

Taxation and Inequality. A Revisionary Study of Changing Income Inequality in Finland, 1961–2005

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December 8, 2021

Appendix

Updated on December 8, 2021

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This appendix contains the sources used for the figures and tables in *Taxation and Inequality. A Revisionary Study of Changing Income Inequality in Finland, 1961–2005*. The appendix contains also supplementary figures and tables which are referenced in the article but left out due to space constraints. The names of the sources have been provided in English whenever possible.

Figure 1

Statistics Finland (1984). National accounts. Timeseries for 1960–1981. Statistical Surveys Nro 75. Helsinki: Statistics Finland

Statistics Finland (1985). Capital stock in 1960–1983. KT 1985:6. Helsinki: Statistics Finland

Statistics Finland (2020). Income and production by sector and industry, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_123h.px/ [accessed on April 24, 2020]

Statistics Finland (2020). Investments and fixed capital, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_124l.px/ [accessed on April 24, 2020]

Figure 2

Statistics Finland (1984). National accounts. Timeseries for 1960–1981. Statistical Surveys Nro 75. Helsinki: Statistics Finland

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Statistics Finland (2021). Prices and Costs. Statistics Finland StatFin database https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__kan__vtp/ [accessed on November 2, 2021]

Statistics Finland (2021). Employment and hours worked, annually, 1975–2020. Statistics Finland StatFin database https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__kan/ [accessed on November 2, 2021]

Figure 3

Statistical Office of Finland/Statistics Finland (1960–89). Statistics of income and property, 1960–1987. OSF IV B:27–51; Income and Consumption 1988:6–1989:4 (published annually)

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Statistics Finland (2020). Investments and fixed capital, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_1241.px/ [accessed on April 24, 2020]

Figure 4

Statistics Finland (1988–92). Teollisuusyritysten tilinpäätöstilasto 1986–1991. Yritykset 1988:2–1992:25. Helsinki: Statistics Finland

Statistics Finland (1993–2000). Financial statements statistics 1991–2000. Enterprises 1993:1–2002:2. Helsinki: Statistics Finland

Statistics Finland (2003–5). Business enterprises – net results and balance sheets 2001–2003. Enterprises 2003:2–2005:2. Helsinki: Statistics Finland

Statistics Finland (2020). Teollisuuden ja rakentamisen tilinpäätöstiedot 1999–2005. Statistics Finland StatFin databases (archived) https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin_Passiivi/StatFin_Passiivi__zzz__tetipa/060_tetipa_tau_106.fi.px/ [accessed on November 3, 2021]

Statistics Finland (1973–6). Statistics of profit and loss and balance sheet accounts of wholesale and retail trade in 1971–1973. YR 1973:14–1976:1. Helsinki: Statistics Finland

Statistics Finland (1975). Statistics of profit and loss and balance sheet accounts of the activities of bycontractors and subcontractors for the years 1970 and 1971. YR 1975:15. Helsinki: Statistics Finland

Statistics Finland (1978–95). Enterprise statistics of construction 1974–1994. YR 1978:4–1987:10; Enterprises 1988:1–1995:15

Statistics Finland (1978–87). Enterprise statistics of wholesale and retail trade 1974–1985. YR 1978:5–1987:14. Helsinki: Statistics Finland

Statistics Finland (1988–98). Enterprise statistics of wholesale trade 1986–1996. Enterprises 1988:10–1998:2. Helsinki: Statistics Finland

Statistics Finland (1988–98). Enterprise statistics of retail trade 1986–1996. Enterprises 1988:3–1998:3. Helsinki: Statistics Finland

Statistics Finland (1989). Talonrakennusyritysten tilinpäätöstilasto 1987–1988. Yritykset 1989:3 and 1989:12. Helsinki: Statistics Finland

Statistics Finland (1997–2000). Financial statements statistics 1995–1998. Enterprises 1997:4–2000:4. Helsinki: Statistics Finland

Statistics Finland (2020). Kaupan tilinpäätöstiedot 1999–2005. Statistics Finland StatFin databases (archived) https://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin_Passiivi/StatFin_Passiivi__zzz__katipa/009_katipa_tau_105_fi.px/ [accessed on November 3, 2021]

Figure 5

Statistics Finland (1990). Statistics of Income and Property 1988. Income and Consumption 1990:3

Statistics Finland (1992). Statistics of Income and Property 1989. Income and Property 1992:3

Statistics Finland (1995). Statistics of Income and Property 1993. Income and Property 1995:9

Rahavarvonkerroin 1860–2016. Statistics Finland website https://www.stat.fi/til/khi/2016/khi_2016_2017-01-13_tau_001.html [Accessed on December 7, 2021]

Figures 6 and 7

Statistical Office of Finland/Statistics Finland (1960–89). Statistics of income and property, 1960–1987. OSF IV B:27–51; Income and Consumption 1988:6–1989:4 (published annually)

Statistics Finland (2019). Percentile-distributed micro data on taxable income, 1987–2005 (in author's possession)

Figure 8

Statistics Finland (1984). National accounts. Timeseries for 1960–1981. Statistical Surveys Nro 75. Helsinki: Statistics Finland

Statistics Finland (1985). Capital stock in 1960–1983. KT 1985:6. Helsinki: Statistics Finland

Statistics Finland (2020). Income and production by sector and industry, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_

123h.px/ [accessed on April 24, 2020]

Statistics Finland (2020). Investments and fixed capital, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_1241.px/ [accessed on April 24, 2020]

Statistical Office of Finland/Statistics Finland (1960–89). Statistics of income and property, 1960–1987. OSF IV B:27–51; Income and Consumption 1988:6–1989:4 (published annually)

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Statistical Office of Finland/Statistics Finland (1963–2006). *Statistical Yearbook of Finland 1962–2006*. See Figure 4 on the sources for the equity–debt ratio in manufacturing

Statistics Finland (1980). *Statistical Yearbook of Finland 1979*. Helsinki: Statistics Finland

Statistics Finland (1991). *Statistical Yearbook of Finland 1991*. Helsinki: Statistics Finland

Statistics Finland (2002). *Statistical Yearbook of Finland 2002*. Helsinki: Statistics Finland

Statistics Finland (2006). *Statistical Yearbook of Finland 2006*. Helsinki: Statistics Finland

Statistics Finland (2021). Historical time series: National accounts 1860–2017. Statistics Finland StatFin databases. https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin_Passiivi/StatFin_Passiivi__kan__vtp/statfinpas_vtp_pxt_019_201700.px/ [Accessed on December 7, 2021]

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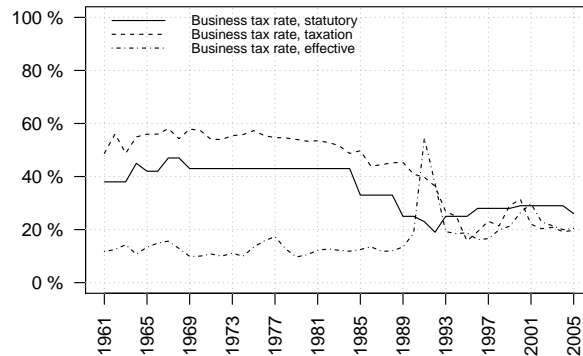
Statistics Finland (1985). Capital stock in 1960–1983. KT 1985:6. Helsinki: Statistics Finland

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Business taxation

The following figure presents the statutory, so-called taxational and effective business tax rates in Finland, 1961–2005. The statutory tax rate excludes the municipal tax on businesses and corporations. This explains, in part, the gap between this rate and the taxational rate. This second, taxational rate measures the total business taxes paid by Finnish companies regardless of type over their profits shown in taxation (i.e., after deductions and exemptions). The third measure, the so-called effective business tax rate, measures the previous measure’s nominator over the firms’ profits in national accounts (that is, before deductions, exemptions, transfers, etc.). The gap between these latter two business tax rate measures gives an impression on the scale of tax planning the firms were able to engage in (legally) especially prior to the late 1980s and early 1990s.



Statutory, taxational and effective business tax rates in Finland, 1961–2005

The sources for the business tax figure:

Statistical Office of Finland/Statistics Finland (1960–2006). Statistics of income and property, 1960–1992. OSF IV B:27–51; Income and Consumption 1988:6–2005:12; Income and Consumption 2006

Statistics Finland (2019). Tulonsaajien luku, tulot, varat, vähennykset ja verot valtionveronalaisten tulojen mukaan 2005, 1000 euroa. Statistics Finland StatFin databases (archived) https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin_Passiivi/StatFin_Passiivi__tul__tvt/statfinpas_tvt_pxt_001_200500_fi.px/ [accessed on November 2, 2021]

Statistics Finland (1984). National accounts. Timeseries for 1960–1981. Statistical Surveys Nro 75. Helsinki: Statistics Finland

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Business entities by type in Finland, 1984–2005

The following table shows the growth in joint stock companies turnover-weighted share of all business entities in Finland in particular in the mid-1990s. This changes reflects partially the growing popularity of this entity over others after the 1993 tax reform's favourable position on privately held corporations as well as the impact of the dividend imputation (*avoir fiscal*) on listed corporations' dividend taxation (*i.e.*, the cancellation of double taxation).

Business entities by type, weighted by turnover, %

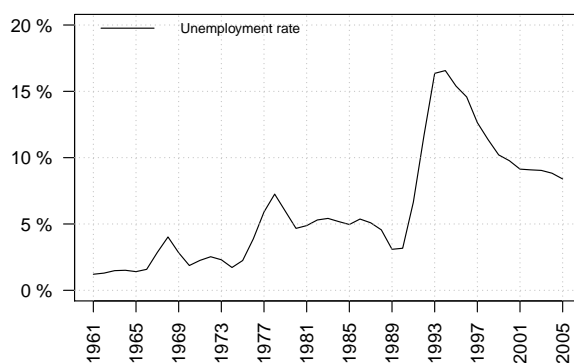
	1984	1988	1992	1996	2000	2004
Trade name	5.0	4.3	3.4	3.5	2.8	2.9
Open company	1.9	1.6	1.3	0.9	0.6	0.6
Limited partnership	7.8	8.9	7.6	4.0	2.4	2.0
Joint stock	70.7	73.3	79.3	87.4	89.5	88.9
Co-operative	11.4	8.8	4.9	3.3	2.7	2.9
Other	3.2	3.1	3.5	1.0	1.9	2.7

The sources for the entity table:

Statistics Finland (1990–2007). Corporate enterprises and personal businesses in Finland 1988–2005. Enterprises 1990:8–2003:1; Enterprises 2007

Unemployment

The following figure presents the annual unemployment rate average in Finland in 1961–2005 based on Statistics Finland's monthly labour force survey. The data differs from the figures in the employment office statistics due to the survey methodology.



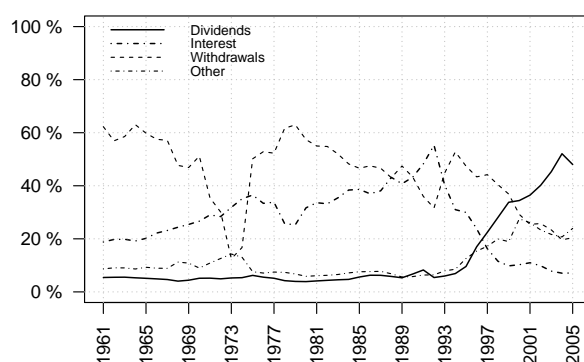
Unemployment rate in Finland, 1961–2005

The sources for the unemployment rate:

Statistical Office of Finland/Statistics Finland (1963–2006). *Statistical Yearbook of Finland 1962–2006*

Households' capital income structure

The Finnish households' capital income structure has gone through significant changes throughout the research period. The previously dominant interest and capital withdrawals have since the mid-1990s given away to emerging dividends and other investment income (e.g., returns on investment funds, private pension insurances, etc.). In the 1960–80s, the former two forms of capital income “competed” for dominance which means that they have been at least partial substitutes for one another in terms of business and corporate finance and subsequent payout. The rising share of interest until the 1991–3 depression is also indirect evidence of the firms' growing indebtedness, even though the households' interest income has been based only partially on, for example, corporate bonds, and partially on deposits. The rise in dividends until 2004 seems to be good evidence of the impact of both profitability and taxation. As the firms' average profit rate increased, their ability to fund their investments on retained profits increased, thus reducing the need for lending. The 1993 tax reform has also made equity funding more lucrative from the firms' and investors' viewpoint, as interest has no longer enjoyed a tax benefit over dividends at the latter's end. This shift tells also about the contraction in real interest rates in the 1990s and early 2000s in comparison to the late 1980s and the depression years in the early 1990s. Although dividends have not been deductible in the firms' taxation throughout the research period (unlike interest), the previous reasons have probably increased share emissions, as well. Finally, the collapse in the share of capital withdrawals speaks about the rising prominence of corporations over partnerships and other business entities, as well as about the corporations' shift in emphasis from debt to equity in the 1990–2000s.



Households' capital income structure, 1961–2005

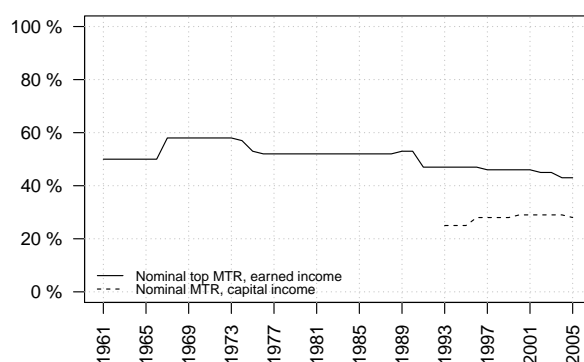
Sources for the capital structure:

Statistics Finland (1984). National accounts. Timeseries for 1960–1981. Statistical Surveys Nro 75. Helsinki: Statistics Finland

Statistics Finland (2020). Income and production by sector and industry, annually, 1975–2018. Statistics Finland StatFin database http://pxnet2.stat.fi/PXWeb/pxweb/fi/StatFin/StatFin__kan__vtp/statfin_vtp_pxt_123h.px/ [accessed on April 24, 2020]

Nominal top marginal tax rate on earned income and capital income, 1961–2005

The following figure presents the nominal top marginal tax rate in state income taxation in relation to the nominal marginal rate on capital income stipulated in the 1993 dual income tax reform. In terms of the “tax gap” between earned income (wages, salaries, bonuses, stock option profits, etc.) and capital income has also included the local or municipal tax which has varied somewhat between municipalities. The nominal MTRs have also differed from the effective rates due to the impact of tax deductions and exemptions (the effects of “tax entropy”) and the partial exemptions in capital income taxation after the abolishment of the dividend imputation (*avoir fiscal*) in 2004. Despite these issues, the figure nonetheless gives an impression on the development of top marginal taxation in the framework of state taxation.



Nominal top MTR on earned and capital income, 1961–2005

Sources for the MTRs:

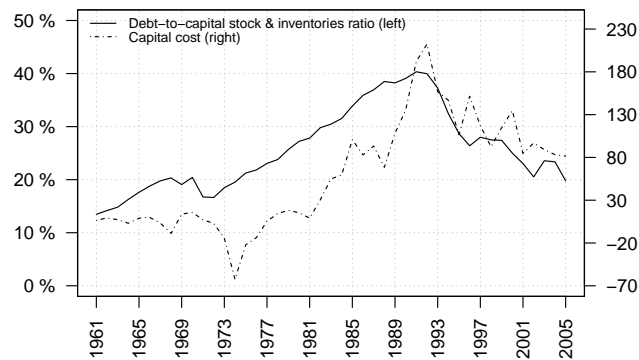
Statistical Office of Finland/Statistics Finland (1960–89). Statistics of income and property, 1960–1987. OSF IV B:27–51; Income and Consumption 1988:6–2005:12; Income and Consumption 2006 (published annually)

Vuoden 2005 tuloveroasteikkolaki (1274/2005)

Debt-to-capital stock & inventories ratio and capital cost

Finnish firms became progressively more indebted throughout the 1960–80s apart from the buildup of inventories and their revaluation in the beginning of the 1970s. The indebtedness peaked in 1991–2. After the 1991–3 depression, the firms’ average indebtedness ratio declined. This indebtedness, alongside with the firms’ equity–debt ratio, offers insight into questions of payout (i.e., whether the firms have paid a greater share of their before-tax profits in interest or their after-tax profits in dividends). The figure tells also about the firms’ declining profitability throughout the first three decades of the research period—as firms became less profitable, they had to finance a growing share of their investments with debt as the retained profits or equity financing became less and less sufficient. This development of indebtedness is compared to the firms’ average capital cost on the right y-axis.¹

¹The capital cost is expressed in $c(k)_t = q_t(r_t + d_t)$, where q_t is the indexed price level of investment goods in year t , r_t is the real interest rate



Firms' debt-to-capital stock & inventories ratio and capital cost, 1961–2005

On interest, see sources in Figure 3

Sources on indebteness to be added (as of December 8, 2021)

and d_t is the depreciation rate (see Koskenkylä, Heikki and Peisa, Paavo (1985). Koron ja muiden rahoitustekijöiden vaikutuksesta investointeihin: katsaus Suomessa tehtyyn tutkimukseen. In *Koron vaikutuksia kansantaloudessa*. Suomen Pankin julkaisu A:61. Helsinki: Suomen Pankki).