4A NL, Gross-income shares-within-shares, 1914-2014
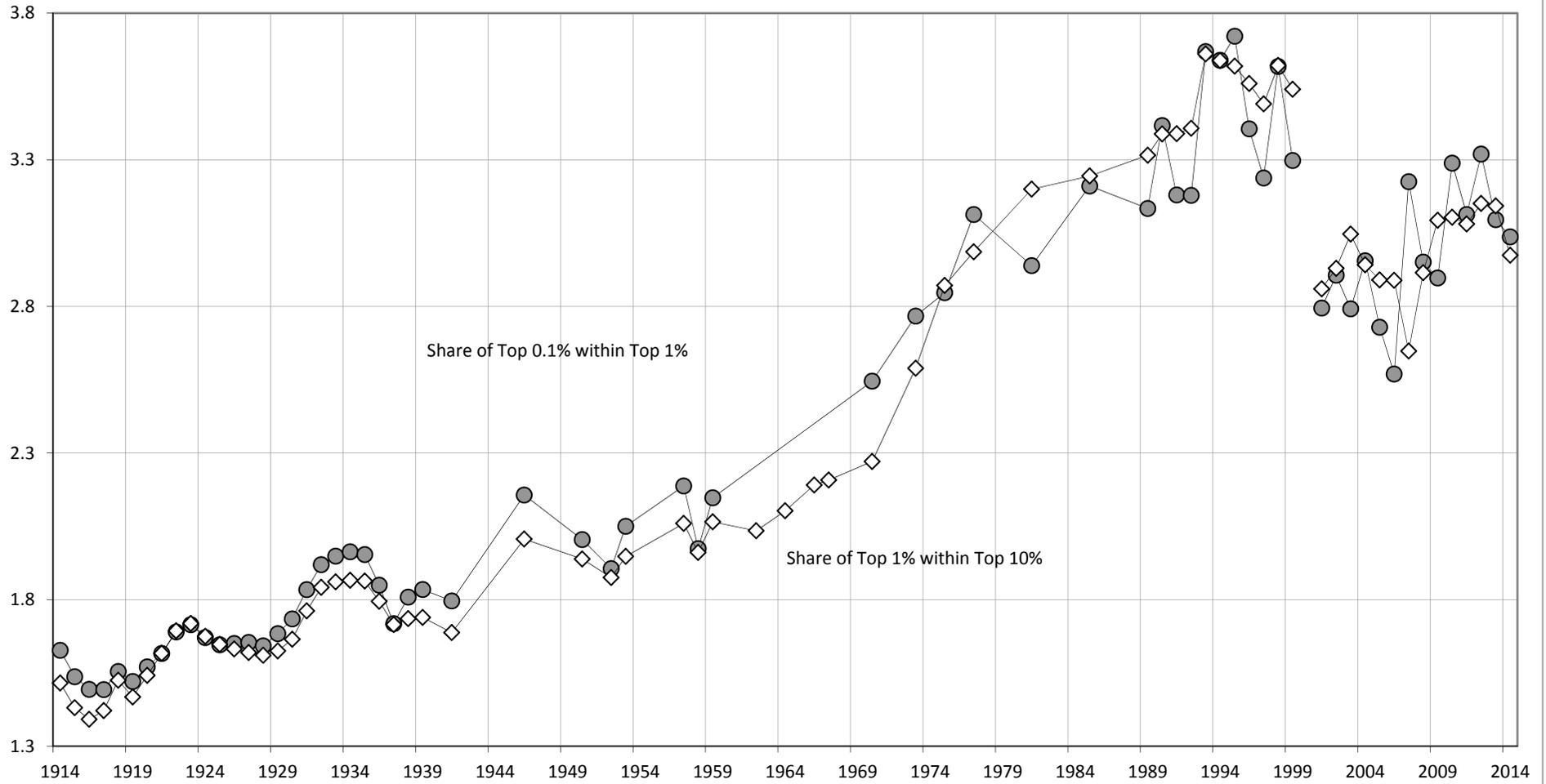
Figure 4B NL, Pareto-Lorenz coefficients of gross incomes, 1914-2014

Share of Top 0.1% within Top 1%

Share of Top 1% within Top 10%

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

Share of Top 1% within Top 10%

Share of Top 0.1% within Top 1%
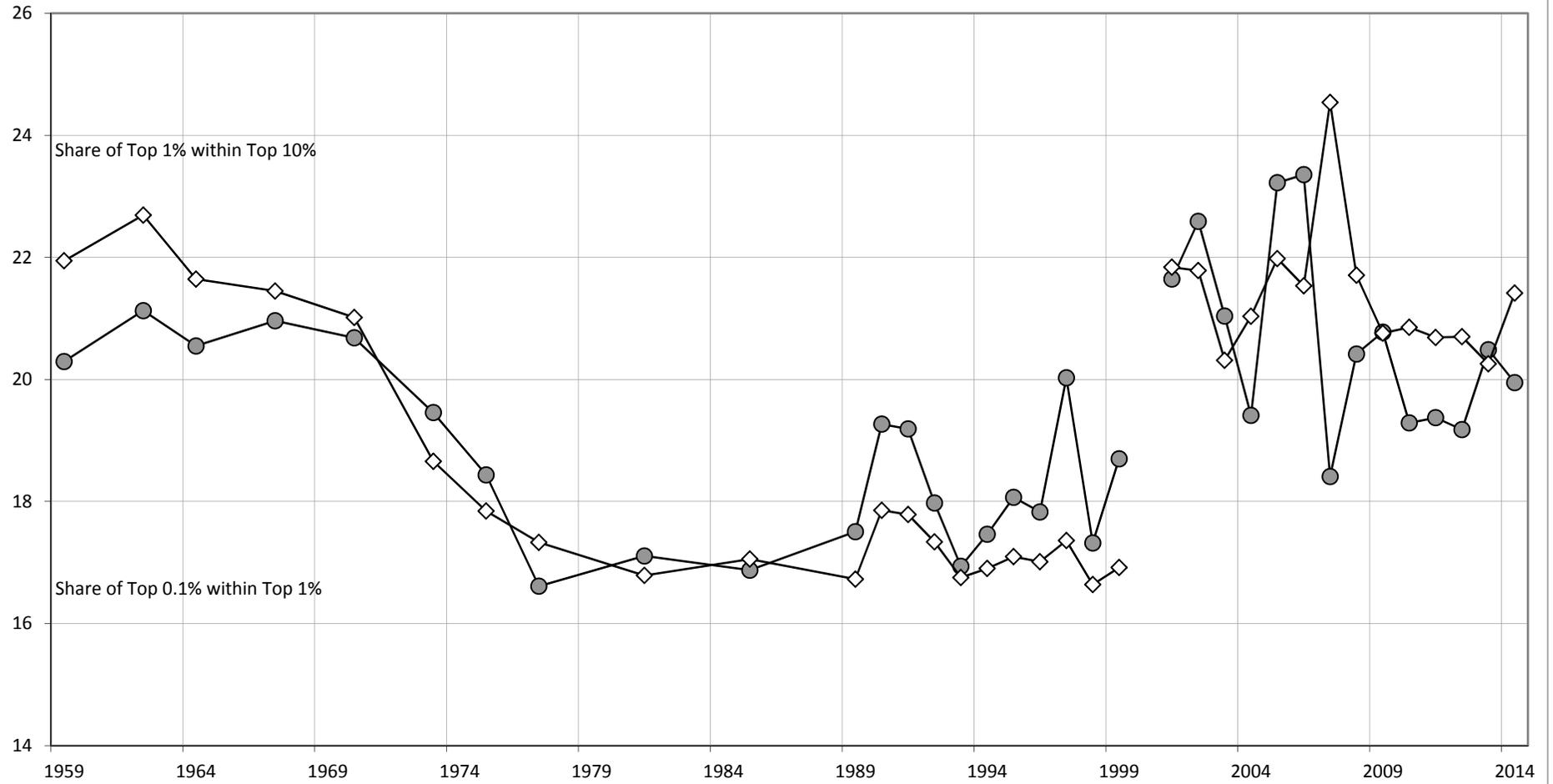
Figure 6 NL, Ratio of disposable-income to gross-income top shares, 1959-2014
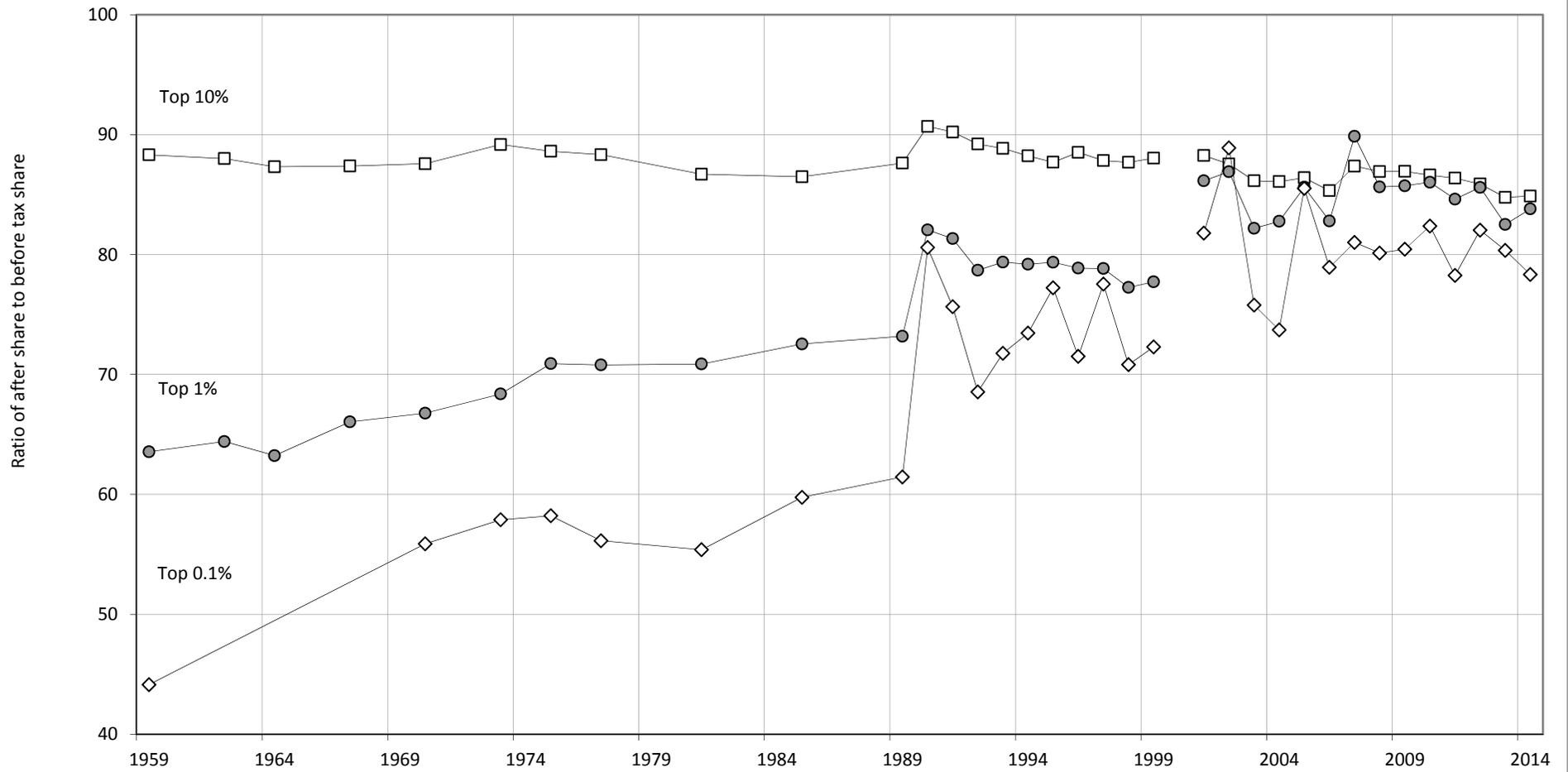
Figure 7 NL, Capital income shares in gross income Top 10%, 1% and 0.1%, 1952-2014
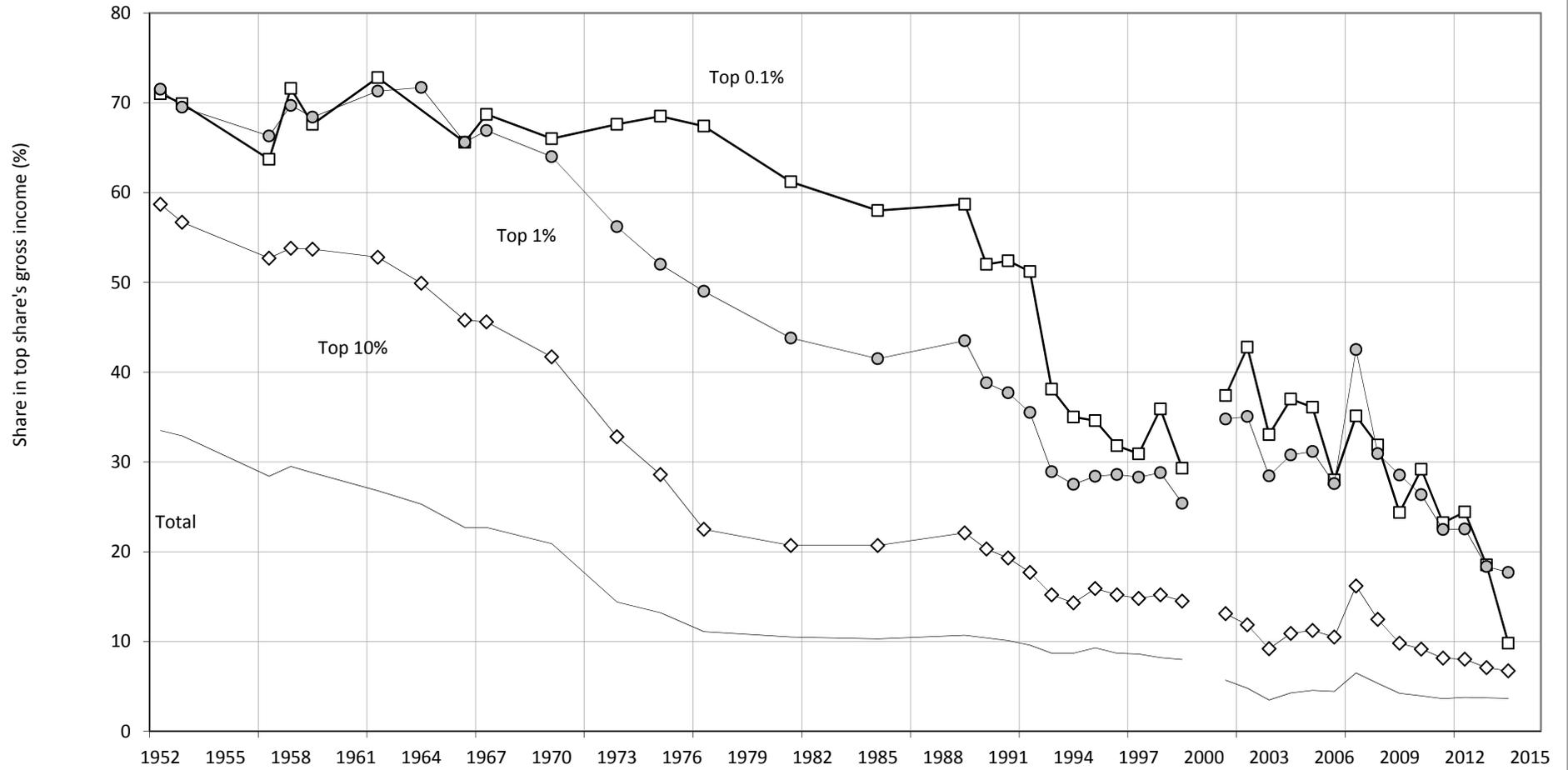
Figure 8 NL, Composition of gross-income Top 1%, 0.5% and 0.1% by source of income, 1952-1977-1999-2014
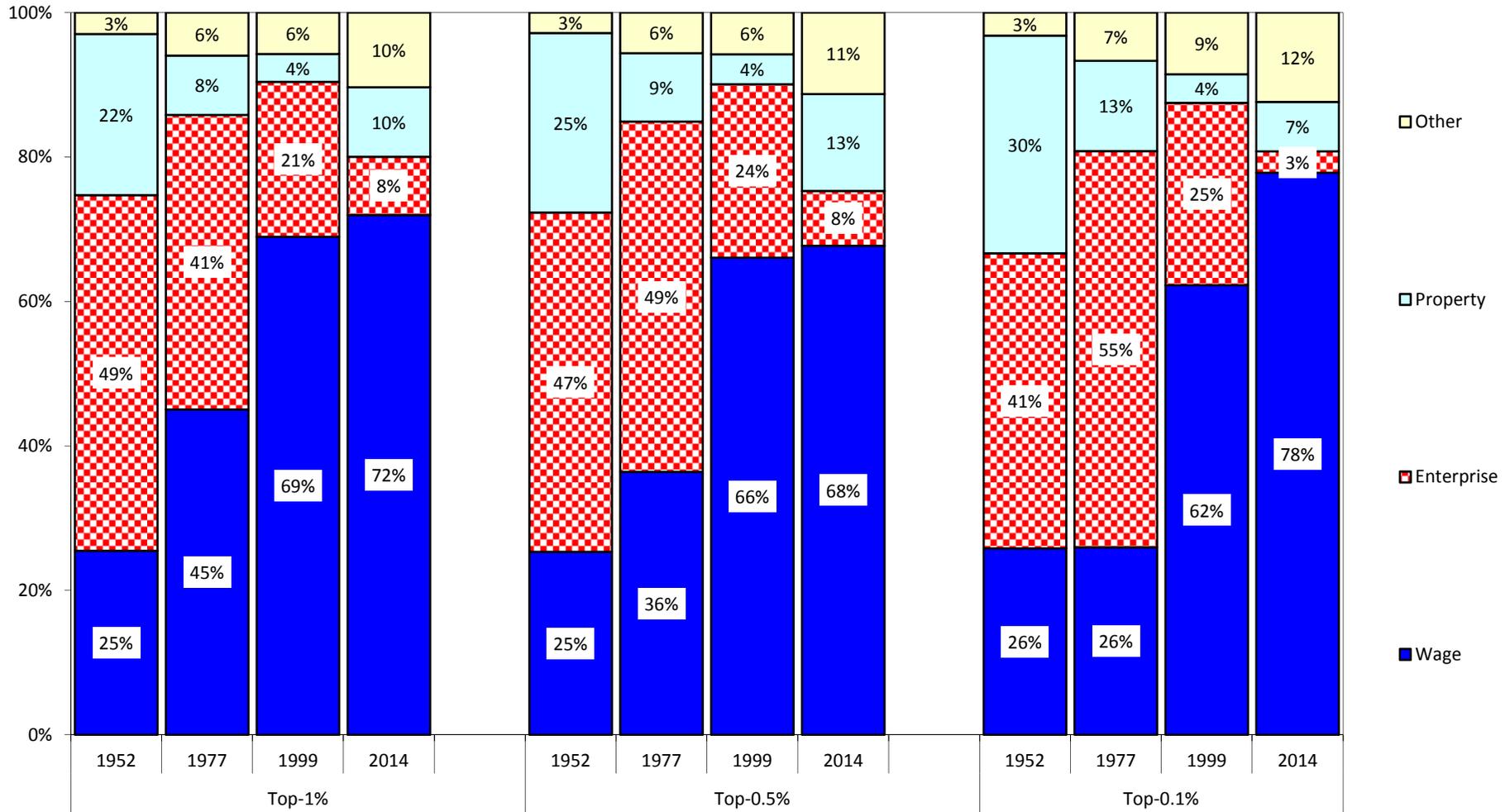
Figure 9 NL, Wage-income contributions tot gross- income Top 10%, 1% and 0.1%, 1952-2014
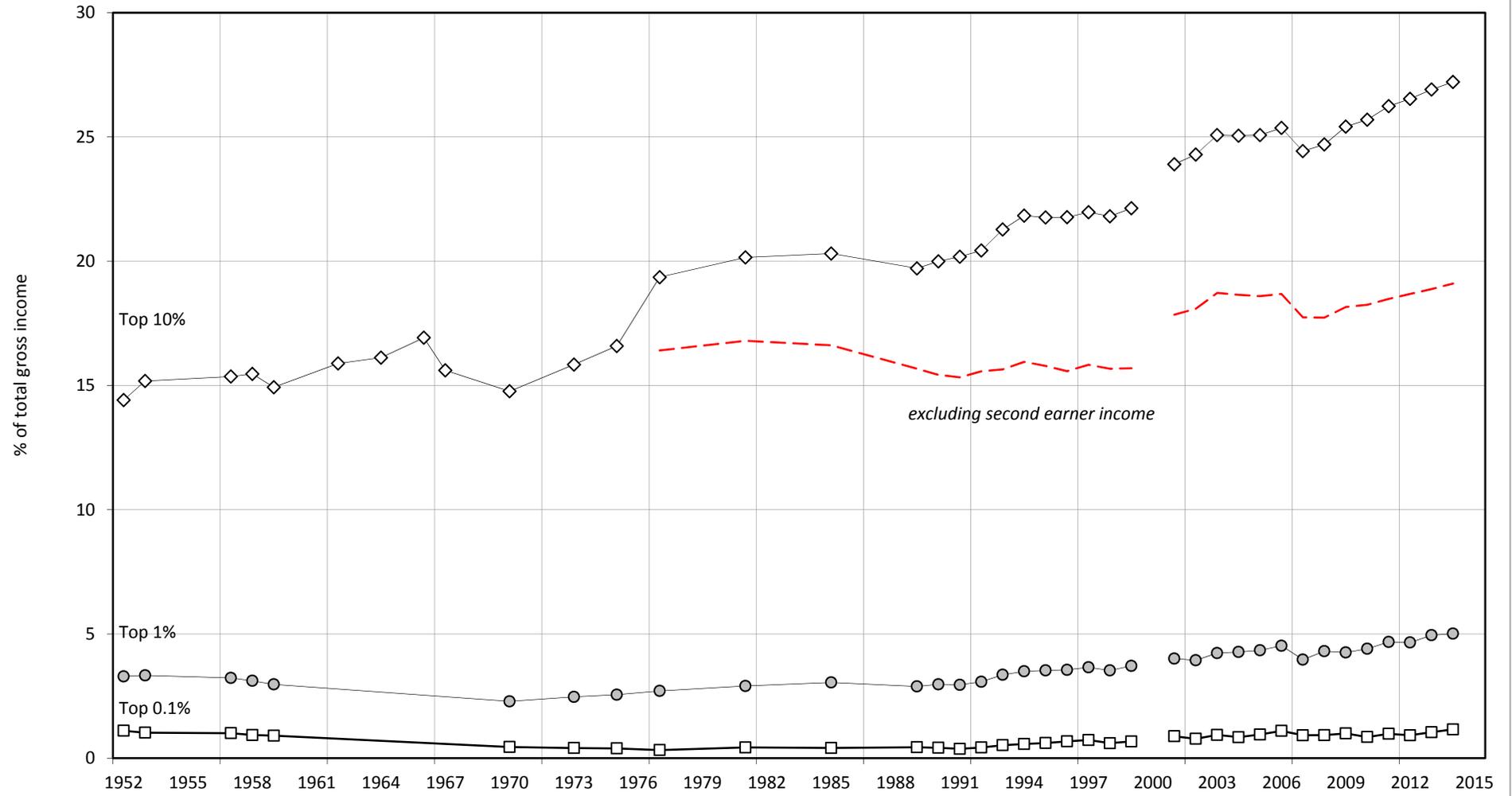
Figure 9(2) NL, Wage-income contributions tot gross- income Top 1% and 0.1%, 1952-2014
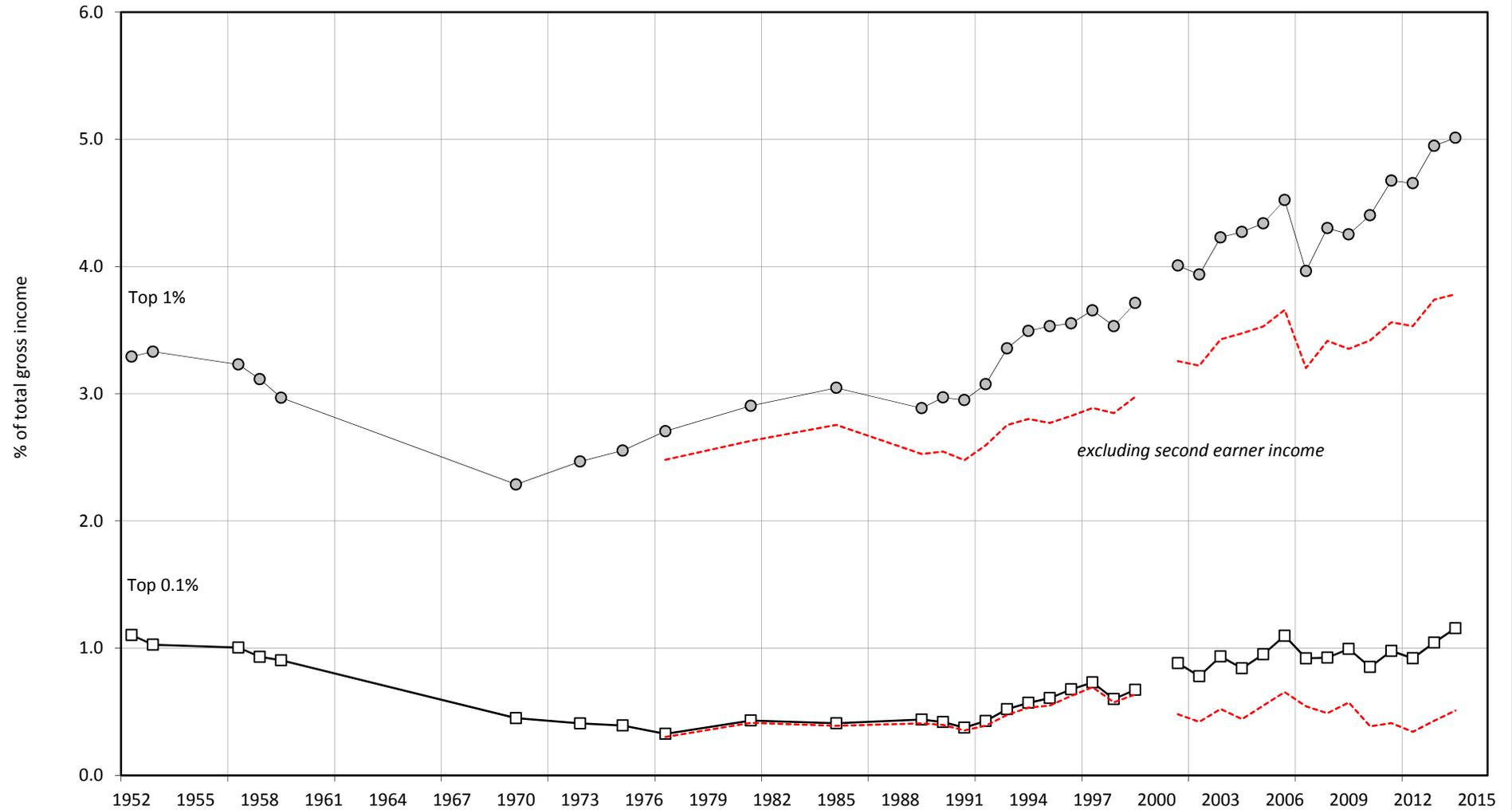
Figure 9(3) NL, Wage-income contributions tot gross- income Top 0.1%, 1952-2014
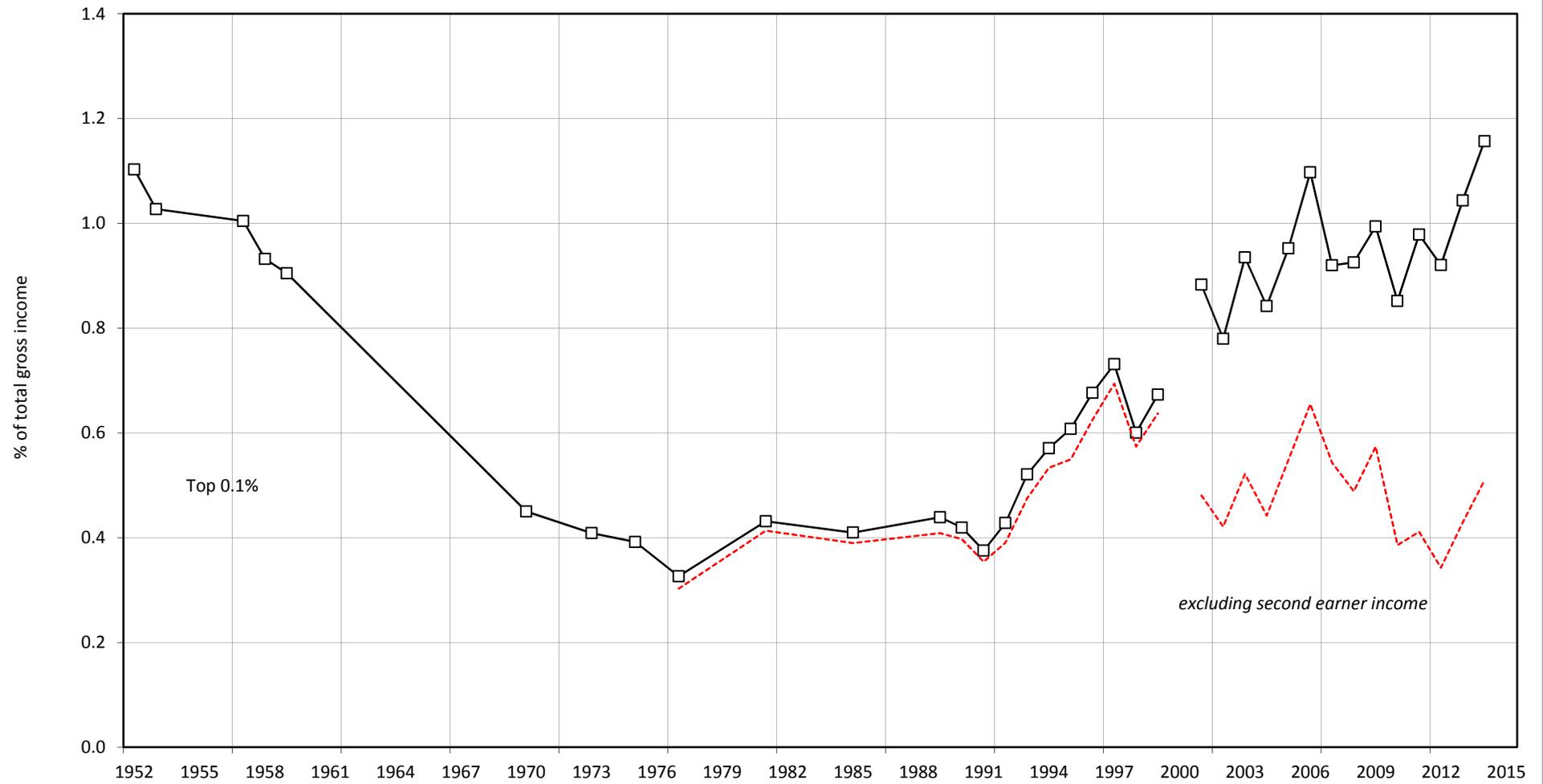
Figure 10 NL, Effective direct tax rates on gross income Top 10%, 1% and 0.1%, 1914-2014
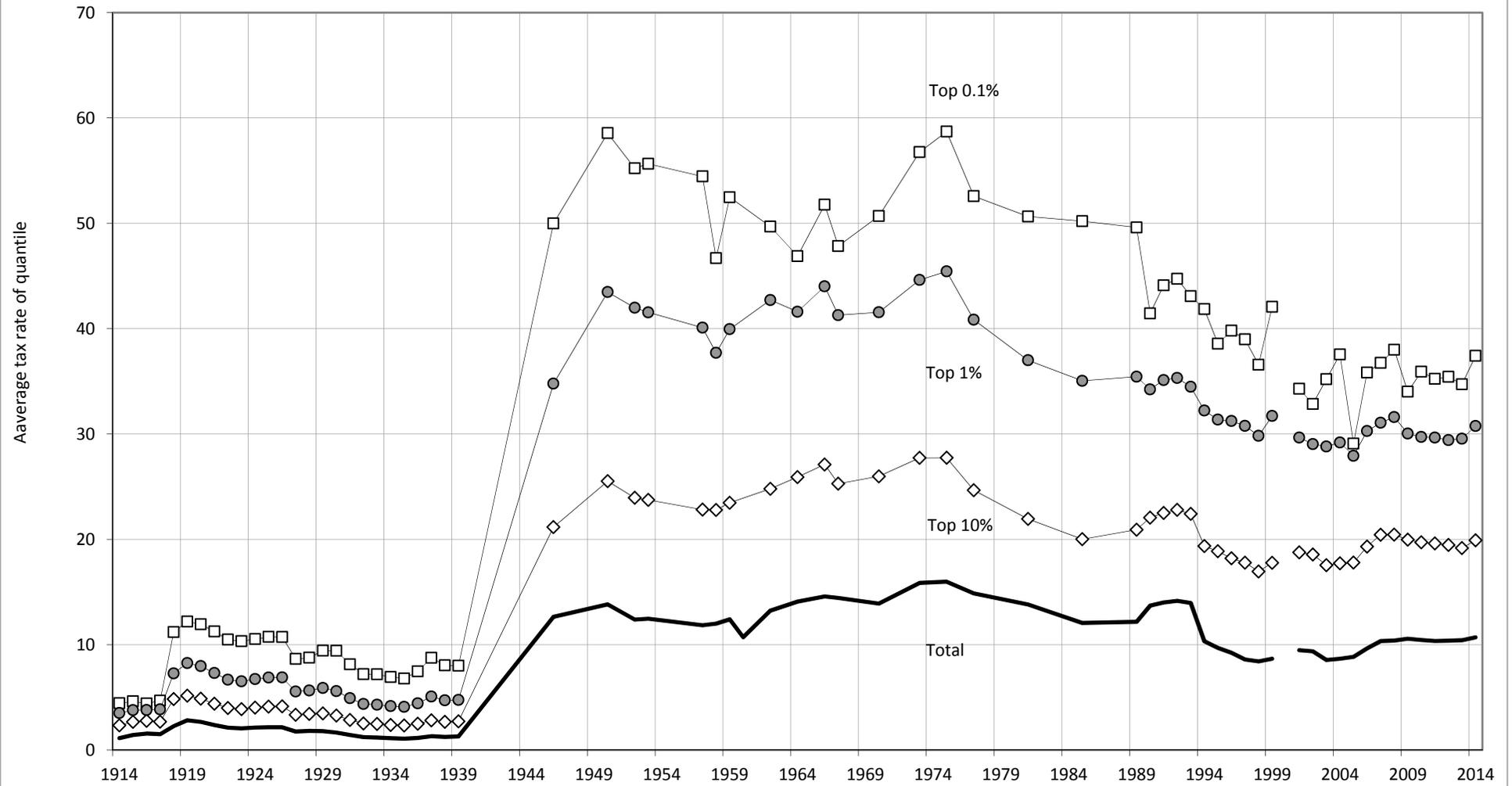
Figure 11 NL, Relative direct effective tax rates on gross-income Top 10%, 1% and 0.1% to total, 1914-2014
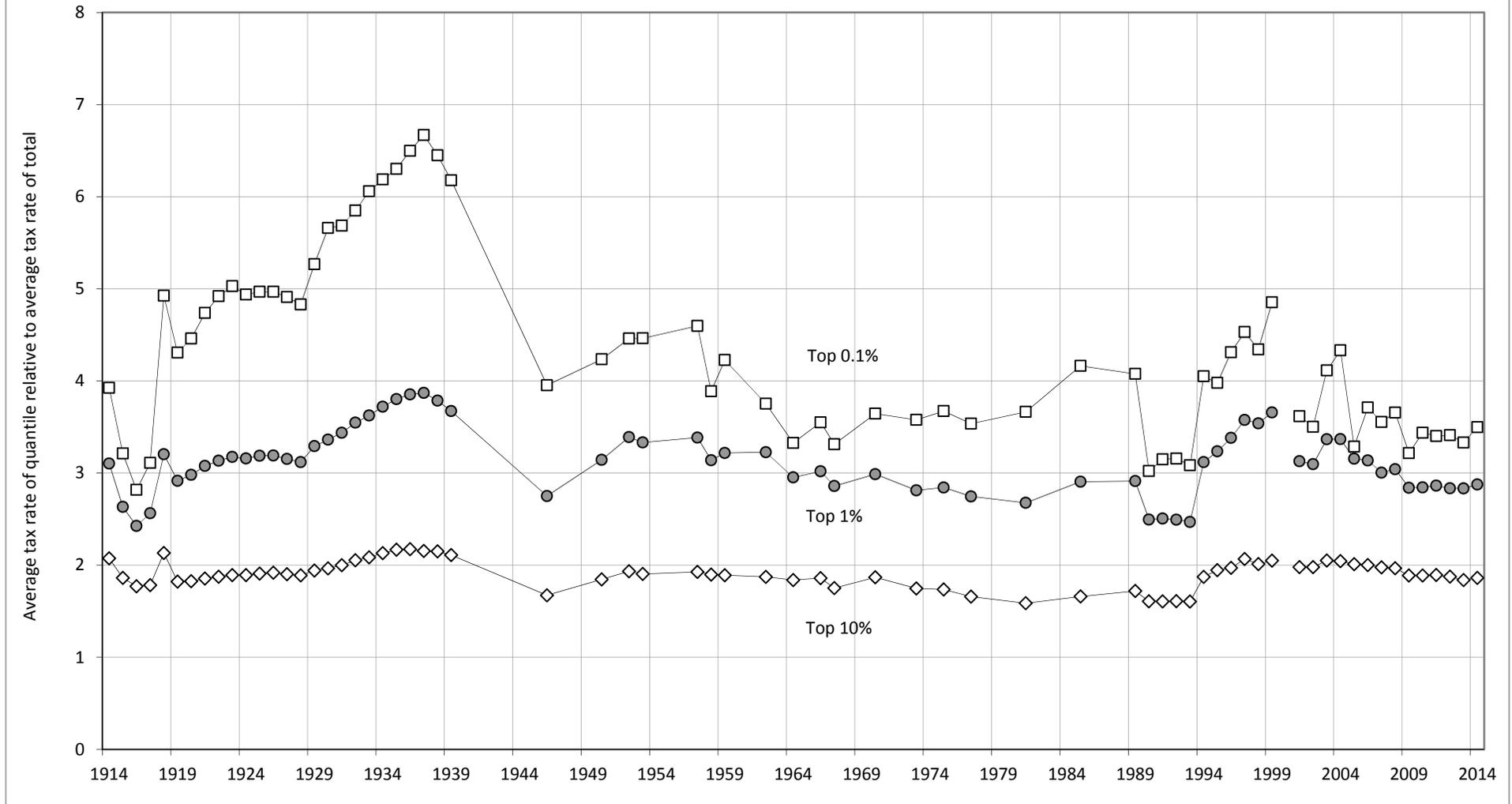
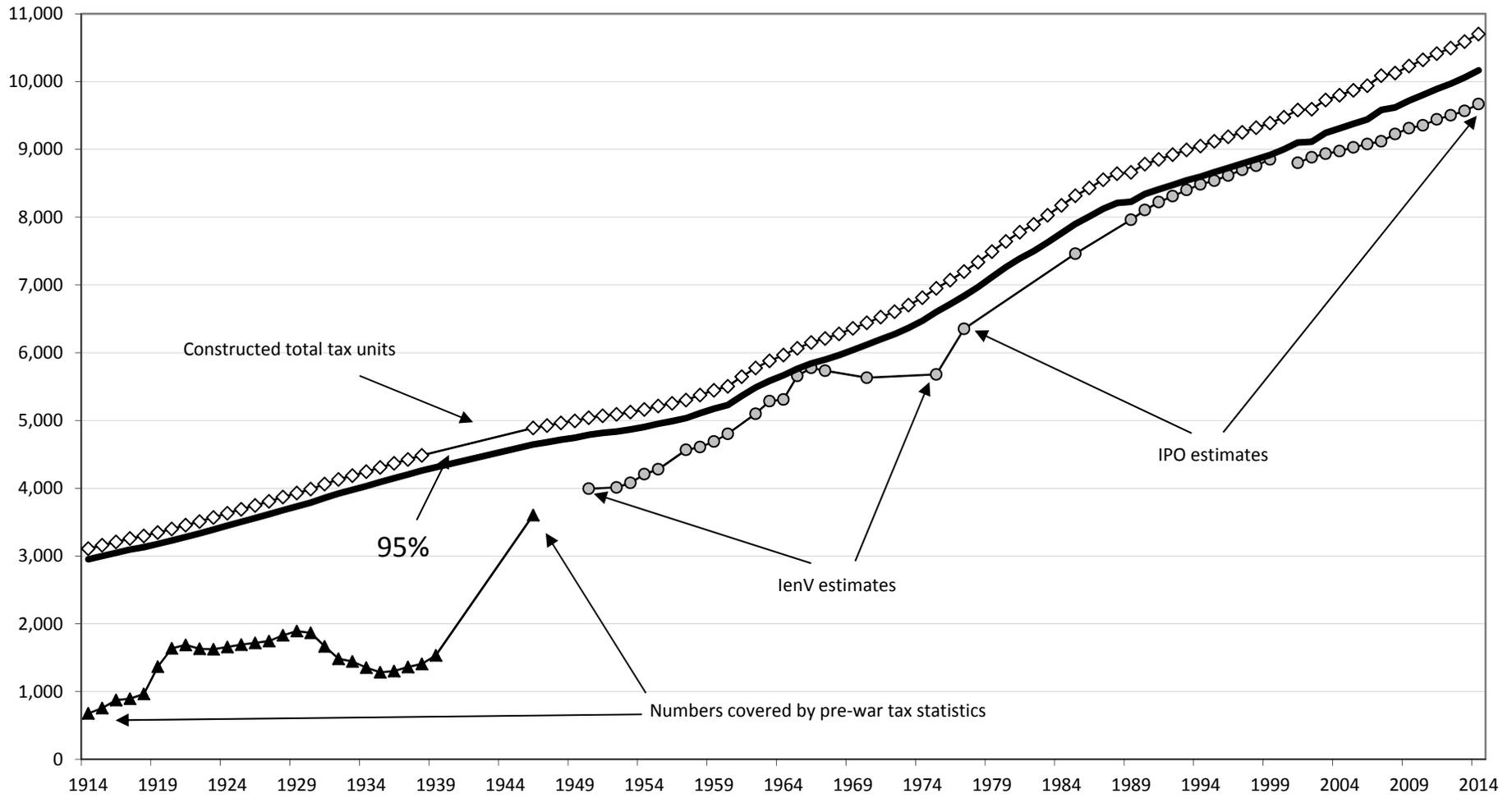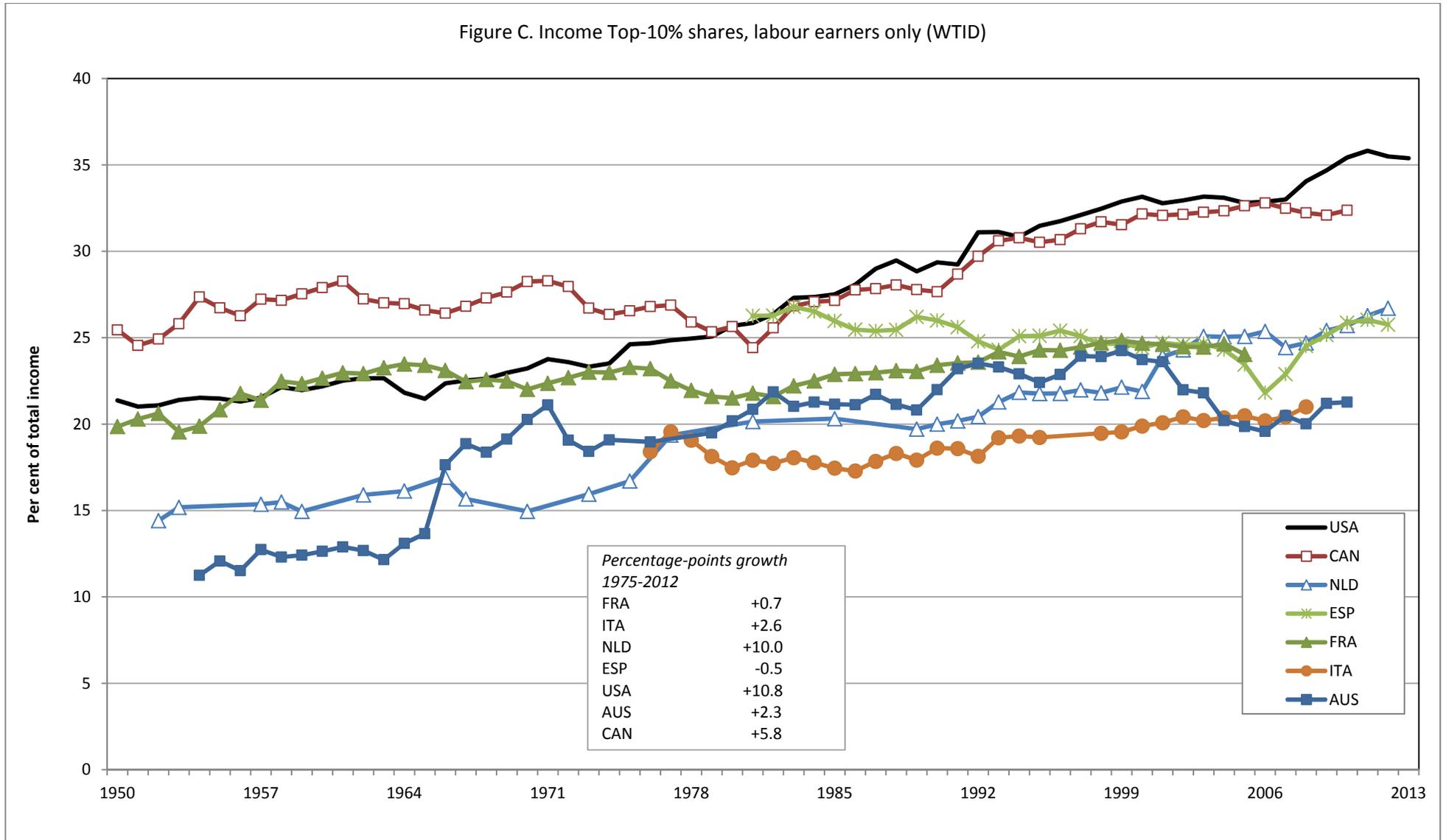Figure B1 Tax Units (X 1000) in NL, 1914-2014

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)

Percentage-points growth 1975-2012	
FRA	+0.7
ITA	+2.6
NLD	+10.0
ESP	-0.5
USA	+10.8
AUS	+2.3
CAN	+5.8

Salverda (2015), Figure 20.