Arthur Charpentier

charpentier.arthur@gmail.com

http://freakonometrics.hypotheses.org/

Université de Rennes 1, January 2016

Welfare, Inequality & Poverty # 1
References

This course will be on income distributions, and the econometrics of inequality and poverty indices. For more general thoughts on inequality, equality, fairness, etc., see

- Kolm *Justice and Equity*, 1997
- Sen *The Idea of Justice*, 2009

(among others...). For this very first part, references are

- Norton & Ariely *Building a Better America—One Wealth Quintile at a Time*, 2011 [*Income*
- Atkinson & Morelli *Chartbook of Economic Inequality*, 2014 [*Comparisons*]
Those slides are inspired by Emmanuel Flachaire’s Econ-473 slides, as well as Michel Lubrano’s M2 notes.
Wealth Distribution, Perception vs. Reality

Norton & Ariely [Building a Better America—One Wealth Quintile at a Time], 2011

![Bar chart showing actual, estimated, and ideal wealth distribution]

**Fig. 2.** The actual United States wealth distribution plotted against the estimated and ideal distributions across all respondents. Because of their small percentage share of total wealth, both the “4th 20%” value (0.2%) and the “Bottom 20%” value (0.1%) are not visible in the “Actual” distribution.

data (Actual) from Wolf [Recent Trends in Household Wealth], 2010.
Wealth Distribution, Perception vs. Reality

Norton & Ariely Building a Better America—One Wealth Quintile at a Time, 2011

Fig. 3. The actual United States wealth distribution plotted against the estimated and ideal distributions of respondents of different income levels, political affiliations, and genders. Because of their small percentage share of total wealth, both the “4th 20%” value (0.2%) and the “Bottom 20%” value (0.1%) are not visible in the “Actual” distribution.
Wealth Distribution, Perception vs. Reality

Watch https://www.youtube.com/watch?v=QPKKQnijnsM
Wealth Distribution, Perception vs. Reality

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Comparing Inequalities in several countries

Atkinson & Morelli [Chartbook of Economic Inequality, 2014

in Argentina, Brazil, Australia, Canada, Finland, France, Germany, Iceland, India, Indonesia, Italy, Japan, Malaysia, Mauritius, Netherlands, New Zealand, Norway, Portugal, Singapore, South Africa, Spain, Sweden, Switzerland, the UK and the US, five indicators covering on an annual basis:

- Overall income inequality;
- Top income shares
- Income (or consumption) based poverty measures;
- Dispersion of individual earnings;
- Top wealth shares.
Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. U.S.A.
## Comparing Inequalities in several countries

See Atkinson & Morelli [Chartbook of Economic Inequality](#), 2014, e.g. U.S.A.

### Overview of Trends of Economic Inequality in the USA

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>Yes, the top decile of earnings has risen from 15.0 per cent of median in 1950 to 24.4 per cent in 2012.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>Yes, the Gini coefficient for gross income now 7 percentage points higher than in 1980.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Yes, from 1929 to 1945.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Official poverty measure fell from 1948 to 1970s, since then cyclical variation about constant level.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>Yes, top gross income shares fell from 1928 to the 1970s; since mid-1970s have more than doubled.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>Top wealth shares generally decreased till 1982 but have not followed the upward trend in top incomes.</td>
</tr>
<tr>
<td>Additional noteworthy features</td>
<td>Earnings dispersion widened during the Period from 1950 to 1970 but overall income inequality did not increase.</td>
</tr>
</tbody>
</table>
Comparing Inequalities in several countries

See Atkinson & Morelli [Chartbook of Economic Inequality], 2014, e.g. France

Economic Inequality in France

- Earnings
- Overall Inequality
- Poverty
- Top Income Shares
- Wealth

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You are welcome to share but please refer to A. B. Atkinson and S. Morelli (2014) – ‘The Chartbook of Economic Inequality’ at www.ChartbookOEconomicInequality.com
### Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. France

### Overview of Trends of Economic Inequality in France

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>No, earnings dispersion shows no apparent trend.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>No, Gini coefficient relatively stable since 1990s.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Yes, overall inequality (as well as wealth inequality and poverty) fell from the 1960s to the 1990s.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Fell from 1970 to 2000.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>No, top gross income shares fell from 1916 to 1945 and then stable over post-war period.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>Yes, top wealth share fell in post-war period while little change in top income shares.</td>
</tr>
<tr>
<td>Additional noteworthy features</td>
<td>Overall stability of inequality in recent years.</td>
</tr>
</tbody>
</table>
Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. U.K.

**Economic Inequality in the United Kingdom**

- Earnings
- Overall Inequality
- Poverty
- Top Income Shares
- Wealth

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Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. U.K

### Overview of Trends of Economic Inequality in the UK

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>Yes, the top decile of earnings has increased from 165 per cent of median in 1976 to 197 per cent in 2013.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>Yes, the Gini coefficient for equivalised disposable income is now around 10 percentage points higher than in 1980, but most of the increase took place in the 1980s.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Yes, during the Second World War and in late-1960s and 1970s.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Relative poverty rate in 1990 twice that in 1977. However, overall the poverty rate has been falling since the 1990s.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>Yes, top gross income shares fell from 1914 to the 1970s; since 1979 have more than doubled.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>Downward trend in top wealth shares from 1923 to end of 1980s; now levelled off.</td>
</tr>
<tr>
<td>Additional noteworthy features</td>
<td>Increase in income inequality and poverty in the 1980s proportionately much larger than increase in earnings dispersion. The top shares series have a break in 1990 (change in tax units from family to individual basis). The top income shares estimates for 2009-10 were affected by a significant bringing forward in that year in advance of the introduction of the 50 per cent top tax rate; the shares for the following years were correspondingly reduced.</td>
</tr>
</tbody>
</table>
Comparing Inequalities in several countries

See Atkinson & Morelli Chartbook of Economic Inequality, 2014, e.g. Sweden

Economic Inequality in Sweden

- Earnings
- Overall Inequality
- Poverty
- Top Income Shares
- Wealth

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Comparing Inequalities in several countries

See Atkinson & Morelli [Chartbook of Economic Inequality], 2014, e.g. Sweden

Overview of Trends of Economic Inequality in Sweden

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>Yes, the top decile of earnings has risen from 145 per cent of median in 1983 to 165 per cent in 2011.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>Yes, the Gini coefficient for equivalised disposable income is 10 percentage points higher in 2011 than in 1982.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Yes, much of twentieth century up to 1900s.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Rising. Relative poverty rate has doubled since 1995.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>Yes, top gross income shares fell from 1916 to 1980 and then rose.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>Similar till the end of 1980s. Top wealth shares show a downward trend from 1923 to end of 1980s; now levelled off.</td>
</tr>
<tr>
<td>Additional noteworthy features</td>
<td>Increase in overall inequality: during 1990s the average Gini was 25.5 while in the first decade of the twenty-first century the average of Gini rose to 30. Top shares series have a break in 1971 (change in tax unit definition).</td>
</tr>
</tbody>
</table>
Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. Canada

Economic Inequality in Canada

- Earnings
- Overall Inequality
- Poverty
- Top Income Shares

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Comparing Inequalities in several countries

See Atkinson & Morelli Chartbook of Economic Inequality, 2014, e.g. Canada

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>Yes, top decile of earnings has been rising relative to the median since early 1950s.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>Yes, Gini coefficient is around 3 percentage points higher than in 1989 but most of the increase took place in the 1990s.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Incomplete evidence.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Poverty fell in the 1980’s and then rose.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>Yes, top gross income shares fell from 1938 until the mid-1980s and then began to rise.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>No evidence.</td>
</tr>
</tbody>
</table>

Additional noteworthy features
Comparing Inequalities in several countries

See Atkinson & Morelli *Chartbook of Economic Inequality*, 2014, e.g. Germany

Economic Inequality in Germany

- Earnings
- Overall Inequality
- Poverty
- Top Income Shares
- Wealth

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Comparing Inequalities in several countries

See Atkinson & Morelli [Chartbook of Economic Inequality], 2014, e.g. Germany

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the dispersion of earnings been increasing in recent decades?</td>
<td>Yes, top decile has risen from 150 per cent of median in 1950s to 190 per cent at end of 2000s.</td>
</tr>
<tr>
<td>Has overall inequality increased in recent years?</td>
<td>Yes, the Gini coefficient in 2010 was 3 percentage points higher than in 1998.</td>
</tr>
<tr>
<td>Have there been periods when overall inequality fell for a sustained period?</td>
<td>Overall inequality (and poverty) fell over the 1960s and 1970s.</td>
</tr>
<tr>
<td>Has poverty been falling or rising in recent decades?</td>
<td>Poverty rate increased from 10 per cent to 15 per cent between 1998 and 2010.</td>
</tr>
<tr>
<td>Has there been a U-pattern for top income shares over time?</td>
<td>No, top gross income shares were relatively stable over post-war period.</td>
</tr>
<tr>
<td>Has the distribution of wealth followed the same pattern as income?</td>
<td>Yes, Gini coefficient of individual wealth fell 10 percentage points from 1973 to 1993 and then began to rise.</td>
</tr>
</tbody>
</table>

Additional noteworthy features
Comparing Inequalities in several countries

But one should be cautious about international comparisons,

- Inequality: Gini index based on gross income for U.S.A. and based on disposable income for Canada, France and U.K.
- Top income shares: Share of top 1 percent in gross income, for all countries
- Poverty: Share in households below 50% of median income for U.S.A. and Canada and below 60% of median income for France and U.K.

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Canada</th>
<th>France</th>
<th>UK</th>
<th>Sweden</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini index</td>
<td>46.3</td>
<td>31.3</td>
<td>30.6</td>
<td>30.6</td>
<td>32.6</td>
<td>28.0</td>
</tr>
<tr>
<td>Top income</td>
<td>19.3</td>
<td>12.2</td>
<td>7.9</td>
<td>7.9</td>
<td>7.1</td>
<td>12.7</td>
</tr>
<tr>
<td>Poverty</td>
<td>17.3</td>
<td>12.6</td>
<td>14</td>
<td>14.0</td>
<td>14.4</td>
<td>14.9</td>
</tr>
</tbody>
</table>
Inequality

Atkinson *Inequality: What Can Be Done*

**Figure 1.1**: Inequality in the US, 1913–2013
Inequality

Atkinson "Inequality: What Can Be Done"

FIGURE 1.2: Inequality in the UK, 1913–2013
Inequality

Atkinson, *Inequality: What Can Be Done*}

FIGURE 1.4: Poverty and top income shares in selected countries, c. 2010
Inequality

Atkinson *Inequality: What Can Be Done*
Inequality


**Figure 3.2:** Change in earnings in the UK since 1977.
Top Income Shares

Piketty *Capital in the Twenty-First Century*, 2014

---

Figure 9.8. Income inequality: Europe vs. the United States, 1900-2010

The top decile income share was higher in Europe than in the U.S. in 1900-1910; it is a lot higher in the U.S. in 2000-2010. Sources and series: see piketty.pse.ens.fr/capital21c.
Top Income Shares

Piketty *Capital in the Twenty-First Century*, 2014

Figure I.1. Income inequality in the United States, 1910-2010

The top decile share in U.S. national income dropped from 45-50% in the 1910s-1920s to less than 35% in the 1950s (this is the fall documented by Kuznets); it then rose from less than 35% in the 1970s to 45-50% in the 2000s-2010s. Sources and series: see piketty.pse.ens.fr/capital21c.
Top Income Shares

Piketty *Capital in the Twenty-First Century*, 2014, wealth, income, wage

---

**Figure 8.7. High incomes and high wages in the U.S. 1910-2010**

- Share of top income decile in total income
- Excl. capital gains
- Share of top wage decile in total total wage bill

The rise of income inequality since the 1970s is largely due to the rise of wage inequality.

Sources and series: see piketty.pse.ens.fr/capital21c.
Top Income Shares

Piketty *Capital in the Twenty-First Century*, 2014

Fundamental Force of Divergence, $r > g$

Piketty  *Capital in the Twenty-First Century*, 2014

*Figure 10.9. Rate of return vs. growth rate at the world level, from Antiquity until 2100*

The rate of return to capital (pre-tax) has always been higher than the world growth rate, but the gap was reduced during the 20th century, and might widen again in the 21st century.

Sources and series: see piketty.pse.ens.fr/capital21c
Poverty, in France

See Guélaud, [Le nombre de pauvres a augmenté de 440.000 en France en 2010], 2012

La dernière enquête de l’Insee sur les niveaux de vie, rendue publique vendredi 7 septembre, est explosive. Que constate-t-elle en effet ? Qu’en 2010, le niveau de vie médian (19 270 euros annuels) a diminué de 0,5% par rapport à 2009, que seuls les plus riches s’en sont sortis et que la pauvreté, en hausse, frappe désormais 8,6 millions de personnes, soit 440 000 de plus qu’un an plus tôt.

Avec la fin du plan de relance, les effets de la crise se sont fait sentir massivement. En 2009, la récession n’avait que ralenti la progression en euros constants du niveau de vie médian (+ 0,4%, contre + 1,7% par an en moyenne de 2004 à 2008). Il faut remonter à 2004, précise l’Insee, pour trouver un recul semblable à celui de 2010 (0,5%).
Poverty, in France

La timide reprise économique de 2010 n’a pas eu d’effets miracle, puisque pratiquement toutes les catégories de la population, y compris les classes moyennes ou moyennes supérieures, ont vu leur niveau de vie baisser. N’a augmenté que celui des 5% des Français les plus aisés.

Dans un pays qui a la passion de l’égalité, la plupart des indicateurs d’inégalités sont à la hausse. L’indice de Gini, qui mesure le degré d’inégalité d’une distribution (en l’espèce, celle des niveaux de vie), a augmenté de 0,290 à 0,299 (0 correspondant à l’égalité parfaite et 1 à l’inégalité la plus forte). Le rapport entre la masse des niveaux de vie détenue par les 20 % les plus riches et celle détenue par les 20 % les plus modestes est passé de 4,3 à 4,5.
Poverty, in France

Déjà en hausse de 0,5 point en 2009, le taux de pauvreté monétaire a augmenté en 2010 de 0,6 point pour atteindre 14,1%, soit son plus haut niveau depuis 1997. 8,6 millions de personnes vivaient en 2010 en-dessous du seuil de pauvreté monétaire (964 euros par mois). Elles n’étaient que 8,1 millions en 2009. Mais il y a pire : une personne pauvre sur deux vit avec moins de 781 euros par mois

En 2010, le chômage a peu contribué à l’augmentation de la pauvreté (les chômeurs représentent à peine 4% de l’accroissement du nombre des personnes pauvres). C’est du côté des inactifs qu’il faut plutôt se tourner : les retraités (11%), les adultes inactifs autres que les étudiants et les retraites (16%) - souvent les titulaires de minima sociaux - et les enfants. Les moins de 18 ans contribuent pour près des deux tiers (63%) à l’augmentation du nombre de personnes pauvres [...]

Incomes in France

See Houdré, Missègue & Seguin *Inégalités de niveau de vie et pauvreté*, 2012

1. Répartition de la population selon le niveau de vie en 2009

Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n'est pas étudiante.

Lecture : D1 à D9 désignent les 9 déciles de niveaux de vie, seuils qui partagent la population en 10 sous-populations d'effectifs égaux. 70 % des personnes vivent avec moins de 2 010 euros par mois.

Sources : Insee ; DGFiP ; Cnaf ; Cnav ; CCMSA, enquête Revenus fiscaux et sociaux 2009.
Incomes in France

See Houdré, Missègue & Seguin \textit{Inégalités de niveau de vie et pauvreté}, 2012

2. Évolution du niveau de vie médian selon la situation sur le marché du travail

Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n’est pas étudiante.

Lecture : de 1996 à 2009, le niveau de vie médian des personnes ayant un emploi augmente de 20 %, soit une progression de 1,4 % en moyenne par an.

Sources : Insee ; DGI, enquêtes Revenus fiscaux et sociaux rétrop- lées 1996 à 2004 - Insee ; DGFiP ; Cnaf ; Cnav ; CCMSA, enquêtes Revenus fiscaux et sociaux 2005 à 2009.
Incomes in France

See Houdré, Missègue & Seguin *Inégalités de niveau de vie et pauvreté*, 2012

3. Évolution du niveau de vie médian selon quelques configurations familiales

Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n’est pas étudiante.

Lecture : de 1996 à 2009, le niveau de vie médian des personnes vivant en couple avec 3 enfants ou plus augmente de 26,7 %, soit une progression de 1,8 % en moyenne par an.

Sources : Insee ; DGI, enquêtes Revenus fiscaux et sociaux rétropôlées 1996 à 2004 - Insee ; DGFiP ; Cnaf ; Cnav ; CCMSA, enquêtes Revenus fiscaux et sociaux 2005 à 2009.
# Incomes in France

See Houdré, Missègue & Seguin *Inégalités de niveau de vie et pauvreté*, 2012

## 4. Contribution à l’augmentation de la pauvreté selon l’activité des personnes

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th></th>
<th>2009</th>
<th></th>
<th>Contribution à l’augmentation du nombre de personnes pauvres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensemble des personnes (milliers)</td>
<td>Pauvreté au seuil de 60 % de la médiane</td>
<td>Ensemble des personnes (milliers)</td>
<td>Pauvreté au seuil de 60 % de la médiane</td>
<td>(%)</td>
</tr>
<tr>
<td>Actifs de 18 ans ou plus</td>
<td>27 687</td>
<td>2 634</td>
<td>9,5</td>
<td>27 726</td>
<td>2 796</td>
</tr>
<tr>
<td>Personnes en emploi</td>
<td>25 530</td>
<td>1 863</td>
<td>7,3</td>
<td>25 050</td>
<td>1 866</td>
</tr>
<tr>
<td>Chômeurs</td>
<td>2 156</td>
<td>772</td>
<td>35,8</td>
<td>2 677</td>
<td>930</td>
</tr>
<tr>
<td>Inactifs de 18 ans ou plus</td>
<td>19 063</td>
<td>2 873</td>
<td>15,1</td>
<td>19 278</td>
<td>2 990</td>
</tr>
<tr>
<td>Étudiants</td>
<td>1 789</td>
<td>324</td>
<td>18,1</td>
<td>1 726</td>
<td>351</td>
</tr>
<tr>
<td>Retraités</td>
<td>12 960</td>
<td>1 283</td>
<td>9,9</td>
<td>13 163</td>
<td>1 308</td>
</tr>
<tr>
<td>Autres inactifs</td>
<td>4 315</td>
<td>1 266</td>
<td>29,3</td>
<td>4 389</td>
<td>1 331</td>
</tr>
<tr>
<td>Enfants de moins de 18 ans</td>
<td>13 436</td>
<td>2 328</td>
<td>17,3</td>
<td>13 475</td>
<td>2 387</td>
</tr>
<tr>
<td><strong>Ensemble de la population</strong></td>
<td>60 186</td>
<td>7 836</td>
<td>13</td>
<td>60 479</td>
<td>8 173</td>
</tr>
</tbody>
</table>

*Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n’est pas étudiante. Lecture : entre 2008 et 2009, le nombre d’actifs de 18 ans et plus en situation de pauvreté passe de 2,634 millions de personnes à 2,796 millions de personnes. Cette évolution contribue à hauteur de 48 % à l’augmentation totale de la population pauvre. Sources : Insee ; DGFIP ; Cnaf ; Cnav ; CCMSA, enquêtes Revenus fiscaux et sociaux 2008 et 2009.*
Incomes in France

See Houdré, Missègue & Seguin *Inégalités de niveau de vie et pauvreté*, 2012

### 9. Décomposition du revenu disponible du ménage selon son groupe de niveau de vie

<table>
<thead>
<tr>
<th>Type de revenus perçus</th>
<th>Modestes 1</th>
<th>Intermédiaires</th>
<th>Aisés 5</th>
<th>Ensemble 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Salaires et allocations chômage</td>
<td>43,1</td>
<td>60,3</td>
<td>68,7</td>
<td>66,3</td>
</tr>
<tr>
<td>Revenus d’activité indépendants</td>
<td>2,3</td>
<td>2,2</td>
<td>2,9</td>
<td>5,7</td>
</tr>
<tr>
<td>Pensions et retraites</td>
<td>26,8</td>
<td>28,3</td>
<td>23,7</td>
<td>23,2</td>
</tr>
<tr>
<td>Revenus du patrimoine</td>
<td>3,2</td>
<td>4,4</td>
<td>6,4</td>
<td>11,3</td>
</tr>
<tr>
<td>Transferts et prélèvements 2</td>
<td>24,5</td>
<td>4,8</td>
<td>-1,7</td>
<td>-6,6</td>
</tr>
</tbody>
</table>

1. Nets de CSG et de CRDS.
2. Prestations sociales nettes de CRDS (allocations familiales, allocations logement, minima sociaux) auxquelles sont retranchés les impôts directs suivants : impôts sur le revenu, taxe d’habitation, prélèvements libératoires sur valeurs mobilières.

Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n’est pas étudiante.

Lecture : Les revenus du patrimoine représentent 6,4 % du revenu disponible des ménages du groupe 3.

Sources : Insee ; DGFiP ; Cnaf ; Cnav ; CCMSA, enquête Revenus fiscaux et sociaux 2009.
## Incomes in France

See Houdré, Missègue & Seguin *Inégalités de niveau de vie et pauvreté*, 2012

### 2. Niveau de vie annuel et indicateurs d’inégalité de 1996 à 2009

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D5 (médian)</td>
<td>16 070</td>
<td>16 110</td>
<td>16 470</td>
<td>16 700</td>
<td>17 000</td>
<td>17 410</td>
<td>17 880</td>
<td>17 830</td>
<td>17 740</td>
<td>18 030</td>
<td>18 300</td>
<td>18 690</td>
<td>19 000</td>
<td>19 080</td>
</tr>
<tr>
<td>Indicateurs d’inégalité</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D9/D1</td>
<td>3,5</td>
<td>3,5</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
<td>3,4</td>
</tr>
<tr>
<td>D9/D5</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
<td>1,9</td>
</tr>
<tr>
<td>D5/D1</td>
<td>1,9</td>
<td>1,9</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
<td>1,8</td>
</tr>
<tr>
<td>S20 (%)</td>
<td>9,0</td>
<td>9,0</td>
<td>9,2</td>
<td>9,1</td>
<td>9,1</td>
<td>9,3</td>
<td>9,3</td>
<td>9,3</td>
<td>9,1</td>
<td>9,0</td>
<td>9,0</td>
<td>9,0</td>
<td>8,9</td>
<td></td>
</tr>
<tr>
<td>S50 (%)</td>
<td>31,1</td>
<td>31,0</td>
<td>31,2</td>
<td>30,9</td>
<td>30,8</td>
<td>30,8</td>
<td>31,1</td>
<td>31,2</td>
<td>31,2</td>
<td>31,0</td>
<td>30,7</td>
<td>30,7</td>
<td>30,9</td>
<td>30,7</td>
</tr>
<tr>
<td>S80 (%)</td>
<td>63,0</td>
<td>63,0</td>
<td>63,0</td>
<td>62,3</td>
<td>62,0</td>
<td>62,1</td>
<td>62,3</td>
<td>62,4</td>
<td>62,4</td>
<td>62,1</td>
<td>61,6</td>
<td>61,8</td>
<td>61,7</td>
<td>61,8</td>
</tr>
<tr>
<td>(100-S80)/S20</td>
<td>4,1</td>
<td>4,1</td>
<td>4,0</td>
<td>4,1</td>
<td>4,2</td>
<td>4,2</td>
<td>4,1</td>
<td>4,0</td>
<td>4,0</td>
<td>4,2</td>
<td>4,3</td>
<td>4,3</td>
<td>4,3</td>
<td>4,3</td>
</tr>
<tr>
<td>Indice de Gini</td>
<td>0,279</td>
<td>0,279</td>
<td>0,276</td>
<td>0,284</td>
<td>0,286</td>
<td>0,286</td>
<td>0,281</td>
<td>0,280</td>
<td>0,281</td>
<td>0,286</td>
<td>0,289</td>
<td>0,289</td>
<td>0,289</td>
<td>0,290</td>
</tr>
</tbody>
</table>

Champ : France métropolitaine, personnes vivant dans un ménage dont le revenu déclaré au fisc est positif ou nul et dont la personne de référence n’est pas étudiante.

Lecture : en 2009, la moitié des personnes disposent d’un niveau de vie annuel inférieur à 19 080 euros. Le rapport entre le niveau de vie plancher des 10 % des personnes les plus aisées et le niveau de vie plafond des 10 % les plus modestes s’élève à 3,4. Les 20 % les plus pauvres ont 8,9 % de la masse des niveaux de vie (S20). Les 20 % les plus aisées ont 38,2 % de la masse des niveaux de vie (1-S80).

Income?

Income? Micro vs macro

Piketty *Capital in the Twenty-First Century*, 2014,
Income? Micro vs macro

Piketty *Capital in the Twenty-First Century*, 2014,
To compare various household incomes

- Oxford scale (OECD equivalent scale)
  - 1.0 to the first adult
  - 0.7 to each additional adult (aged 14, and more)
  - 0.5 to each child

- OECD-modified equivalent scale (late 90s by eurostat)
  - 1.0 to the first adult
  - 0.5 to each additional adult (aged 14, and more)
  - 0.3 to each child

- More recent OECD scale
- square root of household size
# Income? Micro vs macro

<table>
<thead>
<tr>
<th>Household</th>
<th>OECD equivalent scale</th>
<th>OECD-modified scale</th>
<th>Square root scale</th>
</tr>
</thead>
</table>
|           | income \[
\frac{1}{1+0.7+3\times0.5}\] | income \[
\frac{1}{1+0.5+3\times0.3}\] | income \[
\frac{1}{\sqrt{5}}\] |
|           | income \[
\frac{1}{1+0.7}\] | income \[
\frac{1}{1+0.5}\] | income \[
\frac{1}{\sqrt{2}}\] |
|           | income \[
\frac{1}{1+0.7+0.5}\] | income \[
\frac{1}{1+0.5+0.3}\] | income \[
\frac{1}{\sqrt{3}}\] |
|           | income \[
\frac{1}{1+0.7+2\times0.5}\] | income \[
\frac{1}{1+0.5+2\times0.3}\] | income \[
\frac{1}{\sqrt{4}}\] |
**Income? Tax Issues**

E.g. total taxes paid by total wage

<table>
<thead>
<tr>
<th>Country</th>
<th>Single, no kids</th>
<th>Married, 2 kids</th>
<th>Country</th>
<th>Single, no kids</th>
<th>Married, 2 kids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>28.3%</td>
<td>16.0%</td>
<td>Korea</td>
<td>17.3%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Austria</td>
<td>47.4%</td>
<td>35.5%</td>
<td>Luxembourg</td>
<td>35.3%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Belgium</td>
<td>55.4%</td>
<td>40.3%</td>
<td>Mexico</td>
<td>18.2%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Canada</td>
<td>31.6%</td>
<td>21.5%</td>
<td>Netherlands</td>
<td>38.6%</td>
<td>29.1%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>43.8%</td>
<td>27.1%</td>
<td>New Zealand</td>
<td>20.5%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Denmark</td>
<td>41.4%</td>
<td>29.6%</td>
<td>Norway</td>
<td>37.3%</td>
<td>29.6%</td>
</tr>
<tr>
<td>Finland</td>
<td>44.6%</td>
<td>38.4%</td>
<td>Poland</td>
<td>43.6%</td>
<td>42.1%</td>
</tr>
<tr>
<td>France</td>
<td>50.1%</td>
<td>41.7%</td>
<td>Portugal</td>
<td>36.2%</td>
<td>26.6%</td>
</tr>
<tr>
<td>Germany</td>
<td>51.8%</td>
<td>35.7%</td>
<td>Slovak Republic</td>
<td>38.3%</td>
<td>23.2%</td>
</tr>
<tr>
<td>Greece</td>
<td>38.8%</td>
<td>39.2%</td>
<td>Spain</td>
<td>39.0%</td>
<td>33.4%</td>
</tr>
<tr>
<td>Hungary</td>
<td>50.5%</td>
<td>39.9%</td>
<td>Sweden</td>
<td>47.9%</td>
<td>42.4%</td>
</tr>
<tr>
<td>Iceland</td>
<td>29.0%</td>
<td>11.0%</td>
<td>Switzerland</td>
<td>29.5%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Ireland</td>
<td>25.7%</td>
<td>8.1%</td>
<td>Turkey</td>
<td>42.7%</td>
<td>42.7%</td>
</tr>
<tr>
<td>Italy</td>
<td>45.4%</td>
<td>35.2%</td>
<td>United Kingdom</td>
<td>33.5%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Japan</td>
<td>27.7%</td>
<td>24.9%</td>
<td>United States</td>
<td>29.1%</td>
<td>11.9%</td>
</tr>
</tbody>
</table>

Source: OECD, 2005 data
Income? Tax Issues
via Landais, Piketty & Saez *Pour une révolution fiscale*, 2011

---

Un système fiscal faiblement progressif... ou franchement régressif?

<table>
<thead>
<tr>
<th>Classes populaires</th>
<th>Classes moyennes</th>
<th>Classes aisées</th>
<th>Très aisées</th>
</tr>
</thead>
<tbody>
<tr>
<td>Les 50% des revenus les plus bas (revenu brut mensuel individuel compris entre 1 000€ et 2 200€)</td>
<td>Les 40% du milieu (revenu brut compris entre 2 300€ et 5 100€)</td>
<td>Les 10% les plus hauts (revenu brut supérieur à 5 200€)</td>
<td>Les 1% les plus hauts (revenu brut supérieur à 14 000€)</td>
</tr>
</tbody>
</table>

Taux global d'imposition (tous prélèvements) par groupe de revenus au sein de la population 18-65 ans travaillant à au moins 80% du plein temps. P0-10 désigne les percentiles 0 à 10, cäd les 10% des personnes avec les revenus les plus faibles, P10-20 les 10% suivants, ..., P99.999-100 désignent les .001% les plus riches. La moyenne générale d'imposition est de 47% en moyenne. Les taux d'imposition croissent légèrement avec le revenu jusqu'au 95e percentile puis baissent avec le revenu aux 9% les plus riches.

Lecture: le graphique montre le taux global d'imposition (incluant tous les prélèvements) par groupe de revenus au sein de la population 18-65 ans travaillant à au moins 80% du plein temps. P0-10 désigne les percentiles 0 à 10, cäd les 10% des personnes avec les revenus les plus faibles, P10-20 les 10% suivants, ..., P99.999-100 désignent les .001% les plus riches. La moyenne générale d'imposition est de 47% en moyenne. Les taux d'imposition croissent légèrement avec le revenu jusqu'au 95e percentile puis baissent avec le revenu aux 9% les plus riches.

Source: C. Landais, T. Piketty & E. Saez, Pour une révolution fiscale, chapitre 1, p.50
Voir www.revolution-fiscale.fr, annexe au chapitre 1 (où nous montrons aussi les chiffres pour la population adulte totale).
Income? Tax Issues

via Landais, Piketty & Saez [Pour une révolution fiscale, 2011]
International Comparisons, Purchasing Power Parity

See The Economist, The Big Mac index, 2014
### International Comparisons, Purchasing Power Parity

See The Economist [The Big Mac index](https://www.economist.com/), 2014, via Flachaire

<table>
<thead>
<tr>
<th>Country</th>
<th>Price in local currency</th>
<th>exchange rate Actual dollar exchange rate</th>
<th>Price in dollars$^\dagger$</th>
<th>PPP Implied PPP of the dollars$^\ddagger$</th>
<th>Price in dollars</th>
<th>Under(-)/over(+) valuation against the dollar, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4.80</td>
<td>1.00</td>
<td>4.80</td>
<td>1.00</td>
<td>4.80</td>
<td>0.40</td>
</tr>
<tr>
<td>Australia</td>
<td>5.10</td>
<td>1.06</td>
<td>4.81</td>
<td>1.06</td>
<td>4.80</td>
<td>2.71</td>
</tr>
<tr>
<td>Britain</td>
<td>2.89</td>
<td>0.59</td>
<td>4.93</td>
<td>0.60</td>
<td>4.80</td>
<td>9.51</td>
</tr>
<tr>
<td>Canada</td>
<td>5.64</td>
<td>1.07</td>
<td>5.25</td>
<td>1.18</td>
<td>4.80</td>
<td>-43.14</td>
</tr>
<tr>
<td>China</td>
<td>16.90</td>
<td>6.20</td>
<td>2.73</td>
<td>3.52</td>
<td>4.80</td>
<td>-63.56</td>
</tr>
<tr>
<td>India</td>
<td>105</td>
<td>60.09</td>
<td>1.75</td>
<td>21.90</td>
<td>4.80</td>
<td>61.79</td>
</tr>
<tr>
<td>Norway</td>
<td>48</td>
<td>6.19</td>
<td>7.76</td>
<td>10.01</td>
<td>4.80</td>
<td>-51.41</td>
</tr>
<tr>
<td>South Africa</td>
<td>24.50</td>
<td>10.51</td>
<td>2.33</td>
<td>5.11</td>
<td>4.80</td>
<td>24.17</td>
</tr>
<tr>
<td>Sweden</td>
<td>40.7</td>
<td>6.84</td>
<td>5.95</td>
<td>8.49</td>
<td>4.80</td>
<td>-66.09</td>
</tr>
<tr>
<td>Switzerland</td>
<td>6.16</td>
<td>0.90</td>
<td>6.83</td>
<td>1.28</td>
<td>4.80</td>
<td>42.36</td>
</tr>
<tr>
<td>Ukraine</td>
<td>19</td>
<td>11.69</td>
<td>1.63</td>
<td>3.96</td>
<td>4.80</td>
<td>9.51</td>
</tr>
<tr>
<td>France</td>
<td>3.90</td>
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<td>5.25</td>
<td>0.81</td>
<td>4.80</td>
<td>3.05</td>
</tr>
<tr>
<td>Germany</td>
<td>3.67</td>
<td>0.74</td>
<td>4.94</td>
<td>0.77</td>
<td>4.80</td>
<td>2.49</td>
</tr>
<tr>
<td>Spain</td>
<td>3.65</td>
<td>0.74</td>
<td>4.91</td>
<td>0.76</td>
<td>4.80</td>
<td>-66.09</td>
</tr>
</tbody>
</table>

$^\dagger$ Big Mac price in $ = $Big Mac price in local currency $/$ actual $ exchange rate

$^\ddagger$ Implied PPP of the $ = $Big Mac price in local currency $/$ Big Mac price in the U.S. (4.80)
International Comparisons, Purchasing Power Parity

Piketty *Capital in the Twenty-First Century*, 2014, wealth, income, wage
From Income and Wealth to Human Development

The Human Development Index (HDI, see [wikipedia]) is a composite statistic of life expectancy, education, and income indices used to rank countries into four tiers of human development. It was created by Indian economist Amartya Sen and Pakistani economist Mahbub ul Haq in 1990, and was published by the United Nations Development Programme.

The HDI is a composite index at value between 0 (awful) and 1 (perfect) based on the mixing of three basic indices aiming at representing on an equal footing measures of helth, education and standard of living.
HDI Computation, new method (2010)

Published on 4 November 2010 (and updated on 10 June 2011), starting with the 2010 Human Development Report the HDI combines three dimensions:

- A long and healthy life: Life expectancy at birth
- An education index: Mean years of schooling and Expected years of schooling
- A decent standard of living: GNI per capita (PPP US$)

In its 2010 Human Development Report, the UNDP began using a new method of calculating the HDI. The following three indices are used.

The idea is to define a $x$ index as $x_{\text{index}} = \frac{x - \min (x)}{\max (x) - \min (x)}$.

1. Health, Life Expectancy Index (LEI) = $\frac{\text{LE} - 20}{85 - 20}$

where LE is Life Expectancy at birth
HDI Computation, new method (2010)

2. **Education**, Education Index (EI) = \( \frac{\text{MYSI} + \text{EYSI}}{2} \)

2.1 Mean Years of Schooling Index (MYSI) = \( \frac{\text{MYS}}{15} \)

where MYS is the Mean years of schooling (Years that a 25-year-old person or older has spent in schools)

2.2 Expected Years of Schooling Index (EYSI) = \( \frac{\text{EYS}}{18} \)

EYS: Expected years of schooling (Years that a 5-year-old child will spend with his education in his whole life)

3. **Standard of Living** Income Index (II) = \( \frac{\log(\text{GNIpc}) - \log(100)}{\log(75,000) - \log(100)} \)

where GNIpc: Gross national income at purchasing power parity per capita

Finally, the HDI is the geometric mean of the previous three normalized indices:

\[ \text{HDI} = \sqrt[3]{\text{LEI} \cdot \text{EI} \cdot \text{II}}. \]
Economic Well-Being


See also Jank & Owens [Inequality in the United States, 2013], for stats and graphs about inequalities in the U.S., in terms of health, education, crime, etc.
Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013

![Chart showing Median Family Income and Debt](image)

Source: Survey of Consumer Finances, Federal Reserve Bulletin
Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013

![Graph showing ratio of debt payments to income](image)

Source: Survey of Consumer Finances, Federal Reserve Bulletin
Various Aspects of Inequalities in the U.S.

Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013

![Graph showing Women's Earnings as a Percentage of Men's Earnings](image-url)
Various Aspects of Inequalities in the U.S.

Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013
Various Aspects of Inequalities in the U.S.

Jank & Owens "Inequality in the United States", 2013

Diagram showing the percentage of various issues:
- Inadequate housing: 8.4%
- Household food insecurity: 5.8%
- Did not get medical care due to cost: 9.5%
- Smoking: 4.1%
- Obesity: 27.1%
- High school: 16.1%
- Any college: 21.2%
- Less than high school: 17.0%
- High school: 13.7%
- Any college: 25.1%
- Less than high school: 26.1%
- High school: 31.6%
- Any college: 33.3%
Various Aspects of Inequalities in the U.S.


![Chart showing life expectancy at age 25 by gender and education level](image-url)
Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013
Various Aspects of Inequalities in the U.S.

Jank & Owens *Inequality in the United States*, 2013

The diagram illustrates the percentage distribution of children born in the bottom quartile and those born in the top quartile across different decades. The data shows a consistent trend with a higher percentage of children in the bottom quartile compared to the top quartile, indicating a significant disparity in economic opportunities and outcomes. The chart provides a visual representation of the inequality in the United States, emphasizing the challenges faced by the lower income brackets.
Various Aspects of Inequalities in the U.S.

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