



THE

ECONOMICS

OF

INEQUALITY

TRANSLATED BY ARTHUR GOLDHAMMER

THOMAS

PIKETTY



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# THE ECONOMICS OF INEQUALITY

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Thomas Piketty

*Translated by Arthur Goldhammer*

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## *Note to the Reader*

This book was written and first published in 1997. It was subsequently updated for several new editions, most recently in 2014. It should be noted, however, that the overall structure has not been changed since 1997 and that the work essentially reflects the state of knowledge and data available at that time. As a consequence, this book does not fully take into account the results of the past fifteen years of international research on the historical dynamics of inequality. In particular, recent research has demonstrated that there are important historical variations in the capital-income ratios and the capital shares in national income, and not only in the concentration of capital ownership at the individual level. That is, the macroeconomic or functional distribution of national income and national wealth is substantially less stable than what I was taught in graduate school and what I reported in this book. The large historical variations in top income shares also receive insufficient treatment in the present book, because the corresponding research became fully available only recently. Readers interested in a detailed account of that more recent research and the lessons that can be drawn from it are advised to consult the World Top Incomes Database (available online) and my book *Capital in the Twenty-First Century* (Belknap Press, 2014).

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## Introduction

The question of inequality and redistribution is central to political conflict. Caricaturing only slightly, two positions have traditionally been opposed.

The right-wing free-market position is that, in the long run, market forces, individual initiative, and productivity growth are the sole determinants of the distribution of income and standard of living, in particular of the least well-off members of society; hence government efforts to redistribute wealth should be limited and should rely on instruments that interfere as little as possible with the virtuous mechanisms of the market—instruments such as Milton Friedman's negative income tax (1962).

The traditional left-wing position, passed down from nineteenth-century socialist theory and trade union practice, holds that the only way to alleviate the misery of the poorest members of capitalist society is through social and political struggle, and that the redistributive efforts of government must penetrate to the very heart of the productive process. Opponents of the system must challenge the market forces that determine the profits of capitalists and the unequal remuneration of workers, for instance, by nationalizing the means of production or setting strict wage schedules. Merely collecting taxes to finance transfers to the poor is not enough.

This left-right conflict shows that disagreements about the concrete form and desirability of redistributive policy are not necessarily due to contradictory principles of social justice but rather to contradictory analyses of the economic and social mechanisms that produce inequality. Indeed, there exists a certain consensus in regard to the fundamental principles of social justice: if inequality is due, at least in part, to factors beyond the control of individuals, such as inequality of initial endowment owing to inheritance or luck (which cannot be attributed to individual effort), then it is just for the state to seek in the most efficient way possible to improve the lot of the least well-off (that is, of those who have had to contend with the most adverse factors). Modern theories of social justice have expressed this idea in the form of a "maximin" principle, according to which a just society ought to maximize the minimum opportunities and conditions available within the social system. The maximin principle was formally introduced by Serge-Christophe Kolm (1972) and John Rawls (1972), but one finds it more or less explicitly formulated in much earlier works—for example, in the traditional ideal that everyone should be guaranteed the broadest possible range of equal rights, a concept widely accepted at the theoretical level. Often, the real conflict is about the most effective way to improve the actual standard of living of the least well-off and about the extent of the rights that can be granted to all in the name of abstract principles of social justice.

Hence only a detailed analysis of the socioeconomic mechanisms that generate inequality can sort out the competing truth claims of these two extreme versions of redistribution and perhaps contribute to the elaboration of a more just and effective set of policies. The purpose of this book is to present the current state of knowledge as a first step toward that end.

The contrast between the left- and right-wing views sketched above highlights the importance of different systems of redistribution. Should the market and its price system be allowed to operate freely, with redistribution effected solely by means of taxes and transfers, or should one attempt

alter the structure of the market forces that generate inequality? In the jargon of economics, the contrast corresponds to the distinction between *pure redistribution* and *efficient redistribution*. *Pure redistribution* occurs when the market equilibrium is “Pareto efficient,” meaning that it is impossible to alter the allocation of resources and output in such a way that everyone gains, yet social justice nevertheless calls for redistribution from the better-off to the worse-off. *Efficient redistribution* occurs when the existence of market imperfections allows for direct intervention in the production process to achieve Pareto-efficient improvements in the allocation and equitable distribution of resources.

In contemporary political conflict, the distinction between pure and efficient redistribution is often conflated with the distinction between redistribution on a modest scale and redistribution on a large scale. The traditional right-left conflict has grown more complicated over time, however. For instance, some on the left advocate a “guaranteed basic income” for all citizens, to be financed by taxes without direct intervention in the market. This guaranteed basic income differs from Friedman’s negative income tax solely by virtue of size. Broadly speaking, therefore, the question of how redistribution is to be achieved is separate from the question of the extent of redistribution. In this book I will try to show that it is best to treat the two questions separately, because they involve different analytic considerations and lead to different answers.

To pursue these issues further, it is useful to begin by reminding the reader of the history and extent of today’s inequality. Doing so will enable us to identify the principal sets of facts that any theory of inequality and redistribution must take into account ([Chapter 1](#)). The next two chapters ([2](#) and [3](#)) present the leading analyses of the mechanisms that produce inequality, emphasizing both the political stakes involved in the intellectual conflict between opposing theories and the observed and observable facts that can help us decide which theories are correct. [Chapter 2](#) looks first at inequality between capital and labor, a fundamental inequality that has deeply influenced the analysis of the social question since the nineteenth century. [Chapter 3](#) deals with inequality of income from labor itself, which has perhaps become (if it hasn’t always been) the central question in regard to contemporary inequality. It will then be possible to delve more deeply into the key issue, namely, the conditions under which redistribution becomes possible and the tools for achieving it ([Chapter 4](#)). Special attention will be paid to inequality and redistribution in France, although the relative paucity of available data and analyses (in sharp contrast to the attention devoted to unemployment, the “social fracture,” and other central issues of French political debate in the 1990s) will force us at times to rely mainly on studies of other countries, especially the United States, to illustrate, confirm, or refute the theories discussed.

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## *The Measurement of Inequality and Its Evolution*

What orders of magnitude can we associate with contemporary inequality? Is the income of the rich in a given country twice that of the poor? Ten times as great? Or a hundred times? How does the income gap in one country or period compare with that in other places at other times? Was the income gap in 1950 the same as in 1900 or 1800? Has inequality with respect to unemployment become the major form of inequality in the Western world in the 1990s?



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## Different Types of Income

What are the various sources of household income? [Table 1.1](#) breaks down the income of 24 million French households in 2000 into various categories: wages, self-employment income (earned, for example, by farmers, merchants, doctors, lawyers, and so on), pensions, other transfer income (family allowances, unemployment insurance, welfare), and capital income (dividends, interest, rent, etc.).

What do we learn from [Table 1.1](#)? First, 58.8 percent of total household income comes in the form of wages. If we add to this the 5.8 percent of income consisting of self-employment compensation, we find that nearly two-thirds of total household income is compensation for labor. Social income accounts for another 30 percent of the total, and for more than two-thirds of retiree income. Finally, income from household wealth (capital income such as dividends, interest, and so on) accounts for roughly 5 percent of the total. As is well known, however, capital income is not accurately reported in household income surveys. National accounts based on dividend and interest data provided by firms and banks yield a higher estimate of the share of capital income in total household income, on the order of 10 percent (INSEE, 1996b, pp. 26–29). In any case, all sources agree that labor income accounts for at least six or seven times as large a share of total household income as capital income. This is a general feature of the income distribution in all Western countries (Atkinson et al., 1995, p. 101). But the 5 to 10 percent share of household income derived from capital underestimates the share of capital income in total national income, since a substantial portion of the capital income of firms is not distributed to households (see [Chapter 2](#)).

TABLE 1.1  
Sources of household income in France, 2000 (percent)

	Wages	Self-employment income	Pensions	Transfers	Capital
Average	58.8	5.8	21.3	9.5	4.6
D1	17.9	1.7	43.2	34.2	3.1
D2	30.0	2.3	44.6	20.7	2.4
D3	38.3	2.9	40.8	15.1	2.9
D4	44.3	2.7	35.7	14.3	3.1
D5	50.6	2.6	28.9	14.6	3.4
D6	58.4	3.6	22.0	12.4	3.6
D7	63.3	3.4	19.8	10.4	3.2
D8	66.5	3.3	18.7	7.6	3.9
D9	68.6	4.6	16.6	5.6	4.6
P90–95	70.2	7.0	13.4	4.1	5.3
P95–100	63.6	16.4	8.4	2.9	8.8

Notes: "D1" represents the poorest 10 percent of households, "D2" the next 10 percent, and so on. "P95–100" represents the wealthiest 5 percent and "P90–95" the preceding 5 percent. Wages account on average for 58.8 percent of the total income of all households but only 17.9 percent of the income of the poorest 10 percent, 30.0 percent for the next 10 percent, and 63.6 percent for the wealthiest 5 percent.

Self-employment income includes profits from farming, industry, commerce, and other small business activities. Transfers include family allowances, unemployment insurance, and basic income. Capital income includes stock dividends, interest, and rent. All income figures are net of social charges (including the Generalized Social Contribution [CSG] and Contribution to Repayment of the Social Debt [CRDS]—see text).

Source: "2000 Family Budget Survey," INSEE (author's calculations).

The importance of these various types of income is obviously not the same for rich and poor. To analyze this further, it is useful to distinguish between different deciles of the income distribution: the first decile, denoted D1 in Table 1.1, includes the bottom 10 percent of the household income distribution. The second decile, D2, includes the next 10 percent, and so on, up to the top decile, D10, which represents the 10 percent of households with the highest income. To refine this description, we also use the notion of centiles: the first centile includes the bottom 1 percent of households, and so on up to the hundredth centile. Each decile includes a subgroup of the population: some 2.4 million households per decile and 240,000 per centile in the case of France in the year 2000. One can calculate various characteristics for each decile or centile: average income, for example. This should not be confused with the notion of upper income limits for each group. To capture this statistic, we use the letter P: for example, P10 represents the level of income below which we find 10 percent of all households; P90 is the upper limit below which we find 90 percent of all households; and so on. Table 1.1, P90–95 represents the subset of all households with incomes between the top of the 90th centile and the top of the 95th centile, that is, the first half of the tenth decile, whereas P95–100 represents the second half of the tenth decile, which includes the five top-earning centiles.

Table 1.1 shows that the households in D1 consist largely of modest retirees and unemployed workers: the wages they receive account on average for 18 percent of their income, while nearly 8

percent consists of social income. The share of wages in total income increases with income level while the share of retirees and unemployed decreases, until we reach the top 5 percent (P95–100) where capital income and nonwage compensation account for a substantial share of the total (I make no distinction between “wages” and “salary” throughout: both refer to income from labor). Nonwage compensation is intermediate in nature between labor income and capital income, since it remunerates both the labor of the farmer, doctor, or merchant and the capital invested in his or her business. Still, labor income continues to account for a very large share of the total income of households at the top of the distribution: the top 5 percent take more of their income in wages than in income from capital, no matter how the latter is estimated. One has to go even higher in the income hierarchy to reach a level where labor income no longer accounts for the largest share (Piketty, 2001).

## Wage Inequality

How are wages, which represent the lion's share of household income, distributed? [Table 1.2](#) describes wage inequality among full-time private-sector workers in France in 2000 (a group of some 12 million individuals).

The bottom 10 percent of the wage distribution (D1) earned on average an income roughly equal to the minimum wage, or about €890 per month (net of taxes) in 2000. The median wage (denoted P50 by definition the wage level below which lies 50 percent of the sample) was €1,400. This was higher than the average wage of the fifth decile (€1,310), since the fifth decile consists of workers between P40 and P50. It was also lower than the average wage overall, which was €1,700 in 2000, because the top half of the wage distribution is always "longer-tailed" than the bottom half, so that very high earners inevitably lift the average wage above the median. Furthermore, the best-paid 10 percent, who earn at least €2,720 per month, earn an average wage of €4,030, or nearly twice as much as the next lower 10 percent (€2,340).

One practical indicator of total wage inequality is the P90/P10 ratio, that is, the ratio of the lower limit of the tenth decile to the upper limit of the first decile. In the case of France in 2000, the P90/P10 ratio was 2,720/900 or roughly 3.0: to belong to the top-earning 10 percent, one had to make at least three times as much as the least well paid. This indicator should not be confused with the D10/D1 ratio, that is, the ratio of the average wage of the tenth decile to that of the first decile, which is by definition always higher and which in France in 2000 was 4,030/890, or 4.5: the best-paid 10 percent in France earned on average 4.5 times as much as the worst-paid 10 percent. [Table 1.2](#) also allows us to calculate the total wages paid to the top 10 percent: since the average wage of D10 was 2.37 times the average wage ( $4,030/1,700 = 2.37$ ) and the number of workers in D10 is by definition 10 percent of the total number of workers, it follows that D10 received 23.7 percent of total wages.

TABLE 1.2  
*Wage inequality in France, 2000*

Average monthly wage in euros			
Average	1,700		
D1	890	900	P10
D2	1,100		
D3	1,110		
D4	1,210		
D5	1,310	1,400	P50
D6	1,450		
D7	1,620		
D8	1,860		
D9	2,340	2,720	P90
D10	4,030		

*Note:* D1 represents the worst-paid 10 percent; D2 the next 10 percent, and so on. P10 is the limit dividing D1 and D2, P50 the limit dividing D5 and D6, and P90 the limit dividing D9 and D10. In other words, the worst paid all earned less than €900 a month, with an average income of €890, whereas the best-paid 10 percent all earned more than €2,720, with an average income of €4,030. These figures represent monthly wages excluding bonuses net of social charges (and CSG/CRDS) for full-time, private-sector workers.

*Source:* DADS (Annual declaration of social data), INSEE, 2002, p. 10.

Other indicators are also used in order to capture the overall inequality of the distribution and not just the gap between the extreme deciles: for instance, the Gini coefficient or the Theil and Atkinson indices (Morrisson, 1996, pp. 81–96). Nevertheless, interdecile indicators (such as P90/P10, D10/D90, P80/P20, etc.) are by far the simplest and most intuitive. The P90/P10 indicator has the merit of being available in reliable numbers for many countries, hence it will be cited frequently in this chapter.

For a more complete view of wage inequality, one would need to include figures for public-sector wages in addition to private-sector wages. In France, the 4.1 million full-time employees of the public sector earn slightly more on average than private-sector workers, and public-sector wages are significantly less widely dispersed: for example, the P90/P10 ratio for civil-service workers was 2.2 (INSEE, 1996d, p. 55).

### *International Comparisons*

Is a P90/P10 ratio of 3:1 typical of wage inequality everywhere? [Table 1.3](#) gives the P90/P10 ratio for fourteen OECD countries in 1990.

The table shows that France, with a P90/P10 ratio of 3.1 in 1990, occupied a middle position between Germany and the Nordic countries on the one hand and the English-speaking countries on the other. In the former, the ratio was generally around 2.5, dipping as low as 2 in Norway, 2.1 in Sweden and 2.2 in Denmark, while in the latter it was as high as 3.4 in the United Kingdom, 4.4 in Canada, and 4.5 in the United States. For all the countries shown, the figures in [Table 1.3](#) concern only full-time employees. This is an important detail, because including part-time workers (of whom there were some 3.1 million in France in 2000) systematically leads to larger P90/P10 ratios. For example, the OECD figures including intermittent and part-time workers in the United States in 1990 give a P90/P10 ratio of 5.5, but only 4.5 when these workers are left out (Katz et al., 1995, fig. 1; Lefrançois, 1997, table 1), as is the case with other countries (OECD, 1993, p. 173). In short, P90/P10 ratios range from 2 to 4.5, which is considerable variation for countries at very similar levels of economic development.

TABLE 1.3  
*Wage inequality in OECD countries in 1990, measured by the P90/P10 ratio*

Country	Ratio between best-paid and worst-paid 10 percent
Norway	2.0
Sweden	2.1
Denmark	2.2
Netherlands	2.3
Belgium	2.3
Italy	2.4
Germany	2.5
Portugal	2.7
Japan	2.8
France	3.1
United Kingdom	3.4
Austria	3.5
Canada	4.4
United States	4.5

*Note:* For example, in Germany the best-paid 10 percent earn at least 2.5 times as much as the worst-paid 10 percent.

*Sources:* OECD, 1993, pp. 170–173; US data, Katz et al., 1995, fig. 1.

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## Income Inequality

How does this inequality between workers translate into inequality of household income? The answer is not simple, because one has to add nonwage compensation of the self-employed (some 3 million individuals in France in 2000), social transfers, and capital income, and then individual wage earners, non-wage earners, and their children have to be grouped together to form households. [Table 1.4](#) presents the results for France in 2000.

The average monthly household income in France was €2,280, but 10 percent of households had less than €790 of monthly income, while 10 percent had more than €4,090, for a P90/P10 ratio of total household income of 5.2 (compare with the P90/P10 ratio for wages of 3.0). The top 5 percent of households, with monthly income above €5,100, had an average monthly income of €7,270.

TABLE 1.4  
*Income inequality in France, 2000*

Monthly income in euros			
Average	2,280		
D1	540	790	P10
D2	930	1,070	P20
D3	1,190	1,330	P30
D4	1,480	1,610	P40
D5	1,760	1,920	P50
D6	2,080	2,240	P60
D7	2,430	2,630	P70
D8	2,880	3,150	P80
D9	3,570	4,090	P90
P90–95	4,520	5,100	P95
P95–100	7,270		

*Notes:* See [Tables 1.1](#) and [1.2](#). The poorest 10 percent of households have income of less than €790 per month, averaging €540. The wealthiest 5 percent have income above €5,100 per month, with an average of €7,300. Monthly income calculated by dividing annual income by twelve, including wages, self-employment income, pensions, transfers, and capital income. Income is net of social charges (including CSG/CRDS) but not of other direct taxes (income tax, housing tax).

*Source:* “2000 family budget survey,” INSEE (author’s calculations).

The fact that inequality of household income is greater than wage inequality is quite common, and it was made worse in France in 2000 by the fact that many households included unemployed workers. In general, however, the explanation of this difference depends on factors other than unemployment.

First, nonwage income and especially capital income are much more unequally distributed than wages. Typically, the share of capital income claimed by the wealthiest 10 percent of households is of the order of 50 percent of total capital income, as is the share of total wealth owned by the wealthiest 10 percent, whereas the share of total wages going to the highest-paid 10 percent falls between 20 and 30 percent (23.7 percent in France in 2000). The share of capital income in total income is low, however, so the share of income going to the wealthiest 10 percent of households was just 26 percent of total household income in France in 2000. These very large disparities of wealth, much greater than wage and income inequalities, are also much less well known. Inequalities of wealth cannot be

explained solely by inequalities of present and past income. Behavioral differences with respect to savings and accumulation also play a part (accounting for nearly half of wealth inequality in 1999 according to Lollivier and Verger [1996]). These specific difficulties of accounting for wealth inequality explain why measures of inequality are often limited to inequalities of wages and income.

But the main reason why income inequality is always significantly greater than wage inequality is totally different: it comes from the fact that a majority of low-income households are households living on small pensions, often consisting of one person, whereas high-income households are generally couples, often with two earners and children living at home. If one were to calculate the P90/P10 ratio not for household income but for household income adjusted for household size in order to measure inequality in standards of living rather than of income as such, one would find a ratio of 4.3–4.4 rather than 5.2, depending on how the adjustment was made (INSEE, 1996b, p. 16). If one is interested in disposable income, then the effect of taxes on income also needs to be taken into account, which the figures in [Table 1.4](#) do not do. This would reduce the P90/P10 ratio by about 10 percent since the income tax paid by a household with income at the P90 level, about €4,090 per month, would average about 10 percent, while households at the P10 level pay no income tax (INSEE, 1995, p. 19). (On the redistributive effect of taxes and transfers, see [Chapter 4](#).) We would thus arrive at a ratio for disposable household income adjusted for household size of 3.5–4, slightly greater than wage inequality.

### *International Comparisons*

How does a P90/P10 ratio of 3.5–4 compare with what we see in other countries? International comparisons are unfortunately much more difficult to do for household incomes than for wages: it is often difficult to include exactly the same income categories in all countries. Culminating in an ambitious effort to compile comparable data for many countries, the Luxembourg Income Study (LIS) was published in 1995 at the behest of the OECD (Atkinson et al., 1995).

The P90/P10 ratios in [Table 1.5](#) are for disposable income, that is, income accounting for taxes and transfers, and adjusted for household size. France is assigned a ratio of 3.5 (and not 5.2 as in [Table 1.4](#)) for that reason, along with the fact that the OECD study used 1984 fiscal data rather than the “Family Budget Survey” of 2000. The same international contrast observed earlier in relation to wage inequalities occurs again here: Germany, Belgium, Sweden, and Norway, which had wage ratios of 2.5, have income ratios of 2.7–3, while the United Kingdom, United States, and Canada, which had wage ratios of 3.5–4.5, have income ratios of 3.8–5.9, with the United States topping the chart at 5.9. France again occupies an intermediate position.

TABLE 1.5  
*Income inequality in OECD countries*

Country	P90/P10 ratio
Sweden	2.7
Belgium	2.8
Norway	2.9
Germany	3.0
France	3.5
United Kingdom	3.8



Italy	4.0
Canada	4.0
United States	5.9

*Notes:* In Sweden, to belong to the top 10 percent in income, one must earn at least 2.7 times as much as anyone in the bottom 10 percent. The table shows the P90/P10 ratio for disposable income adjusted for household size (Atkinson et al., 1995). Years: 1984 (Germany, France), 1985 (Australia), 1986 (US, Italy, Norway, UK), 1987 (Canada, Sweden), 1988 (Belgium).

*Source:* LIS, Atkinson, Rainwater, and Smeeding, 1995, p. 40.

It is extremely difficult to compare these figures with the few available inequality indicators from outside the developed world. Conditions vary widely: the South American countries stand out for having even higher levels of inequality than the most inegalitarian Western countries, whereas most Asian countries, as well as the less-developed countries of Africa, generally have levels of income inequality equal to or less than those found in the least inegalitarian Western countries (Morrisson, 1996, pp. 145–172). It is also difficult to compare levels of inequality found in the Communist bloc because income often includes compensation in kind in one form or another and is difficult to quantify in monetary terms. The available indicators seem to show real income gaps quite comparable to the average in capitalist countries and generally greater than in the more egalitarian capitalist countries (Morrisson, 1996, p. 140).

## Inequalities in Time and Space

Are P90/P10 wage and income ratios of 3:1 or 4:1 between people living in one country at one point in time negligible compared with the gap between a citizen of an advanced country in 1990 and of the same country in 1900 or a citizen of India in 1990? Table 1.6 indicates the average purchasing power of a French blue-collar worker and of an executive from 1870 to 1994 measured in 1994 francs (that is, accounting for changes in the cost of living).

These figures should obviously be viewed cautiously: the further back we go in time, the more problematic the idea of a synthetic cost index becomes, because modes of consumption change so much. Still, orders of magnitude may be taken as significant: between 1870 and 1994, the purchasing power of a worker increased roughly eightfold. This spectacular increase in standard of living during the last century of capitalism was more or less comparable in all the Western countries. For example, the hourly wage of an American worker increased by a factor of eleven between 1870 and 1990, for an average rate of increase of about 2 percent per year (Duménil and Lévy, 1996, chap. 15), which is approximately the same as in France if we take the decrease in annual hours of work into account.

TABLE 1.6  
*Inequality in France from 1870–1994*

Year	Blue-collar workers	White-collar workers	Middle managers	Executives
1870	960			4,360
1910	1,760			6,820
1950	2,200	2,615	3,740	7,330
1994	7,250	7,180	10,740	20,820

*Note:* Purchasing power in 1994 francs of average net monthly wages of different categories of workers.

*Sources:* For 1950 and 1994, DADS, INSEE, 1996a, pp. 44, 56. For blue-collar workers in 1870 and 1910, Lhomme, 1968, p. 46. The 1910–1950 comparison is based on Kuczynski's series for wages and General Statistics of France (SGF) for prices (INSEE, 1994, pp. 142, 152). Wage ratios of executives and workers of 3.9 in 1910 and 4.6 in 1870 were calculated on the basis of ratios between laborers, skilled workers, and executives in Morrisson, 1991, p. 154.

This 10:1 ratio between 1990 and 1870 is approximately equivalent to, or slightly less than, the ratio of the average income of a Western citizen in 1990 to that of a Chinese or Indian citizen, using the best available estimates of purchasing power parity (Drèze and Sen, 1995, p. 213). The gaps in GDP per capita, which are often four to five times greater, don't actually make much sense, because they are expressed in terms of official exchange rates with the advanced economies, and these ratios are a very poor gauge of actual differences in purchasing power. A 10:1 gap between the average standard of living in the wealthiest countries and that in the poorest countries probably comes close to reality.

To sum up, inequality between the top 10 percent and bottom 10 percent in a given country, as measured by the P90/P10 ratio, is on the order of 3–4, and this is two to three times smaller than the gap in standard of living between the end of the nineteenth century and the end of the twentieth century and than the gap between the richest and poorest countries. These two forms of inequality are

therefore not incomparable, even if one is undeniably larger than the other.

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## The Historical Evolution of Inequality

Are these 3:1 ratios between top and bottom income groups in one country and 10:1 ratios between rich and poor countries destined to remain steady, increase, or decrease?

Although Marx and other nineteenth-century social theorists did not quantify inequality this way, they were certain of the answer: the logic of the capitalist system was to increase inequality between social classes—between capitalists and proletarians—constantly. The gap between rich and poor countries would also grow. These predictions were soon challenged, however, even within the socialist camp. In the 1890s Eduard Bernstein insisted that Marx's proletarianization thesis did not hold because the social structure was clearly becoming more diverse and wealth was spreading to even broader segments of society.

It was not until after World War II, however, that it became possible to measure the decrease in wage and income inequality in the Western countries. New predictions were soon forthcoming. The most celebrated was that of Simon Kuznets (1955): according to Kuznets, inequality would everywhere be described by an inverted U curve. In the first phase of development, inequality would increase as traditional agricultural societies industrialized and urbanized. This would be followed by a second phase of stabilization, and then a third phase in which inequality would substantially decrease. This pattern—of growing inequality in the nineteenth century followed by declining inequality after that, has been well studied in the case of the United Kingdom (Williamson, 1985) and the United States (Williamson and Lindert, 1980). In the latter, for example, one finds that the share of total wealth owned by the wealthiest 10 percent rose from 50 percent in 1770 to a maximum of 70–80 percent in the late nineteenth century, before declining to about 50 percent, a level typical of contemporary wealth inequality. The available sources suggest that the pattern was similar in all the Western countries.

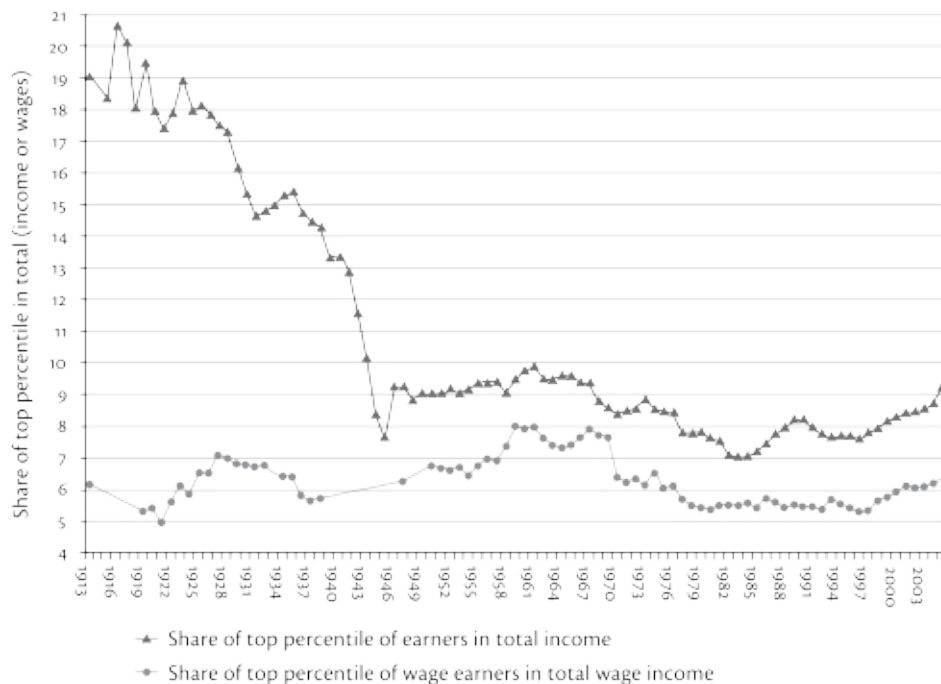


FIGURE 1.1. The fall of rentiers and the stability of the wage hierarchy in France, 1913–2005. Sources: Piketty, 2001; Landais, 2007

The most recent research on France and the United States (Piketty, 2001; Piketty and Saez, 2001; Landais, 2007) shows, however, that the sharp decrease in inequality observed over the course of the

twentieth century is in no sense the consequence of a “natural” economic process. Only inequality of wealth decreased (the wage hierarchy showing no tendency toward compression over the long run) and this decrease was due mainly to shocks incurred by wealth owners in the period 1914–1945 (war, inflation, the Great Depression). The concentration of wealth and capital income did not return to the astronomical level achieved on the eve of World War I, however. The most likely explanation involves the fiscal revolution of the twentieth century. The impact of the progressive income tax (created in France in 1914) and the progressive estate tax (created in 1901) on the accumulation and reconstitution of large fortunes seems to have prevented a return to nineteenth-century rentier societies. If contemporary societies have become societies of managers—that is, societies in which the top of the income distribution is dominated by the “working rich” (people who live mainly on their labor income rather than on income derived from capital accumulated in the past), it is primarily the consequence of particular historical circumstances and institutions. The Kuznets curve is thus not the “end of history” but the product of a specific—and reversible—historical process.

### *From Laws of History to Uncertainties*

The fatal blow to the Kuznets curve—the idea of an inverted U-shaped curve linking development inexorably to increasing and then decreasing inequality—came in the 1980s, when inequality began to increase in the advanced economies. This inversion of the Kuznets curve spelled an end to the notion that there was a grand historical law governing the evolution of inequality, at least for a time. It also encouraged extensive and detailed research into the complex mechanisms that might explain why inequality increases in some periods and decreases in others.

Table 1.7 describes the evolution of wage inequality in the Western economies since 1970. Inequality actually increased only in the United States and United Kingdom, but wage inequality ceased to decrease everywhere in the 1980s. This set the Western countries apart from less developed countries, where no such tendency has been detected (Davis, 1992). In the United States, the P90/P10 ratio for wages increased by about 20 percent between 1980 and 1990, for a total increase of nearly 50 percent over the entire period, which is considerable in view of the habitually slow rate of change in wage inequality. The result was that wage inequality in the United States returned to levels last seen between the two world wars (Goldin and Margo, 1992). As a logical consequence of this evolution in wealth inequality, which had been decreasing until 1970, seems to have begun to rise again (Wolf, 1992).

The case of the United Kingdom was very different, because wage inequality there was quite low in 1970, very close to Scandinavian levels. After increasing slightly in the second half of the 1970s, the P90/P10 ratio jumped nearly 30 percent between 1980 and 1990, and in the 1990s the United Kingdom joined the United States at the head of the pack in inequality. In the Nordic countries, inequality has been steady, with P90/P10 ratios on the order of 2–2.5, despite a slight upward trend. France was a somewhat special case, since French wage inequality was the highest in the Western world in 1970, before decreasing rapidly in the 1970s and then stabilizing between 1980 and 1990, with a very slight increase since 1983–1984: the P90/P10 ratio was 3.1 in 1984, then rose to 3.2 in the period 1984–1990 (INSEE, 1996a, p. 48). Hence it was only in the 1970s that the wage distribution in the United States became more unequal than in France, while the United Kingdom did not surpass France until the late 1980s, and then by just a hair (Table 1.7). Although wage inequality in Italy was significantly lower than in France initially, its evolution in the period 1970–2000 resembled that of France: after decreasing rapidly in the 1970s and early 1980s, the P90/P10 ratio began to climb again in 1980.

TABLE 1.7  
*The growth of wage inequality since 1970, as measured by the P90/P10 ratio*

Country	1970	1980	1990
Germany	–	2.5	3.5
United States	3.2	3.8	4.5
France	3.7	3.2	3.2
Italy	–	2.3	2.5
Japan	–	2.5	2.8
United Kingdom	2.5	2.6	3.3
Sweden	2.1	2.0	2.1

*Note:* To belong to the best-paid 10 percent in the United States, one had to earn at least 3.2 times as much as anyone in the worst-paid 10 percent in 1970, compared with 4.5 times as much in 1990.

*Sources:* Germany, Italy, Japan, Sweden: OECD, 1993, pp. 170–173. France: INSEE, 1996a, p. 48. United States, United Kingdom: Katz et al., 1995, fig. 1.

### *From Wages to Incomes*

The evolution of income inequality has not been measured as well as that of wage inequality. Nevertheless, the Luxembourg Income Study data do allow us to describe in broad outline the evolution of the P90/P10 ratio for disposable household income adjusted for household size (Atkinson et al., 1995, p. 47). The countries in which wage inequality increased also saw increases in income inequality: in the United States, for example, the P90/P10 ratio for income rose from 4.9 to 5.9 between 1979 and 1986, and in the United Kingdom from 3.5 to 3.8. Conversely, inequality increased moderately in the Nordic countries, rising from 2.8 to 2.9 in Norway and 2.5 to 2.7 in Sweden following the similarly modest increase in wage inequality. In France, the P90/P10 ratio has remained stable at 3.5 since the early 1980s after a sharp decrease in the 1970s. Since the early 1990s, there has been a slight upward trend in the P90/P10 ratio in France, although the increase was just barely statistically significant (INSEE, 1996b, pp. 36–37). In all Western countries, it is clear that the downward trend of the previous period has been reversed: income inequality, like wage inequality, ceased to decrease everywhere in the 1980s and 1990s, and it increased significantly in those countries where wage inequality resumed its upward trend. The Kuznets curve is definitely dead.

It would be a mistake, however, to interpret the evolution of income inequality as a simple mechanical consequence of the evolution of wage inequality, even though the latter is undeniably the main force at work (Gottschalk, 1993). For example, nearly half of the increase in US household income inequality between 1970 and 1990 was in fact due to increased correlation of the incomes of members of the same household: in other words, high earners are increasingly likely to marry other high earners, whereas the lowest earners are often single women with children (Meyer, 1995). Furthermore, taxes and transfers have evolved in different ways in different Western countries since the 1970s: whereas the United States and United Kingdom adopted policies that tended to increase income inequality, other countries adopted policies that sought to limit it. It is striking to compare the United States and Canada: although the labor market and wage inequality evolved in similar ways in both countries, the P90/P10 ratio for household income held steady at around 4 in Canada but rose from 4.9 to 5.9 in the United States (Atkinson et al., 1995, p. 47). The reasons for this are complex, but

different fiscal and social policies explain a great deal (Card and Freeman, 1993).

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### *Inequality with Respect to Employment*

More broadly, it would be misleading to suggest that the evolution of inequality in a country like France since the 1970s can be summed up by saying that the P90/P10 wage ratio has remained more or less constant. And while many countries, including France, have kept the P90/P10 ratio for disposable household income relatively constant, this has been possible only because social transfers have been able to compensate for the loss of income owing to the growing number of the unemployed. Without transfers (including unemployment insurance, basic income support, etc.), income inequality would have increased as much as in the English-speaking countries, despite the stability of the wage income distribution: labor income inequality among all individuals of working age (and not just the employed) increased considerably in France after 1980, at a rate comparable to that observed in the English-speaking countries (Bourguignon and Martinez, 1996). Actual inequality of income from labor (whether due to employment inequality or wage inequality) has thus increased in all Western countries since the 1970s.

Is it really possible to draw a clear distinction between the English-speaking countries, where rising income inequality is supposedly a matter of increasing wage inequality, and other countries where it is supposedly a matter of unequal risk of unemployment? Official figures might seem to support this view: the 1996 unemployment rate was 5.6 percent in the United States and 7.5 percent (and rapidly declining) in the United Kingdom, compared with 10.3 percent in Germany, 12.1 percent in Italy, and 12.2 percent in France (where 3 million people were unemployed in a working-age population of around 25 million [OECD, 1996, A24]). High growth in the late 1990s significantly reduced unemployment everywhere but left the geographical variation intact: in 2000, the unemployment rate was 4 percent in the United States and 10 percent in France (OECD, 2000).

The problem with this type of comparison, however, is that the notion of *unemployment* is not an adequate measure of the phenomenon of *underemployment*. In the United States, for example, there has been a substantial withdrawal of less-skilled individuals from the labor market (and from the group of people classified in official statistics as “actively seeking work”) since the 1970s. This is entirely due to the collapse of low-wage employment opportunities (Juhn et al., 1991; Topel, 1993). Many people of working age have thus found themselves excluded from the labor market, yet they are not counted in unemployment statistics. One striking manifestation of this can be seen in the impressive increase of the prison population. In 1995, 1.5 million individuals were incarcerated in U.S. prisons, compared with 500,000 in 1980; it is estimated that 2.4 million will be incarcerated in 2000 (Freeman, 1996). This aspect of underemployment, entirely neglected in official unemployment statistics, is not a minor matter, since these 1.5 million prisoners represented 1.5 percent of the U.S. working age population in 1995. In France, by comparison, the prison population was just 60,000, 0.3 percent of the working age population. It would of course be simplistic to suggest that the growth of crime in the United States since 1970 can be explained entirely by the evolution of wage inequality. Clearly, however, it was more difficult to be a model proletarian in the United States in 1995 than it was in 1970, given that the wage of the tenth centile fell by nearly 50 percent compared with that of the ninetieth centile.

It is therefore tempting to conclude that underemployment is in fact as high in the United States as in the European countries where unemployment is high. This is misleading, however, since the phenomenon of hidden underemployment is unfortunately not limited to the United States. It takes

other forms in Europe, less visible perhaps but no less significant. Consider, for example, the fact that only 67 percent of the working age population is classified as belonging to the active population in France in 1996, compared with 77 percent in the United States, 75 percent in the United Kingdom, and only 68 percent in Germany and 60 percent in Italy (OECD, 1996, A22). This indicator, known as the labor market participation rate, is highly imperfect because it mixes together a wide range of phenomena, such as the female participation rate and the percentage of early retirees, but nevertheless points to a real problem. For example, it is well known that, in France, in order to decrease the number of unemployed by one, more than one job must be created, indeed something close to two jobs, since some fraction of newly created jobs will in fact be taken by people who were not counted as part of the active population but who were prepared to enter the labor market if an appropriate job presented itself. In addition, involuntary part-time work (by people working part-time who claim to want to work more) has been increasing rapidly in France (CSERC, 1996, p. 50). Uncertainties such as these reveal the limits of our ability to correctly measure inequality with respect to employment, which is a fundamental feature of contemporary inequality.



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