Income Inequality in France, 1900-2014: Evidence from Distributional National Accounts

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Motivation

- Large disconnect between the study of inequality and macro
    - Macro: national accounts with no distribution information
    - Inequality: surveys and tax data data inconsistent with national aggregates

- Multi-country project: Distributional National Accounts (DINA)
    - Provide long-term series on distribution of income and wealth
        - Homogeneous across countries and over time
        - Consistent with National Income and Wealth Accounts
        - Covering all the distribution from bottom to top

- For France: two papers (Three very soon)
    - Last year: Wealth
    - Today: Pre-tax Income Inequality
    - Spring 2018: Post-tax Post-transfer Income Inequality

Research question

What is the evolution of income inequality in France?

1. Methodological contribution:

   - Reconciliation of micro data with national accounts
   - detailed breakdown by age, gender, income categories for 1970-2014

2. Empirical contributions:

   - Long-term evolution of income inequality (1900-2013)
   - Correlations between labor income and wealth
   - Gender inequality

Outline

Data and methodology

The long-run picture

Correlation between labor income and wealth

Labor income: the limited decline of gender inequality

Conclusion and perspectives

Data and methodology

- Data sources
    - Annual exhaustive tabulations from 1915 to 2014
    - Microfiles of income tax returns: 1970-2014
    - Houshold surveys 1970-2013 (Wealth surveys and Housing surveys)
- Concept of income
    - Pretax national income: Income before all taxes and transfers, except pensions and unempl.insurance
    - Equal-split-adults series: income of married couples divided by two
- Methodology
    - Start from fiscal income reported in tabulations or microfiles
    - Impute missing components such as to match pre-tax national income
      social contributions, imputed rents, retained earnings, corporate tax, production taxes, etc.

The long-run picture 1/2

- Our DINA results confirm previous findings based on fiscal income
- Major long-run transformation: rise of the bottom 50% and the middle 40%, and decline of the top 10%
- Long-run evolution far from steady: it can be splitted into four time periods: 1900-1945, 1945-1968, 1968-19833 and 1983-2013
    - huge inequality fall 1914-1945 (capital shocks)
    - rise 1945-1968 (reconstruction of wage hierarchy and capital share)
    - decline 1968-1983 (compression of wage inequality, steep rise of minimum wage, declining capital shares)
    - rise since 1983

Income shares in France 1900-2014
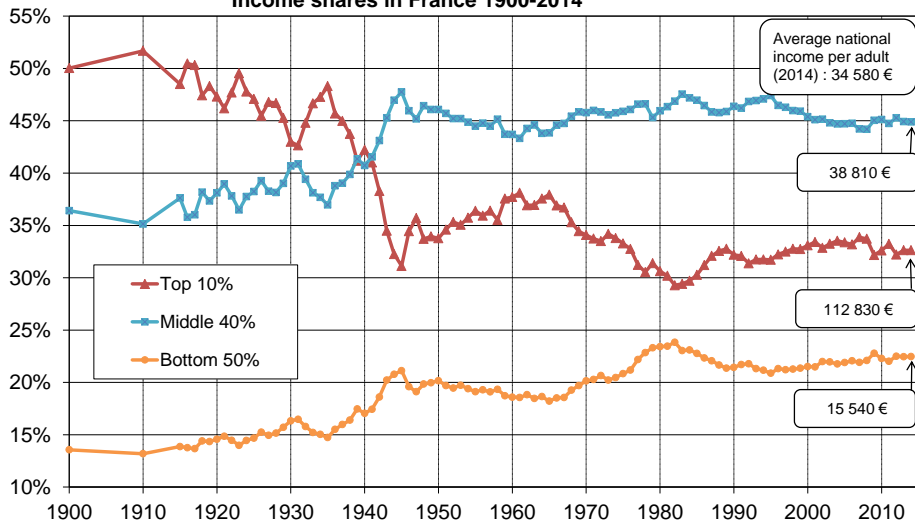
Average national income per adult (2014) : 34 580 €
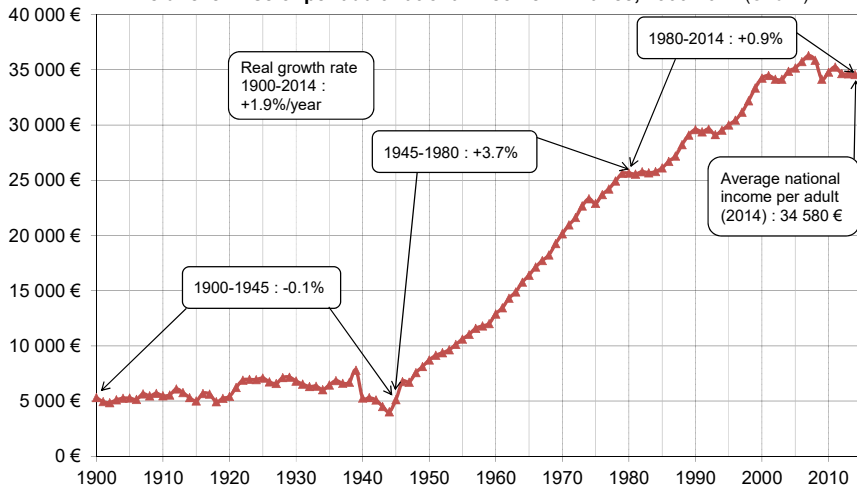
38 810 €

112 830 €

15 540 €

Distribution of pretax national income (before all taxes and transfers, except pensions and unempl. insurance) among adults.
Equal-split-adults series (income of married couples divided by two).

The long-run picture 2/2

- DINA estimates allow us to better analyze both the long run pattern as well as the recent trends
  - How has the growth rate varied along the income distribution over time?
  - Recent evolution of very top incomes since 1983?

The uneven rise of per adult national income in France, 1900-2014 (€ 2014)

1980-2014 : +0.9%

Real growth rate
1900-2014 :
+1.9%/year

1945-1980 : +3.7%

Average national
income per adult
(2014) : 34 580 €

1900-1945 : -0.1%

National income divided by adult population. National income = GDP - capital depreciation + net foreign income.

Annual real growth rate by time periods in France

Average annual real growth rates of pre-tax per adult income by percentiles (growth incidence curves).
Equal-split-adults series (income of married couples divided by two).
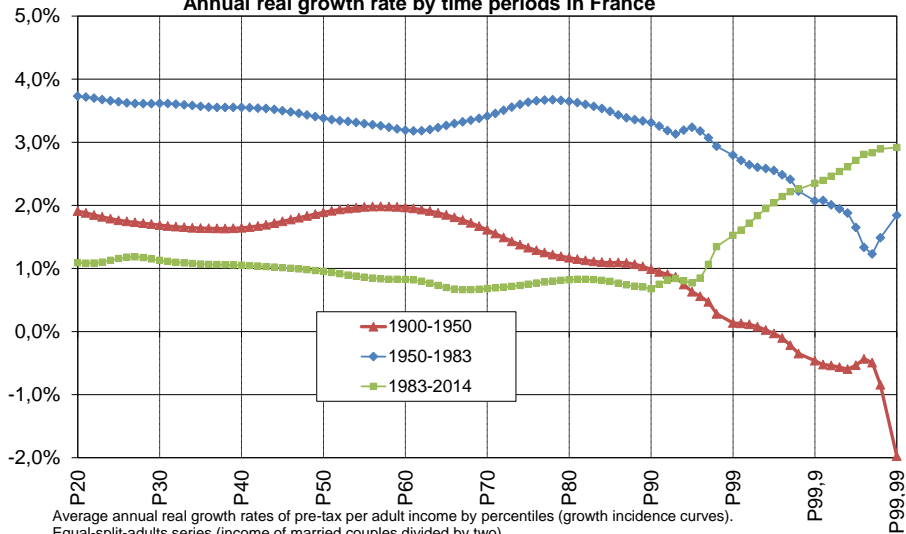
Rising top income inequality in France, 1983-2014
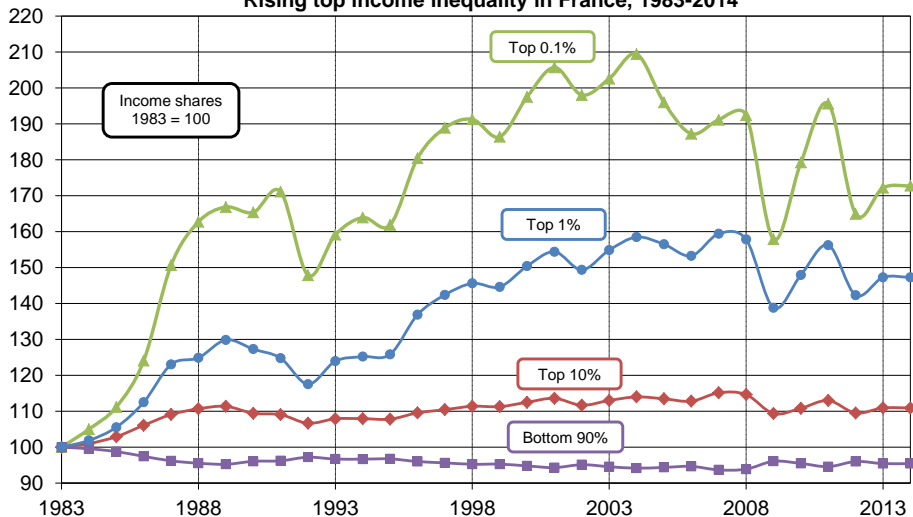
Income shares
1983 = 100

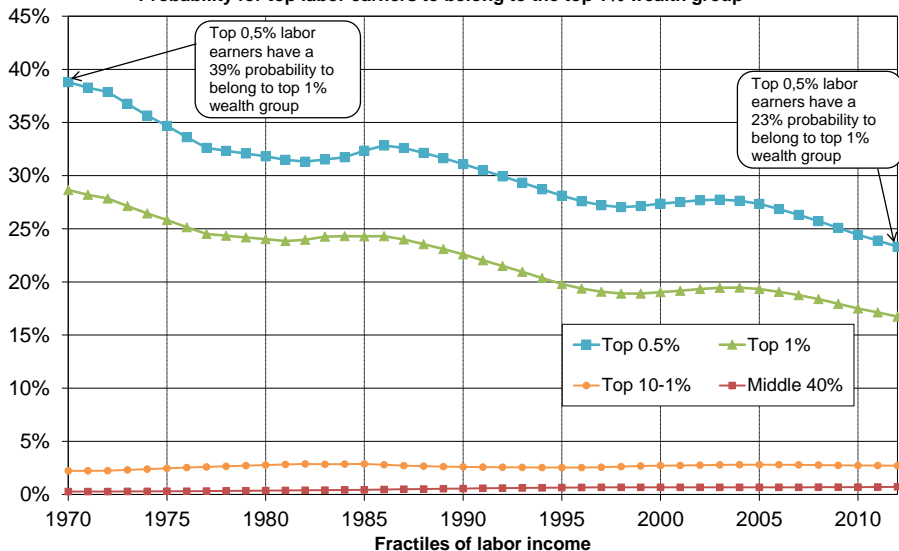Top 0.1%

Top 1%

Top 10%

Bottom 90%

Distribution of pretax national income (before all taxes and transfers, except pensions and unempl.insurance) among adults.
Equal-split-adults series (income of married couples divided by two).

Correlation between labor income rank and wealth rank

- positive correlation between labor income and wealth, particularly for top percentile ranks
- But the probability for top labor earners to belong to top wealth groups has declined regularly since the 1970s
- Two contradictory effects:
    - Rise of top labor income shares make it easier for top labor earners to accumulate large wealth holdings
    - Very large rise in the aggregate wealth-income ratio and the aggregate inheritance flow makes it more difficult for top labor earners with no family wealth to access top wealth groups
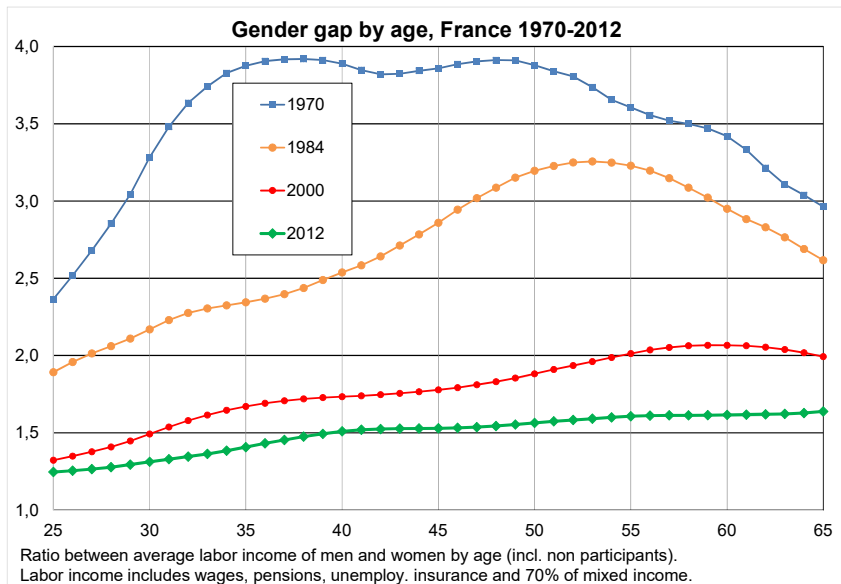   - Our results suggest that the second effect tends to dominate

Labor income rank vs mean wealth rank
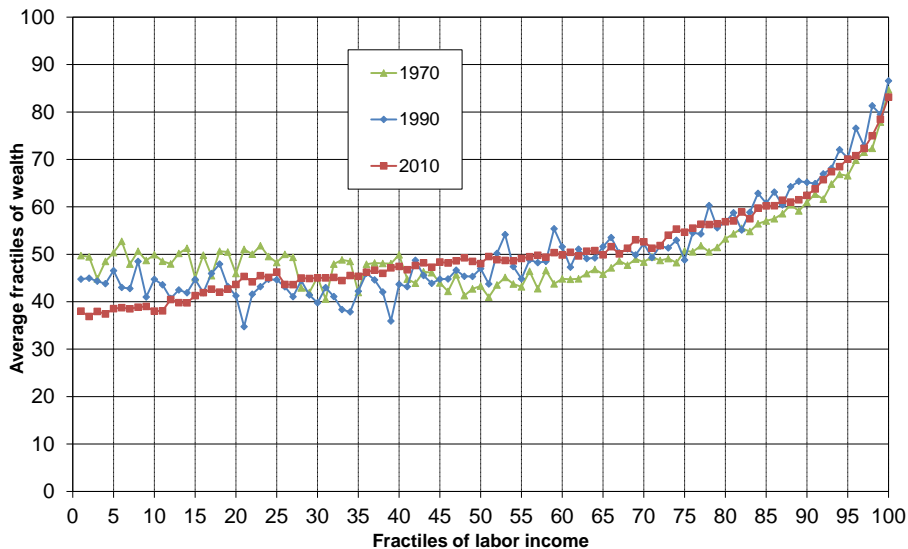
Probability for top labor earners to belong to the top 1% wealth group

Top 0,5% labor earners have a 39% probability to belong to top 1% wealth group

Top 0,5% labor earners have a 23% probability to belong to top 1% wealth group

Legend: Top 0.5%, Top 1%, Top 10-1%, Middle 40%
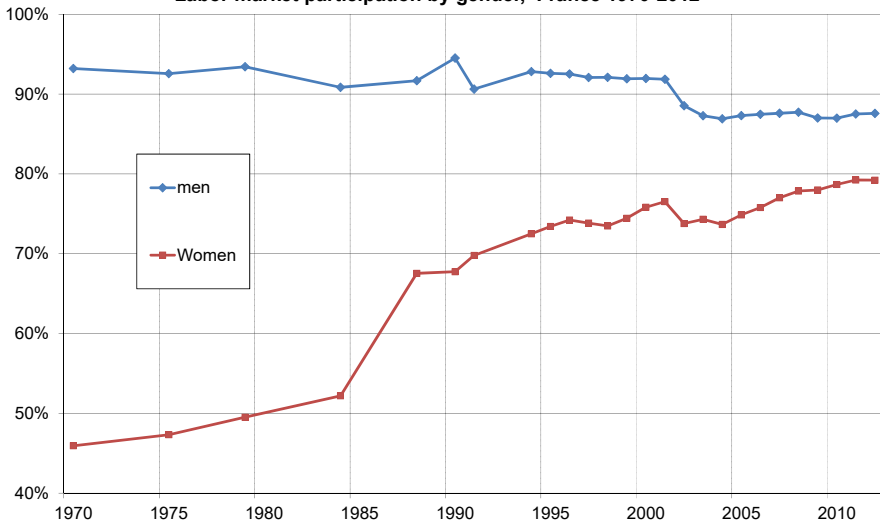
Fractiles of labor income

Labor income: the limited decline of gender inequality

- Gender gap: take into account all men and women in a given age group, whether they work or not
- French labor model around 1970 appears clearly as a "patriarchal" model, with men earning 3.5 to 4 times more labor income than women
- Main change over the period: large rise of female labor market participation $\Rightarrow$ decline of gender inequality
- But gender inequality still very high at the top: women still do not access higher-paying jobs
- If we extrapolate from the recent trends, one would need to wait 2102 for women to reach 50% of top 1% labor earners, 2144 to reach 50% of top 0.1%
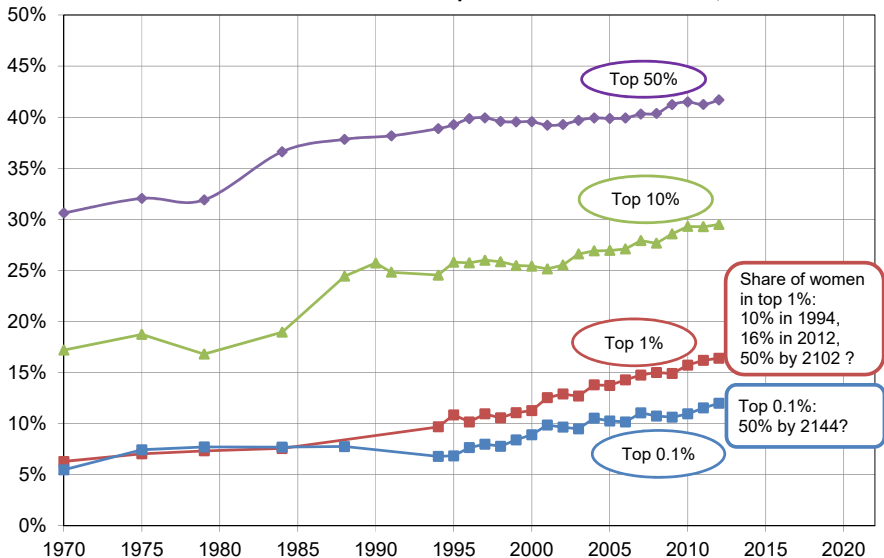
Gender gap by age, France 1970-2012

Ratio between average labor income of men and women by age (incl. non participants).
Labor income includes wages, pensions, unemploy. insurance and 70% of mixed income.

Labor market participation by gender, France 1970-2012

Fraction of men and women 25-to-65-year-old with positive labor income.
Labor income includes wages, pensions, unemploy. insurance and 70% of mixed income.

Share of women in fractiles of top labor incomes in France, 1970-2012

Top 50%

Top 10%

Top 1%

Share of women in top 1%: 10% in 1994, 16% in 2012, 50% by 2102 ?

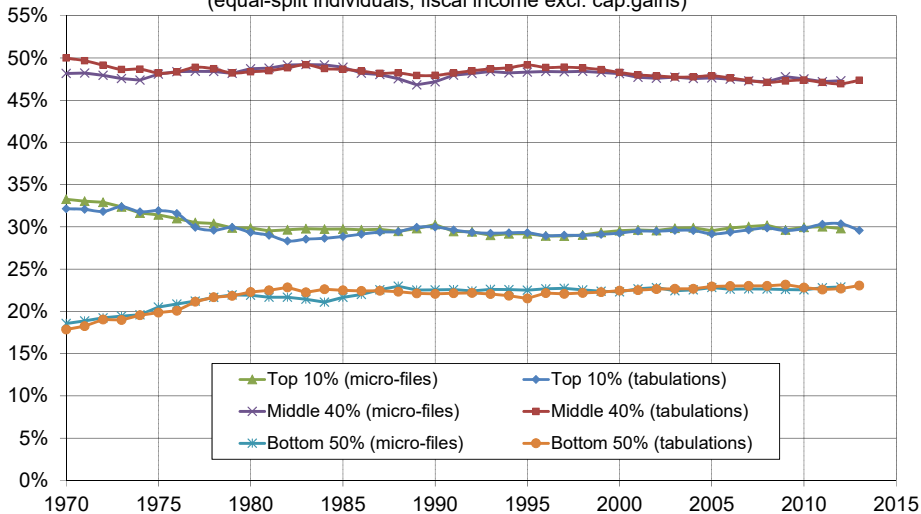Top 0.1%: 50% by 2144?

Top 0.1%

Conclusion and perspectives

- Reconciliation of data sources to build consistent income inequality series over the 1900-2014 period
    - 100% consistent with National Accounts
    - Covering all the wealth distribution

- Main findings:
    1. Large changes in income inequalities: product of changes in institutions and public policies rather than natural economic "laws"

    2. Rise of very top incomes since 1980s

    3. It has become inreasingly difficult in recent decades to access top wealth groups with labor income only

    4. Declining gender inequality. . . but not so much for high wages

Appendix

Figure C3. Income shares: tabulations vs micro-files
(equal-split individuals, fiscal income excl. cap.gains)