On the way to extreme inequalities: how income and wealth research highlights the challenges for the 21st century?

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From inequality to strengthening power vertical

- Introduction: history, civilization and extreme inequalities
- 1- Extreme inequality: theory and math
- 2- Extreme inequality today: are they back?
- 3- Wealth is back: repatrimonialization
- 4- Extreme consequences in the world
- Conclusion: The treats of the 21st century and a new hope
Introduction:
history, civilization and extreme inequalities
Gini = 0 in case of “perfect” equality, & 1 in case of “perfect inequality” => one single individual possesses everything.

Gini of income = 0.20 ➔ the world lowest
Gini of income = 0.35 ➔ European nations
Gini of income = 0.45 ➔ the U.S.
Gini of income = 0.60 ➔ Brazil
Gini of wealth = 0.65 ➔ European nations
Gini of wealth = 0.80 ➔ the U.S.

Income in Luxembourg (hfcs 2010) Gini = 0.34
Wealth in Luxembourg (hfcs 2010) Gini = 0.64
Zipf distribution (Pharaoh) Gini = 0.85

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Introduction: civilization and (in)equality

- Commonsense: civilization is a process of equalization (welfare state development, Golden age, Wirtschaftswunder, Trente Glorieuses, blurring social class borders, increasing social mobility, etc.)

- Archeology: civilization is intrinsically characterized by inequality (criteria of civilization are Cities, labor specialization, concentration of surplus production, class structure, state organization, along with monuments, trade, art, writing and math)

- The new Walter Scheidel’s book (jan 2017):
  great civilizations show high (& increasing?) levels of inequality

- In period of peace or social rest, inequality remain high and stable
Introduction: civilization and (in)equality

- The new Walter Scheidel’s book: four horsemen of the reduction of inequality
- Wars, Epidemics, Revolutions, State collapse

Inequality trends in Europe (Scheidel p 87)

Albrecht Dürer 1498. The Four Horsemen, in Johannes (Saint), Book of Revelation (6:1-8)
Introduction: civilization and (in)equality

- The new Walter Scheidel’s book: four perspectives in the reduction of inequality
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Albrecht Dürer 1498. The Four Horsemen, in Johannes (Saint), Book of Revelation (6:1-8)
Inequality trends in the U.S. (Scheidel p 110)

And now?
1- Extreme inequality: theory and math
The theory: A “new” class structure: forget Quetelet, learn Pareto

- Farewell to the theory of average (hu)man (Quetelet, Halbwachs)
- Welcome(back) to extreme society (Pareto, Nielsen)


Vilfredo Pareto
1848-1922

1896

L’équation de cette ligne peut se représenter par

\[ \log N = \log A - \alpha \log x \]

ce qui donne

\[ N = \frac{A}{x^\alpha} \]

Cette dernière équation représente la courbe de répartition des revenus.

Pour avoir les constantes A et \( \alpha \), nous interpolerons les logarithmes de N. Cette interpolation sera faite suivant la méthode de Cauchy, qui est très suffisante pour cette première approximation. On peut même souvent employer une méthode graphique.

Nous avons déjà indiqué la répartition des revenus en Angleterre. Voici les résultats de quelques autres statistiques.

Adolphe Quetelet
1796-1874
1. The Zipf’s pyramidal model of extreme inequality

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Gini index = 0.847
Share top 10% = 87.5%
Share top 1% = 75.0%
Share top 0.1% = 62.5%
As for Pareto $N = \frac{A}{x^\alpha}$ with $\alpha > 1$, the higher $\alpha$ the higher equality

Zipf curve if $\alpha = 1$, an extreme case of inequality (extreme in the sense that the integral diverges) ➔ The speed limit of inequality?
Vilfredo Pareto now: power tailed distributions

Power-tailed distributions (Pareto-Levy distributions)
Zipf distributions => Krugman 1996 etc. Gabaix 1999 etc.

Applications => in economic geography (size of cities)
                in finance (stock market statics and dynamics)

How the economy organizes itself in space:
A survey of the new economic geography*

Paul Krugman
Department of Economics, Stanford University
Revised, January 1996

Figure 6

\[ \log(\text{city rank}) \]
\[ \log(\text{city size}) \]

\[ \alpha \approx 1 \]
Vilfredo Pareto now: power tailed distributions

Applications => in finance (stock market statics and dynamics)

"Why Has CEO Pay Increased So Much?", Xavier Gabaix & Augustin Landier,

\[ \alpha = \frac{1}{\zeta} \approx 1 \]
Upper tail power distributions everywhere
Applications => linguistics, terrorism, wars, astrophysics
Pareto is pervasive and almost everywhere...
Aaron Clauset, Cosma Rohilla Shalizi, and M. E. J. Newman 2009

Fig. 8 The CDFs $P(x)$ and their maximum likelihood power-law fits for the first 12 of our 24
...
Upper tail power distributions everywhere
Applications => linguistics, terrorism, wars, astrophysics
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Aaron Clauset, Cosma Rohilla Shalizi, and M. E. J. Newman 2009
The Zipf law as it looks
2- Extreme inequality today: are they back?
Middle-ization in the Golden Age?

**Yesterday: The Western middle class dream**

(not everywhere but in many western countries)

Galbraith, Goldthorpe and Lockwood, Mendras, Lederer?, etc. etc.

Fourastié « *The great hope of the 20th century* »

1- « Wage based middle class society » = permanent wage earner are a majority
2- Wage incomes sufficient to live well => the affluent society
3- Generalization of labor stability and social protection
4- Education boom and increasing value of diplomas, upward social mobility
5- Political centrality of middle class
6- Beliefs in progress
De-middlization or even worse?

Today: Very bad news in social facts...for post-affluent countries (not everywhere but in many western countries)

Piketty, Alderson, Tomaskovic-Devey, Therborn, Mann, etc.

« The great worries of the 21th century »

1- « Wage uncertainty » = decline in predictability and repatrimonialization
2- Wage stagnation and real cost of life => the post-affluent society
3- Generalization of precariat and destabilization of social protection
4- Over-Education boom and increasing value of diplomas, downward social mobility
5- Loss of political centrality/control of middle class
6- New worries
Income Inequality: Economic Disparities and the Middle Class in Affluent Countries edited by: Janet C. Gornick and Markus Jäntti (Stanford University Press) 2013

http://www.sup.org/book.cgi?id=21329

The bad news (Piketty)

*Capital expansion and wage stagnation

*Structural Matthew effect(1):
R(real interest rates) > G(real eco growth)
=> the new era

*The richer will save, not the poorer
*Auto-generated spiral of accumulation of wealth and inequalities
*Farewell to meritocracy

(1): “For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken even that which he hath”. Matthew 25:29, King James Version.
Even worse news (Alderson, Beckfield, etc. etc.)

- End of the 1960-70 Western social dream
- Demography-connected changes:
  baby-boom overcrowding effects, homogamy, role of education
- Market transformations: deindustrialization, global competition (new-developed countries and destabilization of the western upper working class), technological bias, winner take all
- Economic & Social policies: Tax reforms at the top, declining minimum wages and decay of social regulations at the bottom


Robert H. Frank and Philip J. Cook 1995
The Winner-Take-All Society
(New York: The Free Press,).

Godechot, Olivier 2012 Is finance responsible for the rise in wage inequality in France?
*Socio-Economic Review* 10(3), 447-470
1- Normal law world
max height = 227 cm
(in a 1.000.00 sample)

Max/Median = 1.280
(in a 1.000.00 sample)

Gini index = .12

In the US: Robert Wadlow, the tallest person
272 cm = 1.53 the median
2- Typical Income
Pareto-Champernowne-Fisk law
with a gini index = .45

Max/Median Income = 700
(in a 1,000,000 sample)

In the US 2013
LNG Charif Souki $141 Millions
=3154 times the median US FT yearly earning lvl

Fits based on SCF 2011
3- Typical Wealth
Pareto-Champernowne-Fisk law
with a gini index = .72
Max/Median Income = 71 000
(in a 1,000,00 sample)
In the US
6 Walton family members own $152 Billions
=250,000 times the median wealth
=500,000 times the median US FT yearly earning

Fits based on SCF 2011
No wealth based middle class
Changes in the general shapes of income distribution

- Globalization of the income distribution:
  - The rich are indexed on global firms size
  - The others on the BRICs working and wage earner classes

⇒ Even more massive changes in the distributions still to come ?…
The strobiloid = graph changing shapes
3- Wealth is back: repatrimonialization
Income Strobiloïd EU-SILC 2010 and Wealth (LWS) in euro

100 = median income
100 = median wealth

Average income
25 % are below 0.15 times the median wealth

0
100
200
300
400

Median household gross wealth: 500 K€
Yearly median per capita disposable income: 65 K€

25 % are above 2.32 times the median wealth
10 % are above 3.95 times the median wealth
5 % are above 2.33 times the median income
25 % are above 1.39 times the median income
10 % are above 1.92 times the median income
25 % are below 0.72 times the median income
10 % are below 0.55 times the median income

Median wealth: 380 K€
Piketty

Figure 5.3. Private capital in rich countries, 1970-2010

Private capital is worth between 2 and 3.5 years of national income in rich countries in 1970, and between 4 and 7 years of national income in 2010. Sources and series, see piketty.pse.ens.fr/capital21c.
In 1980 = wealth is 3 years of income
In 2010 = wealth is 6 years of income
US 1980

Income
Gini = 0.35

Wealth
Gini = 0.75

Median Income

Mean wealth = 3.7 med income
US 2010

Income
Gini=.45

Wealth
Gini=.79

Median Income

Mean wealth=8.5
med income
US 2040
Central Scenario

Income
Gini=.55

Wealth
Gini=.82

Median Income

Mean wealth=15.5
med income
4- Extreme consequences in the world
Even worse news: World level inequality

- Overall world income inequality is massive
- It declines (Branko Milanovic) in terms of Gini (China, the Empire of the median, is richer)
- But world relative poverty increase (China is farther and farther above Africa)

Gini (line) and relative poverty rate (bars) (below 50% the world median)
Even worse news: World level inequality

- Overall world income inequality is massive; world wealth is pharaonic

Lorenz curve of income (bold) and of wealth 2015 (thin)
Consequences and side effects

- More income and wealth homogamy
- Less mobility
- More opportunities for top quantile groups
- Less for the others (even the upper middle class?)
- Health, lack of human development, violence, ...

“Inequality kills...” (Therborn, 2014)
Even worse news: World level inequality

Per capita income and per household wealth 2016

We are here

Per household wealth 2016

Per capita income
Even worse news: World level inequality

Per capita income and life expectancy 2015

We are here
Even worse news: World level inequality

Gini and log homicide rates

"Great Gatsby" Curve

R-sq = 0.75 !!
(slope close to 1)
Conclusion:
The treats of the 21st century and a new hope
Conclusive remarks: Brace! Brace!...

Hobsbawm / Arrighi / Scheidel and a new age of extremes

The self-sustaining inequality spiral

The differences with the 19th century capitalism: From material to symbolic starvation? Which frustrations in Europe after de-middlization? What is the new class structure?
Conclusive Re-Marx, other solutions and hopes

Atkinson: Reconsider Progress (the 15 proposals)
Piketty: Tax Them All! Zucman: Let’s be transparent
Wright: universal minimum income and real utopia
Therborn: let’s have a real democracy
Chauvel: let’s read (again) Spinoza, and Jonas

Sedulo curavi, humanas actiones non ridere, non lugare, neque detestari, sed intelligere.
I have striven not to laugh at human actions, not to weep at them, nor to hate them, but to understand them.
Baruch Spinoza, 1675/1676 *Tractatus Politicus* (A Political Treatise)

“Act so that the effects of your action are compatible with the permanence of genuine human life”; or expressed negatively: “Act so that the effects of your action are not destructive of the future possibility of such life”
The Imperative of Responsibility (Das Prinzip Verantwortung)
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