Redistribution et Inégalités

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La question des inégalités dans la science économique

- 1950s-1980s : discipline centrée sur la question de l'éfficacité
  - Inégalités à un niveau historiquement bas
  - Problème de l'accession des données
  - Contexte de guerre froide
  - Avancées majeures : théorème de l'économie du bien-être ; défaillances de marché et du gouvernment, etc.
- Depuis 1980
  - Inégalités augmentent dans la plupart des pays
  - Sujet de préoccupation pour citoyens et décideurs publics

Les inégalités : un objet d'étude légitime ?

- Robert Lucas, 2004, The Industrial Revolution : Past and Future
  - "Of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution. (...) The potential for improving the lives of poor people by finding different ways of distributing current production is nothing compared to the apparently limitless potential of increasing production"
  - "Parmi les tendances préjudiciables à une économie solide, la plus séduisante, et à mon avis la plus toxique, est de se concentrer sur les questions de redistribution. (...) Les possibilités d'améliorer la vie des pauvres en développant différents moyens de redistribuer la production actuelle ne sont rien comparées aux possibilités apparemment illimitées d'augmenter de la production

Vision conservative

- Inégalités économiques sont le résultat naturel et souhaitable de décisions et mécanismes inhérents à une économie de marché
- Mankiw (2013) : Argument d'éfficacité
  - Incitations : Exercer un effort doit être valorisé
  - Mérite : Les personnes les plus productives doivent en récolter le fruit
  - Inefficacité de la lutte contre les inégalités : lutter contre les inégalités via la redistribution réduit l'éfficacité économique
- "A fight about the slices of the pie reduces the size of the pie and makes everybody worse off."
- "If everybody's income goes up, who cares if inequality is up too ?"

Est-ce la fin de cette conférence ?

- Imaginons que je dispose de 10 000 euros à vous redistribuer
- Comment devrais-je allouer cette somme ?
  - Tirage au sort : Winner take all
  - Partage équitable
  - Allocation proportionnelle à votre taille, attention à mon cours, réussite personnelle, etc. ?
- Comment réagiriez-vous à ces différentes régles d'allocation ?

Absolute vs relative income hypothesis

- Revenu absolu : (vision de Lucas, 2004)
  - Revenu est simplement vu comme un moyen d'acquérir des biens et des services indépendamment de tout contexte social
  - Implication litérale :
    Une personne vivant sous le seuil de pauvreté aujourd'hui devrait avoir un niveau de bien être comparable à un salarié prospère d'il y a deux siècle (quand revenu moyen était dix fois inférieur à celui d'aujourd'hui)
- Revenu relatif :
  - Importance de la position relative dans la société
    Revenu "reflète" la manière dont la société valorise un individu
  - Saez (2021) : "Nature sociale" des humains pour comprendre l'émergence de l'état social moderne, préoccupation d'une société pour les inégalités ou la fixation d'une distribution "juste" des revenus
- Nécessaire de quantifier les inégalités, comprendre leurs déterminants, comment elles affectent notre bien-être, et comment les politiques publiques et les normes sociales les influencent

Inégalités des opportunités vs. Inégalités des résultats

- J. Roemer, 1998 : Distinguer au sein des résultats obtenus (ex : revenu) la part due aux circonstances échappant à l'individu et celles relevant de son effort
  - Circonstances sont les facteurs propres à l'environnement d'une personne dont il ne peut être tenu responsable (ex : milieu familial)
  - Effort est l'ensemble des variables qui résulte d'un choix de l'individu et dont ils doivent être tenus responsables (ex : implication à'école)
- Seule la part des inégalités de résultats qui résulte de différences d'effort ou de mérite sont justifiés (égalités des opportunités)

Inégalités des opportunités vs. Inégalités des résultats

Atkinson (2015) : Même en présence d'une parfaite égalité des opportunités, inégalités des résultats comptent

1. La majorité des individus n'accepte pas une indifférence totale aux résultats, en particulier si le résultat est la misère.
   "To emphasize the point, imagine yourself serving on a soup line of the indigent. Consider then the idea that we would condition the doling out of soup on an assessment of whether it was circumstance or effort which led to the outcome of the individual in front of us to be in the soup line. Surely this is morally repugnant, and it establishes that at least for extreme outcomes the outcome based perspective dominates any considerations of opportunity." (Kanburg & Wagstaff, 2015)

Inégalités des opportunités vs. Inégalités des résultats

2. L'égalité des chances peut prendre deux formes :
   - non-concurrentielle : égalité dans les chances de réaliser des projets de vie indépendants (examen du baccalauréat)
   - concurrentielle : égalité dans les chances de pouvoir participer à une compétition dont les récompenses sont inégales (concours)
   - Pour Atkinson, l'inégalité des récompenses est une construction sociale
     - Ce sont nos institutions (nos modes d'organisation économiques et sociaux) qui décident que le gagnant d'une compétition gagnera une couronne de laurier ou plusieurs millions de dollars.

Inégalités des opportunités vs. Inégalités des résultats

3. *"L' après* d'aujourd'hui détermine l'*avant* de demain".
   - L'inégalité des résultats d'une génération alimente l'inégalité des chances de la (ou des) génération(s) suivante(s).
   - "Si l'égalité des chances de demain est notre souci, l'inégalité des résultats d'aujourd'hui doit l'être aussi."

Au-delà des questions de justice sociale

- Inégalités sont liées à de nombreuses autres dimensions
  - Opportunités éducatives
  - Mobilité sociale
  - Espérance de vie et conditions de santé
  - Influence politique
  - Instabilité politique et conflit
  - Crime

Outline

Comment mesurer les inégalités ?

- Concepts de revenus/patrimoine ?
- Données disponibles ?
- Adequation des données au concept choisi ?
- Comparabilité des données au cours du temps et entre pays ?
- Choix de l'indicateur d'inégalités ?

Concepts de revenus et de patrimoine

- **Revenu avant impôts** : Somme des revenus du travail, du capital et de remplacement avant prise en comptes des impôts et des transfers mais après prise en compte des opérations du système retraite/chomage
- **Revenu disponible** : Revenu après prise en compte des impôts payés et des transferts monétaires reçus (revenus que les individus peuvent consommer ou épargner)
- **Revenus après impôts** : Revenu après prise en compte des impôts payés et de tous les transferts reçus
- Trois types de **transferts** : Transferts indivualisées monétaire ou en nature, dépenses de consommation collective
- Patrimoine privé : Somme des actifs net de dettes qui peuvent être possédés et échangés sur le marché
  (actifs financiers + immobiliers - dettes)

Données

1. Enquêtes auprès des ménages (patrimoine, ERFS, budget des familles)
2. Données fiscales (succession, patrimoine, revenus)
3. Données de la comptabilité nationale

Indicateur d'inégalités

- coefficient de Gini
- ratio inter-décile : P90/P10, P90/P50, etc.
- Parts de revenus/patrimoine

TABLE 1 – Inégalités de revenus avant impôts en France en 2018

Groupe de revenus	Nombre d'adultes	Seuil de revenus	Revenu moyen	Part de revenus
Population totale	50M	0 €	37 000 €	100,0%
50% du bas	25M	0 €	16 000 €	22%
40% du milieu	20M	30 000 €	42 000 €	46%
10% du haut	5M	65 000 €	118 000 €	32%
incl. Top 1%	*0,5M*	*177 000 €*	*370 000 €*	*10%*
incl. Top 0.1%	*50 000*	*565 000 €*	*1 280 000 €*	*3,5%*

Distribution du revenu national avant impôts en France en 2018. Unité d'observation : adulte de plus de 20 ans ; Revenus des couples partagés équitablement).

Analyser les inégalités

- Aspects cruciaux des inégalités
  - Inégalités de revenus
  - Inégalités de revenus du travail
  - Inégalités de patrimoine
  - Correlation entre inégalités de revenus du travail et patrimoine
  - Source des inégalités de patrimoine : accumulé vs. hérité
  - Mobilité inter-générationnelle
- Nécessaire de distinguer ces différents aspects et composantes des inégalités
  - Pour des raisons normatives : justification des inégalités
  - Pour comprendre méchanismes économiques, sociaux ou politiques sous-jacents

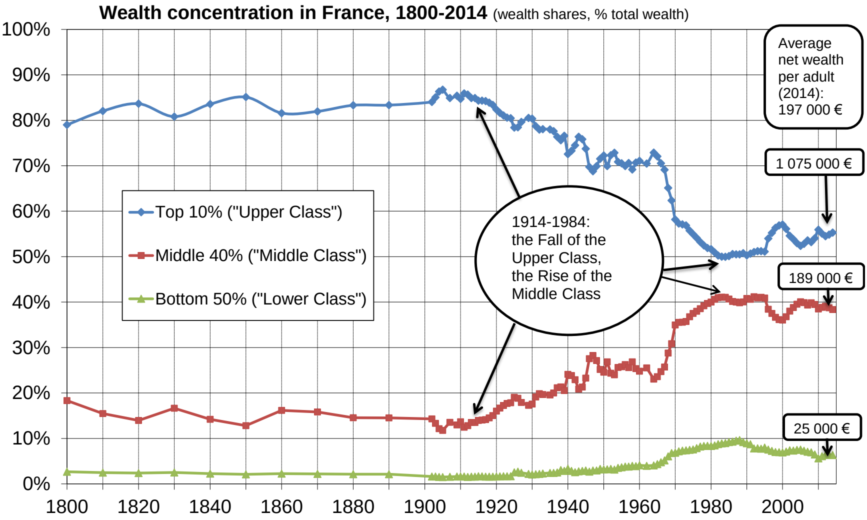
Typology of inequality

- Several ways in which inequality can be high :
  - "Rentier society" : high ineq. of wealth, inherited = Europe in 1913
  - "Robber baron society" : high inequality of wealth, self-made = US in 1913
  - "Supermanagers society" : high inequality of labor income = US in 1990s
  - Combination of the above : increasingly so the US today
- Hierarchies of labor income $\neq$ wealth
  - In traditional societies, correlation often < 0
(because people with large fortunes did not work)
  - In modern societies, the correlation is generally > 0 but never perfect

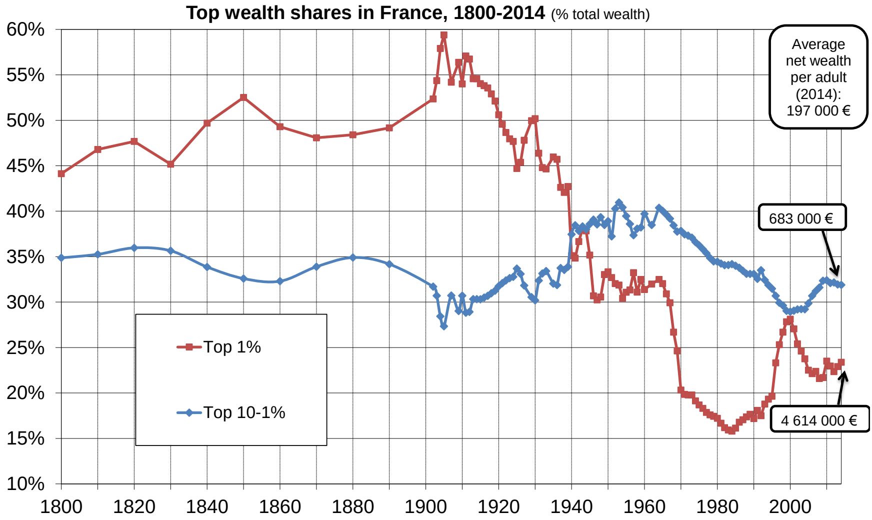
Ordres de magnitude

- Inégalités des revenus du travail < In. des revenus < In. de patrimoine
  - Top 10% share is 20-30% for labor income, 50-90% for capital
  - Bottom 50% share is 20-30% for labor income, 0-10% for capital
  - Gini coefficients : 0.2 – 0.4 for labor income, 0.6 – 0.8 for capital
- This regularity is observed in all countries and in all periods
- Need to understand the specific mechanisms behind labor vs capital income/wealth inequality

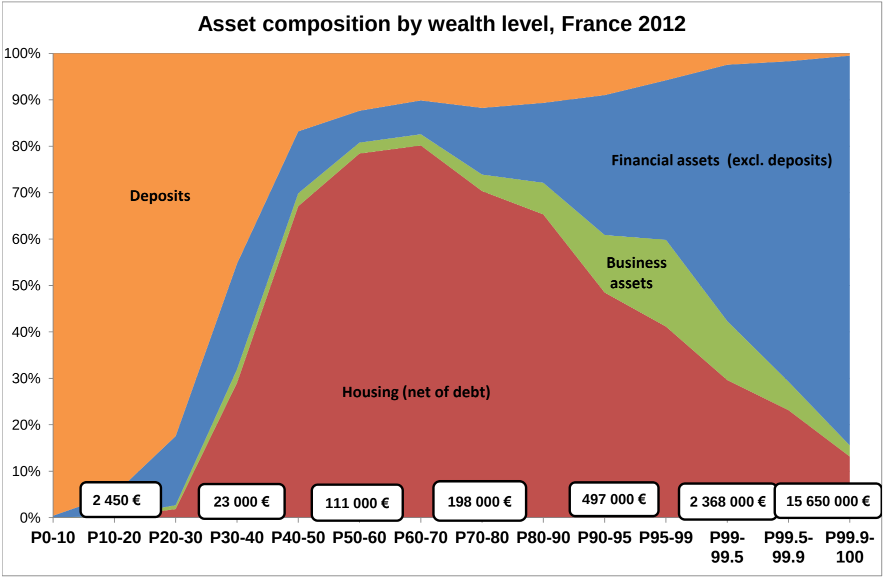
Outline



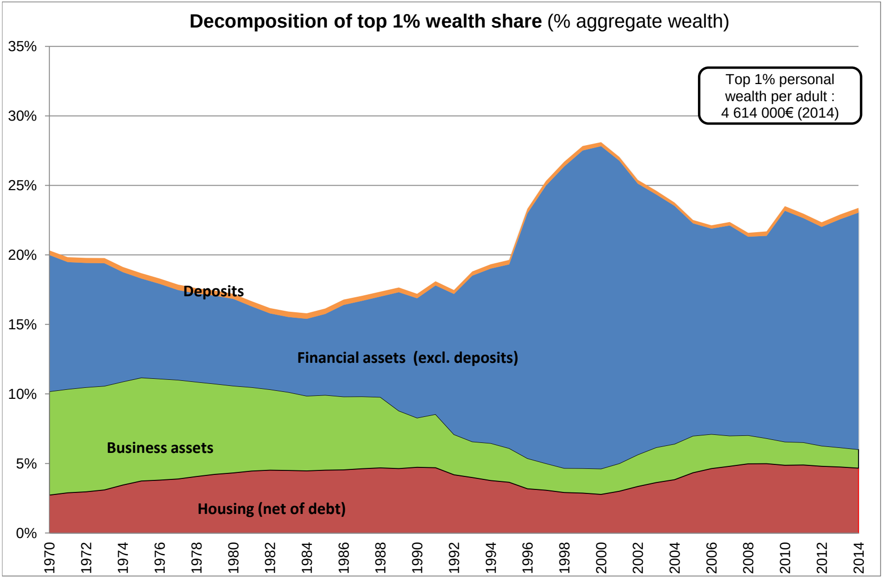
Source : Garbinti, Goupille-Lebret and Piketty (2016)



Source : Garbinti, Goupille-Lebret and Piketty (2016)

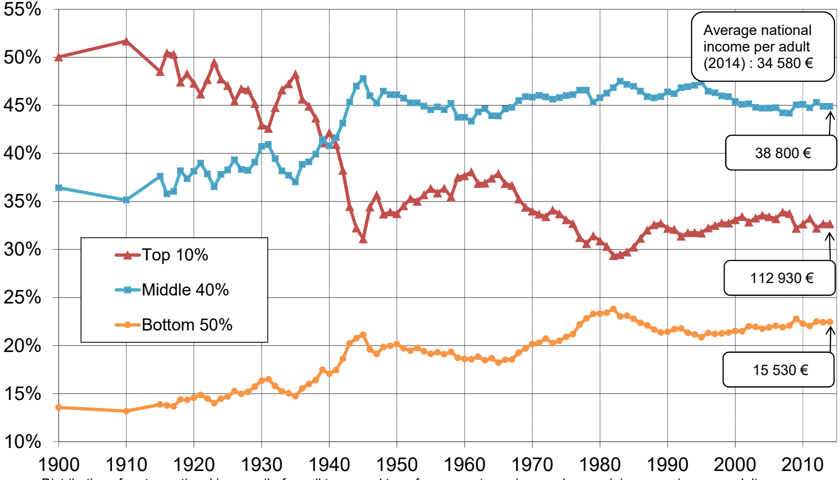


Source : Garbinti, Goupille-Lebret and Piketty (2016)



Source : Garbinti, Goupille-Lebret and Piketty (2016)

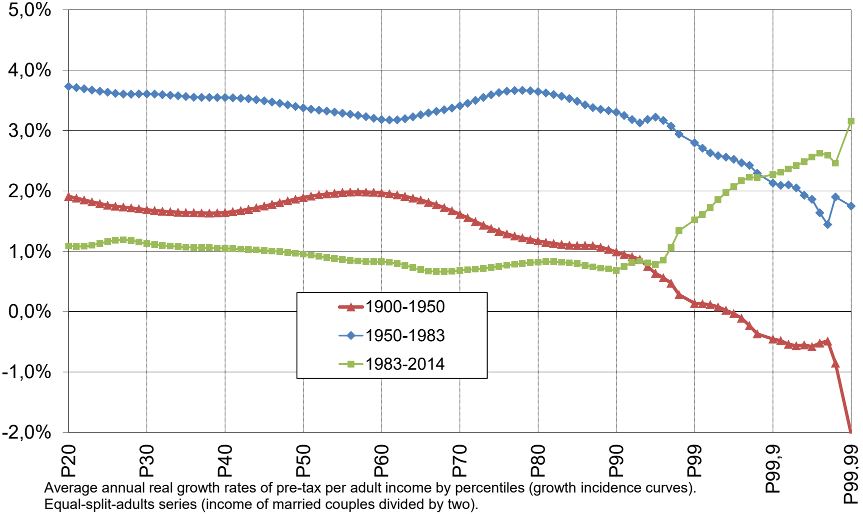
Figure 1 – Concentration des revenus en France, 1900-2014



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).

Sources : Garbinti, Goupille-Lebret and Piketty (2018)

FIGURE 2 – 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).

Sources : Garbinti, Goupille-Lebret and Piketty (2018)

Understanding income inequality compression

- Compression of income inequality : 1914–1945.
- Shocks mainly on capital
  - Destruction and capital losses caused by two WW
  - Bankruptcies caused by the Great Depression
  - Inflation-induced euthanasia of the rentier class that lived on government debts
  - Public policies : Progressive taxation, rent control, nationalization
- Capital is more concentrated than labor income
  $\Rightarrow$ Shocks affect mainly top wealth and income shares
- The fall of rentiers :
  - Today : Y_K exceeds Y_L only in the top 0.1% of the income distribution
  - In 1932, this social group was 5 times larger (top 0.5%)
  - in the Belle Époque, it was 10 times larger (top 1%).

Income inequality in the medium term

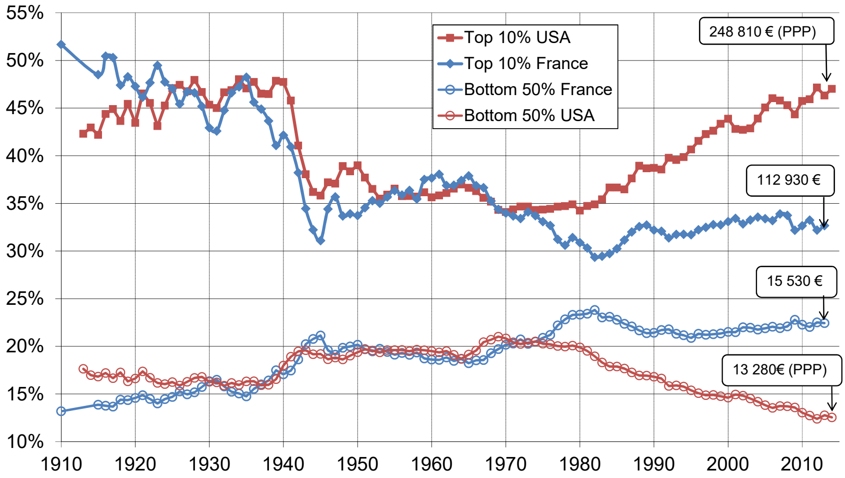
- Since 1945, three distinct periods
  - Rising inequality : 1945-1967
  - Falling inequality : 1968-1983
  - Rising again since 1983
- The impact of economic cycles and institutions
  - Inequality tends to evolve procyclically
  - During boom, profits and pay at the the top increases more rapidly than wages toward the bottom and middle
  - During economic slowdowns or recessions, reversal evolutions due to non-economic factors
- Non-economic factors ?
  - After May 1968, 20 percent increase in the minimum wage
  - From 1968 to 1983, minimum wage increase more rapidly than average wage

Long-run inequality in France

- Huge decline of income and wealth inequality since Belle Epoque
  - Top 1% income share drop from 20% in 1900 to 10% today
  - Top 1% wealth share drop from 52% in 1900 to 23% today
- Explained mainly by fall of the rentiers and collapse of very high incomes from capital
- No natural economic law of inequality dynamics
  - Evolution of inequality is chaotic
  - Influenced by economic but also social, political, military, and cultural phenomena

Outline

FIGURE 3 – Top 10% and bottom 50% income shares : France vs US



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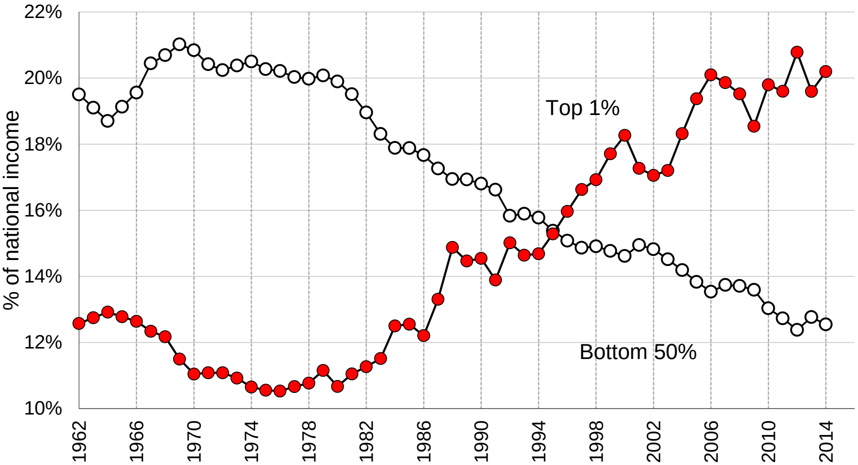
Sources : Garbinti, Goupille-Lebret and Piketty (2018)

The Explosion of U.S. Inequality after 1980

- 1950-1980 : Lowest level of income inequality in the U.S
- Huge increase in income concentration at the top since 1980s
  - Mostly due to $\nearrow$ labor income inequality up to 2000s
  - Since then, mostly due to $\nearrow$ capital inequality
- Bottom 50% fall mirrors rise of top 1% in the US
- Stagnation of income (in real terms) in the bottom 50% since 1970

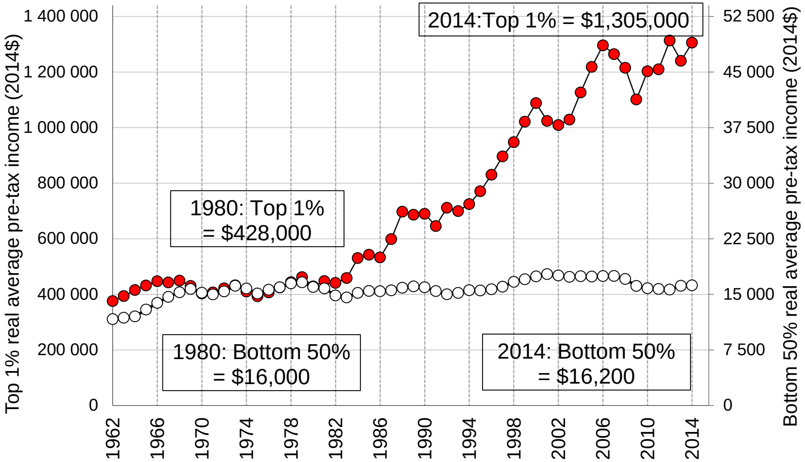
FIGURE 4 – Pre-tax national income share in the U.S. : top 1% vs. bottom 50%



Source: Appendix Table II-B1

Sources : Piketty, Saez and Zucman (2018)

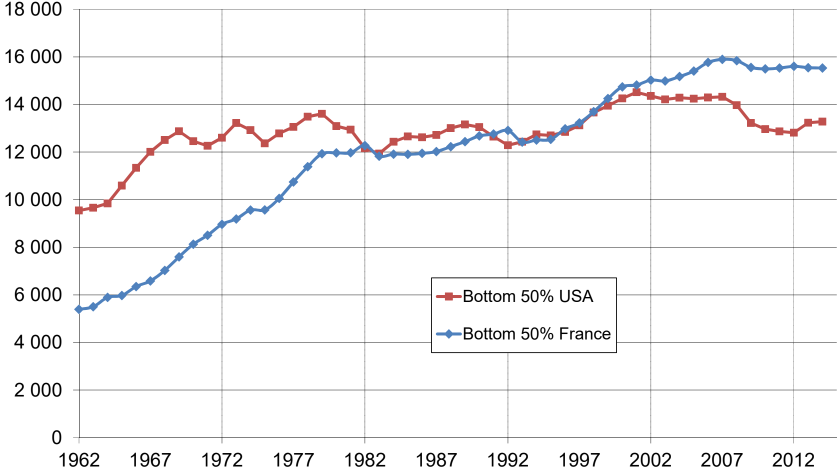
FIGURE 5 – Real pre-tax income of bottom 50% vs. top 1% in the U.S



Source: Appendix Tables II-B7 and II-B10

Sources : Piketty, Saez and Zucman (2018)
1980 : Top 1% = 27 x bottom 50% income
2014 : Top 1% = 81 x bottom 50% income

FIGURE 6 – Bottom 50% real income (2014 euros PPP) : France vs US



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).

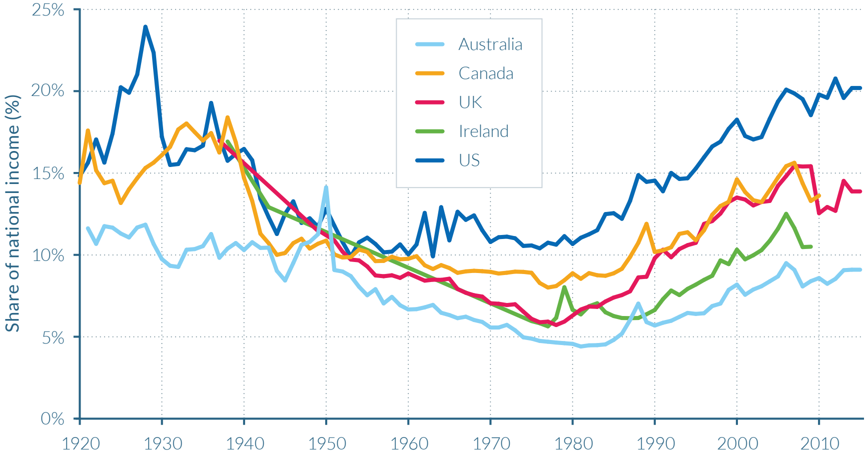
Sources : Garbinti, Goupille-Lebret and Piketty (2018)

Outline

Top income shares in international perspective

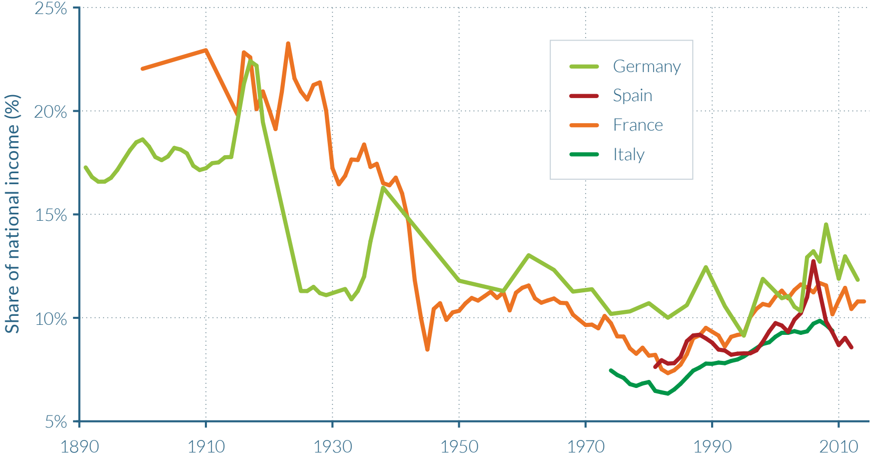
- 1950-1980 : Post-war egalitarian regime
  - Despite variety of national trajectories (social-democratic, new deal, socialist, and communist variants)
- Rising income concentration at the top since 1980s
  - Moderate in Continental and Northern European countries
  - Large in Emerging and anglo-saxon countries
- Exception : Middle East, Brazil, South Africa
  - Inequality stable at extremely high levels
- Key role of domestic policies $\Rightarrow$ policies and institutions matter
  - Rising inequality is not a mechanical consequence of globalisation
  - Emerging countries : profound deregulations + Economic openness + liberalization $\Rightarrow$ inequality surges
  - Role of financial deregulations, education, superstar effect, tax progressivity, reforms of labor market institutions (minimum wage, corporate governance, unions)

FIGURE 7 – Top 1% national income share in Anglophone countries



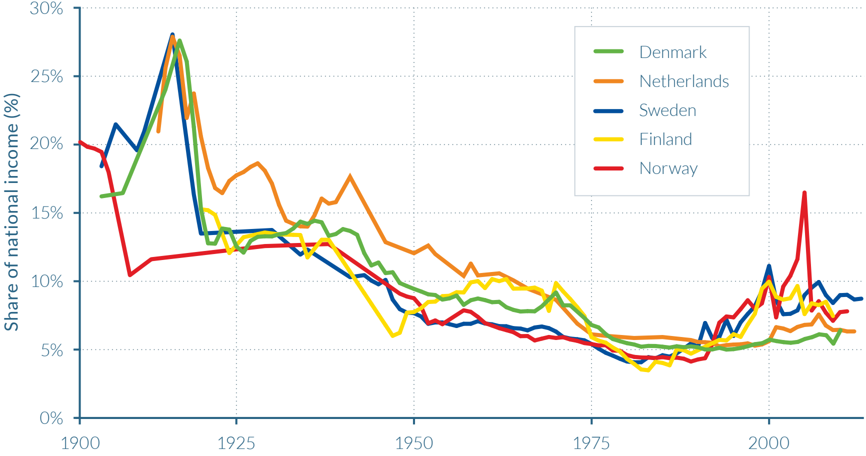
Sources : World Inequality Report, 2018

FIGURE 8 – Top 1% national income share in Continental European countries



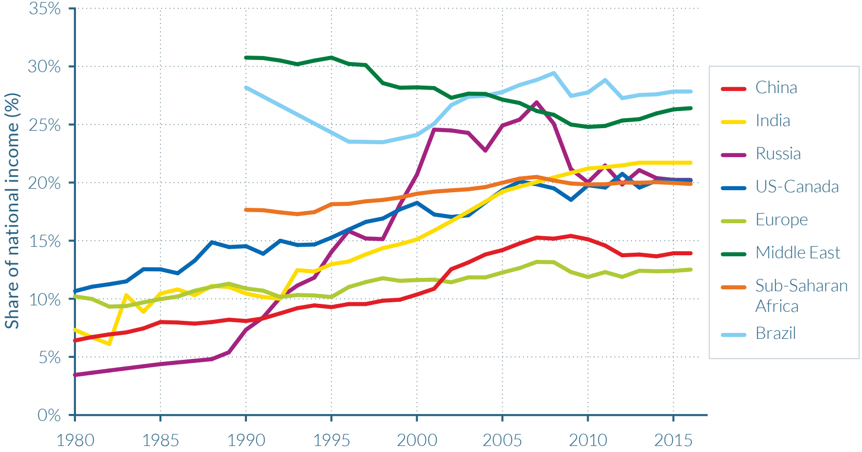
Sources : World Inequality Report, 2018

FIGURE 9 – Top 1% national income share in Northern European countries



Sources : World Inequality Report, 2018

FIGURE 10 – Top 1% income shares across the world



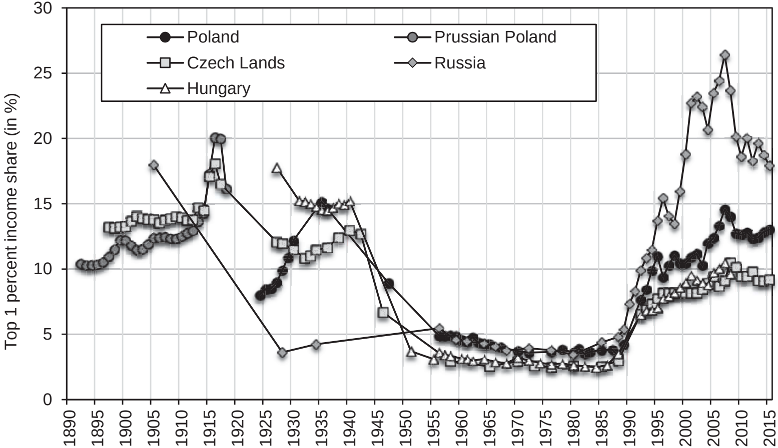
Sources : World Inequality Report, 2018

Examples of Extreme inequality

Assouad, Chancel and Morgan (2018)

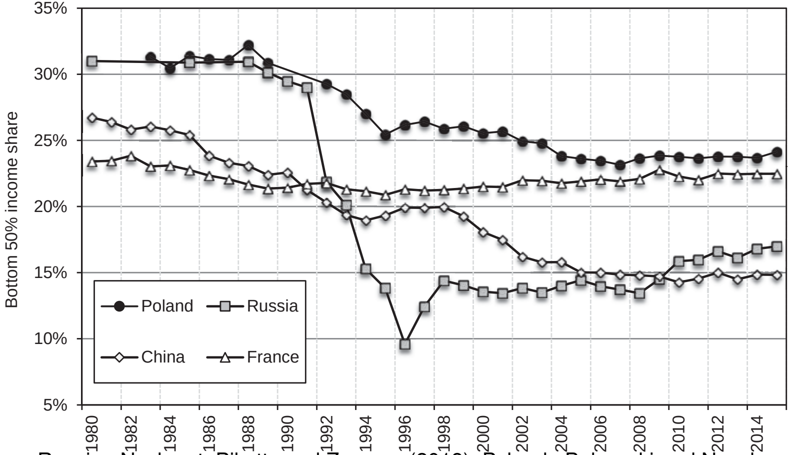
- Extreme level of inequality in Brazil, India, Middle-East and South Africa
- While rising inequality in India and SA, stable levels of extreme inequality in B and ME (Top 10%=60%-70%)
- All these societies characterized by a dual structure :
  - Extremely rich group at the top, whose income levels are broadly comparable to their counterparts in high-income countries
  - Much poorer mass of the population below top groups
- Diversity of regional contexts
  - The historical legacy of social segregation
    Appartheid in SA, slavery + extreme capital owner ownership in Brazil, caste system in India,geography of oil ownership in Middle-East
  - Modern economic institutions and policies
    Gradual deregulation and opening-up reforms, such as privatization of state-owned economies, price control deregulation, the opening of markets to international trade and strong decline in tax progressivity

FIGURE 11 – Top 1% income shares in former communist countries



Sources : Russia : Novkmet, Piketty and Zucman (2018), Poland : Bukowski and Novokmet (2019), other countries : WID.world

FIGURE 12 – Bottom 50% income shares in Poland, China, France and Russia



Sources : Russia : Novkmet, Piketty and Zucman (2018), Poland : Bukowski and Novokmet (2019), France : Garbinti et al (2018), China : Piketty, Zucman, Yang (2019)

Former communists countries

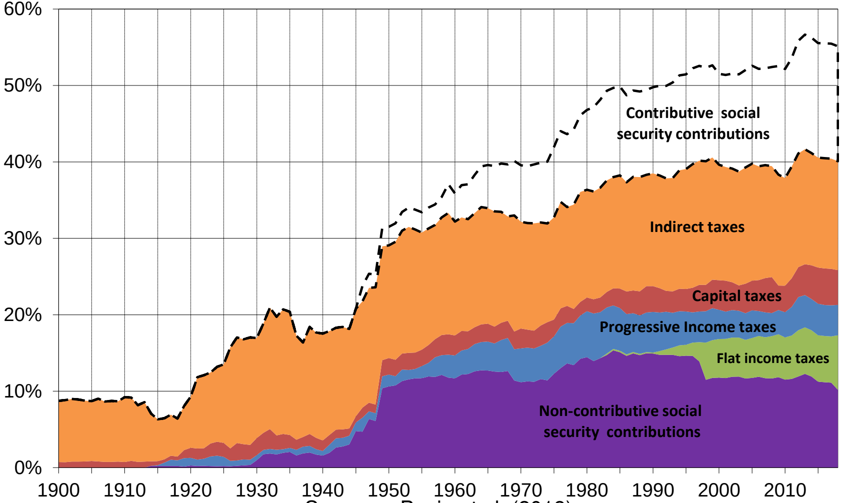
- After the fall of communism, all countries experience a dramatic increase in inequality
- But divergent development of inequality between Russia and other countries
- Top 1% rise and collapse of B50 especially in Russia
  - Different privatization strategies : Big bang in Russia vs more gradual in Eastern Europe
  - Presence of natural ressources + offshore wealth captured by an elite in Russia
  - Role of hyperinflation (from 1990 to 1996 price mult. by 500)
  - Different policies to compensate the potential looser from the market reform + tax progressivity
  - Poland : Large scale programs to help retired, unemployed, disabled
- No predetermined trajectory of inequalities during the transition
- Policies and insitutions play an important role in shaping inequality

Main lessons

1. Huge decline of income and wealth inequality 1913-1980
   - Largely a capital phenomenon
   - $\Rightarrow$ Large shocks to top fortunes 1913-1945
   - $\Rightarrow$ Rise of patrimonial middle-class since 1950
2. Less variation in labor income inequality (big exception = US)
3. Rising income and wealth inequality since 1980s
   - Much more in anglo-saxon countries than continental Europe and Japan
4. Diversity of national histories
   - Dynamic of income inequality varies dramatically across countries
   - Shows key role of domestic policies

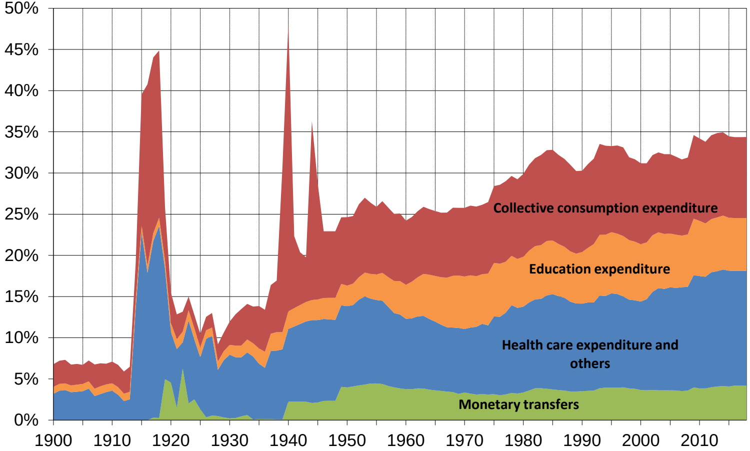
Outline

FIGURE 13 – Structure of taxes (% national income), France 1900-2018



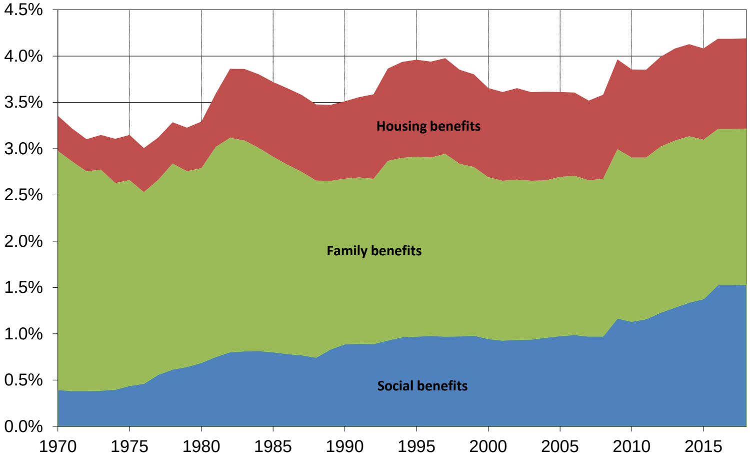
Sources : Bozio et al. (2018)

FIGURE 14 – Structure of transfers (% national income), France 1900-2018



Sources : Bozio et al. (2018)

FIGURE 15 – Structure of monetary transfers (% national income), France 1970-2018



Sources : Bozio et al. (2018)

Public policies and inequality

Redistribution

- Policies affecting the gap between the distributions of pretax and post-tax income
- Mechanical operation of redistributive taxes and transfers (absent behavioral responses)

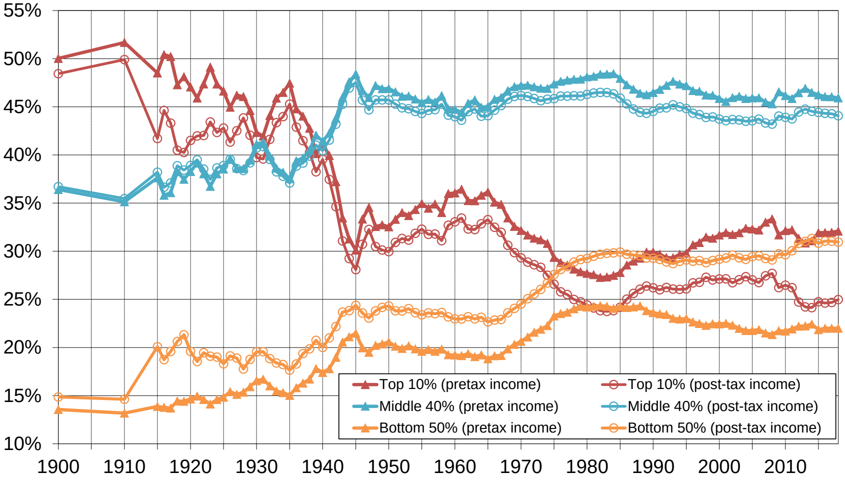
Preredistribution :

- Set of policy and legal tools that can affect the pretax distribution of income
  - Legal and social system $\Rightarrow$ bargaining power, company law, minimum wage
  - Education and health system $\Rightarrow$ access to skills and jobs
  - Progressive taxes $\Rightarrow$ top-end compensation, concentration of wealth and capital income
  - Trade and technological changes $\Rightarrow$ relative earnings of different skills or occupation, market regulations.

Redistribution and inequality

- How much redistribution policies can account for the level and the long-run changes in inequality ?
- What are the relative magnitudes of “redistribution” and changes in pretax income in accounting for the observed evolution of inequality over time and across countries ?

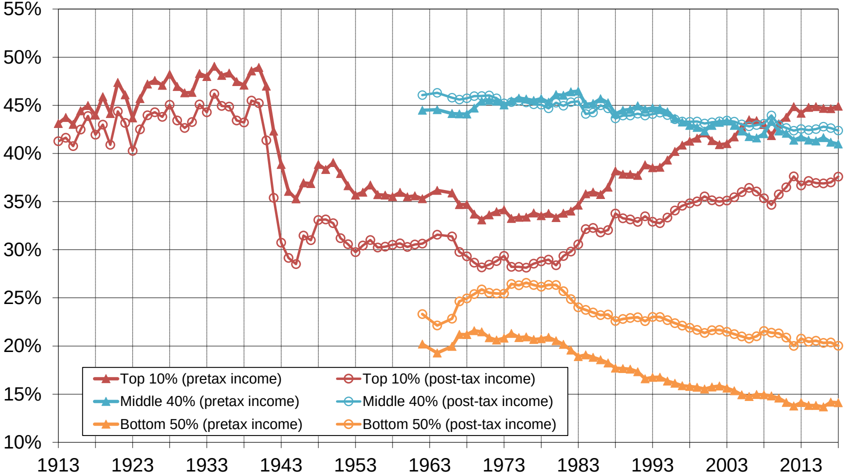
FIGURE 16 – Pretax vs. Post-tax Income inequality in France, 1900-2018



Distributions of pretax national income and disposable income among equal-split adults (income of married couples divided by two).

Sources : Bozio et al. (2020)

FIGURE 17 – Pretax vs. Post-tax Income inequality in the US, 1900-2018



Distributions of pretax national income and disposable income among equal-split adults (income of married couples divided by two).

Sources : Piketty et al. (2018)

Assessing the extent of redistribution

- Ratio between the average income of the top 10% income group and the average income of the bottom 50% income group.
  - pretax ratio : $T10/B50^{pretax}$
  - posttax ratio : $T10/B50^{posttax}$
  - Simple indicator : relative change in the ratio when we go from pretax to disposable income

$$\frac{T10/B50^{pretax} - T10/B50^{posttax}}{T10/B50^{pretax}}$$

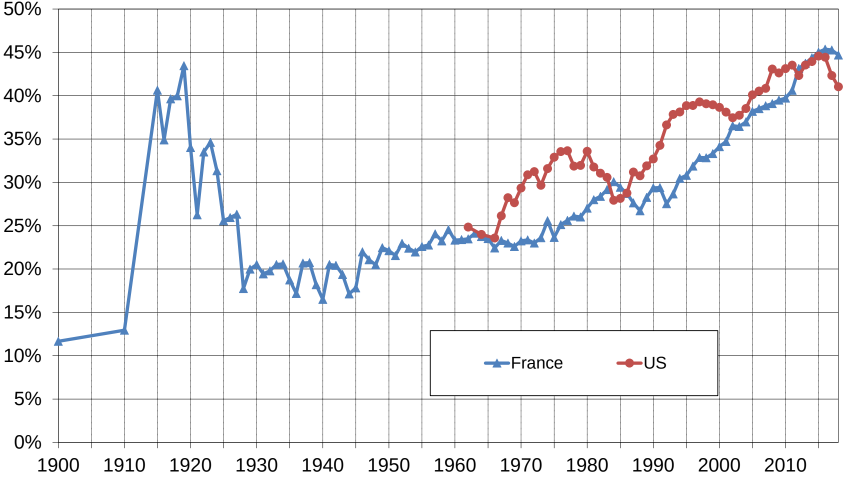
  - How much does redistribution reduce inequality ?
- Alternative indicators
  - T10/M40, M40/B50, T10/B20, T20/B20, Gini index, Theil index

FIGURE 18 – How much does redistribution reduce inequality, France vs. US, 2010-2018 ?

	France			United States		
	Pretax	Post-tax	Post-tax /Pretax-1	Pretax	Post-tax	Post-tax /Pretax-1
Income shares (averages 2010-2018)						
Top 10%	32%	25%	-21%	44%	37%	-17%
Middle 40%	46%	44%	-4%	42%	43%	2%
Bottom 50%	22%	31%	40%	14%	21%	46%
Inequality indicators (ratios between average incomes)						
Total inequality (T10/B50)	7.2	4.1	-44%	15.8	9.0	-43%
Upper inequality (T10/M40)	2.7	2.3	-18%	4.3	3.5	-19%
Lower inequality (M40/B50)	2.6	1.8	-31%	3.7	2.6	-30%
Simplified Total inequality (T10/B90)	4.2	3.0	-28%	7.2	5.3	-27%

Sources : Bozio et al. (2020)

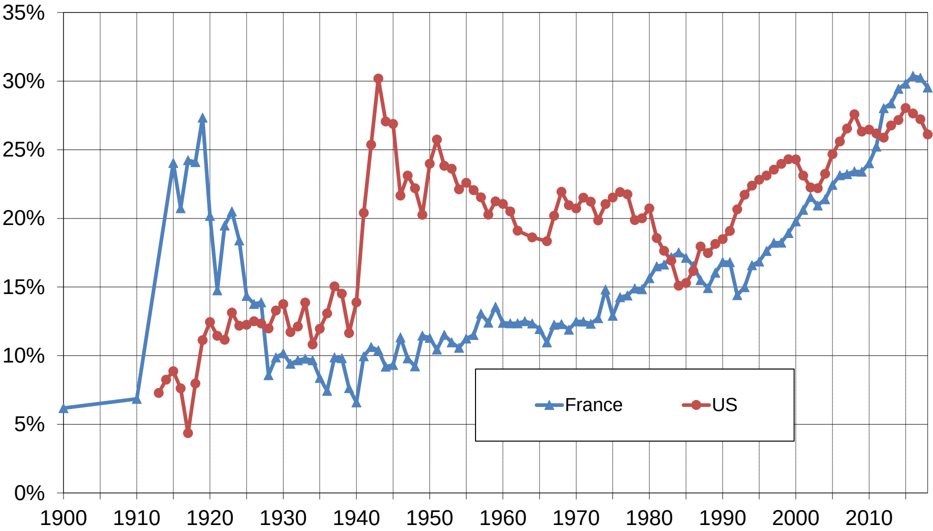
FIGURE 19 – Extent of Redistribution (T10/B50) : France vs. U.S., 1900-2018



Distributions of pretax and post-tax income among equal-split adults (income of married couples divided by two).
Estimates for the U.S are from Piketty, Saez and Zucman (2018).

Sources : Bozio et al. (2020)

FIGURE 20 – Extent of Redistribution (T10/B90) : France vs. U.S., 1900-2018



Distributions of pretax and post-tax income among equal-split adults (income of married couples divided by two).
Estimates for the U.S are from Piketty, Saez and Zucman (2018).

Sources : Fr : Bozio et al. (2020)

FIGURE 21 – Decomposition of the evolution of post-tax income inequality : France vs. U.S.

	France			United States		
Panel A: T10/B50 inequality indicator	1900-2018	1900-1983	1983-2018	1913-2018	1913-1983	1983-2018
Changes in post-tax income inequality	-75%	-76%	1%			48%
Due to changes in pretax inequality	-50%	-64%	26%			67%
Due to changes in redistribution due to taxes and cash transfers	-21%	-9%	-21%			-9%
Due to changes in in kind and collective expenditures (relative to disposable income)	-5%	-2.5%	-4%			-10%
Panel B: T10/B90 inequality indicator	1900-2018	1900-1983	1983-2018	1913-2018	1913-1983	1983-2018
Changes in post-tax income inequality	-65%	-67%	7%	-14%	-37%	37%
Due to changes in pretax inequality	-47%	-59%	24%	7%	-29%	51%
Due to changes in redistribution due to taxes and cash transfers	-13%	-5%	-13%	-13%	-6%	-7%
Due to changes in in kind and collective expenditures (relative to disposable income)	-4%	-2%	-3%	-8%	-2%	-7%

Sources : Bozio et al. (2020)

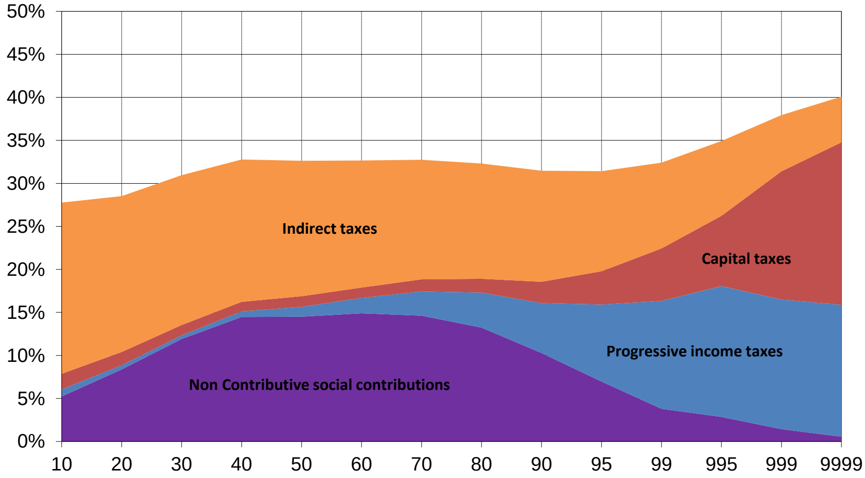
Redistribution and Predistribution

- Today, France and the U.S. carry out very similar level of redistribution despite very different policies and institutions
- The much lower level of post-tax inequality in France is not the result of higher redistribution, but almost entirely due to much lower level of pretax inequality
- Reduction of inequality implied by redistribution is significant in both countries and increasing throughout the entire 20th C
- if inequality has decreased much more in France than in the U.S. during the 1900-2018 period :
  - Not explained by a relatively more important increase in redistribution by the French tax and transfer system
  - But by the differential evolution of pretax income inequality between the two countries

From Redistribution to Predistribution

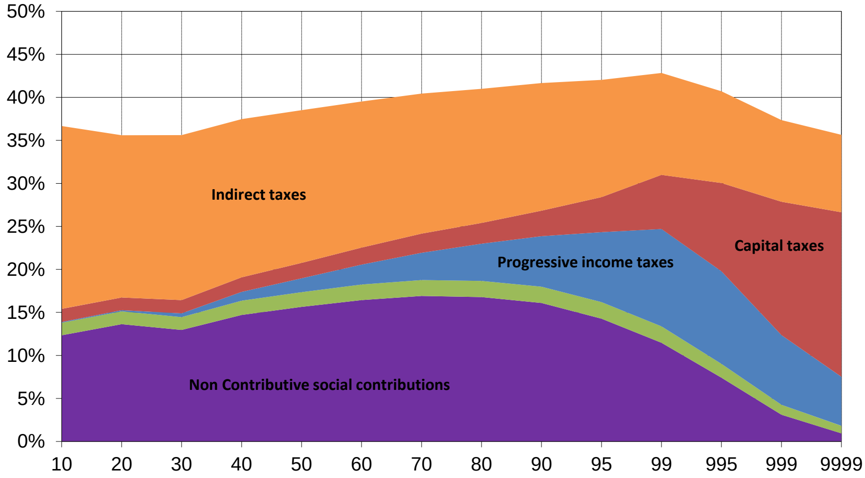
- Pretax income inequality = main factor behind differential level and trend in inequality between France and the U.S. over the 20th C
- Direct redistribution has only contributed for a quarter of the total change in inequalities over the 20th C
- Main take-away
  - Non-monetary transfers are useless ? No
  - In capturing redistribution, we miss predistribution !
- **Key role of preredistribution on inequality**
  - Set of policies that can affect the distribution of pretax income
  - Education and health system, labor market institutions (minimum wage,unions), taxation
  - Predistribution may better explain the evolution of inequality within country and the differences in inequality across countries

FIGURE 22 – Taxes paid by pretax income group, France 1970



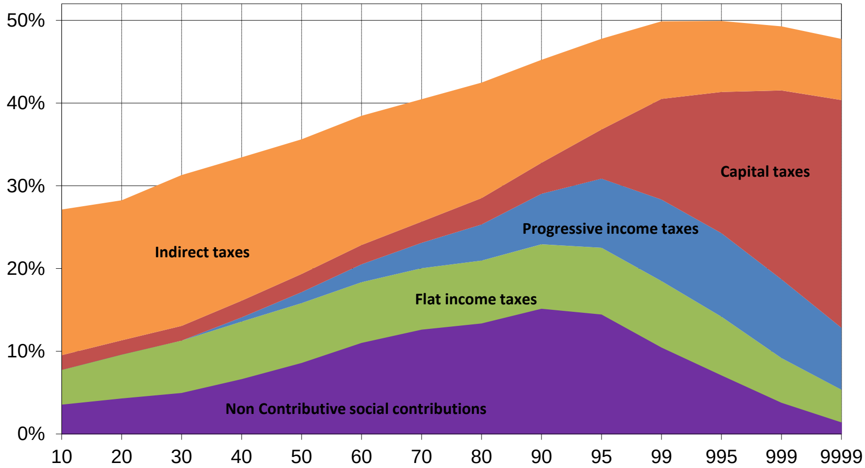
Average tax rates by pretax income group. Equal-split-adults series (income of married couples divided by two).

FIGURE 23 – Taxes paid by percentile of pretax income, France 1996



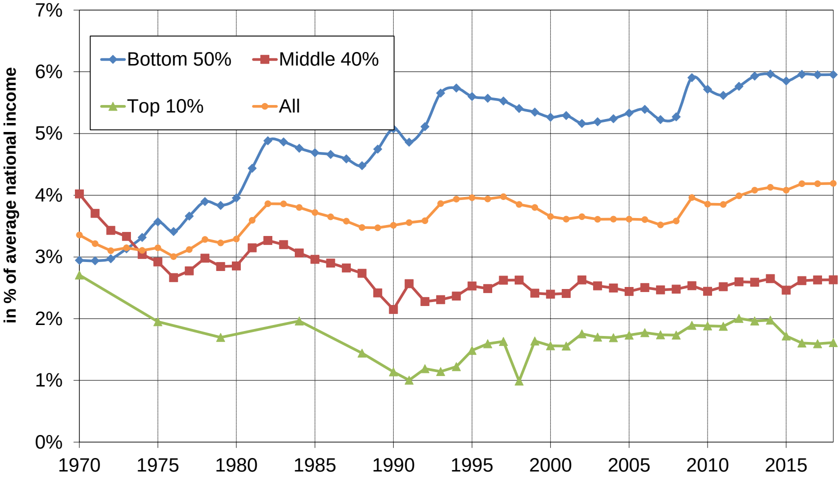
Average tax rates by pretax income group. Equal-split-adults series (income of married couples divided by two).

FIGURE 24 – Taxes paid by pretax income group, France 2018



Average tax rates by pretax income group. Equal-split-adults series (income of married couples divided by two).

FIGURE 25 – Monetary transfers received (% average income) by disposable income groups



Distribution of disposable income among equal-split adults (income of married couples divided by two).

Outline

There's nothing natural

- History and policies are key to understand inequality dynamics
- Diversity of national histories and representations :
  - The decline of wealth concentration during the 20th century : largely the result of wars, destructions, depressions and taxation
  - Booming top labor income since 1980s mostly an Anglo-saxon phenomenon
  - US used to be more equal than Europe, now much more unequal

Why inequality is rising in the US ?

- Fundamental distinction :
  Inequality of labor income vs. inequality of capital income (or wealth)
- Labor income inequality
  - Rising skill premium : Race btw technology and education
  - Institutional change : decline in unions, decline of minimum wage, rising market power
  - Explosion of top wages, due to decline in top marginal tax rates and changes in social norms governing pay
- Capital inequality
  - inequality in labor income, rates of return and saving rates
  - Decline in capital taxation (estates, capital income, corporate tax)
  - Key role of $r > g$

Key challenges for the future

- Institutions and policies always need to be reinvented
  - World is more globalized (International tax competition and evasion) $\Rightarrow$ limits unilateral policy changes
  - Technological change $\Rightarrow$ may hurt labor more than in the past
  - Rise of algorithms, patents, etc. $\Rightarrow$need to find new ways to regulate capital
  - Global demo. transition, climate change $\Rightarrow$ may lead to low g
- Key policy challenges for the future
  - New ways to grow : e.g., through green energy industrial revolution
  - New ways to regulate inequality : global taxation, financial transparency and fiscal coordination
  - New ways to produce : corporation with sole goal of max. shareholder value not always best way to organize econ activity