

CAPITAL IN THE
TWENTY-FIRST
CENTURY

Thomas Piketty

Translated by Arthur Goldhammer

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*Inequality and Concentration:
Preliminary Bearings*

In Part Two I examined the dynamics of both the capital/income ratio at the country level and the overall split of national income between capital and labor, but I did not look directly at income or wealth inequality at the individual level. In particular, I analyzed the importance of the shocks of 1914–1945 in order to understand changes in the capital/income ratio and the capital-labor split over the course of the twentieth century. The fact that Europe—and to some extent the entire world—have only just gotten over these shocks has given rise to the impression that patrimonial capitalism—which is flourishing in these early years of the twenty-first century—is something new, whereas it is in large part a repetition of the past and characteristic of a low-growth environment like the nineteenth century.

Here begins my examination of inequality and distribution at the individual level. In the next few chapters, I will show that the two world wars, and the public policies that followed from them, played a central role in reducing inequalities in the twentieth century. There was nothing natural or spontaneous about this process, in contrast to the optimistic predictions of Kuznets's theory. I will also show that inequality began to rise sharply again since the 1970s and 1980s, albeit with significant variation between countries, again suggesting that institutional and political differences played a key role. I will also analyze, from both a historical and a theoretical point of view, the evolution of the relative importance of inherited wealth versus income from labor over the very long run. Many people believe that modern growth naturally favors labor over inheritance and competence over birth. What is the source of this widespread belief, and how sure can we be that it is correct? Finally, in Chapter 12, I will consider how the global distribution of wealth might evolve in the decades to come. Will the twenty-first century be even more inegalitarian than the nineteenth, if it is not already so? In what respects is the structure of inequality in the world today really different from that which existed

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during the Industrial Revolution or in traditional rural societies? Part Two has already suggested some interesting leads to follow in this regard, but the only way to answer this crucial question is by analyzing the structure of inequality at the individual level.

Before proceeding farther, in this chapter I must first introduce certain ideas and orders of magnitude. I begin by noting that in all societies, income inequality can be decomposed into three terms: inequality in income from labor; inequality in the ownership of capital and the income to which it gives rise; and the interaction between these two terms. Vautrin's famous lesson to Rastignac in Balzac's *Père Goriot* is perhaps the clearest introduction to these issues.

Vautrin's Lesson

Balzac's *Père Goriot*, published in 1835, could not be clearer. Père Goriot, a former spaghetti maker, has made a fortune in pasta and grain during the Revolution and Napoleonic era. A widower, he sacrifices everything he has to find husbands for his daughters Delphine and Anastasie in the best Parisian society of the 1810s. He keeps just enough to pay his room and board in a shabby boardinghouse, where he meets Eugène de Rastignac, a penniless young noble who has come up from the provinces to study law in Paris. Full of ambition and humiliated by his poverty, Eugène avails himself of the help of a distant cousin to worm his way into the luxurious salons where the aristocracy, *grande bourgeoisie*, and high finance of the Restoration mingle. He quickly falls in love with Delphine, who has been abandoned by her husband, Baron de Nucingen, a banker who has already used his wife's dowry in any number of speculative ventures. Rastignac soon sheds his illusions as he discovers the cynicism of a society entirely corrupted by money. He is appalled to learn how Père Goriot has been abandoned by his daughters, who, preoccupied as they are with social success, are ashamed of their father and have seen little of him since availing themselves of his fortune. The old man dies in sordid poverty and solitude. Only Rastignac attends his burial. But no sooner has he left Père Lachaise cemetery than he is overwhelmed by the sight of Parisian wealth on display along the Seine and decides to set out in conquest of the capital: "It's just you and me now!" he apostrophizes the city. His sentimental and social education is over. From this point on he, too, will be ruthless.

The darkest moment in the novel, when the social and moral dilemmas Rastignac faces are rawest and clearest, comes at the midpoint, when the shady character Vautrin offers him a lesson about his future prospects.¹ Vautrin, who resides in the same shabby boardinghouse as Rastignac and Goriot, is a glib talker and seducer who is concealing a dark past as a convict, much like Edmond Dantès in *Le Comte de Monte-Cristo* or Jean Valjean in *Les Misérables*. In contrast to those two characters, who are on the whole worthy fellows, Vautrin is deeply wicked and cynical. He attempts to lure Rastignac into committing a murder in order to lay hands on a large legacy. Before that, Vautrin offers Rastignac an extremely lurid, detailed lesson about the different fates that might befall a young man in the French society of the day.

In substance, Vautrin explains to Rastignac that it is illusory to think that social success can be achieved through study, talent, and effort. He paints a detailed portrait of the various possible careers that await his young friend if he pursues studies in law or medicine, fields in which professional competence counts more than inherited wealth. In particular, Vautrin explains very clearly to Rastignac what yearly income he can aspire to in each of these professions. The verdict is clear: even if he ranks at the top of his class and quickly achieves a brilliant career in law, which will require many compromises, he will still have to get by on a mediocre income and give up all hope of becoming truly wealthy:

By the age of thirty, you will be a judge making 1,200 francs a year, if you haven't yet tossed away your robes. When you reach forty, you will marry a miller's daughter with an income of around 6,000 livres. Thank you very much. If you're lucky enough to find a patron, you will become a royal prosecutor at thirty, with compensation of a thousand écus [5,000 francs], and you will marry the mayor's daughter. If you're willing to do a little political dirty work, you will be a prosecutor-general by the time you're forty. . . . It is my privilege to point out to you, however, that there are only twenty prosecutors-general in France, while 20,000 of you aspire to the position, and among them are a few clowns who would sell their families to move up a rung. If this profession disgusts you, consider another. Would Baron de Rastignac like to be a lawyer? Very well then! You will need to suffer ten years of misery, spend a thousand francs a month, acquire a library and an office, frequent society, kiss the hem of a clerk to get cases, and lick the courthouse floor with your tongue. If the profession led

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anywhere, I wouldn't advise you against it. But can you name five lawyers in Paris who earn more than 50,000 francs a year at the age of fifty?²

By contrast, the strategy for social success that Vautrin proposes to Rastignac is quite a bit more efficient. By marrying Mademoiselle Victorine, a shy young woman who lives in the boardinghouse and has eyes only for the handsome Eugène, he will immediately lay hands on a fortune of a million francs. This will enable him to draw at age twenty an annual income of 50,000 francs (5 percent of the capital) and thus immediately achieve ten times the level of comfort to which he could hope to aspire only years later on a royal prosecutor's salary (and as much as the most prosperous Parisian lawyers of the day earned at age fifty after years of effort and intrigue).

The conclusion is clear: he must lose no time in marrying young Victorine, ignoring the fact that she is neither very pretty nor very appealing. Eugène eagerly heeds Vautrin's lesson right up to the ultimate coup de grâce: if the illegitimate child Victorine is to be recognized by her wealthy father and become the heiress of the million francs Vautrin has mentioned, her brother must first be killed. The ex-convict is ready to take on this task in exchange for a commission. This is too much for Rastignac: although he is quite amenable to Vautrin's arguments concerning the merits of inheritance over study, he is not prepared to commit murder.

The Key Question: Work or Inheritance?

What is most frightening about Vautrin's lecture is that his brisk portrait of Restoration society contains such precise figures. As I will soon show, the structure of the income and wealth hierarchies in nineteenth-century France was such that the standard of living the wealthiest French people could attain greatly exceeded that to which one could aspire on the basis of income from labor alone. Under such conditions, why work? And why behave morally at all? Since social inequality was in itself immoral and unjustified, why not be thoroughly immoral and appropriate capital by whatever means are available?

The detailed income figures Vautrin gives are unimportant (although quite realistic): the key fact is that in nineteenth-century France and, for that matter, into the early twentieth century, work and study alone were not enough

to achieve the same level of comfort afforded by inherited wealth and the income derived from it. This was so obvious to everyone that Balzac needed no statistics to prove it, no detailed figures concerning the deciles and centiles of the income hierarchy. Conditions were similar, moreover, in eighteenth- and nineteenth-century Britain. For Jane Austen's heroes, the question of work did not arise: all that mattered was the size of one's fortune, whether acquired through inheritance or marriage. Indeed, the same was true almost everywhere before World War I, which marked the suicide of the patrimonial societies of the past. One of the few exceptions to this rule was the United States, or at any rate the various "pioneer" microsocieties in the northern and western states, where inherited capital had little influence in the eighteenth and nineteenth centuries—a situation that did not last long, however. In the southern states, where capital in the form of slaves and land predominated, inherited wealth mattered as much as it did in old Europe. In *Gone with the Wind*, Scarlett O'Hara's suitors cannot count on their studies or talents to assure their future comfort any more than Rastignac can: the size of one's father's (or father-in-law's) plantation matters far more. Vautrin, to show how little he thinks of morality, merit, or social justice, points out to young Eugène that he would be glad to end his days as a slave owner in the US South, living in opulence on what his Negroes produced.³ Clearly, the America that appeals to the French ex-convict is not the America that appealed to Tocqueville.

To be sure, income from labor is not always equitably distributed, and it would be unfair to reduce the question of social justice to the importance of income from labor versus income from inherited wealth. Nevertheless, democratic modernity is founded on the belief that inequalities based on individual talent and effort are more justified than other inequalities—or at any rate we hope to be moving in that direction. Indeed, Vautrin's lesson to some extent ceased to be valid in twentieth-century Europe, at least for a time. During the decades that followed World War II, inherited wealth lost much of its importance, and for the first time in history, perhaps, work and study became the surest routes to the top. Today, even though all sorts of inequalities have reemerged, and many beliefs in social and democratic progress have been shaken, most people still believe that the world has changed radically since Vautrin lectured Rastignac. Who today would advise a young law student to abandon his or her studies and adopt the ex-convict's strategy for social

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advancement? To be sure, there may exist rare cases where a person would be well advised to set his or her sights on inheriting a large fortune.⁴ In the vast majority of cases, however, it is not only more moral but also more profitable to rely on study, work, and professional success.

Vautrin's lecture focuses our attention on two questions, which I will try to answer in the next few chapters with the imperfect data at my disposal. First, can we be sure that the relative importance of income from labor versus income from inherited wealth has been transformed since the time of Vautrin, and if so, to what extent? Second, and even more important, if we assume that such a transformation has to some degree occurred, why exactly did it happen, and can it be reversed?

Inequalities with Respect to Labor and Capital

To answer these questions, I must first introduce certain basic ideas and the fundamental patterns of income and wealth inequality in different societies at different times. I showed in Part One that income can always be expressed as the sum of income from labor and income from capital. Wages are one form of income from labor, and to simplify the exposition I will sometimes speak of wage inequality when I mean inequality of income from labor more generally. To be sure, income from labor also includes income from nonwage labor, which for a long time played a crucial role and still plays a nonnegligible role today. Income from capital can also take different forms: it includes all income derived from the ownership of capital independent of any labor and regardless of its legal classification (rents, dividends, interest, royalties, profits, capital gains, etc.).

By definition, in all societies, income inequality is the result of adding up these two components: inequality of income from labor and inequality of income from capital. The more unequally distributed each of these two components is, the greater the total inequality. In the abstract, it is perfectly possible to imagine a society in which inequality with respect to labor is high and inequality with respect to capital is low, or vice versa, as well as a society in which both components are highly unequal or highly egalitarian.

The third decisive factor is the relation between these two dimensions of inequality: to what extent do individuals with high income from labor also enjoy high income from capital? Technically speaking, this relation is a statis-

tical correlation, and the greater the correlation, the greater the total inequality, all other things being equal. In practice, the correlation in question is often low or negative in societies in which inequality with respect to capital is so great that the owners of capital do not need to work (for example, Jane Austen's heroes usually eschew any profession). How do things stand today, and how will they stand in the future?

Note, too, that inequality of income from capital may be greater than inequality of capital itself, if individuals with large fortunes somehow manage to obtain a higher return than those with modest to middling fortunes. This mechanism can be a powerful multiplier of inequality, and this is especially true in the century that has just begun. In the simple case where the average rate of return is the same at all levels of the wealth hierarchy, then by definition the two inequalities coincide.

When analyzing the unequal distribution of income, it is essential to carefully distinguish these various aspects and components of inequality, first for normative and moral reasons (the justification of inequality is quite different for income from labor, from inherited wealth, and from differential returns on capital), and second, because the economic, social, and political mechanisms capable of explaining the observed evolutions are totally distinct. In the case of unequal incomes from labor, these mechanisms include the supply of and demand for different skills, the state of the educational system, and the various rules and institutions that affect the operation of the labor market and the determination of wages. In the case of unequal incomes from capital, the most important processes involve savings and investment behavior, laws governing gift-giving and inheritance, and the operation of real estate and financial markets. The statistical measures of income inequality that one finds in the writings of economists as well as in public debate are all too often synthetic indices, such as the Gini coefficient, which mix very different things, such as inequality with respect to labor and capital, so that it is impossible to distinguish clearly among the multiple dimensions of inequality and the various mechanisms at work. By contrast, I will try to distinguish these things as precisely as possible.

Capital: Always More Unequally Distributed Than Labor

The first regularity we observe when we try to measure income inequality in practice is that inequality with respect to capital is always greater than inequality with respect to labor. The distribution of capital ownership (and of income from capital) is always more concentrated than the distribution of income from labor.

Two points need to be clarified at once. First, we find this regularity in all countries in all periods for which data are available, without exception, and the magnitude of the phenomenon is always quite striking. To give a preliminary idea of the order of magnitude in question, the upper 10 percent of the labor income distribution generally receives 25–30 percent of total labor income, whereas the top 10 percent of the capital income distribution always owns more than 50 percent of all wealth (and in some societies as much as 90 percent). Even more strikingly, perhaps, the bottom 50 percent of the wage distribution always receives a significant share of total labor income (generally between one-quarter and one-third, or approximately as much as the top 10 percent), whereas the bottom 50 percent of the wealth distribution owns nothing at all, or almost nothing (always less than 10 percent and generally less than 5 percent of total wealth, or one-tenth as much as the wealthiest 10 percent). Inequalities with respect to labor usually seem mild, moderate, and almost reasonable (to the extent that inequality can be reasonable—this point should not be overstated). In comparison, inequalities with respect to capital are always extreme.

Second, this regularity is by no means foreordained, and its existence tells us something important about the nature of the economic and social processes that shape the dynamics of capital accumulation and the distribution of wealth.

Indeed, it is not difficult to think of mechanisms that would lead to a distribution of wealth more egalitarian than the distribution of income from labor. For example, suppose that at a given point in time, labor incomes reflect not only permanent wage inequalities among different groups of workers (based on the skill level and hierarchical position of each group) but also short-term shocks (for instance: wages and working hours in different sectors might fluctuate considerably from year to year or over the course of an individual's career). Labor incomes would then be highly unequal in the short

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run, although this inequality would diminish if measured over a long period (say ten years rather than one, or even over the lifetime of an individual, although this is rarely done because of the lack of long-term data). A longer-term perspective would be ideal for studying the true inequalities of opportunity and status that are the subject of Vautrin's lecture but are unfortunately often quite difficult to measure.

In a world with large short-term wage fluctuations, the main reason for accumulating wealth might be precautionary (as a reserve against a possible negative shock to income), in which case inequality of wealth would be smaller than wage inequality. For example, inequality of wealth might be of the same order of magnitude as the permanent inequality of wage income (measured over the length of an individual career) and therefore significantly lower than the instantaneous wage inequality (measured at a given point in time). All of this is logically possible but clearly not very relevant to the real world, since inequality of wealth is always and everywhere much greater than inequality of income from labor. Although precautionary saving in anticipation of short-term shocks does indeed exist in the real world, it is clearly not the primary explanation for the observed accumulation and distribution of wealth.

We can also imagine mechanisms that would imply an inequality of wealth comparable in magnitude to the inequality of income from labor. Specifically, if wealth is accumulated primarily for life-cycle reasons (saving for retirement, say), as Modigliani reasoned, then everyone would be expected to accumulate a stock of capital more or less proportional to his or her wage level in order to maintain approximately the same standard of living (or the same proportion thereof) after retirement. In that case, inequality of wealth would be a simple translation in time of inequality of income from labor and would as such have only limited importance, since the only real source of social inequality would be inequality with respect to labor.

Once again, such a mechanism is theoretically plausible, and its real-world role is of some significance, especially in aging societies. In quantitative terms, however, it is not the primary mechanism at work. Life-cycle saving cannot explain the very highly concentrated ownership of capital we observe in practice, any more than precautionary saving can. To be sure, older individuals are certainly richer on average than younger ones. But the concentration of wealth is actually nearly as great within each age cohort as it is for the population as

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a whole. In other words, and contrary to a widespread belief, intergenerational warfare has not replaced class warfare. The very high concentration of capital is explained mainly by the importance of inherited wealth and its cumulative effects: for example, it is easier to save if you inherit an apartment and do not have to pay rent. The fact that the return on capital often takes on extreme values also plays a significant role in this dynamic process. In the remainder of Part Three, I examine these various mechanisms in greater detail and consider how their relative importance has evolved in time and space. At this stage, I note simply that the magnitude of inequality of wealth, both in absolute terms and relative to inequality of income from labor—points toward certain mechanisms rather than others.

Inequalities and Concentration: Some Orders of Magnitude

Before analyzing the historical evolutions that can be observed in different countries, it will be useful to give a more precise account of the characteristic orders of magnitude of inequality with respect to labor and capital. The goal is to familiarize the reader with numbers and notions such as deciles, centiles, and the like, which may seem somewhat technical and even distasteful to some but are actually quite useful for analyzing and understanding changes in the structure of inequality in different societies—provided we use them correctly.

To that end, I have charted in Tables 7.1–3 the distributions actually observed in various countries at various times. The figures indicated are approximate and deliberately rounded off but at least give us a preliminary idea of what the terms “low,” “medium,” and “high” inequality mean today and have meant in the past, with respect to both income from labor and ownership of capital, and finally with respect to total income (the sum of income from labor and income from capital).

For example, with respect to inequality of income from labor, we find that in the most egalitarian societies, such as the Scandinavian countries in the 1970s and 1980s (inequalities have increased in northern Europe since then, but these countries nevertheless remain the least inegalitarian), the distribution is roughly as follows. Looking at the entire adult population, we see that the 10 percent receiving the highest incomes from labor claim a little more than 20 percent of the total income from labor (and in practice this means

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TABLE 7.1.
Inequality of labor income across time and space.

Share of different groups in total labor income	Low inequality (≈ Scandinavia, 1970s–1980s)	Medium inequality (≈ Europe 2010)	High inequality (≈ US 2010)	Very high inequality (≈ US 2030?)
The top 10% (“upper class”)	20%	25%	35%	45%
Including the top 1% (“dominant class”)	5%	7%	12%	17%
Including the next 9% (“well-to-do class”)	15%	18%	23%	28%
The middle 40% (“middle class”)	45%	45%	40%	35%
The bottom 50% (“lower class”)	35%	30%	25%	20%
Corresponding Gini coefficient (synthetic inequality index)	0.19	0.26	0.36	0.46

Note: In societies where labor income inequality is relatively low (such as in Scandinavian countries in the 1970s–1980s), the top 10% most well paid receive about 20% of total labor income; the bottom 50% least well paid about 35%; the middle 40% about 45%. The corresponding Gini index (a synthetic inequality index with values from 0 to 1) is equal to 0.19. See the online technical appendix.

TABLE 7.2.
Inequality of capital ownership across time and space.

Share of different groups in total capital	Low inequality (never observed; ideal society?)	Medium inequality (≈ Scandinavia, 1970s–1980s)	Medium–high inequality (≈ Europe 2010)	High inequality (≈ US 2010)	Very high inequality (≈ Europe 1910)
The top 10% “upper class”	30%	50%	60%	70%	90%
Including the top 1% (“dominant class”)	10%	20%	25%	35%	50%
Including the next 9% (“well-to-do class”)	20%	30%	35%	35%	40%
The middle 40% (“middle class”)	45%	40%	35%	25%	5%
The bottom 50% (“lower class”)	25%	10%	5%	5%	5%
Corresponding Gini coefficient (synthetic inequality index)	0.33	0.58	0.67	0.73	0.85

Note: In societies with “medium” inequality of capital ownership (such as Scandinavian countries in the 1970s–1980s), the top 10% richest in wealth own about 50% of aggregate wealth; the bottom 50% poorest about 10%; and the middle 40% about 40%. The corresponding Gini coefficient is equal to 0.58. See the online technical appendix.

TABLE 7.3.
Inequality of total income (labor and capital) across time and space.

Share of different groups in total income (labor + capital)	Low inequality (≈ Scandinavia, 1970s–1980s)	Medium inequality (≈ Europe 2010)	High inequality (≈ US 2010, Europe 1910)	Very high inequality (≈ US 2030?)
The top 10% (“upper class”)	25%	35%	50%	60%
Including the top 1% (“dominant class”)	7%	10%	20%	25%
Including the next 9% (“well- to-do class”)	18%	25%	30%	35%
The middle 40% (“middle class”)	45%	40%	30%	25%
The bottom 50% (“lower class”)	30%	25%	20%	15%
Corresponding Gini coefficient (synthetic inequality index)	0.26	0.36	0.49	0.58

Note: In societies where the inequality of total income is relatively low (such as Scandinavian countries during the 1970s–1980s), the 10% highest incomes receive about 20% of total income; the 50% lowest incomes receive about 30%. The corresponding Gini coefficient is equal to 0.26. See the online technical appendix.

essentially wages); the least well paid 50 percent get about 35 percent of the total; and the 40 percent in the middle therefore receive roughly 45 percent of the total (see Table 7.1).⁵ This is not perfect equality, for in that case each group should receive the equivalent of its share of the population (the best paid 10 percent should get exactly 10 percent of the income, and the worst paid 50 percent should get 50 percent). But the inequality we see here is not too extreme, at least in comparison to what we observe in other countries or at other times, and it is not too extreme especially when compared with what we find almost everywhere for the ownership of capital, even in the Scandinavian countries.

In order to have a clear idea of what these figures really mean, we need to relate distributions expressed as percentages of total income to the paychecks that flesh-and-blood workers actually receive as well as to the fortunes in real estate and financial assets owned by the people who actually make up these wealth hierarchies.

Concretely, if the best paid 10 percent receive 20 percent of total wages, then it follows mathematically that each person in this group earns on average twice the average pay in the country in question. Similarly, if the least well paid 50 percent receive 35 percent of total wages, it follows that each person in this group earns on average 70 percent of the average wage. And if the middle 40 percent receive 45 percent of the total wage, this means that the average wage of this group is slightly higher than the average pay for society as a whole ($45/40$ of the average, to be precise).

For example, if the average pay in a country is 2,000 euros per month, then this distribution implies that the top 10 percent earn 4,000 euros a month on average, the bottom 50 percent 1,400 euros a month, and the middle 40 percent 2,250 a month.⁶ This intermediate group may be regarded as a vast “middle class” whose standard of living is determined by the average wage of the society in question.

Lower, Middle, and Upper Classes

To be clear, the designations “lower class” (defined as the bottom 50 percent), “middle class” (the middle 40 percent), and “upper class” (top 10 percent) that I use in Tables 7.1–3 are quite obviously arbitrary and open to challenge. I introduce these terms purely for illustrative purposes, to pin down my ideas, but in fact they play virtually no role in the analysis, and I might just as well have

called them “Class A,” “Class B,” and “Class C.” In political debate, however, such terminological issues are generally far from innocent. The way the population is divided up usually reflects an implicit or explicit position concerning the justice and legitimacy of the amount of income or wealth claimed by a particular group.

For example, some people use the term “middle class” very broadly to encompass individuals who clearly fall within the upper decile (that is, the top 10 percent) of the social hierarchy and who may even be quite close to the upper centile (the top 1 percent). Generally, the purpose of such a broad definition of the middle class is to insist that even though such individuals dispose of resources considerably above the average for the society in question, they nevertheless retain a certain proximity to the average: in other words, the point is to say that such individuals are not privileged and fully deserve the indulgence of the government, particularly in regard to taxes.

Other commentators reject any notion of “middle class” and prefer to describe the social structure as consisting of just two groups: “the people,” who constitute the vast minority, and a tiny “elite” or “upper class.” Such a description may be accurate for some societies, or it may be applicable to certain political or historical contexts. For example, in France in 1789, it is generally estimated that the aristocracy represented 1–2 percent of the population, the clergy less than 1 percent, and the “Third Estate,” meaning (under the political system of the Ancien Régime) all the rest, from peasantry to bourgeoisie, more than 97 percent.

It is not my purpose to police dictionaries or linguistic usage. When it comes to designating social groups, everyone is right and wrong at the same time. Everyone has good reasons for using certain terms but is wrong to denigrate the terms used by others. My definition of “middle class” (as the “middle” 40 percent) is highly contestable, since the income (or wealth) of everyone in the group is, by construction, above the median for the society in question.⁷ One might equally well choose to divide society into three thirds and call the middle third the “middle class.” Still, the definition I have given seems to me to correspond more closely to common usage: the expression “middle class” is generally used to refer to people who are doing distinctly better than the bulk of the population yet still a long way from the true “elite.” Yet all such designations are open to challenge, and there is no need for me to take a position on this delicate issue, which is not just linguistic but also political.

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THE STRUCTURE OF INEQUALITY

The truth is that any representation of inequality that relies on a small number of categories is doomed to be crudely schematic, since the underlying social reality is always a continuous distribution. At any given level of wealth or income there is always a certain number of flesh-and-blood individuals, and the number of such individuals varies slowly and gradually in accordance with the shape of the distribution in the society in question. There is never a discontinuous break between social classes or between “people” and “elite.” For that reason, my analysis is based entirely on statistical concepts such as deciles (top 10 percent, middle 40 percent, lower 50 percent, etc.), which are defined in exactly the same way in different societies. This allows me to make rigorous and objective comparisons across time and space without denying the intrinsic complexity of each particular society or the fundamentally continuous structure of social inequality.

Class Struggle or Centile Struggle?

My fundamental goal is to compare the structure of inequality in societies remote from one another in time and space, societies that are very different a priori, and in particular societies that use totally different words and concepts to refer to the social groups that compose them. The concepts of deciles and centiles are rather abstract and undoubtedly lack a certain poetry. It is easier for most people to identify with groups with which they are familiar: peasants or nobles, proletarians or bourgeois, office workers or top managers, waiters or traders. But the beauty of deciles and centiles is precisely that they enable us to compare inequalities that would otherwise be incomparable, using a common language that should in principle be acceptable to everyone.

When necessary, we will break down our groups even more finely, using centiles or even thousandths to register more precisely the continuous character of social inequality. Specifically, in every society, even the most egalitarian, the upper decile is truly a world unto itself. It includes some people whose income is just two or three times greater than the mean and others whose resources are ten or twenty times greater, if not more. To start with, it is always enlightening to break the top decile down into two subgroups: the upper centile (which we might call the “dominant class” for the sake of concreteness, without claiming that this term is better than any other) and the remaining nine centiles (which we might call the “wealthy class” or “well-to-do”).

For example, if we look at the case where inequality of income from labor is relatively low (think Scandinavia), represented in Table 7.1, with 20 percent of wages going to the best paid 10 percent of workers, we find that the share going to the top 1 percent is typically on the order of 5 percent of total wages. This means that the top 1 percent of earners make on average five times the mean wage, or 10,000 euros per month, in a society in which the average wage is 2,000 euros per month. In other words, the best paid 10 percent earn 4,000 euros a month on average, but within that group the top 1 percent earn an average of 10,000 euros a month (and the next 9 percent earn on average 3,330 euros a month). If we break this down even further and looked at the top thousandth (the best paid 0.1 percent) in the top centile, we find individuals earning tens of thousands of euros a month and a few earning hundreds of thousands, even in the Scandinavian countries in the 1970s and 1980s. Of course there would not be many such people, so their weight in the sum total of all wages would be relatively small.

Thus to judge the inequality of a society, it is not enough to observe that some individuals earn very high incomes. For example, to say that the “income scale goes from 1 to 10” or even “1 to 100” does not actually tell us very much. We also need to know how many people earn the incomes at each level. The share of income (or wealth) going to the top decile or centile is a useful index for judging how unequal a society is, because it reflects not just the existence of extremely high incomes or extremely large fortunes but also the number of individuals who enjoy such rewards.

The top centile is a particularly interesting group to study in the context of my historical investigation. Although it constitutes (by definition) a very small minority of the population, it is nevertheless far larger than the supere-lites of a few dozen or hundred individuals on whom attention is sometimes focused (such as the “200 families” of France, to use the designation widely applied in the interwar years to the 200 largest stockholders of the Banque de France, or the “400 richest Americans” or similar rankings established by magazines like *Forbes*). In a country of almost 65 million people such as France in 2013, of whom some 50 million are adults, the top centile comprises some 500,000 people. In a country of 320 million like the United States, of whom 260 million are adults, the top centile consists of 2.6 million individuals. These are numerically quite large groups who inevitably stand out in society, especially when the individuals included in them tend to live in the same cities

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and even to congregate in the same neighborhoods. In every country the upper centile occupies a prominent place in the social landscape and not just in the income distribution.

Thus in every society, whether France in 1789 (when 1–2 percent of the population belonged to the aristocracy) or the United States in 2011 (when the Occupy Wall Street movement aimed its criticism at the richest 1 percent of the population), the top centile is a large enough group to exert a significant influence on both the social landscape and the political and economic order.

This shows why deciles and centiles are so interesting to study. How could one hope to compare inequalities in societies as different as France in 1789 and the United States in 2011 other than by carefully examining deciles and centiles and estimating the shares of national wealth and income going to each? To be sure, this procedure will not allow us to eliminate every problem or settle every question, but at least it will allow us to say something—and that is far better than not being able to say anything at all. We can therefore try to determine whether “the 1 percent” had more power under Louis XVI or under George Bush and Barack Obama.

To return for a moment to the Occupy Wall Street movement, what it shows is that the use of a common terminology, and in particular the concept of the “top centile,” though it may at first glance seem somewhat abstract, can be helpful in revealing the spectacular growth of inequality and may therefore serve as a useful tool for social interpretation and criticism. Even mass social movements can avail themselves of such a tool to develop unusual mobilizing themes, such as “We are the 99 percent!” This might seem surprising at first sight, until we remember that the title of the famous pamphlet that Abbé Sieyès published in January 1789 was “What Is the Third Estate?”⁸

I should also make it clear that the hierarchies (and therefore centiles and deciles) of income are not the same as those of wealth. The top 10 percent or bottom 50 percent of the labor income distribution are not the same people who constitute the top 10 percent or bottom 50 percent of the wealth distribution. The “1 percent” who earn the most are not the same as the “1 percent” who own the most. Deciles and centiles are defined separately for income from labor, ownership of capital, and total income (from both labor and capital), with the third being a synthesis of the first two dimensions and thus defining a composite social hierarchy. It is always essential to be clear about which hierarchy one is referring to. In traditional societies, the correlation

between the two dimensions was often negative (because people with large fortunes did not work and were therefore at the bottom of the labor income hierarchy). In modern societies, the correlation is generally positive but never perfect (the coefficient of correlation is always less than one). For example, many people belong to the upper class in terms of labor income but to the lower class in terms of wealth, and vice versa. Social inequality is multidimensional, just like political conflict.

Note, finally, that the income and wealth distributions described in Tables 7.1–3 and analyzed in this and subsequent chapters are in all cases “primary” distributions, meaning before taxes. Depending on whether the tax system (and the public services and transfer payments it finances) is “progressive” or “regressive” (meaning that it weighs more or less heavily on different groups depending on whether they stand high or low in the income or wealth hierarchy), the after-tax distribution may be more or less egalitarian than the before-tax distribution. I will come back to this in Part Four, along with many other questions related to redistribution. At this stage only the before-tax distribution requires consideration.⁹

Inequalities with Respect to Labor: Moderate Inequality?

To return to the question of orders of magnitude of inequality: To what extent are inequalities of income from labor moderate, reasonable, or even no longer an issue today? It is true that inequalities with respect to labor are always much smaller than inequalities with respect to capital. It would be quite wrong, however, to neglect them, first because income from labor generally accounts for two-thirds to three-quarters of national income, and second because there are quite substantial differences between countries in the distribution of income from labor, which suggests that public policies and national differences can have major consequences for these inequalities and for the living conditions of large numbers of people.

In countries where income from labor is most equally distributed, such as the Scandinavian countries between 1970 and 1990, the top 10 percent of earners receive about 20 percent of total wages and the bottom 50 percent about 35 percent. In countries where wage inequality is average, including most European countries (such as France and Germany) today, the first group claims 25–30 percent of total wages, and the second around 30 percent. And in the

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most inegalitarian countries, such as the United States in the early 2010s (where, as will emerge later, income from labor is about as unequally distributed as has ever been observed anywhere), the top decile gets 35 percent of the total, whereas the bottom half gets only 25 percent. In other words, the equilibrium between the two groups is almost completely reversed. In the most egalitarian countries, the bottom 50 percent receive nearly twice as much total income as the top 10 percent (which some will say is still too little, since the former group is five times as large as the latter), whereas in the most inegalitarian countries the bottom 50 percent receive one-third less than the top group. If the growing concentration of income from labor that has been observed in the United States over the last few decades were to continue, the bottom 50 percent could earn just half as much in total compensation as the top 10 percent by 2030 (see Table 7.1). Obviously there is no certainty that this evolution will in fact continue, but the point illustrates the fact that recent changes in the income distribution have by no means been painless.

In concrete terms, if the average wage is 2,000 euros a month, the egalitarian (Scandinavian) distribution corresponds to 4,000 euros a month for the top 10 percent of earners (and 10,000 for the top 1 percent), 2,250 a month for the 40 percent in the middle, and 1,400 a month for the bottom 50 percent, where the more inegalitarian (US) distribution corresponds to a markedly steeper hierarchy: 7,000 euros a month for the top 10 percent (and 24,000 for the top 1 percent), 2,000 for the middle 40 percent, and just 1,000 for the bottom 50 percent.

For the least-favored half of the population, the difference between the two income distributions is therefore far from negligible: if a person earns 1,400 euros a month instead of 1,000—40 percent additional income—even leaving taxes and transfers aside, the consequences for lifestyle choices, housing, vacation opportunities, and money to spend on projects, children, and so on are considerable. In most countries, moreover, women are in fact significantly overrepresented in the bottom 50 percent of earners, so that these large differences between countries reflect in part differences in the male-female wage gap, which is smaller in northern Europe than elsewhere.

The gap between the two distributions is also significant for the top-earning group: a person who all his or her life earns 7,000 euros a month rather than 4,000 (or, even better, 24,000 instead of 10,000), will not spend money on the same things and will have greater power not only over what he

or she buys but also over other people: for instance, this person can hire less well paid individuals to serve his or her needs. If the trend observed in the United States were to continue, then by 2030 the top 10 percent of earners will be making 9,000 euros a month (and the top 1 percent, 34,000 euros), the middle 40 percent will earn 1,750, and the bottom 50 percent just 800 a month. The top 10 percent could therefore use a small portion of their incomes to hire many of the bottom 50 percent as domestic servants.¹⁰

Clearly, then, the same mean wage is compatible with very different distributions of income from labor, which can result in very disparate social and economic realities for different social groups. In some cases, these inequalities may give rise to conflict. It is therefore important to understand the economic, social, and political forces that determine the degree of labor income inequality in different societies.

Inequalities with Respect to Capital: Extreme Inequality

Although inequality with respect to income from labor is sometimes seen—incorrectly—as moderate inequality that no longer gives rise to conflict, this is largely a consequence of comparing it with the distribution of capital ownership, which is extremely inegalitarian everywhere (see Table 7.2).

In the societies where wealth is most equally distributed (once again, the Scandinavian countries in the 1970s and 1980s), the richest 10 percent own around 50 percent of national wealth or even a bit more, somewhere between 50 and 60 percent, if one properly accounts for the largest fortunes. Currently, in the early 2010s, the richest 10 percent own around 60 percent of national wealth in most European countries, and in particular in France, Germany, Britain, and Italy.

The most striking fact is no doubt that in all these societies, half of the population own virtually nothing: the poorest 50 percent invariably own less than 10 percent of national wealth, and generally less than 5 percent. In France, according to the latest available data (for 2010–2011), the richest 10 percent command 62 percent of total wealth, while the poorest 50 percent own only 4 percent. In the United States, the most recent survey by the Federal Reserve, which covers the same years, indicates that the top decile own 72 percent of America's wealth, while the bottom half claim just 2 percent. Note, however, that this source, like most surveys in which wealth is

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self-reported, underestimates the largest fortunes.¹¹ As noted, moreover, it is also important to add that we find the same concentration of wealth within each age cohort.¹²

Ultimately, inequalities of wealth in the countries that are most egalitarian in that regard (such as the Scandinavian countries in the 1970s and 1980s) appear to be considerably greater than wage inequalities in the countries that are most inegalitarian with respect to wages (such as the United States in the early 2010s: see Tables 7.1 and 7.2). To my knowledge, no society has ever existed in which ownership of capital can reasonably be described as “mildly” inegalitarian, by which I mean a distribution in which the poorest half of society would own a significant share (say, one-fifth to one-quarter) of total wealth.¹³ Optimism is not forbidden, however, so I have indicated in Table 7.2 a virtual example of a possible distribution of wealth in which inequality would be “low,” or at any rate lower than it is in Scandinavia (where it is “medium”), Europe (“medium-to-high”), or the United States (“high”). Of course, how one might go about establishing such an “ideal society”—assuming that such low inequality of wealth is indeed a desirable goal—remains to be seen (I will return to this central question in Part Four).¹⁴

As in the case of wage inequality, it is important to have a good grasp of exactly what these wealth figures mean. Imagine a society in which average net wealth is 200,000 euros per adult,¹⁵ which is roughly the case today in the richest European countries.¹⁶ As noted in Part Two, this private wealth can be divided into two roughly equal parts: real estate on the one hand and financial and business assets on the other (these include bank deposits, savings plans, portfolios of stocks and bonds, life insurance, pension funds, etc., net of debts). Of course these are average figures, and there are large variations between countries and enormous variations between individuals.

If the poorest 50 percent own 5 percent of total wealth, then by definition each member of that group owns on average the equivalent of 10 percent of the average individual wealth of society as a whole. In the example in the previous paragraph, it follows that each person among the poorest 50 percent possesses on average a net wealth of 20,000 euros. This is not nothing, but it is very little compared with the wealth of the rest of society.

Concretely, in such a society, the poorest half of the population will generally comprise a large number of people—typically a quarter of the population—with no wealth at all or perhaps a few thousand euros at most.

Indeed, a nonnegligible number of people—perhaps one-twentieth to one-tenth of the population—will have slightly negative net wealth (their debts exceed their assets). Others will own small amounts of wealth up to about 60,000 or 70,000 euros or perhaps a bit more. This range of situations, including the existence of a large number of people with very close to zero absolute wealth, results in an average wealth of about 20,000 euros for the poorest half of the population. Some of these people may own real estate that remains heavily indebted, while others may possess very small nest eggs. Most, however, are renters whose only wealth consists of a few thousand euros of savings in a checking or savings account. If we included durable goods such as cars, furniture, appliances, and the like in wealth, then the average wealth of the poorest 50 percent would increase to no more than 30,000 or 40,000 euros.¹⁷

For this half of the population, the very notions of wealth and capital are relatively abstract. For millions of people, “wealth” amounts to little more than a few weeks’ wages in a checking account or low-interest savings account, a car, and a few pieces of furniture. The inescapable reality is this: wealth is so concentrated that a large segment of society is virtually unaware of its existence, so that some people imagine that it belongs to surreal or mysterious entities. That is why it is so essential to study capital and its distribution in a methodical, systematic way.

At the other end of the scale, the richest 10 percent own 60 percent of total wealth. It therefore follows that each member of this group owns on average 6 times the average wealth of the society in question. In the example, with an average wealth of 200,000 euros per adult, each of the richest 10 percent therefore owns on average the equivalent of 1.2 million euros.

The upper decile of the wealth distribution is itself extremely unequal, even more so than the upper decile of the wage distribution. When the upper decile claims about 60 percent of total wealth, as is the case in most European countries today, the share of the upper centile is generally around 25 percent and that of the next 9 percent of the population is about 35 percent. The members of the first group are therefore on average 25 times as rich as the average member of society, while the members of the second group are barely 4 times richer. Concretely, in the example, the average wealth of the top 10 percent is 1.2 million euros each, with 5 million euros each for the top 1 percent and a little less than 800,000 each for the next 9 percent.¹⁸

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In addition, the composition of wealth varies widely within this group. Nearly everyone in the top decile owns his or her own home, but the importance of real estate decreases sharply as one moves higher in the wealth hierarchy. In the “9 percent” group, at around 1 million euros, real estate accounts for half of total wealth and for some individuals more than three-quarters. In the top centile, by contrast, financial and business assets clearly predominate over real estate. In particular, shares of stock or partnerships constitute nearly the totality of the largest fortunes. Between 2 and 5 million euros, the share of real estate is less than one-third; above 5 million euros, it falls below 20 percent; above 10 million euros, it is less than 10 percent and wealth consists primarily of stock. Housing is the favorite investment of the middle class and moderately well-to-do, but true wealth always consists primarily of financial and business assets.

Between the poorest 50 percent (who own 5 percent of total wealth, or an average of 20,000 euros each in the example) and the richest 10 percent (who own 60 percent of total wealth, or an average of 1.2 million euros each) lies the middle 40 percent: this “middle class of wealth” owns 35 percent of total national wealth, which means that their average net wealth is fairly close to the average for society as a whole—in the example, it comes to exactly 175,000 euros per adult. Within this vast group, where individual wealth ranges from barely 100,000 euros to more than 400,000, a key role is often played by ownership of a primary residence and the way it is acquired and paid for. Sometimes, in addition to a home, there is also a substantial amount of savings. For example, a net capital of 200,000 euros may consist of a house valued at 250,000 euros, from which an outstanding mortgage balance of 100,000 euros must be deducted, together with savings of 50,000 euros invested in a life insurance policy or retirement savings account. When the mortgage is fully paid off, net wealth in this case will rise to 300,000 euros, or even more if the savings account has grown in the meantime. This is a typical trajectory in the middle class of the wealth hierarchy, who are richer than the poorest 50 percent (who own practically nothing) but poorer than the richest 10 percent (who own much more).

A Major Innovation: The Patrimonial Middle Class

Make no mistake: the growth of a true “patrimonial (or propertied) middle class” was the principal structural transformation of the distribution of wealth in the developed countries in the twentieth century.

To go back a century in time, to the decade 1900–1910: in all the countries of Europe, the concentration of capital was then much more extreme than it is today. It is important to bear in mind the orders of magnitude indicated in Table 7.2. In this period in France, Britain, and Sweden, as well as in all other countries for which we have data, the richest 10 percent owned virtually all of the nation's wealth: the share owned by the upper decile reached 90 percent. The wealthiest 1 percent alone owned more than 50 percent of all wealth. The upper centile exceeded 60 percent in some especially inegalitarian countries, such as Britain. On the other hand, the middle 40 percent owned just over 5 percent of national wealth (between 5 and 10 percent depending on the country), which was scarcely more than the poorest 50 percent, who then as now owned less than 5 percent.

In other words, there was no middle class in the specific sense that the middle 40 percent of the wealth distribution were almost as poor as the bottom 50 percent. The vast majority of people owned virtually nothing, while the lion's share of society's assets belonged to a minority. To be sure, this was not a tiny minority: the upper decile comprised an elite far larger than the upper centile, which even so included a substantial number of people. Nevertheless, it was a minority. Of course, the distribution curve was continuous, as it is in all societies, but its slope was extremely steep in the neighborhood of the top decile and centile, so that there was an abrupt transition from the world of the poorest 90 percent (whose members had at most a few tens of thousands of euros' worth of wealth in today's currency) to that of the richest 10 percent, whose members owned the equivalent of several million euros or even tens of millions of euros.¹⁹

The emergence of a patrimonial middle class was an important, if fragile, historical innovation, and it would be a serious mistake to underestimate it. To be sure, it is tempting to insist on the fact that wealth is still extremely concentrated today: the upper decile own 60 percent of Europe's wealth and more than 70 percent in the United States.²⁰ And the poorer half of the population are as poor today as they were in the past, with barely 5 percent of total wealth in 2010, just as in 1910. Basically, all the middle class managed to get its hands on was a few crumbs: scarcely more than a third of Europe's wealth and barely a quarter in the United States. This middle group has four times as many members as the top decile yet only one-half to one-third as much wealth. It is tempting to conclude that nothing has really changed: inequalities in the ownership of capital are still extreme (see Table 7.2).

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None of this is false, and it is essential to be aware of these things: the historical reduction of inequalities of wealth is less substantial than many people believe. Furthermore, there is no guarantee that the limited compression of inequality that we have seen is irreversible. Nevertheless, the crumbs that the middle class has collected are important, and it would be wrong to underestimate the historical significance of the change. A person who has a fortune of 200,000 to 300,000 euros may not be rich but is a long way from being destitute, and most of these people do not like to be treated as poor. Tens of millions of individuals—40 percent of the population represents a large group, intermediate between rich and poor—individually own property worth hundreds of thousands of euros and collectively lay claim to one-quarter to one-third of national wealth: this is a change of some moment. In historical terms, it was a major transformation, which deeply altered the social landscape and the political structure of society and helped to redefine the terms of distributive conflict. It is therefore essential to understand why it occurred.

The rise of a propertied middle class was accompanied by a very sharp decrease in the wealth share of the upper centile, which fell by more than half, going from more than 50 percent in Europe at the turn of the twentieth century to around 20–25 percent at the end of that century and beginning of the next. As we will see, this partly invalidated Vautrin's lesson, in that the number of fortunes large enough to allow a person to live comfortably on annual rents decreased dramatically: an ambitious young Rastignac could no longer live better by marrying Mademoiselle Victorine than by studying law. This was historically important, because the extreme concentration of wealth in Europe around 1900 was in fact characteristic of the entire nineteenth century. All available sources agree that these orders of magnitude—90 percent of wealth for the top decile and at least 50 percent for the top centile—were also characteristic of traditional rural societies, whether in Ancien Régime France or eighteenth-century England. Such concentration of capital is in fact a necessary condition for societies based on accumulated and inherited wealth, such as those described in the novels of Austen and Balzac, to exist and prosper. Hence one of the main goals of this book is to understand the conditions under which such concentrated wealth can emerge, persist, vanish, and perhaps reappear.

Inequality of Total Income: Two Worlds

Finally, let us turn now to inequality of total income, that is, of income from both labor and capital (see Table 7.3). Unsurprisingly, the level of inequality of total income falls between inequality of income from labor and inequality of ownership of capital. Note, too, that inequality of total income is closer to inequality of income from labor than to inequality of capital, which comes as no surprise, since income from labor generally accounts for two-thirds to three-quarters of total national income. Concretely, the top decile of the income hierarchy received about 25 percent of national income in the egalitarian societies of Scandinavia in the 1970s and 1980s (it was 30 percent in Germany and France at that time and is more than 35 percent now). In more inegalitarian societies, the top decile claimed as much as 50 percent of national income (with about 20 percent going to the top centile). This was true in France and Britain during the Ancien Régime as well as the Belle Époque and is true in the United States today.

Is it possible to imagine societies in which the concentration of income is much greater? Probably not. If, for example, the top decile appropriates 90 percent of each year's output (and the top centile took 50 percent just for itself, as in the case of wealth), a revolution will likely occur, unless some peculiarly effective repressive apparatus exists to keep it from happening. When it comes to the ownership of capital, such a high degree of concentration is already a source of powerful political tensions, which are often difficult to reconcile with universal suffrage. Yet such capital concentration might be tenable if the income from capital accounts for only a small part of national income: perhaps one-fourth to one-third, or sometimes a bit more, as in the Ancien Régime (which made the extreme concentration of wealth at that time particularly oppressive). But if the same level of inequality applies to the totality of national income, it is hard to imagine that those at the bottom will accept the situation permanently.

That said, there are no grounds for asserting that the upper decile can never claim more than 50 percent of national income or that a country's economy would collapse if this symbolic threshold were crossed. In fact, the available historical data are far from perfect, and it is not out of the question that this symbolic limit has already been exceeded. In particular, it is possible that under the Ancien Régime, right up to the eve of the French

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Revolution, the top decile did take more than 50 percent and even as much as 60 percent or perhaps slightly more of national income. More generally, this may have been the case in other traditional rural societies. Indeed, whether such extreme inequality is or is not sustainable depends not only on the effectiveness of the repressive apparatus but also, and perhaps primarily, on the effectiveness of the apparatus of justification. If inequalities are seen as justified, say because they seem to be a consequence of a choice by the rich to work harder or more efficiently than the poor, or because preventing the rich from earning more would inevitably harm the worst-off members of society, then it is perfectly possible for the concentration of income to set new historical records. That is why I indicate in Table 7.3 that the United States may set a new record around 2030 if inequality of income from labor—and to a lesser extent inequality of ownership of capital—continue to increase as they have done in recent decades. The top decile would then claim about 60 percent of national income, while the bottom half would get barely 15 percent.

I want to insist on this point: the key issue is the justification of inequalities rather than their magnitude as such. That is why it is essential to analyze the structure of inequality. In this respect, the principal message of Tables 7.1–3 is surely that there are two different ways for a society to achieve a very unequal distribution of total income (around 50 percent for the top decile and 20 percent for the top centile).

The first of these two ways of achieving such high inequality is through a “hyperpatrimonial society” (or “society of rentiers”): a society in which inherited wealth is very important and where the concentration of wealth attains extreme levels (with the upper decile owning typically 90 percent of all wealth, with 50 percent belonging to the upper centile alone). The total income hierarchy is then dominated by very high incomes from capital, especially inherited capital. This is the pattern we see in Ancien Régime France and in Europe during the Belle Époque, with on the whole minor variations. We need to understand how such structures of ownership and inequality emerged and persisted and to what extent they belong to the past—unless of course they are also pertinent to the future.

The second way of achieving such high inequality is relatively new. It was largely created by the United States over the past few decades. Here we see that a very high level of total income inequality can be the result of a

“hypermeritocratic society” (or at any rate a society that the people at the top like to describe as hypermeritocratic). One might also call this a “society of superstars” (or perhaps “supermanagers,” a somewhat different characterization). In other words, this is a very inegalitarian society, but one in which the peak of the income hierarchy is dominated by very high incomes from labor rather than by inherited wealth. I want to be clear that at this stage I am not making a judgment about whether a society of this kind really deserves to be characterized as “hypermeritocratic.” It is hardly surprising that the winners in such a society would wish to describe the social hierarchy in this way, and sometimes they succeed in convincing some of the losers. For present purposes, however, hypermeritocracy is not a hypothesis but one possible conclusion of the analysis—bearing in mind that the opposite conclusion is equally possible. I will analyze in what follows how far the rise of labor income inequality in the United States has obeyed a “meritocratic” logic (insofar as it is possible to answer such a complex normative question).

At this point it will suffice to note that the stark contrast I have drawn here between two types of hyperinegalitarian society—a society of rentiers and a society of supermanagers—is naïve and overdrawn. The two types of inequality can coexist: there is no reason why a person can’t be both a supermanager and a rentier—and the fact that the concentration of wealth is currently much higher in the United States than in Europe suggests that this may well be the case in the United States today. And of course there is nothing to prevent the children of supermanagers from becoming rentiers. In practice, we find both logics at work in every society. Nevertheless, there is more than one way of achieving the same level of inequality, and what primarily characterizes the United States at the moment is a record level of inequality of income from labor (probably higher than in any other society at any time in the past, anywhere in the world, including societies in which skill disparities were extremely large) together with a level of inequality of wealth less extreme than the levels observed in traditional societies or in Europe in the period 1900–1910. It is therefore essential to understand the conditions under which each of these two logics could develop, while keeping in mind that they may complement each other in the century ahead and combine their effects. If this happens, the future could hold in store a new world of inequality more extreme than any that preceded it.²¹

Problems of Synthetic Indices

Before turning to a country-by-country examination of the historical evolution of inequality in order to answer the questions posed above, several methodological issues remain to be discussed. In particular, Tables 7.1–3 include indications of the Gini coefficients of the various distributions considered. The Gini coefficient—named for the Italian statistician Corrado Gini (1884–1965)—is one of the more commonly used synthetic indices of inequality, frequently found in official reports and public debate. By construction, it ranges from 0 to 1: it is equal to 0 in case of complete equality and to 1 when inequality is absolute, that is, when a very tiny group owns all available resources.

In practice, the Gini coefficient varies from roughly 0.2 to 0.4 in the distributions of labor income observed in actual societies, from 0.6 to 0.9 for observed distributions of capital ownership, and from 0.3 to 0.5 for total income inequality. In Scandinavia in the 1970s and 1980s, the Gini coefficient of the labor income distribution was 0.19, not far from absolute equality. Conversely, the wealth distribution in Belle Époque Europe exhibited a Gini coefficient of 0.85, not far from absolute inequality.²²

These coefficients—and there are others, such as the Theil index—are sometimes useful, but they raise many problems. They claim to summarize in a single numerical index all that a distribution can tell us about inequality—the inequality between the bottom and the middle of the hierarchy as well as between the middle and the top or between the top and the very top. This is very simple and appealing at first glance but inevitably somewhat misleading. Indeed, it is impossible to summarize a multidimensional reality with a unidimensional index without unduly simplifying matters and mixing up things that should not be treated together. The social reality and economic and political significance of inequality are very different at different levels of the distribution, and it is important to analyze these separately. In addition, Gini coefficients and other synthetic indices tend to confuse inequality in regard to labor with inequality in regard to capital, even though the economic mechanisms at work, as well as the normative justifications of inequality, are very different in the two cases. For all these reasons, it seemed to me far better to analyze inequalities in terms of distribution tables indicating the shares of various deciles and centiles in total income and total wealth rather than using synthetic indices such as the Gini coefficient.

Distribution tables are also valuable because they force everyone to take note of the income and wealth levels of the various social groups that make up the existing hierarchy. These levels are expressed in cash terms (or as a percentage of average income and wealth levels in the country concerned) rather than by way of artificial statistical measures that can be difficult to interpret. Distribution tables allow us to have a more concrete and visceral understanding of social inequality, as well as an appreciation of the data available to study these issues and the limits of those data. By contrast, statistical indices such as the Gini coefficient give an abstract and sterile view of inequality, which makes it difficult for people to grasp their position in the contemporary hierarchy (always a useful exercise, particularly when one belongs to the upper centiles of the distribution and tends to forget it, as is often the case with economists). Indices often obscure the fact that there are anomalies or inconsistencies in the underlying data, or that data from other countries or other periods are not directly comparable (because, for example, the tops of the distribution have been truncated or because income from capital is omitted for some countries but not others). Working with distribution tables forces us to be more consistent and transparent.

The Chaste Veil of Official Publications

For similar reasons, caution is in order when using indices such as the interdecile ratios often cited in official reports on inequality from the OECD or national statistical agencies. The most frequently used interdecile ratio is the P_{90}/P_{10} , that is, the ratio between the ninetieth percentile of the income distribution and the tenth percentile.²³ For example, if one needs to earn more than 5,000 euros a month to belong to the top 10 percent of the income distribution and less than 1,000 euros a month to belong to the bottom 10 percent, then the P_{90}/P_{10} ratio is 5.

Such indices can be useful. It is always valuable to have more information about the complete shape of the distribution in question. One should bear in mind, however, that by construction these ratios totally ignore the evolution of the distribution beyond the ninetieth percentile. Concretely, no matter what the P_{90}/P_{10} ratio may be, the top decile of the income or wealth distribution may have 20 percent of the total (as in the case of Scandinavian incomes in the 1970s and 1980s) or 50 percent (as in the case of US incomes in

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the 2010s) or 90 percent (as in the case of European wealth in the Belle Époque). We will not learn any of this by consulting the publications of the international organizations or national statistical agencies who compile these statistics, however, because they usually focus on indices that deliberately ignore the top end of the distribution and give no indication of income or wealth beyond the ninetieth percentile.

This practice is generally justified on the grounds that the available data are “imperfect.” This is true, but the difficulties can be overcome by using adequate sources, as the historical data collected (with limited means) in the World Top Incomes Database (WTID) show. This work has begun, slowly, to change the way things are done. Indeed, the methodological decision to ignore the top end is hardly neutral: the official reports of national and international agencies are supposed to inform public debate about the distribution of income and wealth, but in practice they often give an artificially rosy picture of inequality. It is as if an official government report on inequalities in France in 1789 deliberately ignored everything above the ninetieth percentile—a group 5 to 10 times larger than the entire aristocracy of the day—on the grounds that it was too complex to say anything about. Such a chaste approach is all the more regrettable in that it inevitably feeds the wildest fantasies and tends to discredit official statistics and statisticians rather than calm social tensions.

Conversely, interdecile ratios are sometimes quite high for largely artificial reasons. Take the distribution of capital ownership, for example: the bottom 50 percent of the distribution generally own next to nothing. Depending on how small fortunes are measured—for example, whether or not durable goods and debts are counted—one can come up with apparently quite different evaluations of exactly where the tenth percentile of the wealth hierarchy lies: for the same underlying social reality, one might put it at 100 euros, 1,000 euros, or even 10,000 euros, which in the end isn’t all that different but can lead to very different interdecile ratios, depending on the country and the period, even though the bottom half of the wealth distribution owns less than 5 percent of total wealth. The same is only slightly less true of the labor income distribution: depending on how one chooses to treat replacement incomes and pay for short periods of work (for example, depending on whether one uses the average weekly, monthly, annual, or decadal income) one can come up with highly variable P10 thresholds (and therefore interdecile ratios),

even though the bottom 50 percent of the labor income distribution actually draws a fairly stable share of the total income from labor.²⁴

This is perhaps one of the main reasons why it is preferable to study distributions as I have presented them in Tables 7.1–3, that is, by emphasizing the shares of income and wealth claimed by different groups, particularly the bottom half and the top decile in each society, rather than the threshold levels defining given percentiles. The shares give a much more stable picture of reality than the interdecile ratios.

Back to “Social Tables” and Political Arithmetic

These, then, are my reasons for believing that the distribution tables I have been examining in this chapter are the best tool for studying the distribution of wealth, far better than synthetic indices and interdecile ratios.

In addition, I believe that my approach is more consistent with national accounting methods. Now that national accounts for most countries enable us to measure national income and wealth every year (and therefore average income and wealth, since demographic sources provide easy access to population figures), the next step is naturally to break down these total income and wealth figures by decile and centile. Many reports have recommended that national accounts be improved and “humanized” in this way, but little progress has been made to date.²⁵ A useful step in this direction would be a breakdown indicating the poorest 50 percent, the middle 40 percent, and the richest 10 percent. In particular, such an approach would allow any observer to see just how much the growth of domestic output and national income is or is not reflected in the income actually received by these different social groups. For instance, only by knowing the share going to the top decile can we determine the extent to which a disproportionate share of growth has been captured by the top end of the distribution. Neither a Gini coefficient nor an interdecile ratio permits such a clear and precise response to this question.

I will add, finally, that the distribution tables whose use I am recommending are in some ways fairly similar to the “social tables” that were in vogue in the eighteenth and early nineteenth centuries. First developed in Britain and France in the late seventeenth century, these social tables were widely used, improved, and commented on in France during the Enlightenment: for example, in the celebrated article on “political arithmetic” in Diderot’s *Encyclopedia*. From

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the earliest versions established by Gregory King in 1688 to the more elaborate examples compiled by Expilly and Isnard on the eve of the French Revolution or by Peuchet, Colqhoun, and Blodget during the Napoleonic era, social tables always aimed to provide a comprehensive vision of the social structure: they indicated the number of nobles, bourgeois, gentlemen, artisans, farmers, and so on along with their estimated income (and sometimes wealth); the same authors also compiled the earliest estimates of national income and wealth. There is, however, one essential difference between these tables and mine: the old social tables used the social categories of their time and did not seek to ascertain the distribution of wealth or income by deciles and centiles.²⁶

Nevertheless, social tables sought to portray the flesh-and-blood aspects of inequality by emphasizing the shares of national wealth held by different social groups (and, in particular, the various strata of the elite), and in this respect there are clear affinities with the approach I have taken here. At the same time, social tables are remote in spirit from the sterile, atemporal statistical measures of inequality such as those employed by Gini and Pareto, which were all too commonly used in the twentieth century and tend to naturalize the distribution of wealth. The way one tries to measure inequality is never neutral.

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Two Worlds

I have now precisely defined the notions needed for what follows, and I have introduced the orders of magnitude attained in practice by inequality with respect to labor and capital in various societies. The time has now come to look at the historical evolution of inequality around the world. How and why has the structure of inequality changed since the nineteenth century? The shocks of the period 1914–1945 played an essential role in the compression of inequality, and this compression was in no way a harmonious or spontaneous occurrence. The increase in inequality since 1970 has not been the same everywhere, which again suggests that institutional and political factors played a key role.

*A Simple Case: The Reduction of Inequality in France
in the Twentieth Century*

I will begin by examining at some length the case of France, which is particularly well documented (thanks to a rich lode of readily available historical sources). It is also relatively simple and straightforward (as far as it is possible for a history of inequality to be straightforward) and, above all, broadly representative of changes observed in several other European countries. By “European” I mean “continental European,” because in some respects the British case is intermediate between the European and the US cases. To a large extent the continental European pattern is also representative of what happened in Japan. After France I will turn to the United States, and finally I will extend the analysis to the entire set of developed and emerging economies for which adequate historical data exist.

Figure 8.1 depicts the upper decile’s share of both national income and wages over time. Three facts stand out.

First, income inequality has greatly diminished in France since the Belle Époque: the upper decile’s share of national income decreased from 45–50 percent on the eve of World War I to 30–35 percent today.

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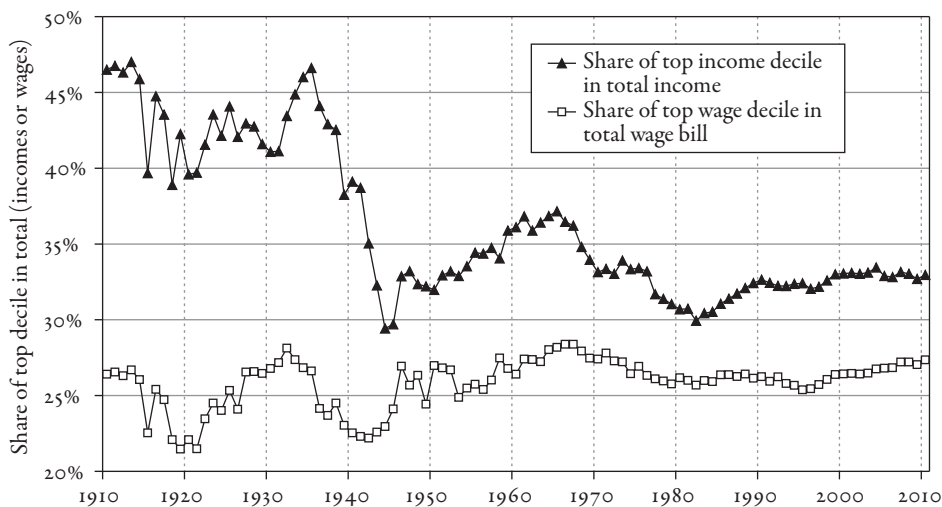


FIGURE 8.1. Income inequality in France, 1910–2010

Inequality of total income (labor and capital) has dropped in France during the twentieth century, while wage inequality has remained the same.

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

This drop of 15 percentage points of national income is considerable. It represents a decrease of about one-third in the share of each year's output going to the wealthiest 10 percent of the population and an increase of about a third in the share going to the other 90 percent. Note, too, that this is roughly equivalent to three-quarters of what the bottom half of the population received in the Belle Époque and more than half of what it receives today.¹ Recall, moreover, that in this part of the book, I am examining inequality of primary incomes (that is, before taxes and transfers). In Part Four, I will show how taxes and transfers reduced inequality even more. To be clear, the fact that inequality decreased does not mean that we are living today in an egalitarian society. It mainly reflects the fact that the society of the Belle Époque was extremely inegalitarian—indeed, one of the most inegalitarian societies of all time. The form that this inequality took and the way it came about would not, I think, be readily accepted today.

Second, the significant compression of income inequality over the course of the twentieth century was due entirely to diminished top incomes from capital. If we ignore income from capital and concentrate on wage inequality,

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FIGURE 8.2. The fall of rentiers in France, 1910–2010

The fall in the top percentile share (the top 1 percent highest incomes) in France between 1914 and 1945 is due to the fall of top capital incomes.

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

we find that the distribution remained quite stable over the long run. In the first decade of the twentieth century as in the second decade of the twenty-first, the upper decile of the wage hierarchy received about 25 percent of total wages. The sources also indicate long-term stability of wage inequality at the bottom end of the distribution. For example, the least well paid 50 percent always received 25–30 percent of total wages (so that the average pay of a member of this group was 50–60 percent of the average wage overall), with no clear long-term trend.² The wage level has obviously changed a great deal over the past century, and the composition and skills of the workforce have been totally transformed, but the wage hierarchy has remained more or less the same. If top incomes from capital had not decreased, income inequality would not have diminished in the twentieth century.

This fact stands out even more boldly when we climb the rungs of the social ladder. Look, in particular, at the evolution of the top centile (Figure 8.2).³ Compared with the peak inequality of the Belle Époque, the top centile’s share of income literally collapsed in France over the course of the twentieth century, dropping from more than 20 percent of national income in 1900–1910

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to 8 or 9 percent in 2000–2010. This represents a decrease of more than half in one century, indeed nearly two-thirds if we look at the bottom of the curve in the early 1980s, when the top centile's share of national income was barely 7 percent.

Again, this collapse was due solely to the decrease of very high incomes from capital (or, crudely put, the fall of the rentier). If we look only at wages, we find that the upper centile's share remains almost totally stable over the long run at around 6 or 7 percent of total wages. On the eve of World War I, income inequality (as measured by the share of the upper centile) was nearly three times greater than wage inequality. Today it is a nearly a third higher and largely identical with wage inequality, to the point where one might imagine—incorrectly—that top incomes from capital have virtually disappeared (see Figure 8.2).

To sum up: the reduction of inequality in France during the twentieth century is largely explained by the fall of the rentier and the collapse of very high incomes from capital. No generalized structural process of inequality compression (and particularly wage inequality compression) seems to have operated over the long run, contrary to the optimistic predictions of Kuznets's theory.

Herein lies a fundamental lesson about the historical dynamics of the distribution of wealth, no doubt the most important lesson the twentieth century has to teach. This is all the more true when we recognize that the factual picture is more or less the same in all developed countries, with minor variations.

The History of Inequality: A Chaotic Political History

The third important fact to emerge from Figures 8.1 and 8.2 is that the history of inequality has not been a long, tranquil river. There have been many twists and turns and certainly no irrepressible, regular tendency toward a "natural" equilibrium. In France and elsewhere, the history of inequality has always been chaotic and political, influenced by convulsive social changes and driven not only by economic factors but by countless social, political, military, and cultural phenomena as well. Socioeconomic inequalities—disparities of income and wealth between social groups—are always both causes and effects of other developments in other spheres. All these dimensions of analysis are

inextricably intertwined. Hence the history of the distribution of wealth is one way of interpreting a country's history more generally.

In the case of France, it is striking to see the extent to which the compression of income inequality is concentrated in one highly distinctive period: 1914–1945. The shares of both the upper decile and upper centile in total income reached their nadir in the aftermath of World War II and seem never to have recovered from the extremely violent shocks of the war years (see Figures 8.1 and 8.2). To a large extent, it was the chaos of war, with its attendant economic and political shocks, that reduced inequality in the twentieth century. There was no gradual, consensual, conflict-free evolution toward greater equality. In the twentieth century it was war, and not harmonious democratic or economic rationality, that erased the past and enabled society to begin anew with a clean slate.

What were these shocks? I discussed them in Part Two: destruction caused by two world wars, bankruptcies caused by the Great Depression, and above all new public policies enacted in this period (from rent control to nationalizations and the inflation-induced euthanasia of the rentier class that lived on government debt). All of these things led to a sharp drop in the capital/income ratio between 1914 and 1945 and a significant decrease in the share of income from capital in national income. But capital is far more concentrated than labor, so income from capital is substantially overrepresented in the upper decile of the income hierarchy (even more so in the upper centile). Hence there is nothing surprising about the fact that the shocks endured by capital, especially private capital, in the period 1914–1945 diminished the share of the upper decile (and upper centile), ultimately leading to a significant compression of income inequality.

France first imposed a tax on income in 1914 (the Senate had blocked this reform since the 1890s, and it was not finally adopted until July 15, 1914, a few weeks before war was declared, in an extremely tense climate). For that reason, we unfortunately have no detailed annual data on the structure of income before that date. In the first decade of the twentieth century, numerous estimates were made of the distribution of income in anticipation of the imposition of a general income tax, in order to predict how much revenue such a tax might bring in. We therefore have a rough idea of how concentrated income was in the Belle Époque. But these estimates are not sufficient to give us historical perspective on the shock of World War I (for that, the income tax

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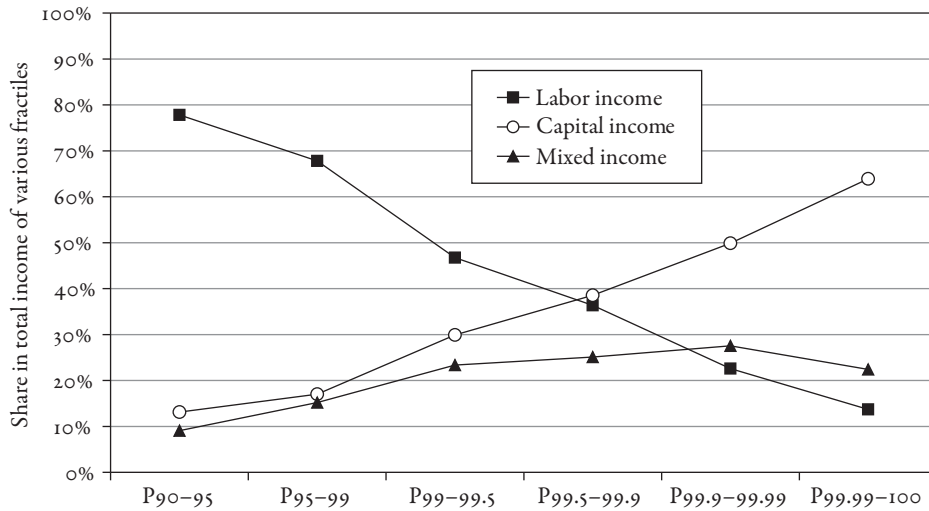


FIGURE 8.3. The composition of top incomes in France in 1932

Labor income becomes less and less important as one goes up within the top decile of total income. Notes: (i) “P90–95” includes individuals between percentiles 90 to 95, “P95–99” includes the next 4 percent, “P99–99.5” the next 0.5 percent, etc.; (ii) Labor income: wages, bonuses, pensions. Capital income: dividends, interest, rent. Mixed income: self-employment income.

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

would have to have been adopted several decades earlier).⁴ Fortunately, data on estate taxes, which have been levied since 1791, allow us to study the evolution of the wealth distribution throughout the nineteenth and twentieth centuries, and we are therefore able to confirm the central role played by the shocks of 1914–1945. For these data indicate that on the eve of World War I, nothing presaged a spontaneous reduction of the concentration of capital ownership—on the contrary. From the same source we also know that income from capital accounted for the lion’s share of the upper centile’s income in the period 1900–1910.

From a “Society of Rentiers” to a “Society of Managers”

In 1932, despite the economic crisis, income from capital still represented the main source of income for the top 0.5 percent of the distribution (see Figure 8.3).⁵ But when we look at the composition of the top income group

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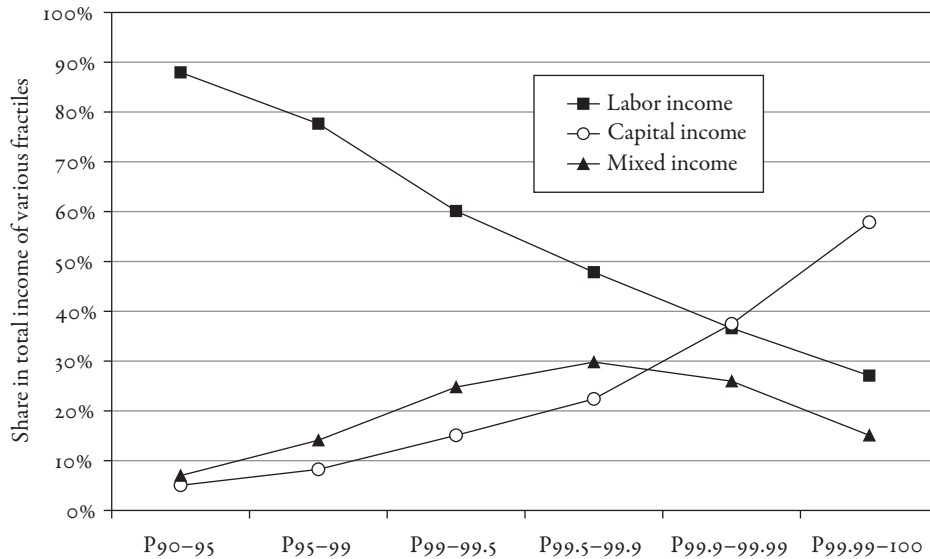


FIGURE 8.4. The composition of top incomes in France in 2005

Capital income becomes dominant at the level of the top 0.1 percent in France in 2005, as opposed to the top 0.5 percent in 1932.

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

today, we find that a profound change has occurred. To be sure, today as in the past, income from labor gradually disappears as one moves higher in the income hierarchy, and income from capital becomes more and more predominant in the top centiles and thousandths of the distribution: this structural feature has not changed. There is one crucial difference, however: today one has to climb much higher in the social hierarchy before income from capital outweighs income from labor. Currently, income from capital exceeds income from labor only in the top 0.1 percent of the income distribution (see Figure 8.4). In 1932, this social group was 5 times larger; in the Belle Époque it was 10 times larger.

Make no mistake: this is a significant change. The top centile occupies a very prominent place in any society. It structures the economic and political landscape. This is much less true of the top thousandth.⁶ Although this is a matter of degree, it is nevertheless important: there are moments when the quantitative becomes qualitative. This change also explains why the share of income going to the upper centile today is barely higher than the upper centile's

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share of total wages: income from capital assumes decisive importance only in the top thousandth or top ten-thousandth. Its influence in the top centile as a whole is relatively insignificant.

To a large extent, we have gone from a society of rentiers to a society of managers, that is, from a society in which the top centile is dominated by rentiers (people who own enough capital to live on the annual income from their wealth) to a society in which the top of the income hierarchy, including to upper centile, consists mainly of highly paid individuals who live on income from labor. One might also say, more correctly (if less positively), that we have gone from a society of superrentiers to a less extreme form of rentier society, with a better balance between success through work and success through capital. It is important, however, to be clear that this major upheaval came about, in France at any rate, without any expansion of the wage hierarchy (which has been globally stable for a long time: the universe of individuals who are paid for their labor has never been as homogeneous as many people think); it was due entirely to the decrease in high incomes from capital.

To sum up: what happened in France is that rentiers (or at any rate nine-tenths of them) fell behind managers; managers did not race ahead of rentiers. We need to understand the reasons for this long-term change, which are not obvious at first glance, since I showed in Part Two that the capital/income ratio has lately returned to Belle Époque levels. The collapse of the rentier between 1914 and 1945 is the obvious part of the story. Exactly why rentiers have not come back is the more complex and in some ways more important and interesting part. Among the structural factors that may have limited the concentration of wealth since World War II and to this day have helped prevent the resurrection of a society of rentiers as extreme as that which existed on the eve of World War I, we can obviously cite the creation of highly progressive taxes on income and inheritances (which for the most part did not exist prior to 1920). But other factors may also have played a significant and potentially equally important role.

The Different Worlds of the Top Decile

But first, let me dwell a moment on the very diverse social groups that make up the top decile of the income hierarchy. The boundaries between the various subgroups have changed over time: income from capital used to predomi-

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nate in the top centile but today predominates only in the top thousandth. More than that, the coexistence of several worlds within the top decile can help us to understand the often chaotic short- and medium-term evolutions we see in the data. Income statements required by the new tax laws have proved to be a rich historical source, despite their many imperfections. With their help, it is possible to precisely describe and analyze the diversity at the top of the income distribution and its evolution over time. It is particularly striking to note that in all the countries for which we have this type of data, in all periods, the composition of the top income group can be characterized by intersecting curves like those shown in Figures 8.3 and 8.4 for France in 1932 and 2005, respectively: the share of income from labor always decreases rapidly as one moves progressively higher in the top decile, and the share of income from capital always rises sharply.

In the poorer half of the top decile, we are truly in the world of managers: 80–90 percent of income comes from compensation for labor.⁷ Moving up to the next 4 percent, the share of income from labor decreases slightly but remains clearly dominant at 70–80 percent of total income in the interwar period as well as today (see Figures 8.3 and 8.4). In this large “9 percent” group (that is, the upper decile exclusive of the top centile), we find mainly individuals living primarily on income from labor, including both private sector managers and engineers and senior officials and teachers from the public sector. Here, pay is usually 2 to 3 times the average wage for society as a whole: if average wages are 2,000 euros a month, in other words, this group earns 4,000–6,000 a month.

Obviously, the types of jobs and levels of skill required at this level have changed considerably over time: in the interwar years, high school teachers and even late-career grade school teachers belonged to “the 9 percent,” whereas today one has to be a college professor or researcher or, better yet, a senior government official to make the grade.⁸ In the past, a foreman or skilled technician came close to making it into this group. Today one has to be at least a middle manager and increasingly a top manager with a degree from a prestigious university or business school. The same is true lower down the pay scale: once upon a time, the least well paid workers (typically paid about half the average wage, or 1,000 euros a month if the average is 2,000) were farm laborers and domestic servants. At a later point, these were replaced by less skilled industrial workers, many of whom were women in the textile and food

processing industries. This group still exists today, but the lowest paid workers are now in the service sector, employed as waiters and waitresses in restaurants or as shop clerks (again, many of these are women). Thus the labor market was totally transformed over the past century, but the structure of wage inequality across the market barely changed over the long run, with “the 9 percent” just below the top and the 50 percent at the bottom still drawing about the same shares of income from labor over a very considerable period of time.

Within “the 9 percent” we also find doctors, lawyers, merchants, restaurateurs, and other self-employed entrepreneurs. Their number grows as we move closer to “the 1 percent,” as is shown by the curve indicating the share of “mixed incomes” (that is, incomes of nonwage workers, which includes both compensation for labor and income from business capital, which I have shown separately in Figures 8.3 and 8.4). Mixed incomes account for 20–30 percent of total income in the neighborhood of the top centile threshold, but this percentage decreases as we move higher into the top centile, where pure capital income (rent, interest, and dividends) clearly predominates. To make it into “the 9 percent” or even rise into the lower strata of “the 1 percent,” which means attaining an income 4–5 times higher than the average (that is, 8,000–10,000 euros a month in a society where the average income is 2,000), choosing to become a doctor, lawyer, or successful restaurateur may therefore be a good strategy, and it is almost as common (actually about half as common) as the choice to become a top manager in a large firm.⁹ But to reach the stratosphere of “the 1 percent” and enjoy an income several tens of times greater than average (hundreds of thousands if not millions of euros per year), such a strategy is unlikely to be enough. A person who owns substantial amounts of assets is more likely to reach the top of the income hierarchy.¹⁰

It is interesting that it was only in the immediate postwar years (1919–1920 in France and then again 1945–1946) that this hierarchy was reversed: mixed incomes very briefly surpassed income from capital in the upper levels of the top centile. This apparently reflects rapid accumulation of new fortunes in connection with postwar reconstruction.¹¹

To sum up: the top decile always encompasses two very different worlds: “the 9 percent,” in which income from labor clearly predominates, and “the 1 percent,” in which income from capital becomes progressively more important (more or less rapidly and massively, depending on the period). The transi-

tion between the two groups is always gradual, and the frontiers are of course porous, but the differences are nevertheless clear and systematic.

For example, while income from capital is obviously not altogether absent from the income of “the 9 percent,” it is usually not the main source of income but simply a supplement. A manager earning 4,000 euros a month may also own an apartment that she rents for 1,000 euros a month (or lives in, thus avoiding paying a rent of 1,000 euros a month, which comes to the same thing financially). Her total income is then 5,000 euros a month, 80 percent of which is income from labor and 20 percent from capital. Indeed, an 80–20 split between labor and capital is reasonably representative of the structure of income among “the 9 percent”; this was true between the two world wars and remains true today. A part of this group’s income from capital may also come from savings accounts, life insurance contracts, and financial investments, but real estate generally predominates.¹²

Conversely, within “the 1 percent,” it is labor income that gradually becomes supplementary, while capital increasingly becomes the main source of income. Another interesting pattern is the following: if we break income from capital down into rent on land and structures on the one hand and dividends and interest from mobile capital on the other, we find that the very large share of income from capital in the upper decile is due largely to the latter (especially dividends). For example, in France, the share of income from capital in 1932 as well as 2005 is 20 percent at the level of “the 9 percent” but increases to 60 percent in the top 0.01 percent. In both cases, this sharp increase is explained entirely by income from financial assets (almost all of it in the form of dividends). The share of rent stagnates at around 10 percent of total income and even tends to diminish in the top centile. This pattern reflects the fact that large fortunes consist primarily of financial assets (mainly stocks and shares in partnerships).

The Limits of Income Tax Returns

Despite all these interesting patterns, I must stress the limits of the fiscal sources used in this chapter. Figures 8.3 and 8.4 are based solely on income from capital reported in tax returns. Actual capital income is therefore underestimated, owing both to tax evasion (it is easier to hide investment income than wages, for example, by using foreign bank accounts in countries that do

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not cooperate with the country in which the taxpayer resides) and to the existence of various tax exemptions that allow whole categories of capital income to legally avoid the income tax (which in France and elsewhere was originally intended to include all types of income). Since income from capital is over-represented in the top decile, this underdeclaration of capital income also implies that the shares of the upper decile and centile indicated on Figures 8.1 and 8.2, which are based solely on income tax returns, are underestimated (for France and other countries). These shares are in any case approximate. They are interesting (like all economic and social statistics) mainly as indicators of orders of magnitude and should be taken as low estimates of the actual level of inequality.

In the French case, we can compare self-declared income on tax returns with other sources (such as national accounts and sources that give a more direct measure of the distribution of wealth) to estimate how much we need to adjust our results to compensate for the underdeclaration of capital income. It turns out that we need to add several percentage points to capital income's share of national income (perhaps as many as 5 percentage points if we choose a high estimate of tax evasion, but more realistically 2 to 3 percentage points). This is not a negligible amount. Put differently, the share of the top decile in national income, which according to Figure 8.1 fell from 45–50 percent in 1900–1910 to 30–35 percent in 2000–2010, was no doubt closer to 50 percent (or even slightly higher) in the Belle Époque and is currently slightly more than 35 percent.¹³ Nevertheless, this correction does not significantly affect the overall evolution of income inequality. Even if opportunities for legal tax avoidance and illegal tax evasion have increased in recent years (thanks in particular to the emergence of tax havens about which I will say more later on), we must remember that income from mobile capital was already significantly underreported in the early twentieth century and during the interwar years. All signs are that the copies of dividend and interest coupons requested by the governments of that time were no more effective than today's bilateral agreements as a means of ensuring compliance with applicable tax laws.

To a first approximation, therefore, we may assume that accounting for tax avoidance and evasion would increase the levels of inequality derived from tax returns by similar proportions in different periods and would therefore not substantially modify the time trends and evolutions I have identified.

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Note, however, that we have not yet attempted to apply such corrections in a systematic and consistent way in different countries. This is an important limitation of the World Top Incomes Database. One consequence is that our series underestimate—probably slightly—the increase of inequality that can be observed in most countries after 1970, and in particular the role of income from capital. In fact, income tax returns are becoming increasingly less accurate sources for studying capital income, and it is indispensable to make use of other, complementary sources as well. These may be either macroeconomic sources (of the kind used in Part Two to study the dynamics of the capital/income ratio and capital-labor split) or microeconomic sources (with which it is possible to study the distribution of wealth directly, and of which I will make use in subsequent chapters).

Furthermore, different capital taxation laws may bias international comparisons. Broadly speaking, rents, interest, and dividends are treated fairly similarly in different countries.¹⁴ By contrast, there are significant variations in the treatment of capital gains. For instance, capital gains are not fully or consistently reported in French tax data (and I have simply excluded them altogether), while they have always been fairly well accounted for in US tax data. This can make a major difference, because capital gains, especially those realized from the sale of stocks, constitute a form of capital income that is highly concentrated in the very top income groups (in some cases even more than dividends). For example, if Figures 8.3 and 8.4 included capital gains, the share of income from capital in the top ten-thousandth would not be 60 percent but something closer to 70 or 80 percent (depending on the year).¹⁵ So as not to bias comparisons, I will present the results for the United States both with and without capital gains.

The other important limitation of income tax returns is that they contain no information about the origin of the capital whose income is being reported. We can see the income produced by capital owned by the taxpayer at a particular moment in time, but we have no idea whether that capital was inherited or accumulated by the taxpayer during his or her lifetime with income derived from labor (or from other capital). In other words, an identical level of inequality with respect to income from capital can in fact reflect very different situations, and we would never learn anything about these differences if we restricted ourselves to tax return data. Generally speaking, very

high incomes from capital usually correspond to fortunes so large that it is hard to imagine that they could have been amassed with savings from labor income alone (even in the case of a very high-level manager or executive). There is every reason to believe that inheritance plays a major role. As we will see in later chapters, however, the relative importance of inheritance and saving has evolved considerably over time, and this is a subject that deserves further study. Once again, I will need to make use of sources bearing directly on the question of inheritance.

The Chaos of the Interwar Years

Consider the evolution of income inequality in France over the last century. Between 1914 and 1945, the share of the top centile of the income hierarchy fell almost constantly, dropping gradually from 20 percent in 1914 to just 7 percent in 1945 (Figure 8.2). This steady decline reflects the long and virtually uninterrupted series of shocks sustained by capital (and income from capital) during this time. By contrast, the share of the top decile of the income hierarchy decreased much less steadily. It apparently fell during World War I, but this was followed by an unsteady recovery in the 1920s and then a very sharp, and at first sight surprising, rise between 1929 and 1935, followed by a steep decline in 1936–1938 and a collapse during World War II.¹⁶ In the end, the top decile's share of national income, which was more than 45 percent in 1914, fell to less than 30 percent in 1944–1945.

If we consider the entire period 1914–1945, the two declines are perfectly consistent: the share of the upper decile decreased by nearly 18 points, according to my estimates, and the upper centile by nearly 14 points.¹⁷ In other words, “the 1 percent” by itself accounts for roughly three-quarters of the decrease in inequality between 1914 and 1945, while “the 9 percent” explains roughly one-quarter. This is hardly surprising in view of the extreme concentration of capital in the hands of “the 1 percent,” who in addition often held riskier assets.

By contrast, the differences observed during this period are at first sight more surprising: Why did the share of the upper decile rise sharply after the crash of 1929 and continue at least until 1935, while the share of the top centile fell, especially between 1929 and 1932?

In fact, when we look at the data more closely, year by year, each of these variations has a perfectly good explanation. It is enlightening to revisit the

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chaotic interwar period, when social tensions ran very high. To understand what happened, we must recognize that “the 9 percent” and “the 1 percent” lived on very different income streams. Most of the income of “the 1 percent” came in the form of income from capital, especially interest and dividends paid by the firms whose stocks and bonds made up the assets of this group. That is why the top centile’s share plummeted during the Depression, as the economy collapsed, profits fell, and firm after firm went bankrupt.

By contrast, “the 9 percent” included many managers, who were the great beneficiaries of the Depression, at least when compared with other social groups. They suffered much less from unemployment than the employees who worked under them. In particular, they never experienced the extremely high rates of partial or total unemployment endured by industrial workers. They were also much less affected by the decline in company profits than those who stood above them in the income hierarchy. Within “the 9 percent,” midlevel civil servants and teachers fared particularly well. They had only recently been the beneficiaries of civil service raises granted in the period 1927–1931. (Recall that government workers, particularly those at the top of the pay scale, had suffered greatly during World War I and had been hit hard by the inflation of the early 1920s.) These midlevel employees were immune, too, from the risk of unemployment, so that the public sector’s wage bill remained constant in nominal terms until 1933 (and decreased only slightly in 1934–1935, when Prime Minister Pierre Laval sought to cut civil service pay). Meanwhile, private sector wages decreased by more than 50 percent between 1929 and 1935. The severe deflation France suffered in this period (prices fell by 25 percent between 1929 and 1935, as both trade and production collapsed) played a key role in the process: individuals lucky enough to hold on to their jobs and their nominal compensation—typically civil servants—enjoyed increased purchasing power in the midst of the Depression as falling prices raised their real wages. Furthermore, such capital income as “the 9 percent” enjoyed—typically in the form of rents, which were extremely rigid in nominal terms—also increased on account of the deflation, so that the real value of this income stream rose significantly, while the dividends paid to “the 1 percent” evaporated.

For all these reasons, the share of national income going to “the 9 percent” increased quite significantly in France between 1929 and 1935, much more than the share of “the 1 percent” decreased, so that the share of the upper decile as a whole increased by more than 5 percent of national income (see Figures

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8.1 and 8.2). The process was completely turned around, however, when the Popular Front came to power: workers' wages increased sharply as a result of the Matignon Accords, and the franc was devalued in September 1936, resulting in inflation and a decrease of the shares of both "the 9 percent" and the top decile in 1936–1938.¹⁸

The foregoing discussion demonstrates the usefulness of breaking income down by centiles and income source. If we had tried to analyze the interwar dynamic by using a synthetic index such as the Gini coefficient, it would have been impossible to understand what was going on. We would not have been able to distinguish between income from labor and income from capital or between short-term and long-term changes. In the French case, what makes the period 1914–1945 so complex is the fact that although the general trend is fairly clear (a sharp drop in the share of national income going to the top decile, induced by a collapse of the top centile's share), many smaller counter-movements were superimposed on this overall pattern in the 1920s and 1930s. We find similar complexity in other countries in the interwar period, with characteristic features associated with the history of each particular country. For example, deflation ended in the United States in 1933, when President Roosevelt came to power, so that the reversal that occurred in France in 1936 came earlier in America, in 1933. In every country the history of inequality is political—and chaotic.

The Clash of Temporalities

Broadly speaking, it is important when studying the dynamics of the income and wealth distributions to distinguish among several different time scales. In this book I am primarily interested in long-term evolutions, fundamental trends that in many cases cannot be appreciated on time scales of less than thirty to forty years or even longer, as shown, for example, by the structural increase in the capital/income ratio in Europe since World War II, a process that has been going on for nearly seventy years now yet would have been difficult to detect just ten or twenty years ago owing to the superimposition of various other developments (as well as the absence of usable data). But this focus on the long period must not be allowed to obscure the fact that shorter-term trends also exist. To be sure, these are often counterbalanced in the end, but for the people who live through them they often appear, quite legitimately, to be the most

significant realities of the age. Indeed, how could it be otherwise, when these “short-term” movements can continue for ten to fifteen years or even longer, which is quite long when measured on the scale of a human lifetime.

The history of inequality in France and elsewhere is replete with these short- and medium-term movements—and not just in the particularly chaotic interwar years. Let me briefly recount the major episodes in the case of France. During both world wars, the wage hierarchy was compressed, but in the aftermath of each war, wage inequalities reasserted themselves (in the 1920s and then again in the late 1940s and on into the 1950s and 1960s). These were movements of considerable magnitude: the share of total wages going to the top 10 percent decreased by about 5 points during each conflict but recovered afterward by the same amount (see Figure 8.1).¹⁹ Wage spreads were reduced in the public as well as the private sector. In each war the scenario was the same: in wartime, economic activity decreases, inflation increases, and real wages and purchasing power begin to fall. Wages at the bottom of the wage scale generally rise, however, and are somewhat more generously protected from inflation than those at the top. This can induce significant changes in the wage distribution if inflation is high. Why are low and medium wages better indexed to inflation than higher wages? Because workers share certain perceptions of social justice and norms of fairness, an effort is made to prevent the purchasing power of the least well-off from dropping too sharply, while their better-off comrades are asked to postpone their demands until the war is over. This phenomenon clearly played a role in setting wage scales in the public sector, and it was probably the same, at least to a certain extent, in the private sector. The fact that large numbers of young and relatively unskilled workers were mobilized for service (or held in prisoner-of-war camps) may also have improved the relative position of low- and medium-wage workers on the labor market.

In any case, the compression of wage inequality was reversed in both postwar periods, and it is therefore tempting to forget that it ever occurred. Nevertheless, for workers who lived through these periods, the changes in the wage distribution made a deep impression. In particular, the issue of restoring the wage hierarchy in both the public and private sectors was one of the most important political, social, and economic issues of the postwar years.

Turning now to the history of inequality in France between 1945 and 2010, we find three distinct phases: income inequality rose sharply between 1945

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and 1967 (with the share going to the top decile increasing from less than 30 to 36 or 37 percent). It then decreased considerably between 1968 and 1983 (with the share of the top decile dropping back to 30 percent). Finally, inequality increased steadily after 1983, so that the top decile's share climbed to about 33 percent in the period 2000–2010 (see Figure 8.1). We find roughly similar changes of wage inequality at the level of the top centile (see Figures 8.3 and 8.3). Once again, these various increases and decreases more or less balance out, so it is tempting to ignore them and concentrate on the relative stability over the long run, 1945–2010. Indeed, if one were interested solely in very long-term evolutions, the outstanding change in France during the twentieth century would be the significant compression of wage inequality between 1914 and 1945, followed by relative stability afterward. Each way of looking at the matter is legitimate and important in its own right, and to my mind it is essential to keep all of these different time scales in mind: the long term is important, but so are the short and the medium term. I touched on this point previously in my examination of the evolution of the capital/income ratio and the capital-labor split in Part Two (see in particular Chapter 6).

It is interesting to note that the capital-labor split tends to move in the same direction as inequality in income from labor, so that the two reinforce each other in the short to medium term but not necessarily in the long run. For example, each of the two world wars saw a decrease in capital's share of national income (and of the capital/income ratio) as well as a compression of wage inequality. Generally speaking, inequality tends to evolve "procyclically" (that is, it moves in the same direction as the economic cycle, in contrast to "countercyclical" changes). In economic booms, the share of profits in national income tends to increase, and pay at the top end of the scale (including incentives and bonuses) often increases more than wages toward the bottom and middle. Conversely, during economic slowdowns or recessions (of which war can be seen as an extreme form), various noneconomic factors, especially political ones, ensure that these movements do not depend solely on the economic cycle.

The substantial increase in French inequality between 1945 and 1967 was the result of sharp increases in both capital's share of national income and wage inequality in a context of rapid economic growth. The political climate undoubtedly played a role: the country was entirely focused on reconstruction, and decreasing inequality was not a priority, especially since it was com-

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mon knowledge that inequality had decreased enormously during the war. In the 1950s and 1960s, managers, engineers, and other skilled personnel saw their pay increase more rapidly than the pay of workers at the bottom and middle of the wage hierarchy, and at first no one seemed to care. A national minimum wage was created in 1950 but was seldom increased thereafter and fell farther and farther behind the average wage.

Things changed suddenly in 1968. The events of May 1968 had roots in student grievances and cultural and social issues that had little to do with the question of wages (although many people had tired of the inegalitarian productivist growth model of the 1950s and 1960s, and this no doubt played a role in the crisis). But the most immediate political result of the movement was its effect on wages: to end the crisis, Charles de Gaulle's government signed the Grenelle Accords, which provided, among other things, for a 20 percent increase in the minimum wage. In 1970, the minimum wage was officially (if partially) indexed to the mean wage, and governments from 1968 to 1983 felt obliged to "boost" the minimum significantly almost every year in a seething social and political climate. The purchasing power of the minimum wage accordingly increased by more than 130 percent between 1968 and 1983, while the mean wage increased by only about 50 percent, resulting in a very significant compression of wage inequalities. The break with the previous period was sharp and substantial: the purchasing power of the minimum wage had increased barely 25 percent between 1950 and 1968, while the average wage had more than doubled.²⁰ Driven by the sharp rise of low wages, the total wage bill rose markedly more rapidly than output between 1968 and 1983, and this explains the sharp decrease in capital's share of national income that I pointed out in Part Two, as well as the very substantial compression of income inequality.

These movements reversed in 1982–1983. The new Socialist government elected in May 1981 surely would have preferred to continue the earlier trend, but it was not a simple matter to arrange for the minimum wage to increase twice as fast as the average wage (especially when the average wage itself was increasing faster than output). In 1982–1983, therefore, the government decided to "turn toward austerity": wages were frozen, and the policy of annual boosts to the minimum wage was definitively abandoned. The results were soon apparent: the share of profits in national income skyrocketed during the remainder of the 1980s, while wage inequalities once again increased, and

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income inequalities even more so (see Figures 8.1 and 8.2). The break was as sharp as that of 1968, but in the other direction.

The Increase of Inequality in France since the 1980s

How should we characterize the phase of increasing inequality that began in France in 1982–1983? It is tempting to see it in a long-run perspective as a microphenomenon, a simple reversal of the previous trend, especially since by 1990 or so the share of profits in national income had returned to the level achieved on the eve of May 1968.²¹ This would be a mistake, however, for several reasons. First, as I showed in Part Two, the profit share in 1966–1967 was historically high, a consequence of the restoration of capital's share that began at the end of World War II. If we include, as we should, rent as well as profit in income from capital, we find that capital's share of national income actually continued to grow in the 1990s and 2000s. A correct understanding of this long-run phenomenon requires that it be placed in the context of the long-term evolution of the capital/income ratio, which by 2010 had returned to virtually the same level it had achieved in France on the eve of World War I. It is impossible to fully appreciate the implications of this restoration of the prosperity of capital simply by looking at the evolution of the upper decile's share of income, in part because income from capital is understated, so that we tend to slightly underestimate the increase in top incomes, and in part because the real issue is the renewed importance of inherited wealth, a long-term process that has only begun to reveal its true effects and can be correctly analyzed only by directly studying the changing role and importance of inherited wealth as such.

But that is not all. A stunning new phenomenon emerged in France in the 1990s: the very top salaries, and especially the pay packages awarded to the top executives of the largest companies and financial firms, reached astonishing heights—somewhat less astonishing in France, for the time being, than in the United States, but still, it would be wrong to neglect this new development. The share of wages going to the top centile, which was less than 6 percent in the 1980s and 1990s, began to increase in the late 1990s and reached 7.5–8 percent of the total by the early 2010s. Thus there was an increase of nearly 30 percent in a little over a decade, which is far from negligible. If we move even higher up the salary and bonus scale to look at the top 0.1 or 0.01

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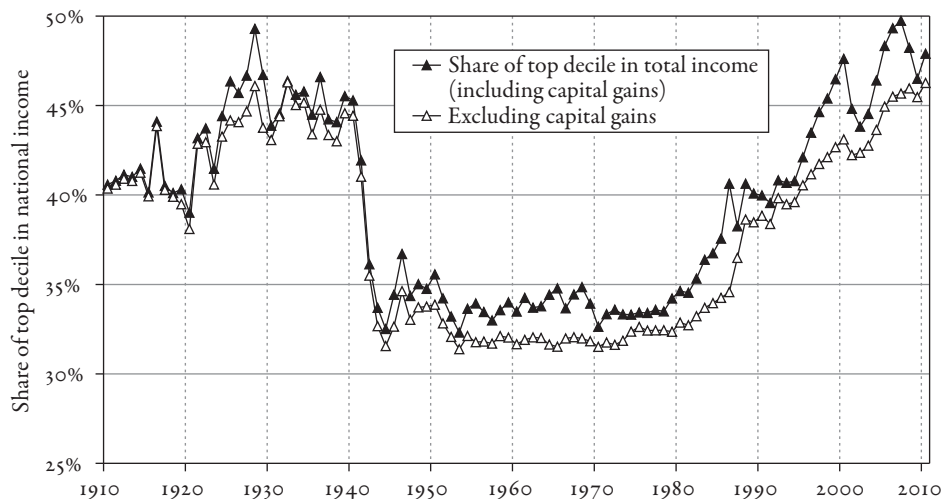


FIGURE 8.5. Income inequality in the United States, 1910–2010

The top decile income share rose from less than 35 percent of total income in the 1970s to almost 50 percent in the 2000s–2010s.

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

percent, we find even greater increases, with hikes in purchasing power greater than 50 percent in ten years.²² In a context of very low growth and virtual stagnation of purchasing power for the vast majority of workers, raises of this magnitude for top earners have not failed to attract attention. Furthermore, the phenomenon was radically new, and in order to interpret it correctly, we must view it in international perspective.

A More Complex Case: The Transformation of Inequality in the United States

Indeed, let me turn now to the US case, which stands out precisely because it was there that a subclass of “supermanagers” first emerged over the past several decades. I have done everything possible to ensure that the data series for the United States are as comparable as possible with the French series. In particular, Figures 8.5 and 8.6 represent the same data for the United States as Figures 8.1 and 8.2 for France: the goal is to compare, in the first figure of each pair, the evolution of the shares of income going to the top decile and top

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THE STRUCTURE OF INEQUALITY

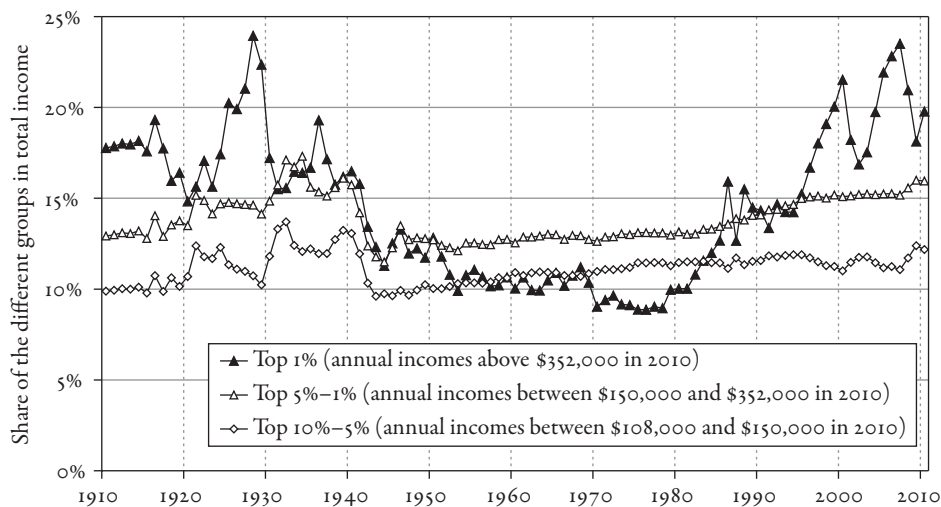


FIGURE 8.6. Decomposition of the top decile, United States, 1910–2010

The rise of the top decile income share since the 1970s is mostly due to the top percentile.

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

centile of the wage hierarchy and to compare, in the second figure, the wage hierarchies themselves. I should add that the United States first instituted a federal income tax in 1913, concluding a long battle with the Supreme Court.²³ The data derived from US income tax returns are on the whole quite comparable to the French data, though somewhat less detailed. In particular, total income can be gleaned from US statements from 1913 on, but we do not have separate information on income from labor until 1927, so the series dealing with the wage distribution in the United States before 1927 are somewhat less reliable.²⁴

When we compare the French and US trajectories, a number of similarities stand out, but so do certain important differences. I shall begin by examining the overall evolution of the share of income going to the top decile (Figure 8.6). The most striking fact is that the United States has become noticeably more inegalitarian than France (and Europe as a whole) from the turn of the twentieth century until now, even though the United States was more egalitarian at the beginning of this period. What makes the US case complex is that the end of the process did not simply mark a return to the sit-

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uation that had existed at the beginning: US inequality in 2010 is quantitatively as extreme as in old Europe in the first decade of the twentieth century, but the structure of that inequality is rather clearly different.

I will proceed systematically. First, European income inequality was significantly greater than US income inequality at the turn of the twentieth century. In 1900–1910, according to the data at our disposal, the top decile of the income hierarchy received a little more than 40 percent of total national income in the United States, compared with 45–50 percent in France (and very likely somewhat more in Britain). This reflects two differences. First, the capital/income ratio was higher in Europe, and so was capital's share of national income. Second, inequality of ownership of capital was somewhat less extreme in the New World. Clearly, this does not mean that American society in 1900–1910 embodied the mythical ideal of an egalitarian society of pioneers. In fact, American society was already highly inegalitarian, much more than Europe today, for example. One has only to reread Henry James or note that the dreadful Hockney who sailed in luxury on *Titanic* in 1912 existed in real life and not just in the imagination of James Cameron to convince oneself that a society of rentiers existed not only in Paris and London but also in turn-of-the-century Boston, New York, and Philadelphia. Nevertheless, capital (and therefore the income derived from it) was distributed somewhat less unequally in the United States than in France or Britain. Concretely, US rentiers were fewer in number and not as rich (compared to the average US standard of living) as their European counterparts. I will need to explain why this was so.

Income inequality increased quite sharply in the United States during the 1920s, however, peaking on the eve of the 1929 crash with more than 50 percent of national income going to the top decile—a level slightly higher than in Europe at the same time, as a result of the substantial shocks to which European capital had already been subjected since 1914. Nevertheless, US inequality was not the same as European inequality: note the already crucial importance of capital gains in top US incomes during the heady stock market ascent of the 1920s (see Figure 8.5).

During the Great Depression, which hit the United States particularly hard, and again during World War II, when the nation was fully mobilized behind the war effort (and the effort to end the economic crisis), income inequality was substantially compressed, a compression comparable in some

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respects to what we observe in Europe in the same period. Indeed, as we saw in Part Two, the shocks to US capital were far from negligible: although there was no physical destruction due to war, the Great Depression was a major shock and was followed by substantial tax shocks imposed by the federal government in the 1930s and 1940s. If we look at the period 1910–1950 as a whole, however, we find that the compression of inequality was noticeably smaller in the United States than in France (and, more generally, Europe). To sum up: inequality in the United States started from a lower peak on the eve of World War I but at its low point after World War II stood above inequality in Europe. Europe in 1914–1945 witnessed the suicide of rentier society, but nothing of the sort occurred in the United States.

The Explosion of US Inequality after 1980

Inequality reached its lowest ebb in the United States between 1950 and 1980: the top decile of the income hierarchy claimed 30 to 35 percent of US national income, or roughly the same level as in France today. This is what Paul Krugman nostalgically refers to as “the America we love”—the America of his childhood.²⁵ In the 1960s, the period of the TV series *Mad Men* and General de Gaulle, the United States was in fact a more egalitarian society than France (where the upper decile’s share had increased dramatically to well above 35 percent), at least for those US citizens whose skin was white.

Since 1980, however, income inequality has exploded in the United States. The upper decile’s share increased from 30–35 percent of national income in the 1970s to 45–50 percent in the 2000s—an increase of 15 points of national income (see Figure 8.5). The shape of the curve is rather impressively steep, and it is natural to wonder how long such a rapid increase can continue: if change continues at the same pace, for example, the upper decile will be raking in 60 percent of national income by 2030.

It is worth taking a moment to clarify several points about this evolution. First, recall that the series represented in Figure 8.5, like all the series in the WTID, take account only of income declared in tax returns and in particular do not correct for any possible understatement of capital income for legal or extralegal reasons. Given the widening gap between the total capital income (especially dividends and interest) included in US national accounts and the amount declared in income tax returns, and given, too, the rapid development

of tax havens (flows to which are, in all likelihood, mostly not even included in national accounts), it is likely that Figure 8.5 underestimates the amount by which the upper decile's share actually increased. By comparing various available sources, it is possible to estimate that the upper decile's share slightly exceeded 50 percent of US national income on the eve of the financial crisis of 2008 and then again in the early 2010s.²⁶

Note, moreover, that stock market euphoria and capital gains can account for only part of the structural increase in the top decile's share over the past thirty or forty years. To be sure, capital gains in the United States reached unprecedented heights during the Internet bubble in 2000 and again in 2007: in both cases, capital gains alone accounted for about five additional points of national income for the upper decile, which is an enormous amount. The previous record, set in 1928 on the eve of the 1929 stock market crash, was roughly 3 points of national income. But such levels cannot be sustained for very long, as the large annual variations evident in Figure 8.5 show. The incessant short-term fluctuations of the stock market add considerable volatility to the evolution of the upper decile's share (and certainly contribute to the volatility of the US economy as a whole) but do not contribute much to the structural increase of inequality. If we simply ignore capital gains (which is not a satisfactory method either, given the importance of this type of remuneration in the United States), we still find almost as great an increase in the top decile's share, which rose from around 32 percent in the 1970s to more than 46 percent in 2010, or fourteen points of national income (see Figure 8.5). Capital gains oscillated around one or two points of additional national income for the top decile in the 1970s and around two to three points between 2000 and 2010 (excluding exceptionally good and bad years). The structural increase is therefore on the order of one point: this is not nothing, but then again it is not much compared with the fourteen-point increase of the top decile's share exclusive of capital gains.²⁷

Looking at evolutions without capital gains also allows us to identify the structural character of the increase of inequality in the United States more clearly. In fact, from the late 1970s to 2010, the increase in the upper decile's share (exclusive of capital gains) appears to have been relatively steady and constant: it passed 35 percent in the 1980s, then 40 percent in the 1990s, and finally 45 percent in the 2000s (see Figure 8.5).²⁸ Much more striking is the fact that the level attained in 2010 (with more than 46 percent of national

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income, exclusive of capital gains, going to the top decile) is already significantly higher than the level attained in 2007, on the eve of the financial crisis. Early data for 2011–2012 suggest that the increase is still continuing.

This is a crucial point: the facts show quite clearly that the financial crisis as such cannot be counted on to put an end to the structural increase of inequality in the United States. To be sure, in the immediate aftermath of a stock market crash, inequality always grows more slowly, just as it always grows more rapidly in a boom. The years 2008–2009, following the collapse of Lehman Brothers, like the years 2001–2002, after the bursting of the first Internet bubble, were not great times for taking profits on the stock market. Indeed, capital gains plummeted in those years. But these short-term movements did not alter the long-run trend, which is governed by other forces whose logic I must now try to clarify.

To proceed further, it will be useful to break the top decile of the income hierarchy down into three groups: the richest 1 percent, the next 4 percent, and the bottom 5 percent (see Figure 8.6). The bulk of the growth of inequality came from “the 1 percent,” whose share of national income rose from 9 percent in the 1970s to about 20 percent in 2000–2010 (with substantial year-to-year variation due to capital gains)—an increase of 11 points. To be sure, “the 5 percent” (whose annual income ranged from \$108,000 to \$150,000 per household in 2010) as well as “the 4 percent” (whose income ranged from \$150,000 to \$352,000) also experienced substantial increases: the share of the former in US national income rose from 11 to 12 percent (or one point), and that of the latter rose from 13 to 16 percent (three points).²⁹ By definition, that means that since 1980, these social groups have experienced income growth substantially higher than the average growth of the US economy, which is not negligible.

Among the members of these upper income groups are US academic economists, many of whom believe that the economy of the United States is working fairly well and, in particular, that it rewards talent and merit accurately and precisely. This is a very comprehensible human reaction.³⁰ But the truth is that the social groups above them did even better: of the 15 additional points of national income going to the top decile, around 11 points, or nearly three-quarters of the total, went to “the 1 percent” (those making more than \$352,000 a year in 2010), of which roughly half went to “the 0.1 percent” (those making more than \$1.5 million a year).³¹

Did the Increase of Inequality Cause the Financial Crisis?

As I have just shown, the financial crisis as such seems not to have had an impact on the structural increase of inequality. What about the reverse causality? Is it possible that the increase of inequality in the United States helped to trigger the financial crisis of 2008? Given the fact that the share of the upper decile in US national income peaked twice in the past century, once in 1928 (on the eve of the crash of 1929) and again in 2007 (on the eve of the crash of 2008), the question is difficult to avoid.

In my view, there is absolutely no doubt that the increase of inequality in the United States contributed to the nation's financial instability. The reason is simple: one consequence of increasing inequality was virtual stagnation of the purchasing power of the lower and middle classes in the United States, which inevitably made it more likely that modest households would take on debt, especially since unscrupulous banks and financial intermediaries, freed from regulation and eager to earn good yields on the enormous savings injected into the system by the well-to-do, offered credit on increasingly generous terms.³²

In support of this thesis, it is important to note the considerable transfer of US national income—on the order of 15 points—from the poorest 90 percent to the richest 10 percent since 1980. Specifically, if we consider the total growth of the US economy in the thirty years prior to the crisis, that is, from 1977 to 2007, we find that the richest 10 percent appropriated three-quarters of the growth. The richest 1 percent alone absorbed nearly 60 percent of the total increase of US national income in this period. Hence for the bottom 90 percent, the rate of income growth was less than 0.5 percent per year.³³ These figures are incontestable, and they are striking: whatever one thinks about the fundamental legitimacy of income inequality, the numbers deserve close scrutiny.³⁴ It is hard to imagine an economy and society that can continue functioning indefinitely with such extreme divergence between social groups.

Quite obviously, if the increase in inequality had been accompanied by exceptionally strong growth of the US economy, things would look quite different. Unfortunately, this was not the case: the economy grew rather more slowly than in previous decades, so that the increase in inequality led to virtual stagnation of low and medium incomes.

Note, too, that this internal transfer between social groups (on the order of fifteen points of US national income) is nearly four times larger than the

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impressive trade deficit the United States ran in the 2000s (on the order of four points of national income). The comparison is interesting because the enormous trade deficit, which has its counterpart in Chinese, Japanese, and German trade surpluses, has often been described as one of the key contributors to the “global imbalances” that destabilized the US and global financial system in the years leading up to the crisis of 2008. That is quite possible, but it is important to be aware of the fact that the United States’ internal imbalances are four times larger than its global imbalances. This suggests that the place to look for the solutions of certain problems may be more within the United States than in China or other countries.

That said, it would be altogether too much to claim that the increase of inequality in the United States was the sole or even primary cause of the financial crisis of 2008 or, more generally, of the chronic instability of the global financial system. To my mind, a potentially more important cause of instability is the structural increase of the capital/income ratio (especially in Europe), coupled with an enormous increase in aggregate international asset positions.³⁵

The Rise of Supersalaries

Let me return now to the causes of rising inequality in the United States. The increase was largely the result of an unprecedented increase in wage inequality and in particular the emergence of extremely high remunerations at the summit of the wage hierarchy, particularly among top managers of large firms (see Figures 8.7 and 8.8).

Broadly speaking, wage inequality in the United States changed in major ways over the past century: the wage hierarchy expanded in the 1920s, was relatively stable in the 1930s, and then experienced severe compression during World War II. The phase of “severe compression” has been abundantly studied. An important role was played by the National War Labor Board, the government agency that had to approve all wage increases in the United States from 1941 to 1945 and generally approved raises only for the lowest paid workers. In particular, managers’ salaries were systematically frozen in nominal terms and even at the end of the war were raised only moderately.³⁶ During the 1950s, wage inequality in the United States stabilized at a relatively low level, lower than in France, for example: the share of income going to the upper decile was about 25 percent, and the share of the upper centile was 5 or 6 percent. Then,

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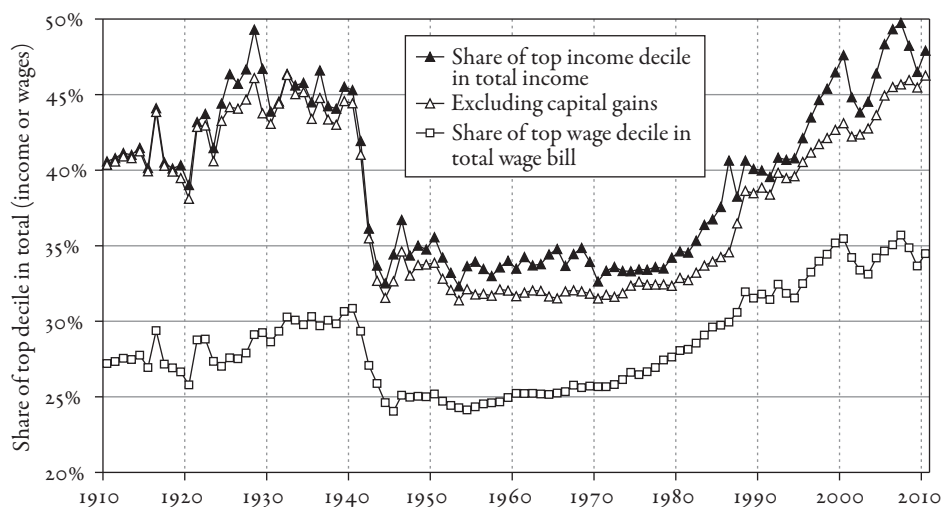


FIGURE 8.7. High incomes and high wages in the United States, 1910–2010

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.

from the mid-1970s on, the top 10 percent and, even more, the top 1 percent began to claim a share of labor income that grew more rapidly than the average wage. All told, the upper decile’s share rose from 25 to 35 percent, and this increase of ten points explains approximately two-thirds of the increase in the upper decile’s share of total national income (see Figures 8.7 and 8.8).

Several points call for additional comment. First, this unprecedented increase in wage inequality does not appear to have been compensated by increased wage mobility over the course of a person’s career.³⁷ This is a significant point, in that greater mobility is often mentioned as a reason to believe that increasing inequality is not that important. In fact, if each individual were to enjoy a very high income for part of his or her life (for example, if each individual spent a year in the upper centile of the income hierarchy), then an increase in the level characterized as “very high pay” would not necessarily imply that inequality with respect to labor—measured over a lifetime—had truly increased. The familiar mobility argument is powerful, so powerful that it is often impossible to verify. But in the US case, government data allow us to measure the evolution of wage inequality with mobility taken into account: we can compute average wages at the individual level over long periods of time

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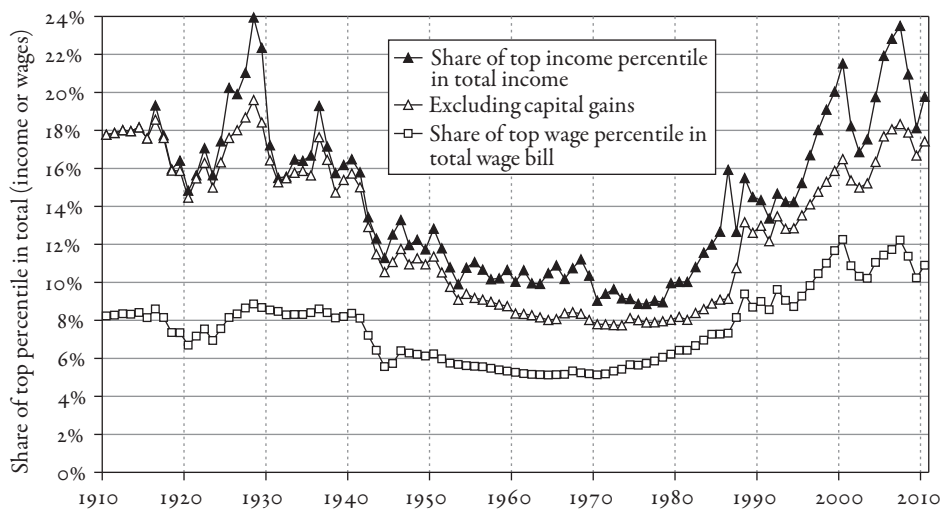


FIGURE 8.8. The transformation of the top 1 percent in the United States

The rise in the top 1 percent highest incomes since the 1970s is largely due to the rise in the top 1 percent highest wages.

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

(ten, twenty, or thirty years). And what we find is that the increase in wage inequality is identical in all cases, no matter what reference period we choose.³⁸ In other words, workers at McDonald's or in Detroit's auto plants do not spend a year of their lives as top managers of large US firms, any more than professors at the University of Chicago or middle managers from California do. One may have felt this intuitively, but it is always better to measure systematically wherever possible.

Cohabitation in the Upper Centile

Furthermore, the fact that the unprecedented increase of wage inequality explains most of the increase in US income inequality does not mean that income from capital played no role. It is important to dispel the notion that capital income has vanished from the summit of the US social hierarchy.

In fact, a very substantial and growing inequality of capital income since 1980 accounts for about one-third of the increase in income inequality in the United States—a far from negligible amount. Indeed, in the United States, as

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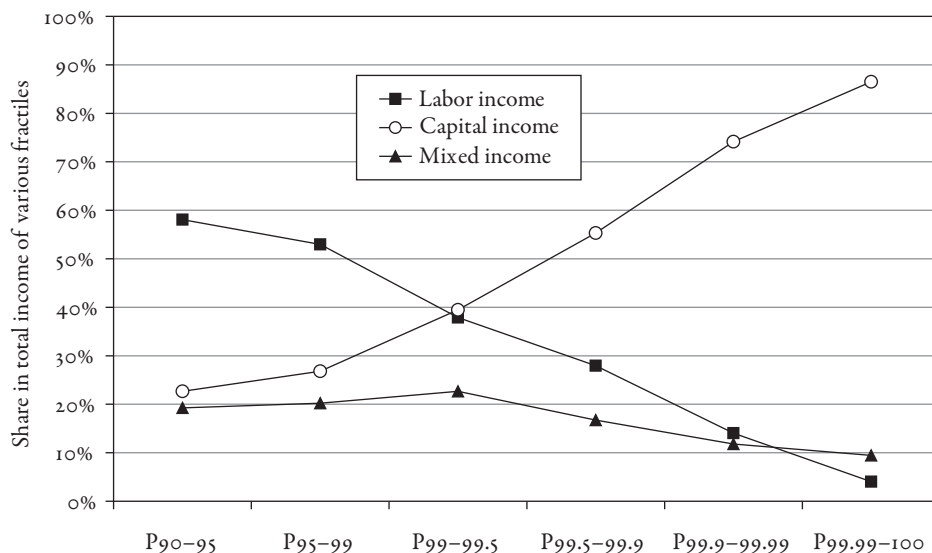


FIGURE 8.9. The composition of top incomes in the United States in 1929
 Labor income becomes less and less important as one moves up within the top income decile.
 Sources and series: see piketty.pse.ens.fr/capital21c.

in France and Europe, today as in the past, income from capital always becomes more important as one climbs the rungs of the income hierarchy. Temporal and spatial differences are differences of degree: though large, the general principle remains. As Edward Wolff and Ajit Zacharias have pointed out, the upper centile always consists of several different social groups, some with very high incomes from capital and others with very high incomes from labor; the latter do not supplant the former.³⁹

In the US case, as in France but to an even greater degree, the difference today is that one has to climb much further up the income hierarchy before income from capital takes the upper hand. In 1929, income from capital (essentially dividends and capital gains) was the primary resource for the top 1 percent of the income hierarchy (see Figure 8.9). In 2007, one has to climb to the 0.1 percent level before this is true (see Figure 8.10). Again, I should make it clear that this has to do with the inclusion of capital gains in income from capital: without capital gains, salaries would be the main source of income up to the 0.01 percent level of the income hierarchy.⁴⁰

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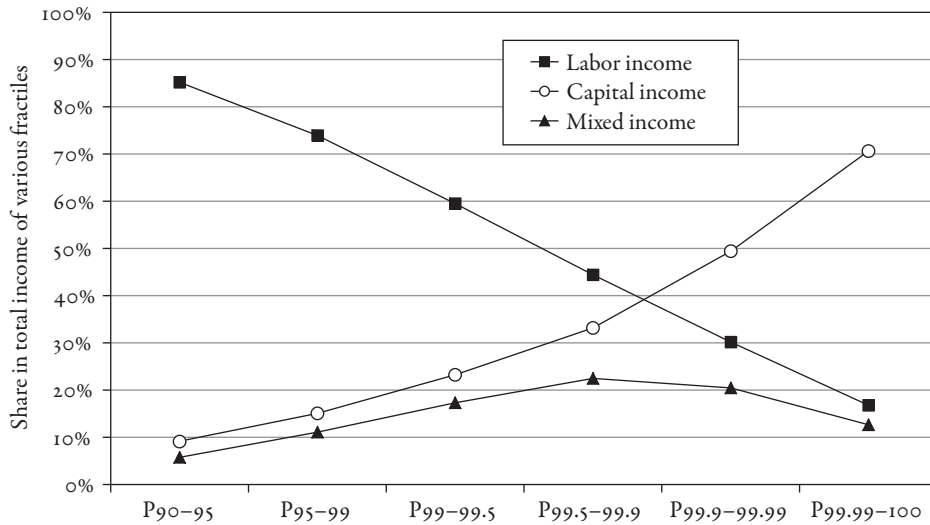


FIGURE 8.10. The composition of top incomes in the United States, 2007
 Capital income becomes dominant at the level of top 0.1 percent in 2007, as opposed to the top 1 percent in 1929.
 Sources and series: see piketty.pse.ens.fr/capital21c.

The final and perhaps most important point in need of clarification is that the increase in very high incomes and very high salaries primarily reflects the advent of “supermanagers,” that is, top executives of large firms who have managed to obtain extremely high, historically unprecedented compensation packages for their labor. If we look only at the five highest paid executives in each company listed on the stock exchange (which are generally the only compensation packages that must be made public in annual corporate reports), we come to the paradoxical conclusion that there are not enough top corporate managers to explain the increase in very high US incomes, and it therefore becomes difficult to explain the evolutions we observe in incomes stated on federal income tax returns.⁴¹ But the fact is that in many large US firms, there are far more than five executives whose pay places them in the top 1 percent (above \$352,000 in 2010) or even the top 0.1 percent (above \$1.5 million).

Recent research, based on matching declared income on tax returns with corporate compensation records, allows me to state that the vast majority (60 to 70 percent, depending on what definitions one chooses) of the top 0.1 percent of the income hierarchy in 2000–2010 consists of top managers. By com-

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parison, athletes, actors, and artists of all kinds make up less than 5 percent of this group.⁴² In this sense, the new US inequality has much more to do with the advent of “supermanagers” than with that of “superstars.”⁴³

It is also interesting to note that the financial professions (including both managers of banks and other financial institutions and traders operating on the financial markets) are about twice as common in the very high income groups as in the economy overall (roughly 20 percent of top 0.1 percent, whereas finance accounts for less than 10 percent of GDP). Nevertheless, 80 percent of the top income groups are not in finance, and the increase in the proportion of high-earning Americans is explained primarily by the skyrocketing pay packages of top managers of large firms in the nonfinancial as well as financial sectors.

Finally, note that in accordance with US tax laws as well as economic logic, I have included in wages all bonuses and other incentives paid to top managers, as well as the value of any stock options (a form of remuneration that has played an important role in the increase of wage inequality depicted in Figures 8.9 and 8.10).⁴⁴ The very high volatility of incentives, bonuses, and option prices explains why top incomes fluctuated so much in the period 2000–2010.

Inequality of Labor Income

Now that I have introduced the evolution of income and wages in France and the United States since the beginning of the twentieth century, I will examine the changes I have observed and consider how representative they are of long-term changes in other developed and emerging economies.

I will begin by examining in this chapter the dynamics of labor income inequality. What caused the explosion of wage inequalities and the rise of the supermanager in the United States after 1980? More generally, what accounts for the diverse historical evolutions we see in various countries?

In subsequent chapters I will look into the evolution of the capital ownership distribution: How and why has the concentration of wealth decreased everywhere, but especially in Europe, since the turn of the twentieth century? The emergence of a “patrimonial middle class” is a crucial issue for this study, because it largely explains why income inequality decreased during the first half of the twentieth century and why we in the developed countries have gone from a society of rentiers to a society of managers (or, in the less optimistic version, from a society of superrentiers to a somewhat less extreme form of rentier society).

Wage Inequality: A Race between Education and Technology?

Why is inequality of income from labor, and especially wage inequality, greater in some societies and periods than others? The most widely accepted theory is that of a race between education and technology. To be blunt, this theory does not explain everything. In particular, it does not offer a satisfactory explanation of the rise of the supermanager or of wage inequality in the United States after 1980. The theory does, however, suggest interesting and important clues for explaining certain historical evolutions. I will therefore begin by discussing it.

The theory rests on two hypotheses. First, a worker’s wage is equal to his marginal productivity, that is, his individual contribution to the output of the

firm or office for which he works. Second, the worker's productivity depends above all on his skill and on supply and demand for that skill in a given society. For example, in a society in which very few people are qualified engineers (so that the "supply" of engineers is low) and the prevailing technology requires many engineers (so that "demand" is high), then it is highly likely that this combination of low supply and high demand will result in very high pay for engineers (relative to other workers) and therefore significant wage inequality between highly paid engineers and other workers.

This theory is in some respects limited and naïve. (In practice, a worker's productivity is not an immutable, objective quantity inscribed on his forehead, and the relative power of different social groups often plays a central role in determining what each worker is paid.) Nevertheless, as simple or even simplistic as the theory may be, it has the virtue of emphasizing two social and economic forces that do indeed play a fundamental role in determining wage inequality, even in more sophisticated theories: the supply and demand of skills. In practice, the supply of skills depends on, among other things, the state of the educational system: how many people have access to this or that track, how good is the training, how much classroom teaching is supplemented by appropriate professional experience, and so on. The demand for skills depends on, among other things, the state of the technologies available to produce the goods and services that society consumes. No matter what other forces may be involved, it seems clear that these two factors—the state of the training system on the one hand, the state of technology on the other—play a crucial role. At a minimum, they influence the relative power of different social groups.

These two factors themselves depend on many other forces. The educational system is shaped by public policy, criteria of selection for different tracks, the way it is financed, the cost of study for students and their families, and the availability of continuing education. Technological progress depends on the pace of innovation and the rapidity of implementation. It generally increases the demand for new skills and creates new occupations. This leads to the idea of a race between education and technology: if the supply of skills does not increase at the same pace as the needs of technology, then groups whose training is not sufficiently advanced will earn less and be relegated to devalued lines of work, and inequality with respect to labor will increase. In order to avoid this, the educational system must increase its supply of new types of training and its output of new skills at a sufficiently rapid pace. If

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equality is to decrease, moreover, the supply of new skills must increase even more rapidly, especially for the least well educated.

Consider, for example, wage inequalities in France. As I have shown, the wage hierarchy was fairly stable over a long period of time. The average wage increased enormously over the course of the twentieth century, but the gap between the best and worst paid deciles remained the same. Why was this the case, despite the massive democratization of the educational system during the same period? The most natural explanation is that all skill levels progressed at roughly the same pace, so that the inequalities in the wage scale were simply translated upward. The bottom group, which had once only finished grade school, moved up a notch on the educational ladder, first completing junior high school, then going on to a high school diploma. But the group that had previously made do with a high school diploma now went on to college or even graduate school. In other words, the democratization of the educational system did not eliminate educational inequality and therefore did not reduce wage inequality. If educational democratization had not taken place, however, and if the children of those who had only finished grade school a century ago (three-quarters of each generation at that time) had remained at that level, inequalities with respect to labor, and especially wage inequalities, would surely have increased substantially.

Now consider the US case. Two economists, Claudia Goldin and Lawrence Katz, systematically compared the following two evolutions in the period 1890–2005: on the one hand the wage gap between workers who graduated from college and those who had only a high school diploma, and on the other the rate of growth of the number of college degrees. For Goldin and Katz, the conclusion is stark: the two curves move in opposite directions. In particular, the wage gap, which decreased fairly regularly until the 1970s, suddenly begins to widen in the 1980s, at precisely the moment when for the first time the number of college graduates stops growing, or at any rate grows much more slowly than before.¹ Goldin and Katz have no doubt that increased wage inequality in the United States is due to a failure to invest sufficiently in higher education. More precisely, too many people failed to receive the necessary training, in part because families could not afford the high cost of tuition. In order to reverse this trend, they conclude, the United States should invest heavily in education so that as many people as possible can attend college.

The lessons of French and US experience thus point in the same direction. In the long run, the best way to reduce inequalities with respect to labor as

well as to increase the average productivity of the labor force and the overall growth of the economy is surely to invest in education. If the purchasing power of wages increased fivefold in a century, it was because the improved skills of the workforce, coupled with technological progress, increased output per head fivefold. Over the long run, education and technology are the decisive determinants of wage levels.

By the same token, if the United States (or France) invested more heavily in high-quality professional training and advanced educational opportunities and allowed broader segments of the population to have access to them, this would surely be the most effective way of increasing wages at the low to medium end of the scale and decreasing the upper decile's share of both wages and total income. All signs are that the Scandinavian countries, where wage inequality is more moderate than elsewhere, owe this result in large part to the fact that their educational system is relatively egalitarian and inclusive.² The question of how to pay for education, and in particular how to pay for higher education, is everywhere one of the key issues of the twenty-first century. Unfortunately, the data available for addressing issues of educational cost and access in the United States and France are extremely limited. Both countries attach a great deal of importance to the central role of schools and vocational training in fostering social mobility, yet theoretical discussion of educational issues and of meritocracy is often out of touch with reality, and in particular with the fact that the most prestigious schools tend to favor students from privileged social backgrounds. I will come back to this point in Chapter 13.

The Limits of the Theoretical Model: The Role of Institutions

Education and technology definitely play a crucial role in the long run. This theoretical model, based on the idea that a worker's wage is always perfectly determined by her marginal productivity and thus primarily by skill, is nevertheless limited in a number of ways. Leave aside the fact that it is not always enough to invest in training: existing technology is sometimes unable to make use of the available supply of skills. Leave aside, too, the fact that this theoretical model, at least in its most simplistic form, embodies a far too instrumental and utilitarian view of training. The main purpose of the health sector is not to provide other sectors with workers in good health. By the same token, the

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main purpose of the educational sector is not to prepare students to take up an occupation in some other sector of the economy. In all human societies, health and education have an intrinsic value: the ability to enjoy years of good health, like the ability to acquire knowledge and culture, is one of the fundamental purposes of civilization.³ We are free to imagine an ideal society in which all other tasks are almost totally automated and each individual has as much freedom as possible to pursue the goods of education, culture, and health for the benefit of herself and others. Everyone would be by turns teacher or student, writer or reader, actor or spectator, doctor or patient. As noted in Chapter 2, we are to some extent already on this path: a characteristic feature of modern growth is the considerable share of both output and employment devoted to education, culture, and medicine.

While awaiting the ideal society of the future, let us try to gain a better understanding of wage inequality today. In this narrower context, the main problem with the theory of marginal productivity is quite simply that it fails to explain the diversity of the wage distributions we observe in different countries at different times. In order to understand the dynamics of wage inequality, we must introduce other factors, such as the institutions and rules that govern the operation of the labor market in each society. To an even greater extent than other markets, the labor market is not a mathematical abstraction whose workings are entirely determined by natural and immutable mechanisms and implacable technological forces: it is a social construct based on specific rules and compromises.

In the previous chapter I noted several important episodes of compression and expansion of wage hierarchies that are very difficult to explain solely in terms of the supply of and demand for various skills. For example, the compression of wage inequalities that occurred in both France and the United States during World Wars I and II was the result of negotiations over wage scales in both the public and private sectors, in which specific institutions such as the National War Labor Board (created expressly for the purpose) played a central role. I also called attention to the importance of changes in the minimum wage for explaining the evolution of wage inequalities in France since 1950, with three clearly identified subperiods: 1950–1968, during which the minimum wage was rarely adjusted and the wage hierarchy expanded; 1968–1983, during which the minimum wage rose very rapidly and wage inequalities decreased sharply; and finally 1983–2012, during which the minimum wage increased relatively slowly

INEQUALITY OF LABOR INCOME

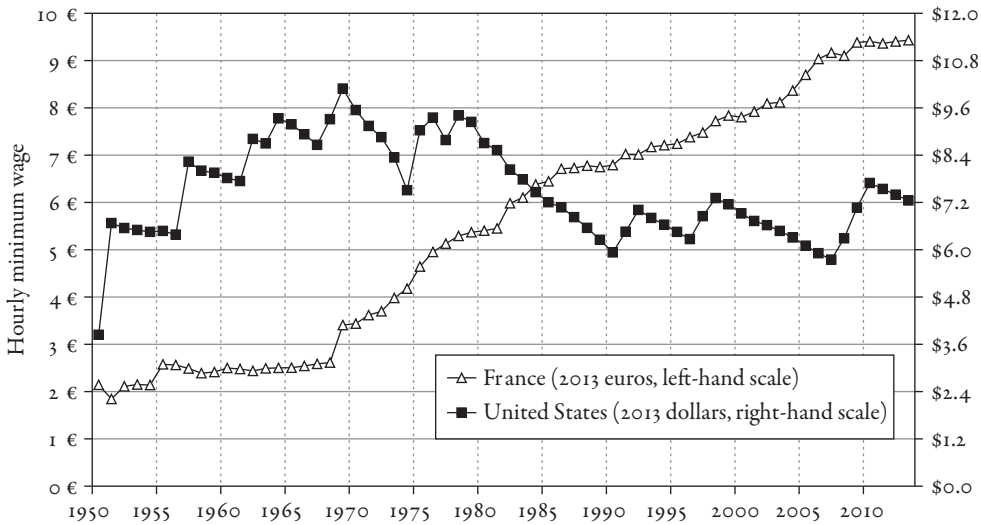


FIGURE 9.1. Minimum wage in France and the United States, 1950–2013

Expressed in 2013 purchasing power, the hourly minimum wage rose from \$3.80 to \$7.30 between 1950 and 2013 in the United States, and from €2.10 to €9.40 in France. Sources and series: see piketty.pse.ens.fr/capital21c.

and the wage hierarchy tended to expand.⁴ At the beginning of 2013, the minimum wage in France stood at 9.43 euros per hour.

In the United States, a federal minimum wage was introduced in 1933, nearly twenty years earlier than in France.⁵ As in France, changes in the minimum wage played an important role in the evolution of wage inequalities in the United States. It is striking to learn that in terms of purchasing power, the minimum wage reached its maximum level nearly half a century ago, in 1969, at \$1.60 an hour (or \$10.10 in 2013 dollars, taking account of inflation between 1968 and 2013), at a time when the unemployment rate was below 4 percent. From 1980 to 1990, under the presidents Ronald Reagan and George H. W. Bush, the federal minimum wage remained stuck at \$3.35, which led to a significant decrease in purchasing power when inflation is factored in. It then rose to \$5.25 under Bill Clinton in the 1990s and was frozen at that level under George W. Bush before being increased several times by Barack Obama after 2008. At the beginning of 2013 it stood at \$7.25 an hour, or barely 6 euros, which is a third below the French minimum wage, the opposite of the situation that obtained in the early 1980s (see Figure 9.1).⁶

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President Obama, in his State of the Union address in February 2013, announced his intention to raise the minimum wage to about \$9 an hour for the period 2013–2016.⁷

Inequalities at the bottom of the US wage distribution have closely followed the evolution of the minimum wage: the gap between the bottom 10 percent of the wage distribution and the overall average wage widened significantly in the 1980s, then narrowed in the 1990s, and finally increased again in the 2000s. Nevertheless, inequalities at the top of the distribution—for example, the share of total wages going to the top 10 percent—increased steadily throughout this period. Clearly, the minimum wage has an impact at the bottom of the distribution but much less influence at the top, where other forces are at work.

Wage Scales and the Minimum Wage

There is no doubt that the minimum wage plays an essential role in the formation and evolution of wage inequalities, as the French and US experiences show. Each country has its own history in this regard and its own peculiar chronology. There is nothing surprising about that: labor market regulations depend on each society's perceptions and norms of social justice and are intimately related to each country's social, political, and cultural history. The United States used the minimum wage to increase lower-end wages in the 1950s and 1960s but abandoned this tool in the 1970s. In France, it was exactly the opposite: the minimum wage was frozen in the 1950s and 1960s but was used much more often in the 1970s. Figure 9.1 illustrates this striking contrast.

It would be easy to multiply examples from other countries. Britain introduced a minimum wage in 1999, at a level between the United States and France: in 2013 it was £6.19 (or about 8.05 euros).⁸ Germany and Sweden have chosen to do without minimum wages at the national level, leaving it to trade unions to negotiate not only minimums but also complete wage schedules with employers in each branch of industry. In practice, the minimum wage in both countries was about 10 euros an hour in 2013 in many branches (and therefore higher than in countries with a national minimum wage). But minimum pay can be markedly lower in sectors that are

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relatively unregulated or underunionized. In order to set a common floor, Germany is contemplating the introduction of a minimum wage in 2013–2014. This is not the place to write a detailed history of minimum wages and wage schedules around the world or to discuss their impact on wage inequality. My goal here is more modest: simply to indicate briefly what general principles can be used to analyze the institutions that regulate wage setting everywhere.

What is in fact the justification for minimum wages and rigid wage schedules? First, it is not always easy to measure the marginal productivity of a particular worker. In the public sector, this is obvious, but it is also clear in the private sector: in an organization employing dozens or even thousands of workers, it is no simple task to judge each individual worker's contribution to overall output. To be sure, one can estimate marginal productivity, at least for jobs that can be replicated, that is, performed in the same way by any number of employees. For an assembly-line worker or McDonald's server, management can calculate how much additional revenue an additional worker or server would generate. Such an estimate would be approximate, however, yielding a range of productivities rather than an absolute number. In view of this uncertainty, how should the wage be set? There are many reasons to think that granting management absolute power to set the wage of each employee on a monthly or (why not?) daily basis would not only introduce an element of arbitrariness and injustice but would also be inefficient for the firm.

In particular, it may be efficient for the firm to ensure that wages remain relatively stable and do not vary constantly with fluctuations in sales. The owners and managers of the firm usually earn much more and are significantly wealthier than their workers and can therefore more easily absorb short-term shocks to their income. Under such circumstances, it can be in everyone's interest to provide a kind of "wage insurance" as part of the employment contract, in the sense that the worker's monthly wage is guaranteed (which does not preclude the use of bonuses and other incentives). The payment of a monthly rather than a daily wage was a revolutionary innovation that gradually took hold in all the developed countries during the twentieth century. This innovation was inscribed in law and became a feature of wage negotiations between workers and employers. The daily wage, which had been

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the norm in the nineteenth century, gradually disappeared. This was a crucial step in the constitution of the working class: workers now enjoyed a legal status and received a stable, predictable remuneration for their work. This clearly distinguished them from day laborers and piece workers—the typical employees of the eighteenth and nineteenth centuries.⁹

This justification of setting wages in advance obviously has its limits. The other classic argument in favor of minimum wages and fixed wage schedules is the problem of “specific investments.” Concretely, the particular functions and tasks that a firm needs to be performed often require workers to make specific investments in the firm, in the sense that these investments are of no (or limited) value to other firms: for instance, workers might need to learn specific work methods, organizational methods, or skills linked to the firm’s production process. If wages can be set unilaterally and changed at any moment by the firm, so that workers do not know in advance how much they will be paid, then it is highly likely that they will not invest as much in the firm as they should. It may therefore be in everyone’s interest to set pay scales in advance. The same “specific investments” argument can also apply to other decisions by the firm, and it is the main reason for limiting the power of stockholders (who are seen as having too short-term an outlook in some cases) in favor of a power-sharing arrangement with a broader group of “stakeholders” (including the firm’s workers), as in the “Rhenish model” of capitalism discussed earlier, in Part Two. This is probably the most important argument in favor of fixed wage scales.

More generally, insofar as employers have more bargaining power than workers and the conditions of “pure and perfect” competition that one finds in the simplest economic models fail to be satisfied, it may be reasonable to limit the power of employers by imposing strict rules on wages. For example, if a small group of employers occupies a monopsony position in a local labor market (meaning that they are virtually the only source of employment, perhaps because of the limited mobility of the local labor force), they will probably try to exploit their advantage by lowering wages as much as possible, possibly even below the marginal productivity of the workers. Under such conditions, imposing a minimum wage may be not only just but also efficient, in the sense that the increase in wages may move the economy closer to the competitive equilibrium and increase the level of employment. This theoretical model, based on imperfect competition, is the clearest justification for the

existence of a minimum wage: the goal is to make sure that no employer can exploit his competitive advantage beyond a certain limit.

Again, everything obviously depends on the level of the minimum wage. The limit cannot be set in the abstract, independent of the country's general skill level and average productivity. Various studies carried out in the United States between 1980 and 2000, most notably by the economists David Card and Alan Krueger, showed that the US minimum wage had fallen to a level so low in that period that it could be raised without loss of employment, indeed at times with an increase in employment, as in the monopsony model.¹⁰ On the basis of these studies, it seems likely that the increase in the minimum wage of nearly 25 percent (from \$7.25 to \$9 an hour) currently envisaged by the Obama administration will have little or no effect on the number of jobs. Obviously, raising the minimum wage cannot continue indefinitely: as the minimum wage increases, the negative effects on the level of employment eventually win out. If the minimum wage were doubled or tripled, it would be surprising if the negative impact were not dominant. It is more difficult to justify a significant increase in the minimum wage in a country like France, where it is relatively high (compared with the average wage and marginal productivity), than in the United States. To increase the purchasing power of low-paid workers in France, it is better to use other tools, such as training to improve skills or tax reform (these two remedies are complementary, moreover). Nevertheless, the minimum wage should not be frozen. Wage increases cannot exceed productivity increases indefinitely, but it is just as unhealthy to restrain (most) wage increases to below the rate of productivity increase. Different labor market institutions and policies play different roles, and each must be used in an appropriate manner.

To sum up: the best way to increase wages and reduce wage inequalities in the long run is to invest in education and skills. Over the long run, minimum wages and wage schedules cannot multiply wages by factors of five or ten: to achieve that level of progress, education and technology are the decisive forces. Nevertheless, the rules of the labor market play a crucial role in wage setting during periods of time determined by the relative progress of education and technology. In practice, those periods can be fairly long, in part because it is hard to gauge individual marginal productivities with any certainty, and in part because of the problem of specific investments and imperfect competition.

How to Explain the Explosion of Inequality in the United States?

The most striking failure of the theory of marginal productivity and the race between education and technology is no doubt its inability to adequately explain the explosion of very high incomes from labor observed in the United States since 1980. According to this theory, one should be able to explain this change as the result of skill-biased technological change. Some US economists buy this argument, which holds that top labor incomes have risen much more rapidly than average wages simply because unique skills and new technology have made these workers much more productive than the average. There is a certain tautological quality to this explanation (after all, one can “explain” any distortion of the wage hierarchy as the result of some supposed technological change). It also has other major weaknesses, which to my mind make it a rather unconvincing argument.

First, as shown in the previous chapter, the increase in wage inequality in the United States is due mainly to increased pay at the very top end of the distribution: the top 1 percent and even more the top 0.1 percent. If we look at the entire top decile, we find that “the 9 percent” have progressed more rapidly than the average worker but not nearly at the same rate as “the 1 percent.” Concretely, those making between \$100,000 and \$200,000 a year have seen their pay increase only slightly more rapidly than the average, whereas those making more than \$500,000 a year have seen their remuneration literally explode (and those above \$1 million a year have risen even more rapidly).¹¹ This very sharp discontinuity at the top income levels is a problem for the theory of marginal productivity: when we look at the changes in the skill levels of different groups in the income distribution, it is hard to see any discontinuity between “the 9 percent” and “the 1 percent,” regardless of what criteria we use: years of education, selectivity of educational institution, or professional experience. One would expect a theory based on “objective” measures of skill and productivity to show relatively uniform pay increases within the top decile, or at any rate increases within different subgroups much closer to one another than the widely divergent increases we observe in practice.

Make no mistake: I am not denying the decisive importance of the investments in higher education and training that Katz and Goldin have identified. Policies to encourage broader access to universities are indispensable and crucial in the long run, in the United States and elsewhere. As desirable as such

policies are, however, they seem to have had limited impact on the explosion of the topmost incomes observed in the United States since 1980.

In short, two distinct phenomena have been at work in recent decades. First, the wage gap between college graduates and those who go no further than high school has increased, as Goldin and Katz showed. In addition, the top 1 percent (and even more the top 0.1 percent) have seen their remuneration take off. This is a very specific phenomenon, which occurs within the group of college graduates and in many cases separates individuals who have pursued their studies at elite universities for many years. Quantitatively, the second phenomenon is more important than the first. In particular, as shown in the previous chapter, the overperformance of the top centile explains most (nearly three-quarters) of the increase in the top decile's share of US national income since 1970.¹² It is therefore important to find an adequate explanation of this phenomenon, and at first sight the educational factor does not seem to be the right one to focus on.

The Rise of the Supermanager: An Anglo-Saxon Phenomenon

The second difficulty—and no doubt the major problem confronting the marginal productivity theory—is that the explosion of very high salaries occurred in some developed countries but not others. This suggests that institutional differences between countries rather than general and a priori universal causes such as technological change played a central role.

I begin with the English-speaking countries. Broadly speaking, the rise of the supermanager is largely an Anglo-Saxon phenomenon. Since 1980 the share of the upper centile in national income has risen significantly in the United States, Great Britain, Canada, and Australia (see Figure 9.2). Unfortunately, we do not have separate series for wage inequality and total income inequality for all countries as we do for France and the United States. But in most cases we do have data concerning the composition of income in relation to total income, from which we can infer that in all of these countries the explosion of top incomes explains most (generally at least two-thirds) of the increase in the top centile's share of national income; the rest is explained by robust income from capital. In all the English-speaking countries, the primary reason for increased income inequality in recent decades is the rise of the supermanager in both the financial and nonfinancial sectors.

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THE STRUCTURE OF INEQUALITY

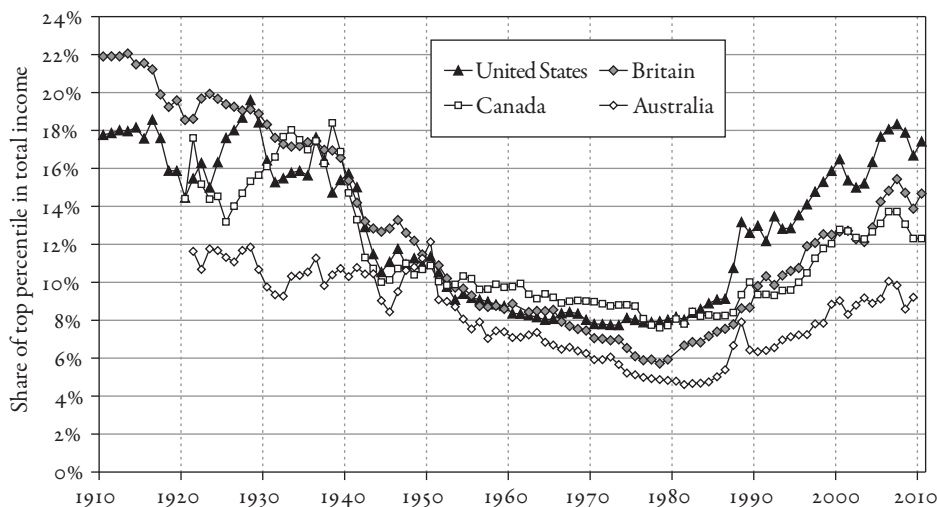


FIGURE 9.2. Income inequality in Anglo-Saxon countries, 1910–2010

The share of top percentile in total income rose since the 1970s in all Anglo-Saxon countries, but with different magnitudes.

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

This family resemblance should not be allowed to obscure the fact that the magnitude of the phenomenon varies widely from country to country, however. Figure 9.2 is quite clear on this point. In the 1970s, the upper centile's share of national income was quite similar across countries. It ranged from 6 to 8 percent in the four English-speaking countries considered, and the United States did not stand out as exceptional: indeed, Canada was slightly higher, at 9 percent, whereas Australia came in last, with just 5 percent of national income going to the top centile in the late 1970s and early 1980s. Thirty years later, in the early 2010s, the situation is totally different. The upper centile's share is nearly 20 percent in the United States, compared with 14–15 percent in Britain and Canada and barely 9–10 percent in Australia (see Figure 9.2).¹³ To a first approximation, we can say that the upper centile's share in the United States increased roughly twice as much as in Britain and Canada and about three times as much as in Australia and New Zealand.¹⁴ If the rise of the supermanager were a purely technological phenomenon, it would be difficult to understand why such large differences exist between otherwise quite similar countries.

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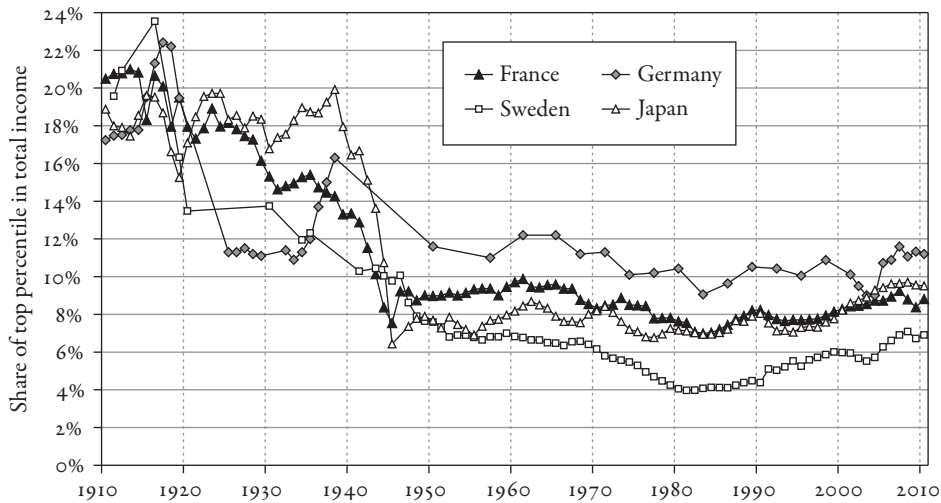


FIGURE 9.3. Income inequality in Continental Europe and Japan, 1910–2010

As compared to Anglo-Saxon countries, the share of top percentile barely increased since the 1970s in Continental Europe and Japan.

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

Let me turn now to the rest of the wealthy world, namely, continental Europe and Japan. The key fact is that the upper centile’s share of national income in these countries has increased much less than in the English-speaking countries since 1980. The comparison between Figures 9.2 and 9.3 is particularly striking. To be sure, the upper centile’s share increased significantly everywhere. In Japan the evolution was virtually the same as in France: the top centile’s share of national income was barely 7 percent in the 1980s but is 9 percent or perhaps even slightly higher today. In Sweden, the top centile’s share was a little more than 4 percent in the early 1980s (the lowest level recorded in the World Top Incomes Database for any country in any period) but reached 7 percent in the early 2010s.¹⁵ In Germany, the top centile’s share rose from about 9 percent to nearly 11 percent of national income between the early 1980s and the early 2010s (see Figure 9.3).

If we look at other European countries, we observe similar evolutions, with the top centile’s share increasing by two or three points of national income over the past thirty years in both northern and southern Europe. In Denmark and other Nordic countries, top incomes claim a smaller share of

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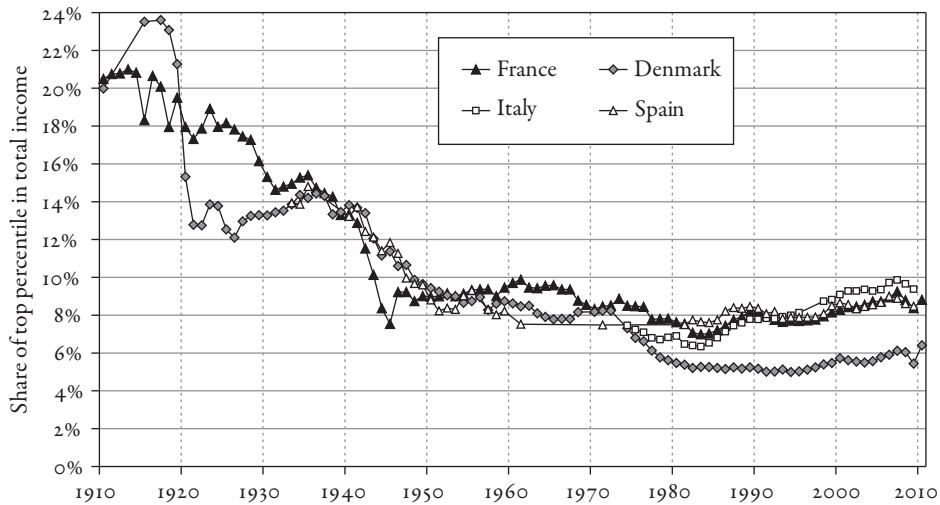


FIGURE 9.4. Income inequality in Northern and Southern Europe, 1910–2010

As compared to Anglo-Saxon countries, the top percentile income share barely increased in Northern and Southern Europe since the 1970s.

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

the total, but the increase is similar: the top centile received a little more than 5 percent of Danish national income in the 1980s but got close to 7 percent in 2000–2010. In Italy and Spain, the orders of magnitude are very close to those observed in France, with the top centile’s share rising from 7 to 9 percent of national income in the same period, again an increase of two points of national income (see Figure 9.4). In this respect, continental Europe is indeed an almost perfect “union.” Britain, of course, stands apart, being much closer to the pattern of the United States than that of Europe.¹⁶

Make no mistake: these increases on the order of two to three points of national income in Japan and the countries of continental Europe mean that income inequality rose quite significantly. The top 1 percent of earners saw pay increases noticeably more rapid than the average: the upper centile’s share increased by about 30 percent, and even more in countries where it started out lower. This was quite striking to contemporary observers, who read in the daily paper or heard on the radio about stupendous raises for “supermanagers.” It was particularly striking in the period 1990–2010, when average income stagnated, or at least rose much more slowly than in the past.

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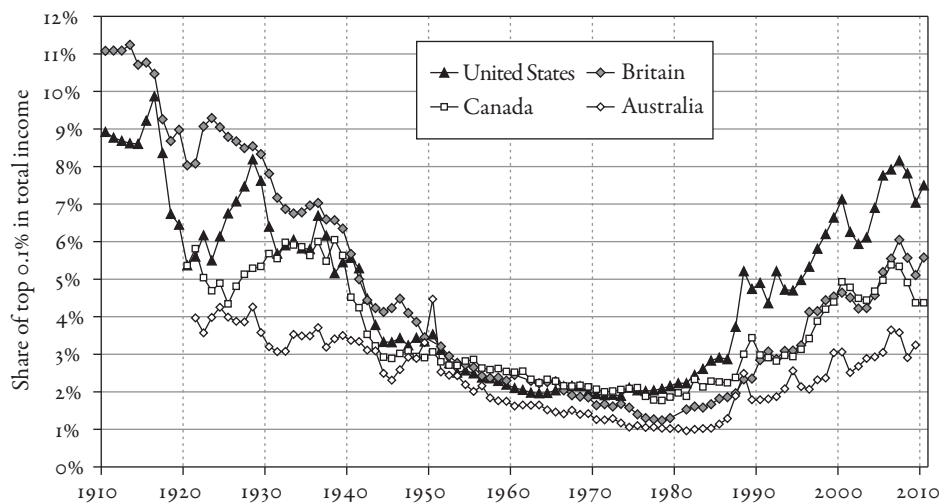


FIGURE 9.5. The top decile income share in Anglo-Saxon countries, 1910–2010

The share of the top 0.1 percent highest incomes in total income rose sharply since the 1970s in all Anglo-Saxon countries, but with varying magnitudes.

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

Furthermore, the higher one climbs in the income hierarchy, the more spectacular the raises. Even if the number of individuals benefiting from such salary increases is fairly limited, they are nevertheless quite visible, and this visibility naturally raises the question of what justifies such high levels of compensation. Consider the share of the top thousandth—the best remunerated 0.1 percent—in the national income of the English-speaking countries on the one hand (Figure 9.5) and continental Europe and Japan on the other (Figure 9.6). The differences are obvious: the top thousandth in the United States increased their share from 2 to nearly 10 percent over the past several decades—an unprecedented rise.¹⁷ But there has been a remarkable increase of top incomes everywhere. In France and Japan, the top thousandth’s share rose from barely 1.5 percent of national income in the early 1980s to nearly 2.5 percent in the early 2010s—close to double. In Sweden, the same share rose from less than 1 percent to more than 2 percent in the same period.

To make clear what this represents in concrete terms, remember that a 2 percent share of national income for 0.1 percent of the population means that the average individual in this group enjoys an income 20 times higher than the

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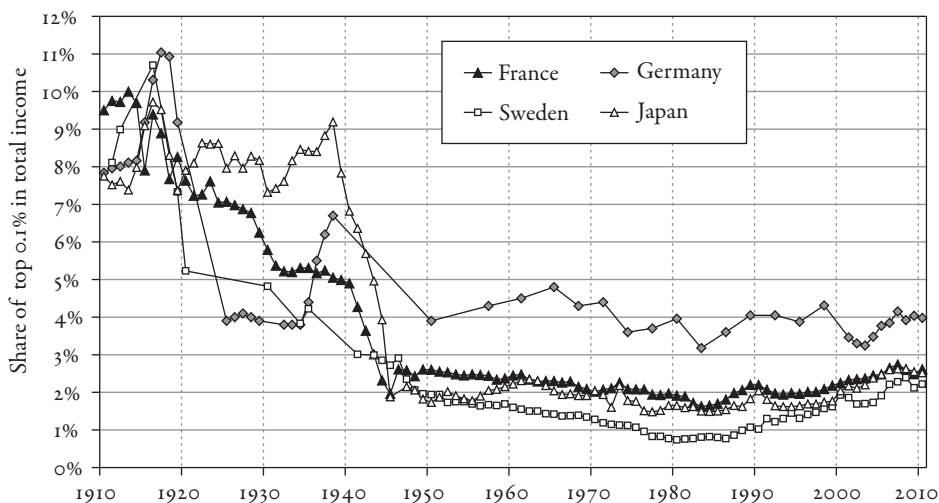


FIGURE 9.6. The top decile income share in Continental Europe and Japan, 1910–2010

As compared to Anglo-Saxon countries, the top 0.1 percent income share barely increased in Continental Europe and Japan.

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

national average (or 600,000 euros a year if the average income is 30,000 per adult). A share of 10 percent means that each individual enjoys an income 100 times the national average (or 3 million euros a year if the average is 30,000).¹⁸ Recall, too, that the top 0.1 percent is by definition a group of 50,000 people in a country with a population of 50 million adults (like France in the early 2010s). This is a very small minority (“the 1 percent” is of course 10 times larger), yet it occupies a significant place in the social and political landscape.¹⁹ The central fact is that in all the wealthy countries, including continental Europe and Japan, the top thousandth enjoyed spectacular increases in purchasing power in 1990–2010, while the average person’s purchasing power stagnated.

From a macroeconomic point of view, however, the explosion of very high incomes has thus far been of limited importance in continental Europe and Japan: the rise has been impressive, to be sure, but too few people have been affected to have had an impact as powerful as in the United States. The transfer of income to “the 1 percent” involves only two to three points of national income in continental Europe and Japan compared with 10 to 15 points in the United States—5 to 7 times greater.²⁰

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The simplest way to express these regional differences is no doubt the following: in the United States, income inequality in 2000–2010 regained the record levels observed in 1910–1920 (although the composition of income was now different, with a larger role played by high incomes from labor and a smaller role by high incomes from capital). In Britain and Canada, things moved in the same direction. In continental Europe and Japan, income inequality today remains far lower than it was at the beginning of the twentieth century and in fact has not changed much since 1945, if we take a long-run view. The comparison of Figures 9.2 and 9.3 is particularly clear on this point.

Obviously, this does not mean that the European and Japanese evolutions of the past few decades should be neglected. On the contrary: their trajectory resembles that of the United States in some respects, with a delay of one or two decades, and one need not wait until the phenomenon assumes the macroeconomic significance observed in the United States to worry about it.

Nevertheless, the fact remains that the evolution in continental Europe and Japan is thus far much less serious than in the United States (and, to a lesser extent, in the other Anglo-Saxon countries). This may tell us something about the forces at work. The divergence between the various regions of the wealthy world is all the more striking because technological change has been the same more or less everywhere: in particular, the revolution in information technology has affected Japan, Germany, France, Sweden, and Denmark as much as the United States, Britain, and Canada. Similarly, economic growth—or, more precisely, growth in output per capita, which is to say, productivity growth—has been quite similar throughout the wealthy countries, with differences of a few tenths of a percentage point.²¹ In view of these facts, this quite large divergence in the way the income distribution has evolved in the various wealthy countries demands an explanation, which the theory of marginal productivity and of the race between technology and education does not seem capable of providing.

Europe: More Inegalitarian Than the New World in 1900–1910

Note, moreover, that the United States, contrary to what many people think today, was not always more inegalitarian than Europe—far from it. Income inequality was actually quite high in Europe at the beginning of the twentieth century. This is confirmed by all the indices and historical sources. In

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particular, the top centile's share of national income exceeded 20 percent in all the countries of Europe in 1900–1910 (see Figures 9.2–9.4). This was true not only of Britain, France, and Germany but also of Sweden and Denmark (proof that the Nordic countries have not always been models of equality—far from it), and more generally of all European countries for which we have estimates from this period.²²

The similar levels of income concentration in all European countries during the Belle Époque obviously demand an explanation. Since top incomes in this period consisted almost entirely of income from capital,²³ the explanation must be sought primarily in the realm of concentration of capital. Why was capital so concentrated in Europe in the period 1900–1910?

It is interesting to note that, compared with Europe, inequality was lower not only in the United States and Canada (where the top centile's share of national income was roughly 16–18 percent at the beginning of the twentieth century) but especially in Australia and New Zealand (11–12 percent). Thus it was the New World, and especially the newest and most recently settled parts of the New World, that appear to have been less inegalitarian than Old Europe in the Belle Époque.

It is also interesting to note that Japan, despite its social and cultural differences from Europe, seems to have had the same high level of inequality at the beginning of the twentieth century, without about 20 percent of national income going to the top centile. The available data do not allow me to make all the comparisons I would like to make, but all signs are that in terms of both income structure and income inequality, Japan was indeed part of the same “old world” as Europe. It is also striking to note the similar evolution of Japan and Europe over the course of the twentieth century (Figure 9.3).

I will return later to the reasons for the very high concentration of capital in the Belle Époque and to the transformations that took place in various countries over the course of the twentieth century (namely, a reduction of concentration). I will show in particular that the greater inequality of wealth that we see in Europe and Japan is fairly naturally explained by the low demographic growth rate we find in the Old World, which resulted almost automatically in a greater accumulation and concentration of capital.

At this stage, I want simply to stress the magnitude of the changes that have altered the relative standing of countries and continents. The clearest

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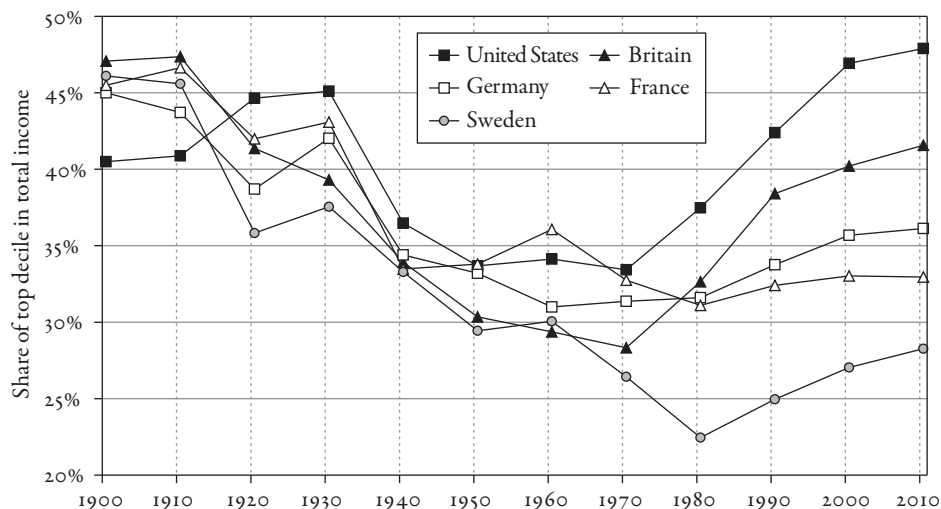


FIGURE 9.7. The top decile income share in Europe and the United States, 1900–2010

In the 1950s–1970s, the top decile income share was about 30–35 percent of total income in Europe as in the United States.

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

way to make this point is probably to look at the evolution of the top decile's share of national income. Figure 9.7 shows this for the United States and four European countries (Britain, France, Germany, and Sweden) since the turn of the twentieth century. I have indicated decennial averages in order to focus attention on long-term trends.²⁴

What we find is that on the eve of World War I, the top decile's share was 45–50 percent of national income in all the European countries, compared with a little more than 40 percent in the United States. By the end of World War II, the United States had become slightly more inegalitarian than Europe: the top decile's share decreased on both continents owing to the shocks of 1914–1945, but the fall was more precipitous in Europe (and Japan). The explanation for this is that the shocks to capital were much larger. Between 1950 and 1970, the upper decile's share was fairly stable and fairly similar in the United States and Europe, around 30–35 percent of national income. The strong divergence that began in 1970–1980 led to the following situation in 2000–2010: the top decile's share of US national income reached 45–50 percent, or roughly the same level as Europe in 1900–1910. In Europe, we see

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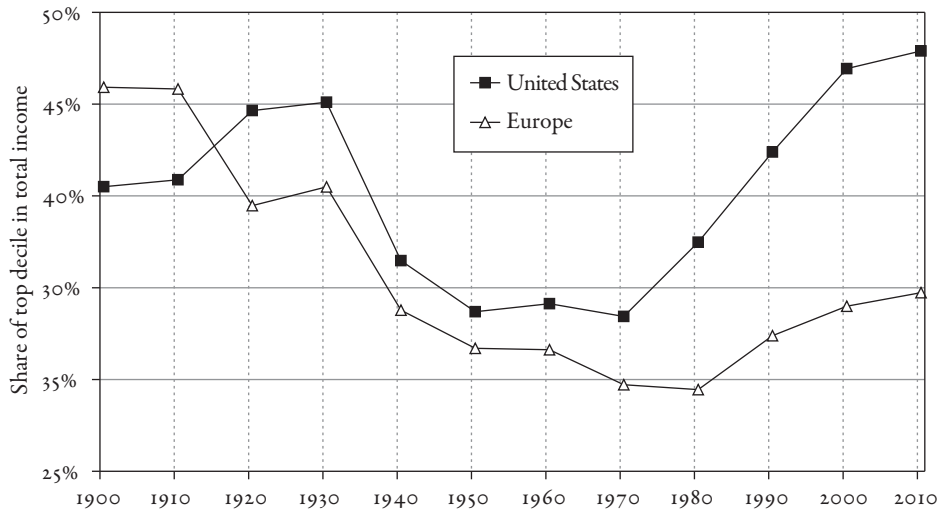


FIGURE 9.8. Income inequality in Europe versus the United States, 1900–2010

The top decile income share was higher in Europe than in the United States in 1900–1910; it is a lot higher in the United States in 2000–2010.

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

wide variation, from the most inegalitarian case (Britain, with a top decile share of 40 percent) to the most egalitarian (Sweden, less than 30 percent), with France and Germany in between (around 35 percent).

If we calculate (somewhat abusively) an average for Europe based on these four countries, we can make a very clear international comparison: the United States was less inegalitarian than Europe in 1900–1910, slightly more inegalitarian in 1950–1960, and much more inegalitarian in 2000–2010 (see Figure 9.8).²⁵

Apart from this long-term picture, there are of course multiple national histories as well as constant short- and medium-term fluctuations linked to social and political developments in each country, as I showed in Chapter 8 and analyzed in some detail in the French and US cases. Space will not permit me to do the same for every country here.²⁶

In passing, however, it is worth mentioning that the period between the two world wars seems to have been particularly tumultuous and chaotic almost everywhere, though the chronology of events varied from country to country. In Germany, the hyperinflation of the 1920s followed hard on the

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heels of military defeat. The Nazis came to power a short while later, after the worldwide depression had plunged the country back into crisis. Interestingly, the top centile's share of German national income increased rapidly between 1933 and 1938, totally out of phase with other countries: this reflects the revival of industrial profits (boosted by demand for armaments), as well as a general reestablishment of income hierarchies in the Nazi era. Note, too, that the share of the top centile—and, even more, the top thousandth—in Germany has been noticeably higher since 1950 than in most other continental European countries (including, in particular, France) as well as Japan, even though the overall level of inequality in Germany is not very different. This can be explained in various ways, among which it is difficult to say that one is better than another. (I will come back to this point.)

In addition, there are serious lacunae in German tax records, owing in large part to the country's turbulent history in the twentieth century, so that it is difficult to be sure about certain developments or to make sharp comparisons with other countries. Prussia, Saxony, and most other German states imposed an income tax relatively early, between 1880 and 1890, but there were no national laws or tax records until after World War I. There were frequent breaks in the statistical record during the 1920s, and then the records for 1938 to 1950 are missing altogether, so it is impossible to study how the income distribution evolved during World War II and its immediate aftermath.

This distinguishes Germany from other countries deeply involved in the conflict, especially Japan and France, whose tax administrations continued to compile statistics during the war years without interruption, as if nothing were amiss. If Germany was anything like these two countries, it is likely that the top centile's share of national income reached a nadir in 1945 (the year in which German capital and income from capital were reduced to virtually nothing) before beginning to rise sharply again in 1946–1947. Yet when German tax records return in 1950, they show the income hierarchy already beginning to resemble its appearance in 1938. In the absence of complete sources, it is difficult to say more. The German case is further complicated by the fact that the country's boundaries changed several times during the twentieth century, most recently with the reunification of 1990–1991, in addition to which full tax data are published only every three years (rather than annually as in most other countries).

*Inequalities in Emerging Economies: Lower Than
in the United States?*

Let me turn now to the poor and emerging economies. The historical sources we need in order to study the long-run dynamics of the wealth distribution there are unfortunately harder to come by than in the rich countries. There are, however, a number of poor and emerging economies for which it is possible to find long series of tax data useful for making (rough) comparisons with our results for the more developed economies. Shortly after Britain introduced a progressive income tax at home, it decided to do the same in a number of its colonies. Thus an income tax fairly similar to that introduced in Britain in 1909 was adopted in South Africa in 1913 and in India (including present-day Pakistan) in 1922. Similarly, the Netherlands imposed an income tax on its Indonesian colony in 1920. Several South American countries introduced an income tax between the two world wars: Argentina, for example, did so in 1932. For these four countries—South Africa, India, Indonesia, and Argentina—we have tax data going back, respectively, to 1913, 1922, 1920, and 1932 and continuing (with gaps) to the present. The data are similar to what we have for the rich countries and can be employed using similar methods, in particular national income estimates for each country going back to the turn of the twentieth century.

My estimates are indicated in Figure 9.9. Several points deserve to be emphasized. First, the most striking result is probably that the upper centile's share of national income in poor and emerging economies is roughly the same as in the rich economies. During the most inegalitarian phases, especially 1910–1950, the top centile took around 20 percent of national income in all four countries: 15–18 percent in India and 22–25 percent in South Africa, Indonesia, and Argentina. During more egalitarian phases (essentially 1950–1980), the top centile's share fell to between 6 and 12 percent (barely 5–6 percent in India, 8–9 percent in Indonesia and Argentina, and 11–12 percent in South Africa). Thereafter, in the 1980s, the top centile's share rebounded, and today it stands at about 15 percent of national income (12–13 percent in India and Indonesia and 16–18 percent in South Africa and Argentina).

Figure 9.9 also shows two countries for which the available tax records allow us only to study how things have changed since the mid-1980s: China and Colombia.²⁷ In China, the top centile's share of national income rose rapidly

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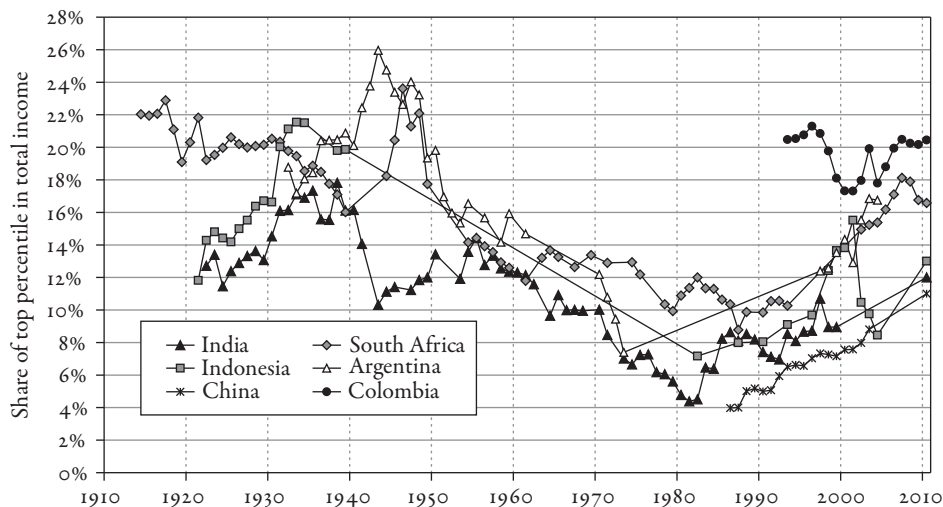


FIGURE 9.9. Income inequality in emerging countries, 1910–2010

Measured by the top percentile income share, income inequality rose in emerging countries since the 1980s, but ranks below the US level in 2000–2010.

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

over the past several decades but starting from a fairly low (almost Scandinavian) level in the mid-1980s: less than 5 percent of national income went to the top centile at that time, according to the available sources. This is not very surprising for a Communist country with a very compressed wage schedule and virtual absence of private capital. Chinese inequality increased very rapidly following the liberalization of the economy in the 1980s and accelerated growth in the period 1990–2000, but according to my estimates, the upper centile’s share in 2000–2010 was 10–11 percent, less than in India or Indonesia (12–14 percent, roughly the same as Britain and Canada) and much lower than in South Africa or Argentina (16–18 percent, approximately the same as the United States).

Colombia on the other hand is one of the most inegalitarian societies in the WTID: the top centile’s share stood at about 20 percent of national income throughout the period 1990–2010, with no clear trend (see Figure 9.9). This level of inequality is even higher than that attained by the United States in 2000–2010, at least if capital gains are excluded; if they are included, the United States was slightly ahead of Colombia over the past decade.

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It is important, however, to be aware of the significant limitations of the data available for measuring the dynamics of the income distribution in poor and emerging countries and for comparing them with the rich countries. The orders of magnitude indicated here are the best I was able to come up with given the available sources, but the truth is that our knowledge remains meager. We have tax data for the entire twentieth century for only a few emerging economies, and there are many gaps and breaks in the data, often in the period 1950–1970, the era of independence (in Indonesia, for example). Work is going forward to update the WTID with historical data from many other countries, especially from among the former British and French colonies, in Indochina and Africa, but data from the colonial era are often difficult to relate to contemporary tax records.²⁸

Where tax records do exist, their interest is often reduced by the fact that the income tax in less developed countries generally applies to only a small minority of the population, so that one can estimate the upper centile's share of total income but not the upper decile's. Where the data allow, as in South Africa for certain subperiods, one finds that the highest observed levels for the top decile are on the order of 50–55 percent of national income—a level comparable to or slightly higher than the highest levels of inequality observed in the wealthy countries, in Europe in 1900–1910 and in the United States in 2000–2010.

I have also noticed a certain deterioration of the tax data after 1990. This is due in part to the arrival of computerized records, which in many cases led the tax authorities to interrupt the publication of detailed statistics, which in earlier periods they needed for their own purposes. This sometimes means, paradoxically, that sources have deteriorated since the advent of the information age (we find the same thing happening in the rich countries).²⁹ Above all, the deterioration of the sources seems to be related to a certain disaffection with the progressive income tax in general on the part of certain governments and international organizations.³⁰ A case in point is India, which ceased publishing detailed income tax data in the early 2000s, even though such data had been published without interruption since 1922. As a result, it is harder to study the evolution of top incomes in India since 2000 than over the course of the twentieth century.³¹

This lack of information and democratic transparency is all the more regrettable in that the question of the distribution of wealth and of the fruits of

growth is at least as urgent in the poor and emerging economies as in the rich ones. Note, too, that the very high official growth figures for developing countries (especially India and China) over the past few decades are based almost exclusively on production statistics. If one tries to measure income growth by using household survey data, it is often quite difficult to identify the reported rates of macroeconomic growth: Indian and Chinese incomes are certainly increasing rapidly, but not as rapidly as one would infer from official growth statistics. This paradox—sometimes referred to as the “black hole” of growth—is obviously problematic. It may be due to the overestimation of growth of output (there are many bureaucratic incentives for doing so), or perhaps the underestimation of income growth (household surveys have their own flaws), or most likely both. In particular, the missing income may be explained by the possibility that a disproportionate share of the growth in output has gone to the most highly remunerated individuals, whose incomes are not always captured in the tax data.

In the case of India, it is possible to estimate (using tax return data) that the increase in the upper centile’s share of national income explains between one-quarter and one-third of the “black hole” of growth between 1990 and 2000.³² Given the deterioration of the tax data since 2000, it is impossible to do a proper social decomposition of recent growth. In the case of China, official tax records are even more rudimentary than in India. In the current state of research, the estimates in Figure 9.9 are the most reliable we have.³³ It is nevertheless urgent that both countries publish more complete data—and other countries should do so as well. If and when better data become available, we may discover that inequality in India and China has increased more rapidly than we imagined.

In any case, the important point is that whatever flaws the tax authorities in poor and emerging countries may exhibit, the tax data reveal much higher—and more realistic—top income levels than do household surveys. For example, tax returns show that the top centile’s share of national income in Colombia in 2000–2010 was more than 20 percent (and almost 20 percent in Argentina). Actual inequality may be even greater. But the fact that the highest incomes declared in household surveys in these same countries are generally only 4 to 5 times as high as the average income (suggesting that no one is really rich)—so that, if we were to trust the household survey, the top centile’s share would be less than 5 percent—suggests that the survey data are not very

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credible. Clearly, household surveys, which are often the only source used by international organizations (in particular the World Bank) and governments for gauging inequality, give a biased and misleadingly complacent view of the distribution of wealth. As long as these official estimates of inequality fail to combine survey data with other data systematically gleaned from tax records and other government sources, it will be impossible to apportion macroeconomic growth properly among various social groups or among the centiles and deciles of the income hierarchy. This is true, moreover, of wealthy countries as well as poor and emerging ones.

The Illusion of Marginal Productivity

Let me now return to the explosion of wage inequality in the United States (and to a lesser extent Britain and Canada) after 1970. As noted, the theory of marginal productivity and of the race between technology and education is not very convincing; the explosion of compensation has been highly concentrated in the top centile (or even the top thousandth) of the wage distribution and has affected some countries while sparing others (Japan and continental Europe are thus far much less affected than the United States), even though one would expect technological change to have altered the whole top end of the skill distribution in a more continuous way and to have worked its effects in all countries at a similar level of development. The fact that income inequality in the United States in 2000–2010 attained a level higher than that observed in the poor and emerging countries at various times in the past—for example, higher than in India or South Africa in 1920–1930, 1960–1970, and 2000–2010—also casts doubt on any explanation based solely on objective inequalities of productivity. Is it really the case that inequality of individual skills and productivities is greater in the United States today than in the half-illiterate India of the recent past (or even today) or in apartheid (or postapartheid) South Africa? If that were the case, it would be bad news for US educational institutions, which surely need to be improved and made more accessible but probably do not deserve such extravagant blame.

To my mind, the most convincing explanation for the explosion of the very top US incomes is the following. As noted, the vast majority of top earners are senior managers of large firms. It is rather naïve to seek an objective basis for their high salaries in individual “productivity.” When a job is repli-

cable, as in the case of an assembly-line worker or fast-food server, we can give an approximate estimate of the “marginal product” that would be realized by adding one additional worker or waiter (albeit with a considerable margin of error in our estimate). But when an individual’s job functions are unique, or nearly so, then the margin of error is much greater. Indeed, once we introduce the hypothesis of imperfect information into standard economic models (eminently justifiable in this context), the very notion of “individual marginal productivity” becomes hard to define. In fact, it becomes something close to a pure ideological construct on the basis of which a justification for higher status can be elaborated.

To put this discussion in more concrete terms, imagine a large multinational corporation employing 100,000 people and with gross annual revenue of 10 billion euros, or 100,000 euros per worker. Suppose that half of this revenue figure represents purchases of goods and services by the firm (this is a typical figure for the economy as a whole), so that the value added by the firm—the value available to pay the labor and capital that it directly employs—is 5 billion euros, or 50,000 euros per worker. To set the pay of the firm’s CFO (or his deputies, or of the director of marketing and her staff, etc.), one would in principle want to estimate his marginal productivity, that is, his contribution to the firm’s value-added of 5 billion euros: is it 100,000, 500,000, or 5 million euros per year? A precise, objective answer to this question is clearly impossible. To be sure, one could in theory experiment by trying out several CFOs, each for several years, in order to determine what impact the choice has on the firm’s total revenue of 10 billion euros. Obviously, such an estimate would be highly approximate, with a margin of error much greater than the maximum salary one would think of paying, even in a totally stable economic environment.³⁴ And the whole idea of experimentation looks even more hopeless when one remembers that the environment is in fact changing constantly, as is the nature of the firm and the exact definition of each job.

In view of these informational and cognitive difficulties, how are such remunerations determined in practice? They are generally set by hierarchical superiors, and at the very highest levels salaries are set by the executives themselves or by corporate compensation committees whose members usually earn comparable salaries (such as senior executives of other large corporations). In some companies, stockholders are asked to vote on compensation for senior executives at annual meetings, but the number of posts subject to such

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approval is small, and not all senior managers are covered. Since it is impossible to give a precise estimate of each manager's contribution to the firm's output, it is inevitable that this process yields decisions that are largely arbitrary and dependent on hierarchical relationships and on the relative bargaining power of the individuals involved. It is only reasonable to assume that people in a position to set their own salaries have a natural incentive to treat themselves generously, or at the very least to be rather optimistic in gauging their marginal productivity. To behave in this way is only human, especially since the necessary information is, in objective terms, highly imperfect. It may be excessive to accuse senior executives of having their "hands in the till," but the metaphor is probably more apt than Adam Smith's metaphor of the market's "invisible hand." In practice, the invisible hand does not exist, any more than "pure and perfect" competition does, and the market is always embodied in specific institutions such as corporate hierarchies and compensation committees.

This does not mean that senior executives and compensation committees can set whatever salaries they please and always choose the highest possible figure. "Corporate governance" is subject to certain institutions and rules specific to each country. The rules are generally ambiguous and flawed, but there are certain checks and balances. Each society also imposes certain social norms, which affect the views of senior managers and stockholders (or their proxies, who are often institutional investors such as financial corporations and pension funds) as well as of the larger society. These social norms reflect beliefs about the contributions that different individuals make to the firm's output and to economic growth in general. Since uncertainty about these issues is great, it is hardly surprising that perceptions vary from country to country and period to period and are influenced by each country's specific history. The important point is that it is very difficult for any individual firm to go against the prevailing social norms of the country in which it operates.

Without a theory of this kind, it seems to me quite difficult to explain the very large differences of executive pay that we observe between on the one hand the United States (and to a lesser extent in other English-speaking countries) and on the other continental Europe and Japan. Simply put, wage inequalities increased rapidly in the United States and Britain because US and British corporations became much more tolerant of extremely generous pay packages after 1970. Social norms evolved in a similar direction in European

and Japanese firms, but the change came later (in the 1980s or 1990s) and has thus far not gone as far as in the United States. Executive compensation of several million euros a year is still more shocking today in Sweden, Germany, France, Japan, and Italy than in the United States or Britain. It has not always been this way—far from it: recall that in the 1950s and 1960s the United States was more egalitarian than France, especially in regard to the wage hierarchy. But it has been this way since 1980, and all signs are that this change in senior management compensation has played a key role in the evolution of wage inequalities around the world.

*The Takeoff of the Supermanagers:
A Powerful Force for Divergence*

This approach to executive compensation in terms of social norms and acceptability seems rather plausible a priori, but in fact it only shifts the difficulty to another level. The problem is now to explain where these social norms come from and how they evolve, which is obviously a question for sociology, psychology, cultural and political history, and the study of beliefs and perceptions at least as much as for economics per se. The problem of inequality is a problem for the social sciences in general, not for just one of its disciplines. In the case in point, I noted earlier that the “conservative revolution” that gripped the United States and Great Britain in the 1970s and 1980s, and that led to, among other things, greater tolerance of very high executive pay, was probably due in part to a feeling that these countries were being overtaken by others (even though the postwar period of high growth in Europe and Japan was in reality an almost mechanical consequence of the shocks of the period 1914–1945). Obviously, however, other factors also played an important role.

To be clear, I am not claiming that all wage inequality is determined by social norms of fair remuneration. As noted, the theory of marginal productivity and of the race between technology and education offers a plausible explanation of the long-run evolution of the wage distribution, at least up to a certain level of pay and within a certain degree of precision. Technology and skills set limits within which most wages must be fixed. But to the extent that certain job functions, especially in the upper management of large firms, become more difficult to replicate, the margin of error in estimating the productivity of any given job becomes larger. The explanatory power of the

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skills-technology logic then diminishes, and that of social norms increases. Only a small minority of employees are affected, a few percent at most and probably less than 1 percent, depending on the country and period.

But the key fact, which was by no means evident a priori, is that the top centile's share of total wages can vary considerably by country and period, as the disparate evolutions in the wealthy countries after 1980 demonstrate. The explosion of supermanager salaries should of course be seen in relation to firm size and to the growing diversity of functions within the firm. But the objectively complex problem of governance of large organizations is not the only issue. It is also possible that the explosion of top incomes can be explained as a form of "meritocratic extremism," by which I mean the apparent need of modern societies, and especially US society, to designate certain individuals as "winners" and to reward them all the more generously if they seem to have been selected on the basis of their intrinsic merits rather than birth or background. (I will come back to this point.)

In any case, the extremely generous rewards meted out to top managers can be a powerful force for divergence of the wealth distribution: if the best paid individuals set their own salaries, (at least to some extent), the result may be greater and greater inequality. It is very difficult to say in advance where such a process might end. Consider again the case of the CFO of a large firm with gross revenue of 10 billion euros a year. It is hard to imagine that the corporate compensation committee would suddenly decide that the CFO's marginal productivity is 1 billion or even 100 million euros (if only because it would then be difficult to find enough money to pay the rest of the management team). By contrast, some people might think that a pay package of 1 million, 10 million, or even 50 million euros a year would be justified (uncertainty about individual marginal productivity being so large that no obvious limit is apparent). It is perfectly possible to imagine that the top centile's share of total wages could reach 15–20 percent in the United States, or 25–30 percent, or even higher.

The most convincing proof of the failure of corporate governance and of the absence of a rational productivity justification for extremely high executive pay is that when we collect data about individual firms (which we can do for publicly owned corporations in all the rich countries), it is very difficult to explain the observed variations in terms of firm performance. If we look at various performance indicators, such as sales growth, profits, and so on, we

can break down the observed variance as a sum of other variances: variance due to causes external to the firm (such as the general state of the economy, raw material price shocks, variations in the exchange rate, average performance of other firms in the same sector, etc.) plus other “nonexternal” variances. Only the latter can be significantly affected by the decisions of the firm’s managers. If executive pay were determined by marginal productivity, one would expect its variance to have little to do with external variances and to depend solely or primarily on nonexternal variances. In fact, we observe just the opposite: it is when sales and profits increase for external reasons that executive pay rises most rapidly. This is particularly clear in the case of US corporations: Bertrand and Mullainathan refer to this phenomenon as “pay for luck.”³⁵

I return to this question and generalize this approach in Part Four (see Chapter 14). The propensity to “pay for luck” varies widely with country and period, and notably as a function of changes in tax laws, especially the top marginal income tax rate, which seems to serve either as a protective barrier (when it is high) or an incentive to mischief (when it is low)—at least up to a certain point. Of course changes in tax laws are themselves linked to changes in social norms pertaining to inequality, but once set in motion they proceed according to a logic of their own. Specifically, the very large decrease in the top marginal income tax rate in the English-speaking countries after 1980 (despite the fact that Britain and the United States had pioneered nearly confiscatory taxes on incomes deemed to be indecent in earlier decades) seems to have totally transformed the way top executive pay is set, since top executives now had much stronger incentives than in the past to seek large raises. I also analyze the way this amplifying mechanism can give rise to another force for divergence that is more political in nature: the decrease in the top marginal income tax rate led to an explosion of very high incomes, which then increased the political influence of the beneficiaries of the change in the tax laws, who had an interest in keeping top tax rates low or even decreasing them further and who could use their windfall to finance political parties, pressure groups, and think tanks.

Inequality of Capital Ownership

Let me turn now to the question of inequality of wealth and its historical evolution. The question is important, all the more so because the reduction of this type of inequality, and of the income derived from it, was the only reason why total income inequality diminished during the first half of the twentieth century. As noted, inequality of income from labor did not decrease in a structural sense between 1900–1910 and 1950–1960 in either France or the United States (contrary to the optimistic predictions of Kuznets's theory, which was based on the idea of a gradual and mechanical shift of labor from worse paid to better paid types of work), and the sharp drop in total income inequality was due essentially to the collapse of high incomes from capital. All the information at our disposal indicates that the same is true for all the other developed countries.¹ It is therefore essential to understand how and why this historic compression of inequality of wealth came about.

The question is all the more important because capital ownership is apparently becoming increasingly concentrated once again today, as the capital/income ratio rises and growth slows. The possibility of a widening wealth gap raises many questions as to its long-term consequences. In some respects it is even more worrisome than the widening income gap between supermanagers and others, which to date remains a geographically limited phenomenon.

Hyperconcentrated Wealth: Europe and America

As noted in Chapter 7, the distribution of wealth—and therefore of income from capital—is always much more concentrated than the distribution of income from labor. In all known societies, at all times, the least wealthy half of the population own virtually nothing (generally little more than 5 percent of total wealth); the top decile of the wealth hierarchy own a clear majority of what there is to own (generally more than 60 percent of total wealth and sometimes as much as 90 percent); and the remainder of the population (by

construction, the 40 percent in the middle) own from 5 to 35 percent of all wealth.² I also noted the emergence of a “patrimonial middle class,” that is, an intermediate group who are distinctly wealthier than the poorer half of the population and own between a quarter and a third of national wealth. The emergence of this middle class is no doubt the most important structural transformation to affect the wealth distribution over the long run.

Why did this transformation occur? To answer this question, one must first take a closer look at the chronology. When and how did inequality of wealth begin to decline? To be candid, because the necessary sources (mainly probate records) are unfortunately not always available, I have thus far not been able to study the historical evolution of wealth inequality in as many countries as I examined in the case of income inequality. We have fairly complete historical estimates for four countries: France, Britain, the United States, and Sweden. The lessons of these four histories are fairly clear and consistent, however, so that we can say something about the similarities and differences between the European and US trajectories.³ Furthermore, the wealth data have one enormous advantage over the income data: they allow us in some cases to go much farther back in time. Let me now examine one by one the four countries I have studied in detail.

France: An Observatory of Private Wealth

France is a particularly interesting case, because it is the only country for which we have a truly homogeneous historical source that allows us to study the distribution of wealth continuously from the late eighteenth century to the present. In 1791, shortly after the fiscal privileges of the nobility were abolished, a tax on estates and gifts was established, together with a wealth registry. These were astonishing innovations at the time, notable for their universal scope. The new estate tax was universal in three ways: first, it applied to all types of property: farmland, other urban and rural real estate, cash, public and private bonds, other kinds of financial assets such as shares of stock or partnerships, furniture, valuables, and so on; second, it applied to all owners of wealth, whether noble or common; and third, it applied to fortunes of all sizes, large or small. Moreover, the purpose of this fundamental reform was not only to fill the coffers of the new regime but also to enable the government to record all transfers of wealth, whether by bequest (at the owner’s death) or

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gift (during the owner's lifetime), in order to guarantee to all the full exercise of their property rights. In official language, the estate and gift tax has always—from 1791 until now—been classified as one of a number of *droits d'enregistrement* (recording fees), and more specifically *droits de mutation* (transfer fees), which included both charges assessed on “free-will transfers,” or transfers of title to property made without financial consideration, by bequest or gift, and “transfers for consideration” (that is, transfers made in exchange for cash or other valuable tokens). The purpose of the law was thus to allow every property owner, large or small, to record his title and thus to enjoy his property rights in full security, including the right to appeal to the public authorities in case of difficulty. Thus a fairly complete system of property records was established in the late 1790s and early 1800s, including a cadastre for real estate that still exists today.

In Part Four I say more about the history of estate taxes in different countries. At this stage, taxes are of interest primarily as a historical source. In most other countries, it was not until the end of the nineteenth century or beginning of the twentieth that estate and gift taxes comparable to France's were established. In Britain, the reform of 1894 unified previous taxes on the conveyance of real estate, financial assets, and personal estate, but homogeneous probate statistics covering all types of property go back only to 1919–1920. In the United States, the federal tax on estates and gifts was not created until 1916 and covered only a tiny minority of the population. (Although taxes covering broader segments of the population do exist in some states, these are highly heterogeneous.) Hence it is very difficult to study the evolution of wealth inequalities in these two countries before World War I. To be sure, there are many probate documents and estate inventories, mostly of private origin, dealing with particular subsets of the population and types of property, but there is no obvious way to use these records to draw general conclusions.

This is unfortunate, because World War I was a major shock to wealth and its distribution. One of the primary reasons for studying the French case is precisely that it will allow us to place this crucial turning point in a longer historical perspective. From 1791 to 1901, the estate and gift tax was strictly proportional: it varied with degree of kinship but was the same regardless of the amount transferred and was usually quite low (generally 1–2 percent). The tax was made slightly progressive in 1901 after a lengthy parliamentary battle.

The government, which had begun publishing detailed statistics on the annual flow of bequests and donations as far back as the 1820s, began compiling a variety of statistics by size of estate in 1901, and from then until the 1950s, these became increasingly sophisticated (with cross-tabulations by age, size of estate, type of property, etc.). After 1970, digital files containing representative samples from estate and gift tax filings in a specific year became available, so that the data set can be extended to 2000–2010. In addition to the rich sources produced directly by the tax authorities over the past two centuries, I have also collected, together with Postel-Vinay and Rosenthal, tens of thousands of individual declarations (which have been very carefully preserved in national and departmental archives since the early nineteenth century) for the purpose of constructing large samples covering each decade from 1800–1810 to 2000–2010. All in all, French probate records offer an exceptionally rich and detailed view of two centuries of wealth accumulation and distribution.⁴

The Metamorphoses of a Patrimonial Society

Figure 10.1 presents the main results I obtained for the evolution of the wealth distribution from 1810 to 2010.⁵ The first conclusion is that prior to the shocks of 1914–1945, there was no visible trend toward reduced inequality of capital ownership. Indeed, there was a slight tendency for capital concentration to rise throughout the nineteenth century (starting from an already very high level) and even an acceleration of the inegalitarian spiral in the period 1880–1913. The top decile of the wealth hierarchy already owned between 80 and 85 percent of all wealth at the beginning of the nineteenth century; by the turn of the twentieth, it owned nearly 90 percent. The top centile alone owned 45–50 percent of the nation's wealth in 1800–1810; its share surpassed 50 percent in 1850–1860 and reached 60 percent in 1900–1910.⁶

Looking at these data with the historical distance we enjoy today, we cannot help being struck by the impressive concentration of wealth in France during the Belle Époque, notwithstanding the reassuring rhetoric of the Third Republic's economic and political elites. In Paris, which was home to little more than one-twentieth of the population in 1900–1910 but claimed one-quarter of the wealth, the concentration of wealth was greater still and seems to have increased without limit during the decades leading up to World War I. In the capital, where in the nineteenth century two-thirds of

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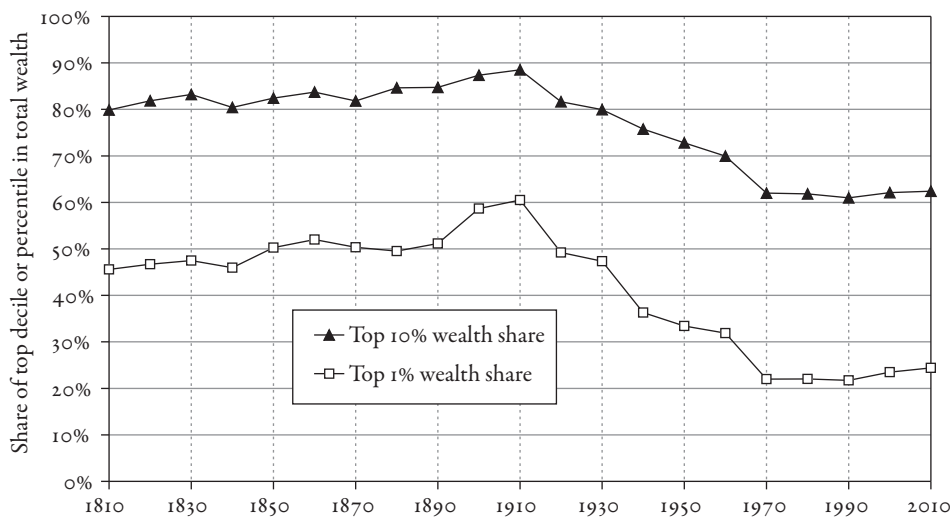


FIGURE 10.1. Wealth inequality in France, 1810–2010

The top decile (the top 10 percent highest wealth holders) owns 80–90 percent of total wealth in 1810–1910, and 60–65 percent today.

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

the population died without any wealth to leave to the next generation (compared with half of the population in the rest of the country) but where the largest fortunes were also concentrated, the top centile's share was about 55 percent at the beginning of the century, rose to 60 percent in 1880–1890, and then to 70 percent on the eve of World War I (see Figure 10.2). Looking at this curve, it is natural to ask how high the concentration of wealth might have gone had there been no war.

The probate records also allow us to see that throughout the nineteenth century, wealth was almost as unequally distributed within each age cohort as in the nation as a whole. Note that the estimates indicated in Figures 10.1–2 (and subsequent figures) reflect inequality of wealth in the (living) adult population at each charted date: we start with wealth at the time of death but re-weight each observation as a function of the number of living individuals in each age cohort as of the date in question. In practice, this does not make much difference: the concentration of wealth among the living is barely a few points higher than inequality of wealth at death, and the temporal evolution is nearly identical in each case.⁷

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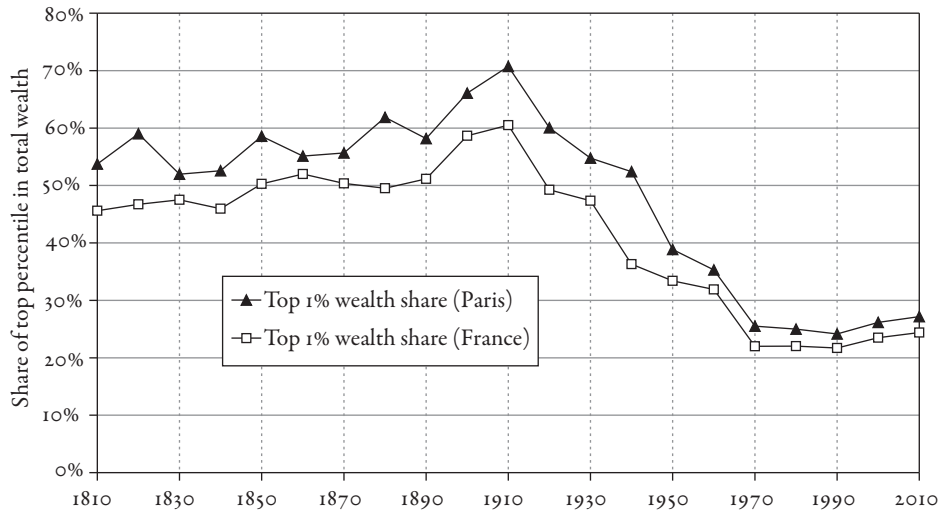


FIGURE 10.2. Wealth inequality in Paris versus France, 1810–2010

The top percentile (the top 1 percent wealth holders) owns 70 percent of aggregate wealth in Paris on the eve of World War I.

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

How concentrated was wealth in France during the eighteenth century up to the eve of the Revolution? Without a source comparable to the probate records created by the revolutionary assemblies (for the Ancien Régime we have only heterogeneous and incomplete sets of private data, as for Britain and the United States until the late nineteenth century), it is unfortunately impossible to make precise comparisons. Yet all signs are that inequality of private wealth decreased slightly between 1780 and 1810 owing to redistribution of agricultural land and cancellation of public debt during the Revolution, together with other shocks to aristocratic fortunes. It is possible that the top decile's share attained or even slightly exceeded 90 percent of total wealth on the eve of 1789 and that the upper centile's share attained or exceeded 60 percent. Conversely, the “émigré billion” (the billion francs paid to the nobility in compensation for land confiscated during the Revolution) and the return of the nobility to the forefront of the political scene contributed to the reconstitution of some old fortunes during the period of limited-suffrage monarchy (1815–1848). In fact, our probate data reveal that the percentage of aristocratic names in the top centile of the Parisian wealth hierarchy increased gradually

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from barely 15 percent in 1800–1810 to nearly 30 percent in 1840–1850 before embarking on an inexorable decline from 1850–1860 on, falling to less than 10 percent by 1890–1900.⁸

The magnitude of the changes initiated by the French Revolution should not be overstated, however. Beyond the probable decrease of inequality of wealth between 1780 and 1810, followed by a gradual increase between 1810 and 1910, and especially after 1870, the most significant fact is that inequality of capital ownership remained relatively stable at an extremely high level throughout the eighteenth and nineteenth centuries. During this period, the top decile consistently owned 80 to 90 percent of total wealth and the top centile 50 to 60 percent. As I showed in Part Two, the structure of capital was totally transformed between the eighteenth century and the beginning of the twentieth century (landed capital was almost entirely replaced by industrial and financial capital and real estate), but total wealth, measured in years of national income, remained relatively stable. In particular, the French Revolution had relatively little effect on the capital/income ratio. As just shown, the Revolution also had relatively little effect on the distribution of wealth. In 1810–1820, the epoch of Père Goriot, Rastignac, and Mademoiselle Victorine, wealth was probably slightly less unequally distributed than during the Ancien Régime, but the difference was really rather minimal: both before and after the Revolution, France was a patrimonial society characterized by a hyperconcentration of capital, in which inheritance and marriage played a key role and inheriting or marrying a large fortune could procure a level of comfort not obtainable through work or study. In the Belle Époque, wealth was even more concentrated than when Vautrin lectured Rastignac. At bottom, however, France remained the same society, with the same basic structure of inequality, from the Ancien Régime to the Third Republic, despite the vast economic and political changes that took place in the interim.

Probate records also enable us to observe that the decrease in the upper decile's share of national wealth in the twentieth century benefited the middle 40 percent of the population exclusively, while the share of the poorest 50 percent hardly increased at all (it remained less than 5 percent of total wealth). Throughout the nineteenth and twentieth centuries, the bottom half of the population had virtually zero net wealth. In particular, we find that at the time of death, individuals in the poorest half of the wealth

distribution owned no real estate or financial assets that could be passed on to heirs, and what little wealth they had went entirely to expenses linked to death and to paying off debts (in which case the heirs generally chose to renounce their inheritance). The proportion of individuals in this situation at the time of death exceeded two-thirds in Paris throughout the nineteenth century and until the eve of World War I, and there was no downward trend. Père Goriot belonged to this vast group, dying as he did abandoned by his daughters and in abject poverty: his landlady, Madame Vauquer, dunned Rastignac for what the old man owed her, and he also had to pay the cost of burial, which exceeded the value of the deceased's meager personal effects. Roughly half of all French people in the nineteenth century died in similar circumstances, without any wealth to convey to heirs, or with only negative net wealth, and this proportion barely budged in the twentieth century.⁹

Inequality of Capital in Belle Époque Europe

The available data for other European countries, though imperfect, unambiguously demonstrate that extreme concentration of wealth in the eighteenth and nineteenth centuries and until the eve of World War I was a European and not just a French phenomenon.

In Britain, we have detailed probate data from 1910–1920 on, and these records have been exhaustively studied by many investigators (most notably Atkinson and Harrison). If we complete these statistics with estimates from recent years as well as the more robust but less homogeneous estimates that Peter Linder has made for the period 1810–1870 (based on samples of estate inventories), we find that the overall evolution was very similar to the French case, although the level of inequality was always somewhat greater in Britain. The top decile's share of total wealth was on the order of 85 percent from 1810 to 1870 and surpassed 90 percent in 1900–1910; the uppermost centile's share rose from 55–60 percent in 1810–1870 to nearly 70 percent in 1910–1920 (see Figure 10.3). The British sources are imperfect, especially for the nineteenth century, but the orders of magnitude are quite clear: wealth in Britain was extremely concentrated in the nineteenth century and showed no tendency to decrease before 1914. From a French perspective, the most striking fact is that inequality of capital ownership was only slightly greater in Britain than

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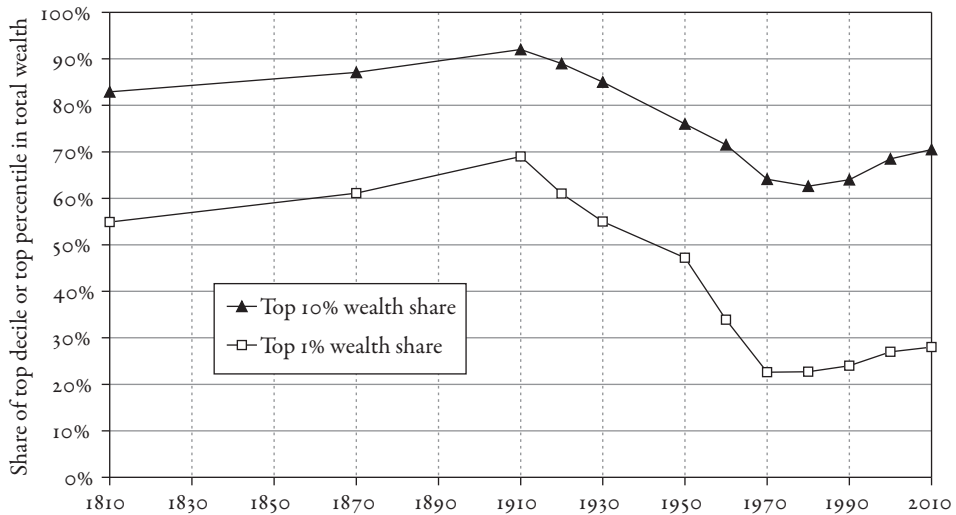


FIGURE 10.3. Wealth inequality in Britain, 1810–2010

The top decile owns 80–90 percent of total wealth in 1810–1910, and 70 percent today.

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

in France during the Belle Époque, even though Third Republic elites at the time liked to portray France as an egalitarian country compared with its monarchical neighbor across the Channel. In fact, the formal nature of the political regime clearly had very little influence on the distribution of wealth in the two countries.

In Sweden, where the very rich data available from 1910, of which Ohlsson, Roine, and Waldenstrom have recently made use, and for which we also have estimates for the period 1810–1870 (by Lee Soltow in particular), we find a trajectory very similar to what we observed in France and Britain (see Figure 10.4). Indeed, the Swedish wealth data confirm what we already know from income statements: Sweden was not the structurally egalitarian country that we sometimes imagine. To be sure, the concentration of wealth in Sweden in 1970–1980 attained the lowest level of inequality observed in any of our historical series (with barely 50 percent of total wealth owned by the top decile and slightly more than 15 percent by the top centile). This is still a fairly high level of inequality, however, and, what is more, inequality in Sweden has increased significantly since 1980–1990 (and in 2010 was just slightly lower than in France). It is worth stressing, moreover, that Swedish wealth was as concen-

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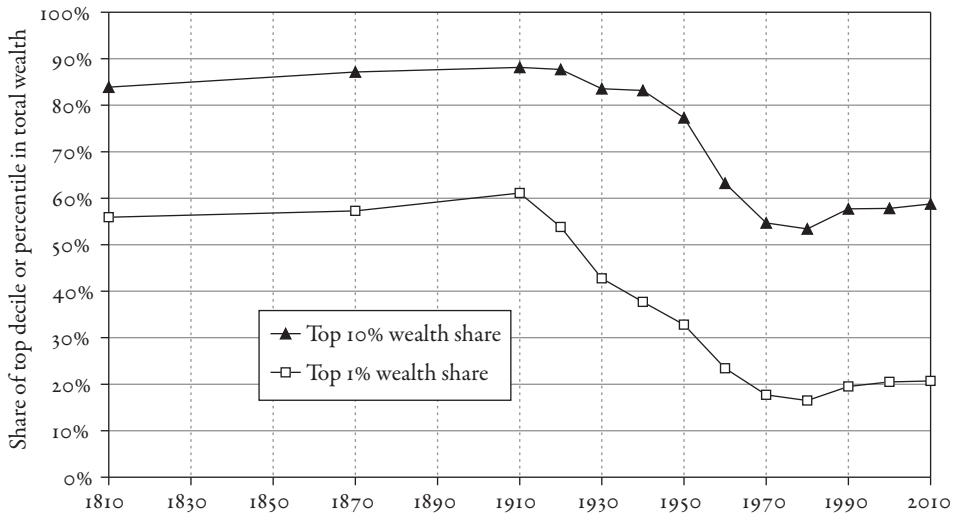


FIGURE 10.4. Wealth inequality in Sweden, 1810–2010

The top 10 percent holds 80–90 percent of total wealth in 1810–1910 and 55–60 percent today.

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

trated as French and British wealth in 1900–1910. In the Belle Époque, wealth was highly concentrated in all European countries. It is essential to understand why this was so, and why things changed so much over the course of the twentieth century.

Note, moreover, that we also find the same extremely high concentration of wealth—with 80 to 90 percent of capital owned by the top decile and 50–60 percent by the top centile—in most societies prior to the nineteenth century, and in particular in traditional agrarian societies in the modern era, as well as in the Middle Ages and antiquity. The available sources are not sufficiently robust to permit precise comparisons or study temporal evolutions, but the orders of magnitude obtained for the shares of the top decile and centile in total wealth (and especially in total farmland) are generally close to what we find in France, Britain, and Sweden in the nineteenth century and Belle Époque.¹⁰

The Emergence of the Patrimonial Middle Class

Three questions will concern us in the remainder of this chapter. Why were inequalities of wealth so extreme, and increasing, before World War I? And why, despite the fact that wealth is once again prospering at the beginning of the twenty-first century as it did at the beginning of the twentieth century (as the evolution of the capital/income ratio shows), is the concentration of wealth today significantly below its historical record high? Finally, is this state of affairs irreversible?

In fact, the second conclusion that emerges very clearly from the French data presented in Figure 10.1 is that the concentration of wealth, as well as the concentration of income from wealth, has never fully recovered from the shocks of 1914–1945. The upper decile’s share of total wealth, which attained 90 percent in 1910–1920, fell to 60–70 percent in 1950–1970; the upper centile’s share dropped even more precipitously, from 60 percent in 1910–1920 to 20–30 percent in 1950–1970. Compared with the trend prior to World War I, the break is clear and overwhelming. To be sure, inequality of wealth began to increase again in 1980–1990, and financial globalization has made it more and more difficult to measure wealth and its distribution in a national framework: inequality of wealth in the twenty-first century will have to be gauged more and more at the global level. Despite these uncertainties, however, there is no doubt that inequality of wealth today stands significantly below its level of a century ago: the top decile’s share is now around 60–65 percent, which, though still quite high, is markedly below the level attained in the Belle Époque. The essential difference is that there is now a patrimonial middle class, which owns about a third of national wealth—a not insignificant amount.

The available data for the other European countries confirm that this has been a general phenomenon. In Britain, the upper decile’s share fell from more than 90 percent on the eve of World War I to 60–65 percent in the 1970s; it is currently around 70 percent. The top centile’s share collapsed in the wake of the twentieth century’s shocks, falling from nearly 70 percent in 1910–1920 to barely more than 20 percent in 1970–1980, then rising to 25–30 percent today (see Figure 10.3). In Sweden, capital ownership was always less concentrated than in Britain, but the overall trajectory is fairly similar (see Figure 10.4). In every case, we find that what the wealthiest 10 percent lost mainly benefited the “patrimonial middle class” (defined as the middle 40 percent of the wealth

hierarchy) and did not go to the poorest half of the population, whose share of total wealth has always been minuscule (generally around 5 percent), even in Sweden (where it was never more than 10 percent). In some cases, such as Britain, we find that what the richest 1 percent lost also brought significant gains to the next lower 9 percent. Apart from such national specificities, however, the general similarity of the various European trajectories is quite striking. The major structural transformation was the emergence of a middle group, representing nearly half the population, consisting of individuals who managed to acquire some capital of their own—enough so that collectively they came to own one-quarter to one-third of the nation's total wealth.

Inequality of Wealth in America

I turn now to the US case. Here, too, we have probate statistics from 1910–1920 on, and these have been heavily exploited by researchers (especially Lampman, Kopczuk, and Saez). To be sure, there are important caveats associated with the use of these data, owing to the small percentage of the population covered by the federal estate tax. Nevertheless, estimates based on the probate data can be supplemented by information from the detailed wealth surveys that the Federal Reserve Bank has conducted since the 1960s (used notably by Arthur Kennickell and Edward Wolff), and by less robust estimates for the period 1810–1870 based on estate inventories and wealth census data exploited respectively by Alice Hanson Jones and Lee Soltow.¹¹

Several important differences between the European and US trajectories stand out. First, it appears that inequality of wealth in the United States around 1800 was not much higher than in Sweden in 1970–1980. Since the United States was a new country whose population consisted largely of immigrants who came to the New World with little or no wealth, this is not very surprising: not enough time had passed for wealth to be accumulated or concentrated. The data nevertheless leave much to be desired, and there is some variation between the northern states (where estimates suggest a level of inequality lower than that of Sweden in 1970–1980) and southern states (where inequality was closer to contemporary European levels).¹²

It is a well-established fact that wealth in the United States became increasingly concentrated over the course of the nineteenth century. In 1910, capital inequality there was very high, though still markedly lower than in Europe:

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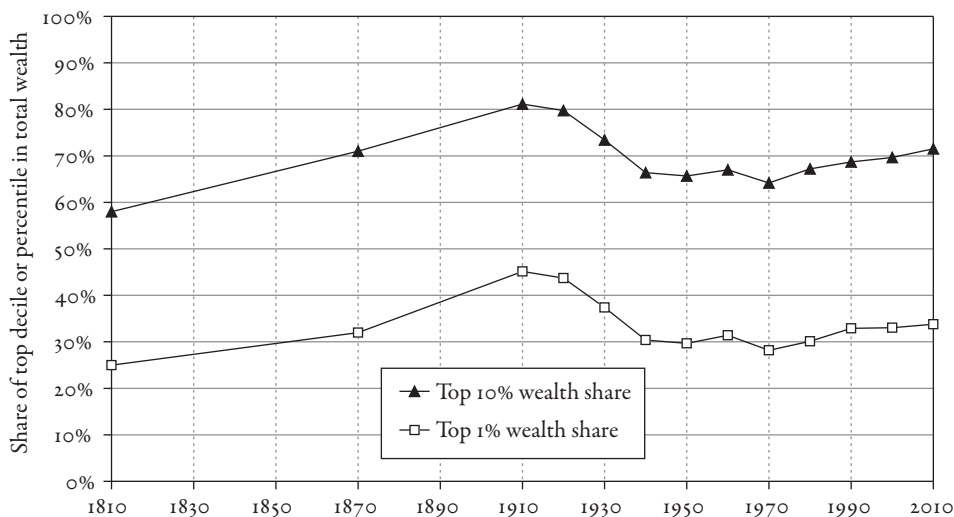


FIGURE 10.5. Wealth inequality in the United States, 1810–2010

The top 10 percent wealth holders own about 80 percent of total wealth in 1910 and 75 percent today.

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

the top decile owned about 80 percent of total wealth and the top centile around 45 percent (see Figure 10.5). Interestingly, the fact that inequality in the New World seemed to be catching up with inequality in old Europe greatly worried US economists at the time. Willford King’s book on the distribution of wealth in the United States in 1915—the first broad study of the question—is particularly illuminating in this regard.¹³ From today’s perspective, this may seem surprising: we have been accustomed for several decades now to the fact that the United States is more inegalitarian than Europe and even that many Americans are proud of the fact (often arguing that inequality is a prerequisite of entrepreneurial dynamism and decrying Europe as a sanctuary of Soviet-style egalitarianism). A century ago, however, both the perception and the reality were strictly the opposite: it was obvious to everyone that the New World was by nature less inegalitarian than old Europe, and this difference was also a subject of pride. In the late nineteenth century, in the period known as the Gilded Age, when some US industrialists and financiers (for example John D. Rockefeller, Andrew Carnegie, and J. P. Morgan) accumulated unprecedented wealth, many US observers were alarmed by the thought that the country was

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INEQUALITY OF CAPITAL OWNERSHIP

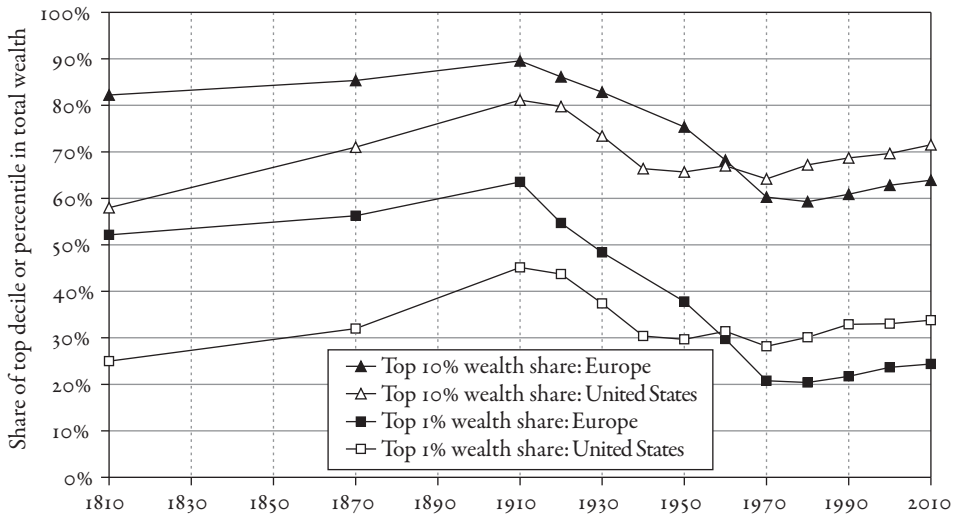


FIGURE 10.6. Wealth inequality in Europe versus the United States, 1810–2010

Until the mid-twentieth century, wealth inequality was higher in Europe than in the United States.

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

losing its pioneering egalitarian spirit. To be sure, that spirit was partly a myth, but it was also partly justified by comparison with the concentration of wealth in Europe. In Part Four we will see that this fear of growing to resemble Europe was part of the reason why the United States in 1910–1920 pioneered a very progressive estate tax on large fortunes, which were deemed to be incompatible with US values, as well as a progressive income tax on incomes thought to be excessive. Perceptions of inequality, redistribution, and national identity changed a great deal over the course of the twentieth century, to put it mildly.

Inequality of wealth in the United States decreased between 1910 and 1950, just as inequality of income did, but much less so than in Europe: of course it started from a lower level, and the shocks of war were less violent. By 2010, the top decile's share of total wealth exceeded 70 percent, and the top centile's share was close to 35 percent.¹⁴

In the end, the deconcentration of wealth in the United States over the course of the twentieth century was fairly limited: the top decile's share of total wealth dropped from 80 to 70 percent, whereas in Europe it fell from 90 to 60 percent (see Figure 10.6).¹⁵

The differences between the European and US experiences are clear. In Europe, the twentieth century witnessed a total transformation of society: inequality of wealth, which on the eve of World War I was as great as it had been under the Ancien Régime, fell to an unprecedentedly low level, so low that nearly half the population were able to acquire some measure of wealth and for the first time to own a significant share of national capital. This is part of the explanation for the great wave of enthusiasm that swept over Europe in the period 1945–1975. People felt that capitalism had been overcome and that inequality and class society had been relegated to the past. It also explains why Europeans had a hard time accepting that this seemingly ineluctable social progress ground to a halt after 1980, and why they are still wondering when the evil genie of capitalism will be put back in its bottle.

In the United States, perceptions are very different. In a sense, a (white) patrimonial middle class already existed in the nineteenth century. It suffered a setback during the Gilded Age, regained its health in the middle of the twentieth century, and then suffered another setback after 1980. This “yo-yo” pattern is reflected in the history of US taxation. In the United States, the twentieth century is not synonymous with a great leap forward in social justice. Indeed, inequality of wealth there is greater today than it was at the beginning of the nineteenth century. Hence the lost US paradise is associated with the country’s beginnings: there is nostalgia for the era of the Boston Tea Party, not for Trente Glorieuses and a heyday of state intervention to curb the excesses of capitalism.

The Mechanism of Wealth Divergence: r versus g in History

Let me try now to explain the observed facts: the hyperconcentration of wealth in Europe during the nineteenth century and up to World War I; the substantial compression of wealth inequality following the shocks of 1914–1945; and the fact that the concentration of wealth has not—thus far—regained the record heights set in Europe in the past.

Several mechanisms may be at work here, and to my knowledge there is no evidence that would allow us to determine the precise share of each in the overall movement. We can, however, try to hierarchize the different mechanisms with the help of the available data and analyses. Here is the main conclusion that I believe we can draw from what we know.

INEQUALITY OF CAPITAL OWNERSHIP

The primary reason for the hyperconcentration of wealth in traditional agrarian societies and to a large extent in all societies prior to World War I (with the exception of the pioneer societies of the New World, which are for obvious reasons very special and not representative of the rest of the world or the long run) is that these were low-growth societies in which the rate of return on capital was markedly and durably higher than the rate of growth.

This fundamental force for divergence, which I discussed briefly in the Introduction, functions as follows. Consider a world of low growth, on the order of, say, 0.5–1 percent a year, which was the case everywhere before the eighteenth and nineteenth centuries. The rate of return on capital, which is generally on the order of 4 or 5 percent a year, is therefore much higher than the growth rate. Concretely, this means that wealth accumulated in the past is recapitalized much more quickly than the economy grows, even when there is no income from labor.

For example, if $g=1\%$ and $r=5\%$, saving one-fifth of the income from capital (while consuming the other four-fifths) is enough to ensure that capital inherited from the previous generation grows at the same rate as the economy. If one saves more, because one's fortune is large enough to live well while consuming somewhat less of one's annual rent, then one's fortune will increase more rapidly than the economy, and inequality of wealth will tend to increase even if one contributes no income from labor. For strictly mathematical reasons, then, the conditions are ideal for an "inheritance society" to prosper—where by "inheritance society" I mean a society characterized by both a very high concentration of wealth and a significant persistence of large fortunes from generation to generation.

Now, it so happens that these conditions existed in any number of societies throughout history, and in particular in the European societies of the nineteenth century. As Figure 10.7 shows, the rate of return on capital was significantly higher than the growth rate in France from 1820 to 1913, around 5 percent on average compared with a growth rate of around 1 percent. Income from capital accounted for nearly 40 percent of national income, and it was enough to save one-quarter of this to generate a savings rate on the order of 10 percent (see Figure 10.8). This was sufficient to allow wealth to grow slightly more rapidly than income, so that the concentration of wealth trended upward. In the next chapter I will show that most wealth in this period did come from inheritance, and this supremacy of inherited capital, despite the period's great

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THE STRUCTURE OF INEQUALITY

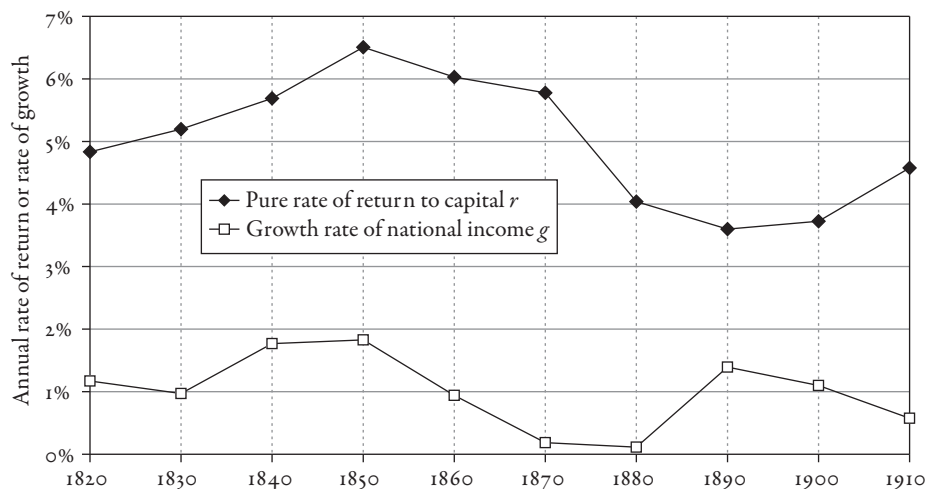


FIGURE 10.7. Return to capital and growth: France, 1820–1913

The rate of return on capital is a lot higher than the growth rate in France between 1820 and 1913.

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

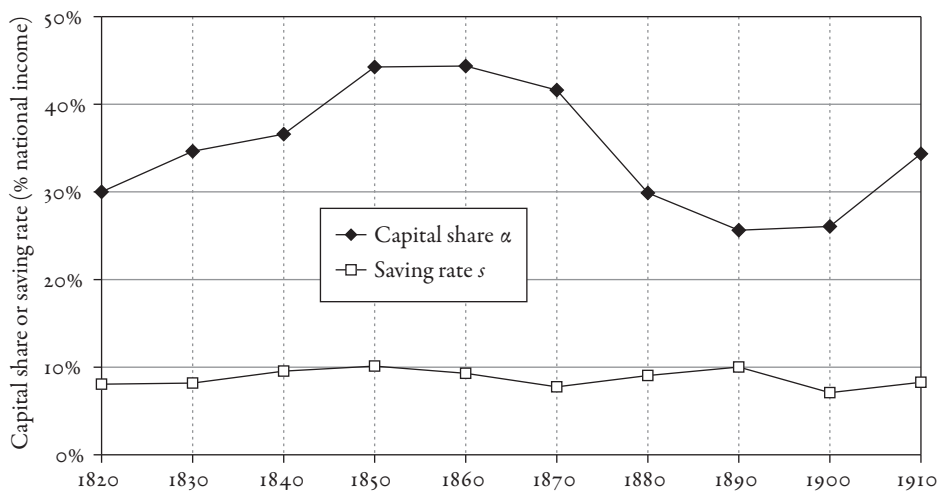


FIGURE 10.8. Capital share and saving rate: France, 1820–1913

The share of capital income in national income is much larger than the saving rate in France between 1820 and 1913.

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

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economic dynamism and impressive financial sophistication, is explained by the dynamic effects of the fundamental inequality $r > g$: the very rich French probate data allow us to be quite precise about this point.

Why Is the Return on Capital Greater Than the Growth Rate?

Let me pursue the logic of the argument. Are there deep reasons why the return on capital should be systematically higher than the rate of growth? To be clear, I take this to be a historical fact, not a logical necessity.

It is an incontrovertible historical reality that r was indeed greater than g over a long period of time. Many people, when first confronted with this claim, express astonishment and wonder why it should be true. The most obvious way to convince oneself that $r > g$ is indeed a historical fact is no doubt the following.

As I showed in Part One, economic growth was virtually nil throughout much of human history: combining demographic with economic growth, we can say that the annual growth rate from antiquity to the seventeenth century never exceeded 0.1–0.2 percent for long. Despite the many historical uncertainties, there is no doubt that the rate of return on capital was always considerably greater than this: the central value observed over the long run is 4–5 percent a year. In particular, this was the return on land in most traditional agrarian societies. Even if we accept a much lower estimate of the pure yield on capital—for example, by accepting the argument that many landowners have made over the years that it is no simple matter to manage a large estate, so that this return actually reflects a just compensation for the highly skilled labor contributed by the owner—we would still be left with a minimum (and to my mind unrealistic and much too low) return on capital of at least 2–3 percent a year, which is still much greater than 0.1–0.2 percent. Thus throughout most of human history, the inescapable fact is that the rate of return on capital was always at least 10 to 20 times greater than the rate of growth of output (and income). Indeed, this fact is to a large extent the very foundation of society itself: it is what allowed a class of owners to devote themselves to something other than their own subsistence.

In order to illustrate this point as clearly as possible, I have shown in Figure 10.9 the evolution of the global rate of return on capital and the growth rate from antiquity to the twenty-first century.

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THE STRUCTURE OF INEQUALITY

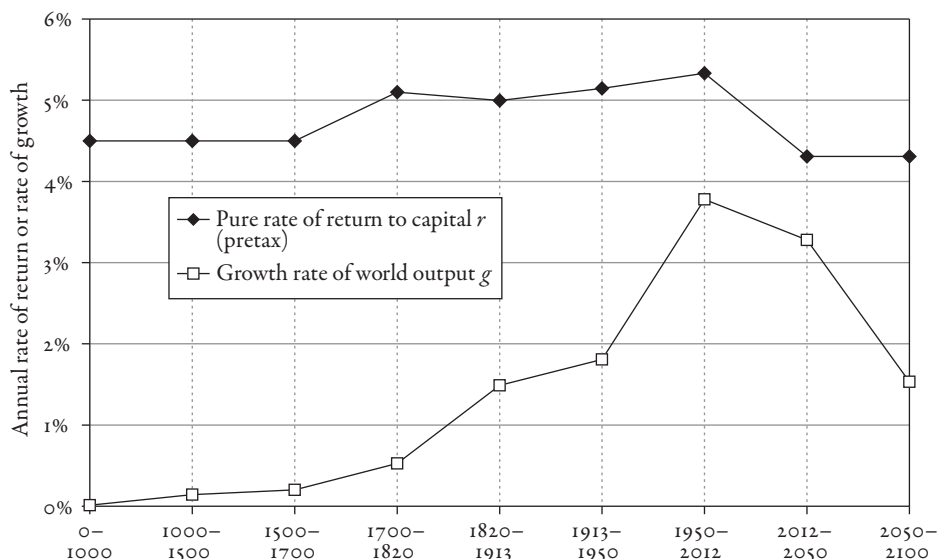


FIGURE 10.9. Rate of return versus growth rate at the world level, from Antiquity until 2100

The rate of return to capital (pretax) has always been higher than the world growth rate, but the gap was reduced during the twentieth century, and might widen again in the twenty-first century.

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

These are obviously approximate and uncertain estimates, but the orders of magnitude and overall evolutions may be taken as valid. For the global growth rate, I have used the historical estimates and projections discussed in Part One. For the global rate of return on capital, I have used the estimates for Britain and France in the period 1700–2010, which were analyzed in Part Two. For early periods, I have used a pure return of 4.5 percent, which should be taken as a minimum value (available historical data suggest average returns on the order of 5–6 percent).¹⁶ For the twenty-first century, I have assumed that the value observed in the period 1990–2010 (about 4 percent) will continue, but this is of course uncertain: there are forces pushing toward a lower return and other forces pushing toward a higher. Note, too, that the returns on capital in Figure 10.8 are pretax returns (and also do not take account of capital losses due to war, or of capital gains and losses, which were especially large in the twentieth century).

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INEQUALITY OF CAPITAL OWNERSHIP

As Figure 10.9 shows, the pure rate of return on capital—generally 4–5 percent—has throughout history always been distinctly greater than the global growth rate, but the gap between the two shrank significantly during the twentieth century, especially in the second half of the century, when the global economy grew at a rate of 3.5–4 percent a year. In all likelihood, the gap will widen again in the twenty-first century as growth (especially demographic growth) slows. According to the central scenario discussed in Part One, global growth is likely to be around 1.5 percent a year between 2050 and 2100, roughly the same rate as in the nineteenth century. The gap between r and g would then return to a level comparable to that which existed during the Industrial Revolution.

In such a context, it is easy to see that taxes on capital—and shocks of various kinds—can play a central role. Before World War I, taxes on capital were very low (most countries did not tax either personal income or corporate profits, and estate taxes were generally no more than a few percent). To simplify matters, we may therefore assume that the rate of return on capital was virtually the same after taxes as before. After World War I, the tax rates on top incomes, profits, and wealth quickly rose to high levels. Since the 1980s, however, as the ideological climate changed dramatically under the influence of financial globalization and heightened competition between states for capital, these same tax rates have been falling and in some cases have almost entirely disappeared.

Figure 10.10 shows my estimates of the average return on capital after taxes and after accounting for estimated capital losses due to destruction of property in the period 1913–1950. For the sake of argument, I have also assumed that fiscal competition will gradually lead to total disappearance of taxes on capital in the twenty-first century: the average tax rate on capital is set at 30 percent for 1913–2012, 10 percent for 2012–2050, and 0 percent in 2050–2100. Of course, things are more complicated in practice: taxes vary enormously, depending on the country and type of property. At times, they are progressive (meaning that the tax rate increases with the level of income or wealth, at least in theory), and obviously it is not foreordained that fiscal competition must proceed to its ultimate conclusion.

Under these assumptions, we find that the return on capital, net of taxes (and losses), fell to 1–1.5 percent in the period 1913–1950, which was less than the rate of growth. This novel situation continued in the period

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THE STRUCTURE OF INEQUALITY

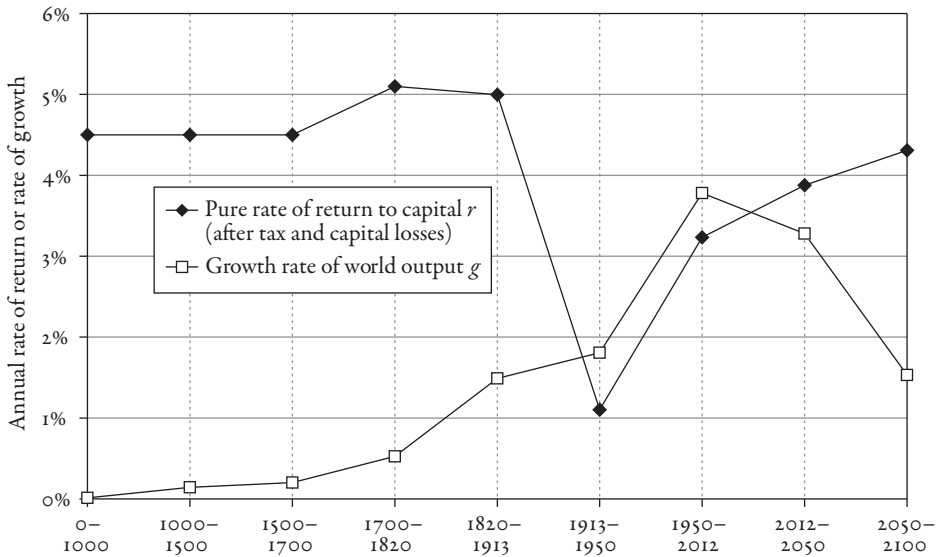


FIGURE 10.10. After tax rate of return versus growth rate at the world level, from Antiquity until 2100

The rate of return to capital (after tax and capital losses) fell below the growth rate during the twentieth century, and may again surpass it in the twenty-first century. Sources and series: see piketty.pse.ens.fr/capital21c.

1950–2012 owing to the exceptionally high growth rate. Ultimately, we find that in the twentieth century, both fiscal and nonfiscal shocks created a situation in which, for the first time in history, the net return on capital was less than the growth rate. A concatenation of circumstances (wartime destruction, progressive tax policies made possible by the shocks of 1914–1945, and exceptional growth during the three decades following the end of World War II) thus created a historically unprecedented situation, which lasted for nearly a century. All signs are, however, that it is about to end. If fiscal competition proceeds to its logical conclusion—which it may—the gap between r and g will return at some point in the twenty-first century to a level close to what it was in the nineteenth century (see Figure 10.10). If the average tax rate on capital stays at around 30 percent, which is by no means certain, the net rate of return on capital will most likely rise to a level significantly above the growth rate, at least if the central scenario turns out to be correct.

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INEQUALITY OF CAPITAL OWNERSHIP

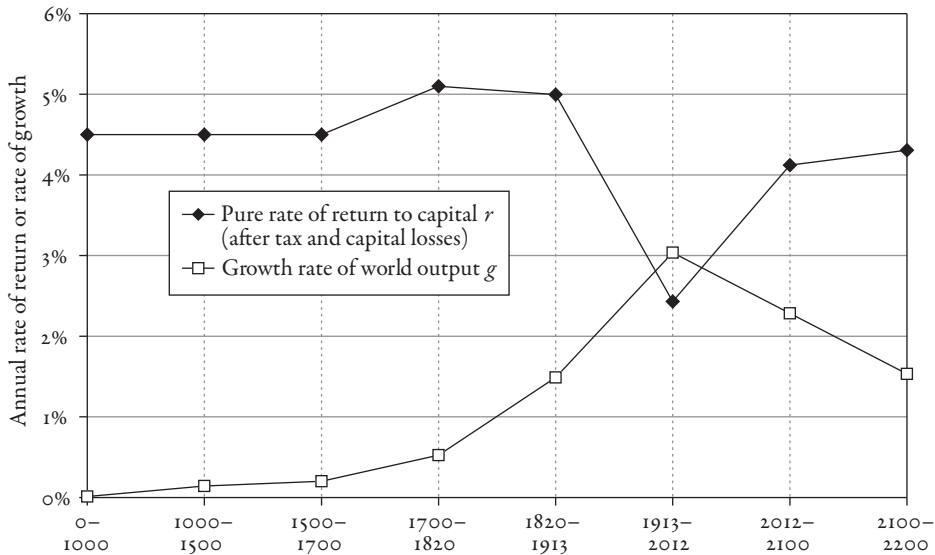


FIGURE 10.11. After tax rate of return versus growth rate at the world level, from Antiquity until 2200

The rate of return to capital (after tax and capital losses) fell below the growth rate during the twentieth century, and might again surpass it in the twenty-first century. Sources and series: see piketty.pse.ens.fr/capital21c.

To bring this possible evolution out even more clearly, I have combined in Figure 10.11 the two subperiods 1913–1950 and 1950–2012 into a single average for the century 1913–2012, the unprecedented era during which the net rate of return on capital was less than the growth rate. I have also combined the two subperiods 2012–2050 and 2050–2100 into a single average for 2012–2100 and assumed that the rates for the second half of the twenty-first century would continue into the twenty-second century (which is of course by no means guaranteed). In any case, Figure 10.11 at least brings out the unprecedented—and possibly unique—character of the twentieth century in regard to the relation between r and g . Note, too, that the hypothesis that global growth will continue at a rate of 1.5 percent a year over the very long run is regarded as excessively optimistic by many observers. Recall that the average growth of global per capita output was 0.8 percent a year between 1700 and 2012, and demographic growth (which also averaged 0.8 percent a year over the past three centuries) is expected to drop sharply between now

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and the end of the twenty-first century (according to most forecasts). Note, however, that the principal shortcoming of Figure 10.11 is that it relies on the assumption that no significant political reaction will alter the course of capitalism and financial globalization over the course of the next two centuries. Given the tumultuous history of the past century, this is a dubious and to my mind not very plausible hypothesis, precisely because its inegalitarian consequences would be considerable and would probably not be tolerated indefinitely.

To sum up: the inequality $r > g$ has clearly been true throughout most of human history, right up to the eve of World War I, and it will probably be true again in the twenty-first century. Its truth depends, however, on the shocks to which capital is subject, as well as on what public policies and institutions are put in place to regulate the relationship between capital and labor.

The Question of Time Preference

To recap: the inequality $r > g$ is a contingent historical proposition, which is true in some periods and political contexts and not in others. From a strictly logical point of view, it is perfectly possible to imagine a society in which the growth rate is greater than the return on capital—even in the absence of state intervention. Everything depends on the one hand on technology (what is capital used for?) and on the other on attitudes toward saving and property (why do people choose to hold capital?). As noted, it is perfectly possible to imagine a society in which capital has no uses (other than to serve as a pure store of value, with a return strictly equal to zero), but in which people would choose to hold a lot of it, in anticipation, say, of some future catastrophe or grand potlatch or simply because they are particularly patient and take a generous attitude toward future generations. If, moreover, productivity growth in this society is rapid, either because of constant innovation or because the country is rapidly catching up with more technologically advanced countries, then the growth rate may very well be distinctly higher than the rate of return on capital.

In practice, however, there appears never to have been a society in which the rate of return on capital fell naturally and persistently to less than 2–3 percent, and the mean return we generally see (averaging over all types of investments) is generally closer to 4–5 percent (before taxes). In particular, the return on agri-

cultural land in traditional societies, like the return on real estate in today's societies—these being the most common and least risky forms of investment in each case—is generally around 4–5 percent, with perhaps a slight downward trend over the very long run (to 3–4 percent rather than 4–5).

The economic model generally used to explain this relative stability of the return on capital at around 4–5 percent (as well as the fact that it never falls below 2–3 percent) is based on the notion of “time preference” in favor of the present. In other words, economic actors are characterized by a rate of time preference (usually denoted θ) that measures how impatient they are and how they take the future into account. For example, if $\theta = 5$ percent, the actor in question is prepared to sacrifice 105 euros of consumption tomorrow in order to consume an additional 100 euros today. This “theory,” like many theoretical models in economics, is somewhat tautological (one can always explain any observed behavior by assuming that the actors involved have preferences—or “utility functions” in the jargon of the profession—that lead them to act that way), and its predictive power is radical and implacable. In the case in point, assuming a zero-growth economy, it is not surprising to discover that the rate of return on capital must equal the time preference θ .¹⁷ According to this theory, the reason why the return on capital has been historically stable at 4–5 percent is ultimately psychological: since this rate of return reflects the average person's impatience and attitude toward the future, it cannot vary much from this level.

In addition to being tautological, the theory raises a number of other difficulties. To be sure, the intuition that lies behind the model (like that which lies behind marginal productivity theory) cannot be entirely wrong. All other things equal, a more patient society, or one that anticipates future shocks, will of course amass greater reserves and accumulate more capital. Similarly, if a society accumulates so much capital that the return on capital is persistently low, say, 1 percent a year (or in which all forms of wealth, including the property of the middle and lower classes, are taxed so that the net return is very low), then a significant proportion of property-owning individuals will seek to sell their homes and financial assets, thus decreasing the capital stock until the yield rises.

The problem with the theory is that it is too simplistic and systematic: it is impossible to encapsulate all savings behavior and all attitudes toward the future in a single inexorable psychological parameter. If we take the most

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extreme version of the model (called the “infinite horizon” model, because agents calculate the consequences of their savings strategy for all their descendants until the end of time as though they were thinking of themselves, in accordance with their own rate of time preference), it follows that the net rate of return on capital cannot vary by even as little as a tenth of a percent: any attempt to alter the net return (for example, by changing tax policy) will trigger an infinitely powerful reaction in one sense or another (saving or dissaving) in order to force the net return back to its unique equilibrium. Such a prediction is scarcely realistic: history shows that the elasticity of saving is positive but not infinite, especially when the rate of return varies within moderate and reasonable limits.¹⁸

Another difficulty with this theoretical model (in its strictest interpretation) is that it implies that the rate of return on capital, r , must, in order to maintain the economy in equilibrium, rise very rapidly with the growth rate g , so that the gap between r and g should be greater in a rapidly growing economy than in one that is not growing at all. Once again, this prediction is not very realistic, nor is it compatible with historical experience (the return on capital may rise in a rapidly growing economy but probably not enough to increase the gap $r - g$ significantly, to judge by observed historical experience), and it, too, is a consequence of the infinite horizon hypothesis. Note, however, that the intuition here is again partially valid and in any case interesting from a strictly logical point of view. In the standard economic model, based on the existence of a “perfect” market for capital (in which each owner of capital receives a return equal to the highest marginal productivity available in the economy, and everyone can borrow as much as he or she wants at that rate), the reason why the return on capital, r , is systematically and necessarily higher than the growth rate, g , is the following. If r were less than g , economic agents, realizing that their future income (and that of their descendants) will rise faster than the rate at which they can borrow, will feel infinitely wealthy and will therefore wish to borrow without limit in order to consume immediately (until r rises above g). In this extreme form, the mechanism is not entirely plausible, but it shows that $r > g$ is true in the most standard of economic models and is even more likely to be true as capital markets become more efficient.¹⁹

To recap: savings behavior and attitudes toward the future cannot be encapsulated in a single parameter. These choices need to be analyzed in more

complex models, involving not only time preference but also precautionary savings, life-cycle effects, the importance attached to wealth in itself, and many other factors. These choices depend on the social and institutional environment (such as the existence of a public pension system), family strategies and pressures, and limitations that social groups impose on themselves (for example, in some aristocratic societies, heirs are not free to sell family property), in addition to individual psychological and cultural factors.

To my way of thinking, the inequality $r > g$ should be analyzed as a historical reality dependent on a variety of mechanisms and not as an absolute logical necessity. It is the result of a confluence of forces, each largely independent of the others. For one thing, the rate of growth, g , tends to be structurally low (generally not much more than 1 percent a year once the demographic transition is complete and the country reaches the world technological frontier, where the pace of innovation is fairly slow). For another, the rate of return on capital, r , depends on many technological, psychological, social, and cultural factors, which together seem to result in a return of roughly 4–5 percent (in any event distinctly greater than 1 percent).

Is There an Equilibrium Distribution?

Let me now turn to the consequences of $r > g$ for the dynamics of the wealth distribution. The fact that the return on capital is distinctly and persistently greater than the growth rate is a powerful force for a more unequal distribution of wealth. For example, if $g = 1$ percent and $r = 5$ percent, wealthy individuals have to reinvest only one-fifth of their annual capital income to ensure that their capital will grow faster than average income. Under these conditions, the only forces that can avoid an indefinite inegalitarian spiral and stabilize inequality of wealth at a finite level are the following. First, if the fortunes of wealthy individuals grow more rapidly than average income, the capital/income ratio will rise indefinitely, which in the long run should lead to a decrease in the rate of return on capital. Nevertheless, this mechanism can take decades to operate, especially in an open economy in which wealthy individuals can accumulate foreign assets, as was the case in Britain and France in the nineteenth century and up to the eve of World War I. In principle, this process always comes to an end (when those who own foreign assets take possession of the entire planet), but this can obviously take time. This process was

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largely responsible for the vertiginous increase in the top centile's share of wealth in Britain and France during the Belle Époque.

Furthermore, in regard to the trajectories of individual fortunes, this divergent process can be countered by shocks of various kinds, whether demographic (such as the absence of an heir or the presence of too many heirs, leading to dispersal of the family capital, or early death, or prolonged life) or economic (such as a bad investment or a peasant uprising or a financial crisis or a mediocre season, etc.). Shocks of this sort always affect family fortunes, so that changes in the wealth distribution occur even in the most static societies. Note, moreover, the importance of demographic choices (the fewer children the rich choose to have, the more concentrated wealth becomes) and inheritance laws.

Many traditional aristocratic societies were based on the principle of primogeniture: the eldest son inherited all (or at any rate a disproportionately large share) of the family property so as to avoid fragmentation and to preserve or increase the family's wealth. The eldest son's privilege concerned the family's primary estate in particular and often placed heavy constraints on the property: the heir was not allowed to diminish its value and was obliged to live on the income from the capital, which was then conveyed in turn to the next heir in the line of succession, usually the eldest grandson. In British law this was the system of "entails" (the equivalent in French law being the system of *substitution héréditaire* under the Ancien Régime). It was the reason for the misfortune of Elinor and Marianne in *Sense and Sensibility*: the Norland estate passed directly to their father and half-brother, John Dashwood, who decided, after considering the matter with his wife, Fanny, to leave them nothing. The fate of the two sisters is a direct consequence of this sinister conversation. In *Persuasion*, Sir Walter's estate goes directly to his nephew, bypassing his three daughters. Jane Austen, herself disfavored by inheritance and left a spinster along with her sister, knew what she was talking about.

The inheritance law that derived from the French Revolution and the Civil Code that followed rested on two main pillars: the abolition of *substitutions héréditaires* and primogeniture and the adoption of the principle of equal division of property among brothers and sisters (equipartition). This principle has been applied strictly and consistently since 1804: in France, the *quotité disponible* (that is, the share of the estate that parents are free to dispose of as they wish) is only a quarter of total wealth for parents with three or

more children,²⁰ and exemption is granted only in extreme circumstances (for example, if the children murder their stepmother). It is important to understand that the new law was based not only on a principle of equality (younger children were valued as much as the eldest and protected from the whims of the parents) but also on a principle of liberty and economic efficiency. In particular, the abolition of entails, which Adam Smith disliked and Voltaire, Rousseau, and Montesquieu abhorred, rested on a simple idea: this abolition allowed the free circulation of goods and the possibility of reallocating property to the best possible use in the judgment of the living generation, despite what dead ancestors may have thought. Interestingly, after considerable debate, Americans came to the same conclusion in the years after the Revolution: entails were forbidden, even in the South. As Thomas Jefferson famously put it, “the Earth belongs to the living.” And equipartition of estates among siblings became the legal default, that is, the rule that applied in the absence of an explicit will (although the freedom to make one’s will as one pleases still prevails in both the United States and Britain, in practice most estates are equally divided among siblings). This was an important difference between France and the United States on the one hand, where the law of equipartition applied from the nineteenth century on, and Britain on the other, where primogeniture remained the default in 1925 for a portion of the parental property, namely, landed and agricultural capital.²¹ In Germany, it was not until the Weimar Republic that the German equivalent of entails was abolished in 1919.²²

During the French Revolution, this egalitarian, antiauthoritarian, liberal legislation (which challenged parental authority while affirming that of the new family head, in some case to the detriment of his spouse) was greeted with considerable optimism, at least by men—despite being quite radical for the time.²³ Proponents of this revolutionary legislation were convinced that they had found the key to future equality. Since, moreover, the Civil Code granted everyone equal rights with respect to the market and property, and guilds had been abolished, the ultimate outcome seemed clear: such a system would inevitably eliminate the inequalities of the past. The marquis de Condorcet gave forceful expression to this optimistic view in his *Esquisse d'un tableau historique des progrès de l'esprit humain* (1794): “It is easy to prove that fortunes tend naturally toward equality, and that excessive differences of wealth either cannot exist or must promptly cease, if the civil laws do not establish artificial ways of perpetuating and amassing such fortunes, and if

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freedom of commerce and industry eliminate the advantage that any prohibitive law or fiscal privilege gives to acquired wealth.”²⁴

The Civil Code and the Illusion of the French Revolution

How, then, are we to explain the fact that the concentration of wealth increased steadily in France throughout the nineteenth century and ultimately peaked in the Belle Époque at a level even more extreme than when the Civil Code was introduced and scarcely less than in monarchical and aristocratic Britain? Clearly, equality of rights and opportunities is not enough to ensure an egalitarian distribution of wealth.

Indeed, once the rate of return on capital significantly and durably exceeds the growth rate, the dynamics of the accumulation and transmission of wealth automatically lead to a very highly concentrated distribution, and egalitarian sharing among siblings does not make much of a difference. As I mentioned a moment ago, there are always economic and demographic shocks that affect the trajectories of individual family fortunes. With the aid of a fairly simple mathematical model, one can show that for a given structure of shocks of this kind, the distribution of wealth tends toward a long-run equilibrium and that the equilibrium level of inequality is an increasing function of the gap $r - g$ between the rate of return on capital and the growth rate. Intuitively, the difference $r - g$ measures the rate at which capital income diverges from average income if none of it is consumed and everything is reinvested in the capital stock. The greater the difference $r - g$, the more powerful the divergent force. If the demographic and economic shocks take a multiplicative form (i.e., the greater the initial capital, the greater the effect of a good or bad investment), the long-run equilibrium distribution is a Pareto distribution (a mathematical form based on a power law, which corresponds fairly well to distributions observed in practice). One can also show fairly easily that the coefficient of the Pareto distribution (which measures the degree of inequality) is a steeply increasing function of the difference $r - g$.²⁵

Concretely, what this means is that if the gap between the return on capital and the growth rate is as high as that observed in France in the nineteenth century, when the average rate of return was 5 percent a year and growth was roughly 1 percent, the model predicts that the cumulative dynamics of wealth accumulation will automatically give rise to an extremely high concentration

of wealth, with typically around 90 percent of capital owned by the top decile and more than 50 percent by the top centile.²⁶

In other words, the fundamental inequality $r > g$ can explain the very high level of capital inequality observed in the nineteenth century, and thus in a sense the failure of the French Revolution. Although the revolutionary assemblies established a universal tax (and in so doing provided us with a peerless instrument for measuring the distribution of wealth), the tax rate was so low (barely 1–2 percent on directly transmitted estates, no matter how large, throughout the nineteenth century) that it had no measurable impact on the difference between the rate of return on capital and the growth rate. Under these conditions, it is no surprise that inequality of wealth was as great in nineteenth-century France and even during the republican Belle Époque as in monarchical Britain. The formal nature of the regime was of little moment compared with the inequality $r > g$.

Equipartition of estates between siblings did have some effect, but less than the gap $r - g$. Concretely, primogeniture (or, more precisely, primogeniture on agricultural land, which accounted for a decreasing share of British national capital over the course of the nineteenth century), magnified the effects of demographic and economic shocks (creating additional inequality depending on one's rank in the sibling order) and thus increased the Pareto coefficient and gave rise to a more concentrated distribution of wealth. This may help to explain why the top decile's share of total wealth was greater in Britain than in France in 1900–1910 (slightly more than 90 percent, compared with slightly less in France), and especially why the top centile's share was significantly greater on the British side of the Channel (70 percent v. 60 percent), since this appears to have been based on the preservation of a small number of very large landed estates. But this effect was partly compensated by France's low demographic growth rate (cumulative inequality of wealth is structurally greater when the population is stagnant, again because of the difference between r and g), and in the end it had only a moderate effect on the overall distribution, which was fairly close in the two countries.²⁷

In Paris, where the Napoleonic Civil Code came into effect in 1804 and where inequality cannot be laid at the door of British aristocrats and the queen of England, the top centile owned more than 70 percent of total wealth in 1913, even more than in Britain. The reality was so striking that it even found expression in an animated cartoon, *The Aristocats*, set in Paris in 1910.

The size of the old lady's fortune is not mentioned, but to judge by the splendor of her residence and by the zeal of her butler Edgar to get rid of Duchesse and her three kittens, it must have been considerable.

In terms of the $r > g$ logic, the fact that the growth rate increased from barely 0.2 percent prior to 1800 to 0.5 percent in the eighteenth century and then to 1 percent in the nineteenth century does not seem to have made much of a difference: it was still small compared to a return on capital of around 5 percent, especially since the Industrial Revolution appears to have slightly increased that return.²⁸ According to the theoretical model, if the return on capital is around 5 percent a year, the equilibrium concentration of capital will not decrease significantly unless the growth rate exceeds 1.5–2 percent or taxes on capital reduce the net return to below 3–3.5 percent, or both.

Note, finally, that if the difference $r - g$ surpasses a certain threshold, there is no equilibrium distribution: inequality of wealth will increase without limit, and the gap between the peak of the distribution and the average will grow indefinitely. The exact level of this threshold of course depends on savings behavior: divergence is more likely to occur if the very wealthy have nothing to spend their money on and no choice but to save and add to their capital stock. *The Aristocats* calls attention to the problem: Adélaïde de Bonnefamille obviously enjoys a handsome income, which she lavishes on piano lessons and painting classes for Duchesse, Marie, Toulouse, and Berlioz, who are somewhat bored by it all.²⁹ This kind of behavior explains quite well the rising concentration of wealth in France, and particularly in Paris, in the Belle Époque: the largest fortunes increasingly belonged to the elderly, who saved a large fraction of their capital income, so that their capital grew significantly faster than the economy. As noted, such an inegalitarian spiral cannot continue indefinitely: ultimately, there will be no place to invest the savings, and the global return on capital will fall, until an equilibrium distribution emerges. But that can take a very long time, and since the top centile's share of Parisian wealth in 1913 already exceeded 70 percent, it is legitimate to ask how high the equilibrium level would have been had the shocks due to World War I not occurred.

Pareto and the Illusion of Stable Inequality

It is worth pausing a moment to discuss some methodological and historical issues concerning the statistical measurement of inequality. In Chapter 7, I

discussed the Italian statistician Corrado Gini and his famous coefficient. Although the Gini coefficient was intended to sum up inequality in a single number, it actually gives a simplistic, overly optimistic, and difficult-to-interpret picture of what is really going on. A more interesting case is that of Gini's compatriot Vilfredo Pareto, whose major works, including a discussion of the famous "Pareto law," were published between 1890 and 1910. In the interwar years, the Italian Fascists adopted Pareto as one of their own and promoted his theory of elites. Although they were no doubt seeking to capitalize on his prestige, it is nevertheless true that Pareto, shortly before his death in 1923, hailed Mussolini's accession to power. Of course the Fascists would naturally have been attracted to Pareto's theory of stable inequality and the pointlessness of trying to change it.

What is more striking when one reads Pareto's work with the benefit of hindsight is that he clearly had no evidence to support his theory of stability. Pareto was writing in 1900 or thereabouts. He used available tax tables from 1880–1890, based on data from Prussia and Saxony as well as several Swiss and Italian cities. The information was scanty and covered a decade at most. What is more, it showed a slight trend toward higher inequality, which Pareto intentionally sought to hide.³⁰ In any case, it is clear that such data provide no basis whatsoever for any conclusion about the long-term behavior of inequality around the world.

Pareto's judgment was clearly influenced by his political prejudices: he was above all wary of socialists and what he took to be their redistributive illusions. In this respect he was hardly different from any number of contemporary colleagues, such as the French economist Pierre Leroy-Beaulieu, whom he admired. Pareto's case is interesting because it illustrates the powerful illusion of eternal stability, to which the uncritical use of mathematics in the social sciences sometimes leads. Seeking to find out how rapidly the number of taxpayers decreases as one climbs higher in the income hierarchy, Pareto discovered that the rate of decrease could be approximated by a mathematical law that subsequently became known as "Pareto's law" or, alternatively, as an instance of a general class of functions known as "power laws."³¹ Indeed, this family of functions is still used today to study distributions of wealth and income. Note, however, that the power law applies only to the upper tail of these distributions and that the relation is only approximate and locally valid. It can nevertheless be used to model processes due to multiplicative shocks, like those described earlier.

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Note, moreover, that we are speaking not of a single function or curve but of a family of functions: everything depends on the coefficients and parameters that define each individual curve. The data collected in the WTID as well as the data on wealth presented here show that these Pareto coefficients have varied enormously over time. When we say that a distribution of wealth is a Pareto distribution, we have not really said anything at all. It may be a distribution in which the upper decile receives only slightly more than 20 percent of total income (as in Scandinavia in 1970–1980) or one in which the upper decile receives 50 percent (as in the United States in 2000–2010) or one in which the upper decile owns more than 90 percent of total wealth (as in France and Britain in 1900–1910). In each case we are dealing with a Pareto distribution, but the coefficients are quite different. The corresponding social, economic, and political realities are clearly poles apart.³²

Even today, some people imagine, as Pareto did, that the distribution of wealth is rock stable, as if it were somehow a law of nature. In fact, nothing could be further from the truth. When we study inequality in historical perspective, the important thing to explain is not the stability of the distribution but the significant changes that occur from time to time. In the case of the wealth distribution, I have identified a way to explain the very large historical variations that occur (whether described in terms of Pareto coefficients or as shares of the top decile and centile) in terms of the difference $r - g$ between the rate of return on capital and the growth rate of the economy.

Why Inequality of Wealth Has Not Returned to the Levels of the Past

I come now to the essential question: Why has the inequality of wealth not returned to the level achieved in the Belle Époque, and can we be sure that this situation is permanent and irreversible?

Let me state at the outset that I have no definitive and totally satisfactory answer to this question. Several factors have played important roles in the past and will continue to do so in the future, and it is quite simply impossible to achieve mathematical certainty on this point.

The very substantial reduction in inequality of wealth following the shocks of 1914–1945 is the easiest part to explain. Capital suffered a series of extremely violent shocks as a result of the wars and the policies to which they

gave rise, and the capital/income ratio therefore collapsed. One might of course think that the reduction of wealth would have affected all fortunes proportionately, regardless of their rank in the hierarchy, leaving the distribution of wealth unchanged. But to believe this one would have to forget the fact that wealth has different origins and fulfills different functions. At the very top of the hierarchy, most wealth was accumulated long ago, and it takes much longer to reconstitute such a large fortune than to accumulate a modest one.

Furthermore, the largest fortunes serve to finance a certain lifestyle. The detailed probate records collected from the archives show unambiguously that many rentiers in the interwar years did not reduce expenses sufficiently rapidly to compensate for the shocks to their fortunes and income during the war and in the decade that followed, so that they eventually had to eat into their capital to finance current expenditures. Hence they bequeathed to the next generation fortunes significantly smaller than those they had inherited, and the previous social equilibrium could no longer be sustained. The Parisian data are particularly eloquent on this point. For example, the wealthiest 1 percent of Parisians in the Belle Époque had capital income roughly 80–100 times as great as the average wage of that time, which enabled them to live very well and still reinvest a small portion of their income and thus increase their inherited wealth.³³ From 1872 to 1912, the system appears to have been perfectly balanced: the wealthiest individuals passed on to the next generation enough to finance a lifestyle requiring 80–100 times the average wage or even a bit more, so that wealth became even more concentrated. This equilibrium clearly broke down in the interwar years: the wealthiest 1 percent of Parisians continued to live more or less as they had always done but left the next generation just enough to yield capital income of 30–40 times the average wage; by the late 1930s, this had fallen to just 20 times the average wage. For the rentiers, this was the beginning of the end. This was probably the most important reason for the deconcentration of wealth that we see in all European countries (and to a less extent in the United States) in the wake of the shocks of 1914–1945.

In addition, the composition of the largest fortunes left them (on average) more exposed to losses due to the two world wars. In particular, the probate records show that foreign assets made up as much as a quarter of the largest fortunes on the eve of World War I, nearly half of which consisted of the

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sovereign debt of foreign governments (especially Russia, which was on the verge of default). Unfortunately, we do not have comparable data for Britain, but there is no doubt that foreign assets played at least as important a role in the largest British fortunes. In both France and Britain, foreign assets virtually disappeared after the two world wars.

The importance of this factor should not be overstated, however, since the wealthiest individuals were often in a good position to reallocate their portfolios at the most profitable moment. It is also striking to discover that many individuals, and not just the wealthiest, owned significant amounts of foreign assets on the eve of World War I. When we examine the structure of Parisian portfolios in the late nineteenth century and Belle Époque, we find that they were highly diversified and quite “modern” in their composition. On the eve of the war, about a third of assets were in real estate (of which approximately two-thirds was in Paris and one-third in the provinces, including a small amount of agricultural land), while financial assets made up almost two-thirds. The latter consisted of both French and foreign stocks and (public as well as private) bonds, fairly well balanced at all levels of wealth (see Table 10.1).³⁴ The society of rentiers that flourished in the Belle Époque was not a society of the past based on static landed capital: it embodied a modern attitude toward wealth and investment. But the cumulative inegalitarian logic of $r > g$ made it prodigiously and persistently inegalitarian. In such a society, there is not much chance that freer, more competitive markets or more secure property rights can reduce inequality, since markets were already highly competitive and property rights firmly secured. In fact, the only thing that undermined this equilibrium was the series of shocks to capital and its income that began with World War I.

Finally, the period 1914–1945 ended in a number of European countries, and especially in France, with a redistribution of wealth that affected the largest fortunes disproportionately, especially those consisting largely of stock in large industrial firms. Recall, in particular, the nationalization of certain companies as a sanction after Liberation (the Renault automobile company is the emblematic example), as well as the national solidarity tax, which was also imposed in 1945. This progressive tax was a one-time levy on both capital and acquisitions made during the Occupation, but the rates were extremely high and imposed an additional burden on the individuals affected.³⁵

TABLE 10.1.

The composition of Parisian portfolios, 1872–1912.

Year	Real estate assets (buildings, houses, land)	Incl. real estate (Paris)	Incl. real estate (outside Paris)	Financial assets	Incl. equity	Incl. private bonds	Incl. public bonds	Incl. other financial assets (cash, deposits, etc.)	Furniture, jewels, etc.
1872	42	29	13	56	15	19	13	9	2
1912	36	25	11	62	20	19	14	9	3
Composition of total wealth (%)									
1872	43	30	13	55	16	16	13	10	2
1912	32	22	10	65	24	19	14	8	2
Composition of top 1% wealth holders' portfolios (%)									
Composition of next 9% (%)									
1872	42	27	15	56	14	22	13	7	2
1912	41	30	12	55	14	18	15	9	3
Composition of next 40% (%)									
1872	27	1	26	62	13	25	16	9	11
1912	31	7	24	58	12	14	14	18	10

Note: In 1912, real estate assets made up 36% of total wealth in Paris, financial assets made up 62%, and furniture, jewels, etc. 3%.

Sources: See piketty.pse.ens.fr/capital2ic.

Some Partial Explanations: Time, Taxes, and Growth

In the end, then, it is hardly surprising that the concentration of wealth decreased sharply everywhere between 1910 and 1950. In other words, the descending portion of Figures 10.1–5 is not the most difficult part to explain. The more surprising part at first glance, and in a way the more interesting part, is that the concentration of wealth never recovered from the shocks I have been discussing.

To be sure, it is important to recognize that capital accumulation is a long-term process extending over several generations. The concentration of wealth in Europe during the Belle Époque was the result of a cumulative process over many decades or even centuries. It was not until 2000–2010 that total private wealth (in both real estate and financial assets), expressed in years of national income, regained roughly the level it had attained on the eve of World War I. This restoration of the capital/income ratio in the rich countries is in all probability a process that is still ongoing.

It is not very realistic to think that the violent shocks of 1914–1945 could have been erased in ten or twenty years, thereby restoring by 1950–1960 a concentration of wealth equal to that seen in 1900–1910. Note, too, that inequality of wealth began to rise again in 1970–1980. It is therefore possible that a catch-up process is still under way today, a process even slower than the revival of the capital/income ratio, and that the concentration of wealth will soon return to past heights.

In other words, the reason why wealth today is not as unequally distributed as in the past is simply that not enough time has passed since 1945. This is no doubt part of the explanation, but by itself it is not enough. When we look at the top decile's share of wealth and even more at the top centile's (which was 60–70 percent across Europe in 1910 and only 20–30 percent in 2010), it seems clear that the shocks of 1914–1945 caused a structural change that is preventing wealth from becoming quite as concentrated as it was previously. The point is not simply quantitative—far from it. In the next chapter, we will see that when we look again at the question raised by Vautrin's lecture on the different standards of living that can be attained by inheritance and labor, the difference between a 60–70 percent share for the top centile and a 20–30 percent share is relatively simple. In the first case, the top centile of the income hierarchy is very clearly dominated by top capital incomes: this is the society of rentiers familiar

to nineteenth-century novelists. In the second case, top earned incomes (for a given distribution) roughly balance top capital incomes (we are now in a society of managers, or at any rate a more balanced society). Similarly, the emergence of a “patrimonial middle class” owning between a quarter and a third of national wealth rather than a tenth or a twentieth (scarcely more than the poorest half of society) represents a major social transformation.

What structural changes occurred between 1914 and 1945, and more generally during the twentieth century, that are preventing the concentration of wealth from regaining its previous heights, even though private wealth overall is prospering almost as handsomely today as in the past? The most natural and important explanation is that governments in the twentieth century began taxing capital and its income at significant rates. It is important to notice that the very high concentration of wealth observed in 1900–1910 was the result of a long period without a major war or catastrophe (at least when compared to the extreme violence of twentieth-century conflicts) as well as without, or almost without, taxes. Until World War I there was no tax on capital income or corporate profits. In the rare cases in which such taxes did exist, they were assessed at very low rates. Hence conditions were ideal for the accumulation and transmission of considerable fortunes and for living on the income of those fortunes. In the twentieth century, taxes of various kinds were imposed on dividends, interest, profits, and rents, and this changed things radically.

To simplify matters: assume initially that capital income was taxed at an average rate close to 0 percent (and in any case less than 5 percent) before 1900–1910 and at about 30 percent in the rich countries in 1950–1980 (and to some extent until 2000–2010, although the recent trend has been clearly downward as governments engage in fiscal competition spearheaded by smaller countries). An average tax rate of 30 percent reduces a pretax return of 5 percent to a net return of 3.5 percent after taxes. This in itself is enough to have significant long-term effects, given the multiplicative and cumulative logic of capital accumulation and concentration. Using the theoretical models described above, one can show that an effective tax rate of 30 percent, if applied to all forms of capital, can by itself account for a very significant deconcentration of wealth (roughly equal to the decrease in the top centile’s share that we see in the historical data).³⁶

In this context, it is important to note that the effect of the tax on capital income is not to reduce the total accumulation of wealth but to modify the

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structure of the wealth distribution over the long run. In terms of the theoretical model, as well as in the historical data, an increase in the tax on capital income from 0 to 30 percent (reducing the net return on capital from 5 to 3.5 percent) may well leave the total stock of capital unchanged over the long run for the simple reason that the decrease in the upper centile's share of wealth is compensated by the rise of the middle class. This is precisely what happened in the twentieth century—although the lesson is sometimes forgotten today.

It is also important to note the rise of progressive taxes in the twentieth century, that is, of taxes that imposed higher rates on top incomes and especially top capital incomes (at least until 1970–1980), along with estate taxes on the largest estates. In the nineteenth century, estate tax rates were extremely low, no more than 1–2 percent on bequests from parents to children. A tax of this sort obviously has no discernible effect on the process of capital accumulation. It is not so much a tax as a registration fee intended to protect property rights. The estate tax became progressive in France in 1901, but the highest rate on direct-line bequests was no more than 5 percent (and applied to at most a few dozen bequests a year). A rate of this magnitude, assessed once a generation, cannot have much effect on the concentration of wealth, no matter what wealthy individuals thought at the time. Quite different in their effect were the rates of 20–30 percent or higher that were imposed in most wealthy countries in the wake of the military, economic, and political shocks of 1914–1945. The upshot of such taxes was that each successive generation had to reduce its expenditures and save more (or else make particularly profitable investments) if the family fortune was to grow as rapidly as average income. Hence it became more and more difficult to maintain one's rank. Conversely, it became easier for those who started at the bottom to make their way, for instance by buying businesses or shares sold when estates went to probate. Simple simulations show that a progressive estate tax can greatly reduce the top centile's share of wealth over the long run.³⁷ The differences between estate tax regimes in different countries can also help to explain international differences. For example, why have top capital incomes in Germany been more concentrated than in France since World War II, suggesting a higher concentration of wealth? Perhaps because the highest estate tax rate in Germany is no more than 15–20 percent, compared with 30–40 percent in France.³⁸

Both theoretical arguments and numerical simulations suggest that taxes suffice to explain most of the observed evolutions, even without invoking

structural transformations. It is worth reiterating that the concentration of wealth today, though markedly lower than in 1900–1910, remains extremely high. It does not require a perfect, ideal tax system to achieve such a result or to explain a transformation whose magnitude should not be exaggerated.

*The Twenty-First Century: Even More
Inegalitarian Than the Nineteenth?*

Given the many mechanisms in play and the multiple uncertainties involved in tax simulations, it would nevertheless be going too far to conclude that no other factors played a significant role. My analysis thus far has shown that two factors probably did play an important part, independent of changes in the tax system, and will continue to do so in the future. The first is the probable slight decrease in capital's share of income and in the rate of return on capital over the long run, and the second is that the rate of growth, despite a likely slowing in the twenty-first century, will be greater than the extremely low rate observed throughout most of human history up to the eighteenth century. (Here I am speaking of the purely economic component of growth, that is, growth of productivity, which reflects the growth of knowledge and technological innovation.) Concretely, as Figure 10.11 shows, it is likely that the difference $r > g$ will be smaller in the future than it was before the eighteenth century, both because the return on capital will be lower (4–4.5 percent, say, rather than 4.5–5 percent) and growth will be higher (1–1.5 percent rather than 0.1–0.2 percent), even if competition between states leads to the elimination of all taxes on capital. If theoretical simulations are to be believed, the concentration of wealth, even if taxes on capital are abolished, would not necessarily return to the extreme level of 1900–1910.

There are no grounds for rejoicing, however, in part because inequality of wealth would still increase substantially (halving the middle-class share of national wealth, for example, which voters might well find unacceptable) and in part because there is considerable uncertainty in the simulations, and other forces exist that may well push in the opposite direction, that is, toward an even greater concentration of capital than in 1900–1910. In particular, demographic growth may be negative (which could drive growth rates, especially in the wealthy countries, below those observed in the nineteenth century, and this would in turn give unprecedented importance to inherited wealth). In

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addition, capital markets may become more and more sophisticated and more and more “perfect” in the sense used by economists (meaning that the return on capital will become increasingly disconnected from the individual characteristics of the owner and therefore cut against meritocratic values, reinforcing the logic of $r > g$). As I will show later, in addition, financial globalization seems to be increasing the correlation between the return on capital and the initial size of the investment portfolio, creating an inequality of returns that acts as an additional—and quite worrisome—force for divergence in the global wealth distribution.

To sum up: the fact that wealth is noticeably less concentrated in Europe today than it was in the Belle Époque is largely a consequence of accidental events (the shocks of 1914–1945) and specific institutions such as taxation of capital and its income. If those institutions were ultimately destroyed, there would be a high risk of seeing inequalities of wealth close to those observed in the past or, under certain conditions, even higher. Nothing is certain: inequality can move in either direction. Hence I must now look more closely at the dynamics of inheritance and then at the global dynamics of wealth. One conclusion is already quite clear, however: it is an illusion to think that something about the nature of modern growth or the laws of the market economy ensures that inequality of wealth will decrease and harmonious stability will be achieved.

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Merit and Inheritance in the Long Run

The overall importance of capital today, as noted, is not very different from what it was in the eighteenth century. Only its form has changed: capital was once mainly land but is now industrial, financial, and real estate. We also know that the concentration of wealth remains high, although it is noticeably less extreme than it was a century ago. The poorest half of the population still owns nothing, but there is now a patrimonial middle class that owns between a quarter and a third of total wealth, and the wealthiest 10 percent now own only two-thirds of what there is to own rather than nine-tenths. We have also learned that the relative movements of the return on capital and the rate of growth of the economy, and therefore of the difference between them, $r-g$, can explain many of the observed changes, including the logic of accumulation that accounts for the very high concentration of wealth that we see throughout much of human history.

In order to understand this cumulative logic better, we must now take a closer look at the long-term evolution of the relative roles of inheritance and saving in capital formation. This is a crucial issue, because a given level of capital concentration can come about in totally different ways. It may be that the global level of capital has remained the same but that its deep structure has changed dramatically, in the sense that capital was once largely inherited but is now accumulated over the course of a lifetime by savings from earned income. One possible explanation for such a change might be increased life expectancy, which might have led to a structural increase in the accumulation of capital in anticipation of retirement. However, this supposed great transformation in the nature of capital was actually less dramatic than is sometimes thought; indeed, in some countries it did not occur at all. In all likelihood, inheritance will again play a significant role in the twenty-first century, comparable to its role in the past.

More precisely, I will come to the following conclusion. Whenever the rate of return on capital is significantly and durably higher than the growth

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rate of the economy, it is all but inevitable that inheritance (of fortunes accumulated in the past) predominates over saving (wealth accumulated in the present). In strict logic, it could be otherwise, but the forces pushing in this direction are extremely powerful. The inequality $r > g$ in one sense implies that the past tends to devour the future: wealth originating in the past automatically grows more rapidly, even without labor, than wealth stemming from work, which can be saved. Almost inevitably, this tends to give lasting, disproportionate importance to inequalities created in the past, and therefore to inheritance.

If the twenty-first century turns out to be a time of low (demographic and economic) growth and high return on capital (in a context of heightened international competition for capital resources), or at any rate in countries where these conditions hold true, inheritance will therefore probably again be as important as it was in the nineteenth century. An evolution in this direction is already apparent in France and a number of other European countries, where growth has already slowed considerably in recent decades. For the moment it is less prominent in the United States, essentially because demographic growth there is higher than in Europe. But if growth ultimately slows more or less everywhere in the coming century, as the median demographic forecasts by the United Nations (corroborated by other economic forecasts) suggest it will, then inheritance will probably take on increased importance throughout the world.

This does not imply, however, that the structure of inequality in the twenty-first century will be the same as in the nineteenth century, in part because the concentration of wealth is less extreme (there will probably be more small to medium rentiers and fewer extremely wealthy rentiers, at least in the short term), in part because the earned income hierarchy is expanding (with the rise of the supermanager), and finally because wealth and income are more strongly correlated than in the past. In the twenty-first century it is possible to be both a supermanager and a “medium rentier”: the new meritocratic order encourages this sort of thing, probably to the detriment of low- and medium-wage workers, especially those who own only a tiny amount of property, if any.

Inheritance Flows over the Long Run

I will begin at the beginning. In all societies, there are two main ways of accumulating wealth: through work or inheritance.¹ How common is each of these in the top centiles and deciles of the wealth hierarchy? This is the key question.

In Vautrin's lecture to Rastignac (discussed in Chapter 7), the answer is clear: study and work cannot possibly lead to a comfortable and elegant life, and the only realistic strategy is to marry Mademoiselle Victorine and her inheritance. One of my primary goals in this work is to find out how closely nineteenth-century French society resembled the society described by Vautrin and above all to learn how and why this type of society evolved over time.

It is useful to begin by examining the evolution of the annual flow of inheritances over the long run, that is, the total value of bequests (and gifts between living individuals) during the course of a year, expressed as a percentage of national income. This figure measures the annual amount of past wealth conveyed each year relative to the total income earned that year. (Recall that earned income accounts for roughly two-thirds of national income each year, while part of capital income goes to remunerate the capital that is passed on to heirs.)

I will examine the French case, which is by far the best known over the long run, and the pattern I find there, it turns out, also applies to a certain extent to other European countries. Finally, I will explore what it is possible to say at the global level.

Figure 11.1 represents the evolution of the annual inheritance flow in France from 1820 to 2010.² Two facts stand out clearly. First, the inheritance flow accounts for 20–25 percent of annual income every year in the nineteenth century, with a slight upward trend toward the end of the century. This is an extremely high flow, as I will show later, and it reflects the fact that nearly all of the capital stock came from inheritance. If inherited wealth is omnipresent in nineteenth-century novels, it was not only because writers, especially the debt-ridden Balzac, were obsessed by it. It was above all because inheritance occupied a structurally central place in nineteenth-century society—central as both economic flow and social force. Its importance did not diminish with time, moreover. On the contrary, in 1900–1910, the flow of inheritance was somewhat higher (25 percent of national income compared with barely 20)

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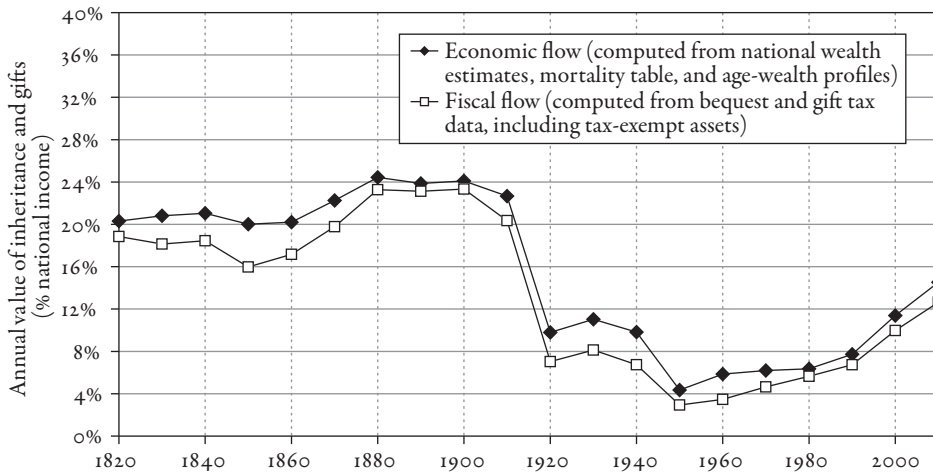


FIGURE 11.1. The annual inheritance flow as a fraction of national income, France, 1820–2010

The annual inheritance flow was about 20–25 percent of national income during the nineteenth century and until 1914; it then fell to less than 5 percent in the 1950s, and returned to about 15 percent in 2010.

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

than it had been in the 1820s, the period of Vautrin, Rastignac, and the Vauquer boardinghouse.

Subsequently, we find a spectacular decrease in the flow of inheritances between 1910 and 1950 followed by a steady rebound thereafter, with an acceleration in the 1980s. There were very large upward and downward variations during the twentieth century. The annual flow of inheritances and gifts was (to a first approximation, and compared with subsequent shocks) relatively stable until World War I but fell by a factor of 5 or 6 between 1910 and 1950 (when the inheritance flow was barely 4 or 5 percent of national income), after which it increased by a factor of 3 or 4 between 1950 and 2010 (at which time the flow accounted for 15 percent of national income).

The evolution visible in Figure 11.1 reflects deep changes in the perception as well as the reality of inheritance, and to a large extent it also reflects changes in the structure of inequality. As we will soon see, the compression of the inheritance flow owing to the shocks of 1914–1945 was nearly twice as great as the decrease in private wealth. The inheritance collapse was therefore not

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simply the result of a wealth collapse (even if the two developments are obviously closely related). In the public mind, the idea that the age of inheritance was over was certainly even more influential than the idea of an end of capitalism. In 1950–1960, bequests and gifts accounted for just a few points of national income, so it was reasonable to think that inheritances had virtually disappeared and that capital, though less important overall than in the past, was now wealth that an individual accumulated by effort and saving during his or her lifetime. Several generations grew up under these conditions (even if perceptions somewhat exceeded reality), in particular the baby boom generation, born in the late 1940s and early 1950s, many of whom are still alive today, and it was natural for them to assume that this was the “new normal.”

Conversely, younger people, in particular those born in the 1970s and 1980s, have already experienced (to a certain extent) the important role that inheritance will once again play in their lives and the lives of their relatives and friends. For this group, for example, whether or not a child receives gifts from parents can have a major impact in deciding who will own property and who will not, at what age, and how extensive that property will be—in any case, to a much greater extent than in the previous generation. Inheritance is playing a larger part in their lives, careers, and individual and family choices than it did with the baby boomers. The rebound of inheritance is still incomplete, however, and the evolution is still under way (the inheritance flow in 2000–2010 stood at a point roughly midway between the nadir of the 1950s and the peak of 1900–1910). To date, it has had a less profound impact on perceptions than the previous change, which still dominates people’s thinking. A few decades from now, things may be very different.

Fiscal Flow and Economic Flow

Several points about Figure 11.1 need to be clarified. First, it is essential to include gifts between living individuals (whether shortly before death or earlier in life) in the flow of inheritance, because this form of transmission has always played a very important role in France and elsewhere. The relative magnitude of gifts and bequests has varied greatly over time, so omitting gifts would seriously bias the analysis and distort spatial and temporal comparisons. Fortunately, gifts in France are carefully recorded (though no doubt somewhat underestimated). This is not the case everywhere.

Second, and even more important, the wealth of French historical sources allows us to calculate inheritance flows in two different ways, using data and methods that are totally independent. What we find is that the two evolutions shown in Figure 11.1 (which I have labeled “fiscal flow” and “economic flow”) are highly consistent, which is reassuring and demonstrates the robustness of the historical data. This consistency also helps us to decompose and analyze the various forces at work.³

Broadly speaking, there are two ways to estimate inheritance flows in a particular country. One can make direct use of observed flows of inheritances and gifts (for example, by using tax data: this is what I call the “fiscal flow”). Or one can look at the private capital stock and calculate the theoretical flow that must have occurred in a given year (which I call the “economic flow”). Each method has its advantages and disadvantages. The first method is more direct, but the tax data in many countries are so incomplete that the results are not always satisfactory. In France, as noted previously, the system for recording bequests and gifts was established exceptionally early (at the time of the Revolution) and is unusually comprehensive (in theory it covers all transmissions, including those on which little or no tax is paid, though there are some exceptions), so the fiscal method can be applied. The tax data must be corrected, however, to take account of small bequests that do not have to be declared (the amounts involved are insignificant) and above all to correct for certain assets that are exempt from the estate tax, such as life insurance contracts, which have become increasingly common since 1970 (and today account for nearly one-sixth of total private wealth in France).

The second method (“economic flow”) has the advantage of not relying on tax data and therefore giving a more complete picture of the transmission of wealth, independent of the vagaries of different countries’ tax systems. The ideal is to be able to use both methods in the same country. What is more, one can interpret the gap between the two curves in Figure 11.1 (which shows that the economic flow is always a little greater than the fiscal flow) as an estimate of tax fraud or deficiencies of the probate record-keeping system. There may also be other reasons for the gap, including the many imperfections in the available data sets and the methods used. For certain subperiods, the gap is far from negligible. The long-run evolutions in which I am primarily interested are nevertheless quite consistent, regardless of which method we use.

The Three Forces: The Illusion of an End of Inheritance

In fact, the main advantage of the economic flow approach is that it requires us to take a comprehensive view of the three forces that everywhere determine the flow of inheritance and its historical evolution.

In general, the annual economic flow of inheritances and gifts, expressed as a proportion of national income that we denote b_y , is equal to the product of three forces:

$$b_y = \mu \times m \times \beta,$$

where β is the capital/income ratio (or, more precisely, the ratio of total private wealth, which, unlike public assets, can be passed on by inheritance, to national income), m is the mortality rate, and μ is the ratio of average wealth at time of death to average wealth of living individuals.

This decomposition is a pure accounting identity: by definition, it is always true in all times and places. In particular, this is the formula I used to estimate the economic flow depicted in Figure 11.1. Although this decomposition of the economic flow into three forces is a tautology, I think it is a useful tautology in that it enables us to clarify an issue that has been the source of much confusion in the past, even though the underlying logic is not terribly complex.

Let me examine the three forces one by one. The first is the capital/income ratio β . This force expresses a truism: if the flow of inherited wealth is to be high in a given society, the total stock of private wealth capable of being inherited must also be large.

The second force, the mortality rate m , describes an equally transparent mechanism. All other things being equal, the higher the mortality rate, the higher the inheritance flow. In a society where everyone lives forever, so that the mortality rate is exactly zero, inheritance must vanish. The inheritance flow b_y must also be zero, no matter how large the capital/income ratio β is.

The third force, the ratio μ of average wealth at time of death to average wealth of living individuals, is equally transparent.⁴

Suppose that the average wealth at time of death is the same as the average wealth of the population as a whole. Then $\mu = 1$, and the inheritance flow b_y is simply the product of the mortality rate m and the capital/income ratio β . For

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example, if the capital/income ratio is 600 percent (that is, the stock of private wealth represents six years of national income) and the mortality rate of the adult population is 2 percent,⁵ then the annual inheritance flow will automatically be 12 percent of national income.

If average wealth at time of death is twice the average wealth of the living, so that $\mu = 2$, then the inheritance flow will be 24 percent of national income (assuming $\beta = 6$ and $m = 2$ percent), which is approximately the level observed in the nineteenth and early twentieth centuries.

Clearly, μ depends on the age profile of wealth. The more wealth increases with age, the higher μ will be and therefore the larger the inheritance flow.

Conversely, in a society where the primary purpose of wealth is to finance retirement and elderly individuals consume the capital accumulated during their working lives in their years of retirement (by drawing down savings in a pension fund, for example), in accordance with the “life-cycle theory of wealth” developed by the Italian-American economist Franco Modigliani in the 1950s, then by construction μ will be almost zero, since everyone aims to die with little or no capital. In the extreme case $\mu = 0$, inheritance vanishes regardless of the values of β and m . In strictly logical terms, it is perfectly possible to imagine a world in which there is considerable private capital (so β is very high) but most wealth is in pension funds or equivalent forms of wealth that vanish at death (“annuitized wealth”), so that the inheritance flow is zero or close to it. Modigliani’s theory offers a tranquil, one-dimensional view of social inequality: inequalities of wealth are nothing more than a translation in time of inequalities with respect to work. (Managers accumulate more retirement savings than workers, but both groups consume all their capital by the time they die.) This theory was quite popular in the decades after World War II, when functionalist American sociology, exemplified by the work of Talcott Parsons, also depicted a middle-class society of managers in which inherited wealth played virtually no role.⁶ It is still quite popular today among baby boomers.

Our decomposition of the inheritance flow as the product of three forces ($b_y = \mu \times m \times \beta$) is important for thinking historically about inheritance and its evolution, for each of the three forces embodies a significant set of beliefs and arguments (perfectly plausible a priori) that led many people to imagine, especially during the optimistic decades after World War II, that the end (or at any rate gradual and progressive decrease) of inherited wealth was some-

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how the logical and natural culmination of history. However, such a gradual end to inherited wealth is by no means inevitable, as the French case clearly illustrates. Indeed, the U-shaped curve we see in France is a consequence of three U-shaped curves describing each of the three forces, μ , m , and β . Furthermore, the three forces acted simultaneously, in part for accidental reasons, and this explains the large amplitude of the overall change, and in particular the exceptionally low level of inheritance flow in 1950–1960, which led many people to believe that inherited wealth had virtually disappeared.

In Part Two I showed that the capital/income ratio β was indeed described by a U-shaped curve. The optimistic belief associated with this first force is quite clear and at first sight perfectly plausible: inherited wealth has tended over time to lose its importance simply because wealth has lost its importance (or, more precisely, wealth in the sense of nonhuman capital, that is, wealth that can be owned, exchanged on a market, and fully transmitted to heirs under the prevailing laws of property). There is no logical reason why this optimistic belief cannot be correct, and it permeates the whole modern theory of human capital (including the work of Gary Becker), even if it is not always explicitly formulated.⁷ However, things did not unfold this way, or at any rate not to the degree that people sometimes imagine: landed capital became financial and industrial capital and real estate but retained its overall importance, as can be seen in the fact that the capital/income ratio seems to be about to regain the record level attained in the Belle Époque and earlier.

For partly technological reasons, capital still plays a central role in production today, and therefore in social life. Before production can begin, funds are needed for equipment and office space, to finance material and immaterial investments of all kinds, and of course to pay for housing. To be sure, the level of human skill and competence has increased over time, but the importance of nonhuman capital has increased proportionately. Hence there is no obvious a priori reason to expect the gradual disappearance of inherited wealth on these grounds.

Mortality over the Long Run

The second force that might explain the natural end of inheritance is increased life expectancy, which lowers the mortality rate m and increases the time to inheritance (which decreases the size of the legacy). Indeed, there is

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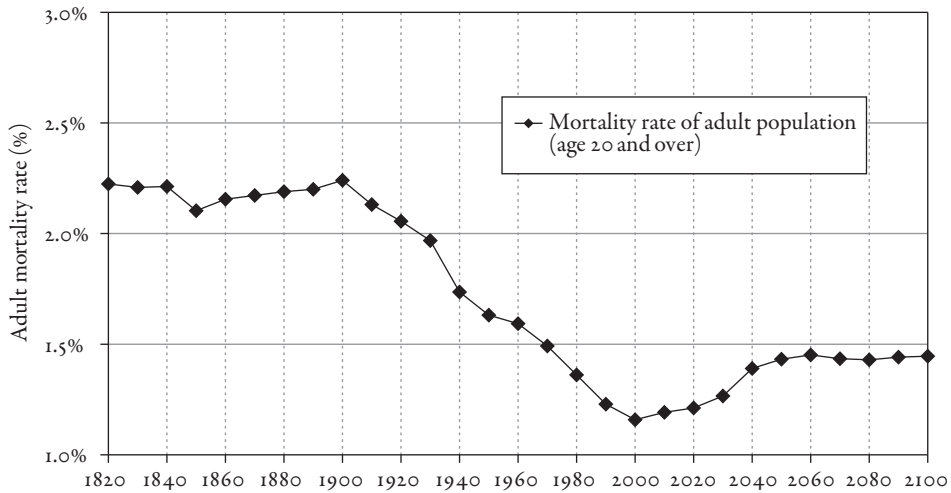


FIGURE 11.2. The mortality rate in France, 1820–2100

The mortality rate fell in France during the twentieth century (rise of life expectancy), and should increase somewhat during the twenty-first century (baby-boom effect). Sources and series: see piketty.pse.ens.fr/capital21c.

no doubt that the mortality rate has decreased over the long run: the proportion of the population that dies each year is smaller when the life expectancy is eighty than when it is sixty. Other things being equal, for a given β and μ , a society with a lower mortality rate is also a society in which the flow of inheritance is a smaller proportion of national income. In France, the mortality rate has declined inexorably over the course of history, and the same is true of other countries. The French mortality rate was around 2.2 percent (of the adult population) in the nineteenth century but declined steadily throughout the twentieth century,⁸ dropping to 1.1–1.2 percent in 2000–2010, a decrease of almost one-half in a century (see Figure 11.2).

It would be a serious mistake, however, to think that changes in the mortality rate lead inevitably to the disappearance of inherited wealth as a major factor in the economy. For one thing, the mortality rate began to rise again in France in 2000–2010, and according to official demographic forecasts this increase is likely to continue until 2040–2050, after which adult mortality should stabilize at around 1.4–1.5 percent. The explanation for this is that the baby boomers, who outnumber previous cohorts (but are about the same size as subsequent ones), will reach the end of their life

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spans in this period.⁹ In other words, the baby boom, which led to a structural increase in the size of birth cohorts, temporarily reduced the mortality rate simply because the population grew younger and larger. French demographics are fortunately quite simple, so that it is possible to present the principal effects of demographic change in a clear manner. In the nineteenth century, the population was virtually stationary, and life expectancy was about sixty years, so that the average person enjoyed a little over forty years of adulthood, and the mortality rate was therefore close to $1/40$, or actually about 2.2 percent. In the twenty-first century, the population, according to official forecasts, will likely stabilize again, with a life expectancy of about eighty-five years, or about sixty-five years of adult life, giving a mortality rate of about $1/65$ in a static population, which translates into 1.4–1.5 percent when we allow for slight demographic growth. Over the long run, in a developed country with a quasi-stagnant population like France (where population increase is primarily due to aging), the decrease in the adult mortality rate is about one-third.

The anticipated increase in the mortality rate between 2000–2010 and 2040–2050 due to the aging of the baby boom generation is admittedly a purely mathematical effect, but it is nevertheless important. It partly explains the low inheritance flows of the second half of the twentieth century, as well as the expected sharp increase in these flows in the decades to come. This effect will be even stronger elsewhere. In countries where the population has begun to decrease significantly or will soon do so (owing to a decrease in cohort size)—most notably Germany, Italy, Spain, and of course Japan—this phenomenon will lead to a much larger increase in the adult mortality rate in the first half of the twenty-first century and thus automatically increase inheritance flows by a considerable amount. People may live longer, but they still die eventually; only a significant and steady increase in cohort size can permanently reduce the mortality rate and inheritance flow. When an aging population is combined with a stabilization of cohort size as in France, however, or even a reduced cohort size as in a number of rich countries, very high inheritance flows are possible. In the extreme case—a country in which the cohort size is reduced by half (because each couple decides to have only one child), the mortality rate, and therefore the inheritance flow, could rise to unprecedented levels. Conversely, in a country where the size of each age cohort doubles every generation, as happened in many

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countries in the twentieth century and is still happening in Africa, the mortality rate declines to very low levels, and inherited wealth counts for little (other things equal).

Wealth Ages with Population: The $\mu \times m$ Effect

Let us now forget the effects of variations in cohort size: though important, they are essentially transitory, unless we imagine that in the long run the population of the planet grows infinitely large or infinitely small. Instead, I will adopt the very long-run perspective and assume that cohort size is stable. How does increased life expectancy really affect the importance of inherited wealth? To be sure, a longer life expectancy translates into a structural decrease in the mortality rate. In France, where the average life expectancy in the twenty-first century will be eight to eighty-five years, the adult mortality rate will stabilize at less than 1.5 percent a year, compared with 2.2 percent in the nineteenth century, when the life expectancy was just over sixty. The increase in the average age of death inevitably gives rise to a similar increase in the average age of heirs at the moment of inheritance. In the nineteenth century, the average age of inheritance was just thirty; in the twenty-first century it will be somewhere around fifty. As Figure 11.3 shows, the difference between the average age of death and the average age of inheritance has always been around thirty years, for the simple reason that the average age of child-birth (often referred to as “generational duration”) has been relatively stable at around thirty over the long run (although there has been a slight increase in the early twenty-first century).

But does the fact that people die later and inherit later imply that inherited wealth is losing its importance? Not necessarily, in part because the growing importance of gifts between living individuals has partly compensated for this aging effect, and in part because it may be that people are inheriting later but receiving larger amounts, since wealth tends to age in an aging society. In other words, the downward trend in the mortality rate—ineluctable in the very long run—can be compensated by a similar structural increase in the relative wealth of older people, so that the product $\mu \times m$ remains unchanged or in any case falls much more slowly than some have believed. This is precisely what happened in France: the ratio μ of average wealth at death to aver-

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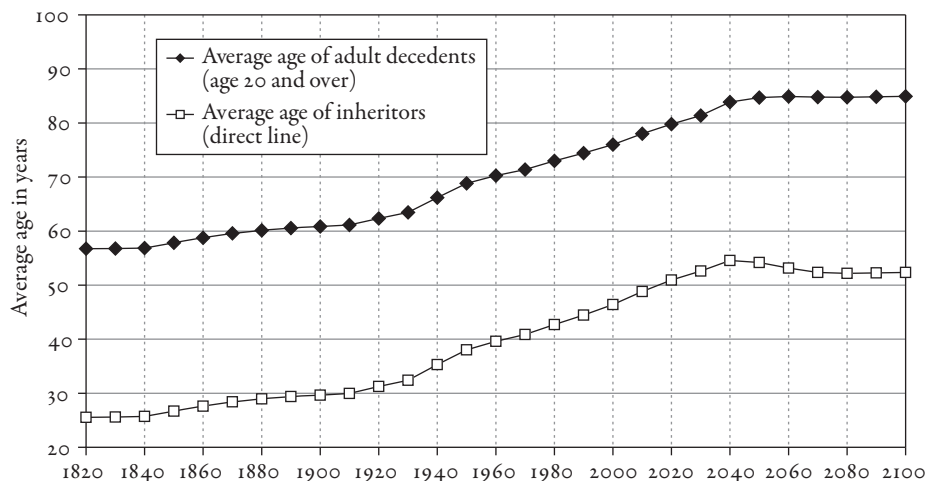


FIGURE 11.3. Average age of decedents and inheritors, France, 1820–2100

The average of (adult) decedents rose from less than 60 years to almost 80 years during the twentieth century, and the average age at the time of inheritance rose from 30 years to 50 years.

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

age wealth of the living rose sharply after 1950–1960, and this gradual aging of wealth explains much of the increased importance of inherited wealth in recent decades.

Concretely, one finds that the product $\mu \times m$, which by definition measures the annual rate of transmission by inheritance (or, in other words, the inheritance flow expressed as a percentage of total private wealth), clearly began to rise over the past few decades, despite the continuing decrease in the morality rate, as Figure 11.4 shows. The annual rate of transmission by inheritance, which nineteenth-century economists called the “rate of estate devolution,” was according to my sources relatively stable from the 1820s to the 1910s at around 3.3–3.5 percent, or roughly $1/30$. It was also said in those days that a fortune was inherited on average once every thirty years, that is, once a generation, which is a somewhat too static view of things but partially justified by the reality of the time.¹⁰ The transmission rate decreased sharply in the period 1910–1950 and in the 1950s stood at about 2 percent, before rising steadily to above 2.5 percent in 2000–2010.

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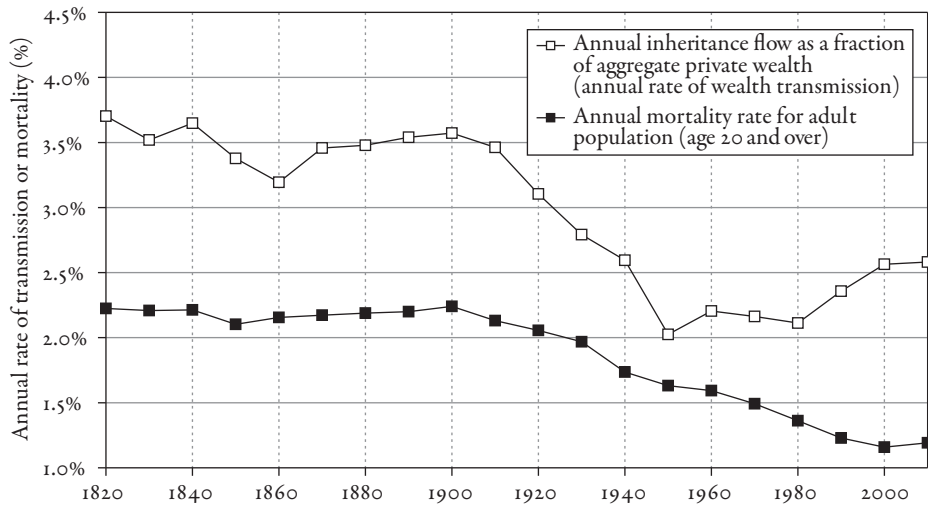


FIGURE 11.4. Inheritance flow versus mortality rate, France, 1820–2010

The annual flow of inheritance (bequests and gifts) is equal to about 2.5 percent of aggregate wealth in 2000–2010 versus 1.2 percent for the mortality rate.

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

To sum up: inheritance occurs later in aging societies, but wealth also ages, and the latter tends to compensate the former. In this sense, a society in which people die older is very different from a society in which they don't die at all and inheritance effectively vanishes. Increased life expectancy delays important life events: people study longer, start work later, inherit later, retire later, and die later. But the relative importance of inherited wealth as opposed to earned income does not necessarily change, or at any rate changes much less than people sometimes imagine. To be sure, inheriting later in life may make choosing a profession more frequently necessary than in the past. But this is compensated by the inheritance of larger amounts or by the receipt of gifts. In any case, the difference is more one of degree than the dramatic change of civilization that is sometimes imagined.

Wealth of the Dead, Wealth of the Living

It is interesting to take a closer look at the evolution of μ , the ratio between average wealth at death and average wealth of the living, which I have pre-

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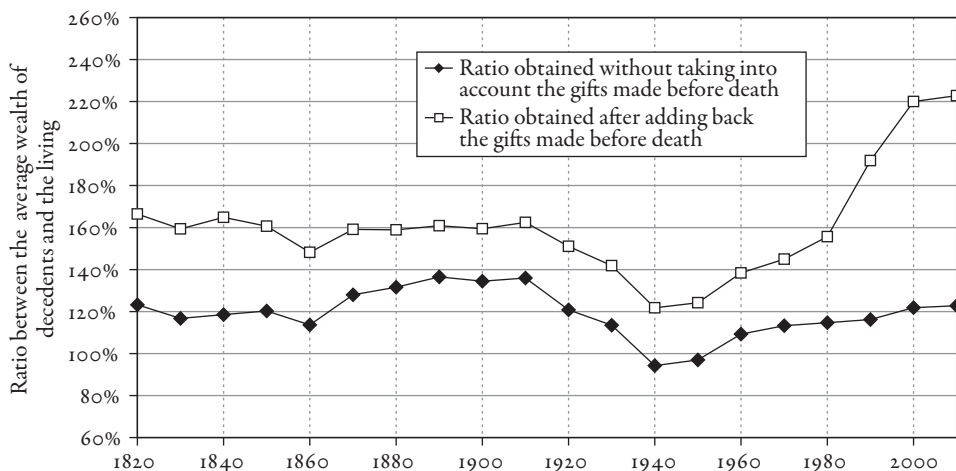


FIGURE 11.5. The ratio between average wealth at death and average wealth of the living, France, 1820–2010

In 2000–2010, the average wealth at death is 20 percent higher than that of the living if one omits the gifts that were made before death, but more than twice as large if one re-integrates gifts.

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

sented in Figure 11.5. Note, first, that over the course of the past two centuries, from 1820 to the present, the dead have always been (on average) wealthier than the living in France: μ has always been greater than 100 percent, except in the period around World War II (1940–1950), when the ratio (without correcting for gifts made prior to death) fell to just below 100 percent. Recall that according to Modigliani’s life-cycle theory, the primary reason for amassing wealth, especially in aging societies, is to pay for retirement, so that older individuals should consume most of their savings during old age and should therefore die with little or no wealth. This is the famous “Modigliani triangle,” taught to all students of economics, according to which wealth at first increases with age as individuals accumulate savings in anticipation of retirement and then decreases. The ratio μ should therefore be equal to zero or close to it, in any case much less than 100 percent. But this theory of capital and its evolution in advanced societies, which is perfectly plausible a priori, cannot explain the observed facts—to put it mildly. Clearly, saving for retirement is only one of many reasons—and not the most important reason—why people accumulate wealth: the desire to

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perpetuate the family fortune has always played a central role. In practice, the various forms of annuitized wealth, which cannot be passed on to descendants, account for less than 5 percent of private wealth in France and at most 15–20 percent in the English-speaking countries, where pension funds are more developed. This is not a negligible amount, but it is not enough to alter the fundamental importance of inheritance as a motive for wealth accumulation (especially since life-cycle savings may not be a substitute for but rather a supplement to transmissible wealth).¹¹ To be sure, it is quite difficult to say how different wealth accumulation would have been in the twentieth century in the absence of pay-as-you-go public pension systems, which guaranteed the vast majority of retirees a decent standard of living in a more reliable and equitable way than investment in financial assets, which plummeted after the war, could have done. It is possible that without such public pension systems, the overall level of wealth accumulation (measured by the capital/income ratio) would have been even greater than it is today.¹² In any case, the capital/income ratio is approximately the same today as it was in the Belle Époque (when a shorter life expectancy greatly reduced the need to accumulate savings in anticipation of retirement), and annuitized wealth accounts for only a slightly larger portion of total wealth than it did a century ago.

Note also the importance of gifts between living individuals over the past two centuries, as well as their spectacular rise over the past several decades. The total annual value of gifts was 30–40 percent of the annual value of inheritances from 1820 to 1870 (during which time gifts came mainly in the form of dowries, that is, gifts to the spouse at the time of marriage, often with restrictions specified in the marriage contract). Between 1870 and 1970 the value of gifts decreased slightly, stabilizing at about 20–30 percent of inheritances, before increasing strongly and steadily to 40 percent in the 1980s, 60 percent in the 1990s, and more than 80 percent in 2000–2010. Today, transmission of capital by gift is nearly as important as transmission by inheritance. Gifts account for almost half of present inheritance flows, and it is therefore essential to take them into account. Concretely, if gifts prior to death were not included, we would find that average wealth at death in 2000–2010 was just over 20 percent higher than average wealth of the living. But this is simply a reflection of the fact that the dead have already passed on nearly half of their assets. If we include gifts made prior to death, we find that the (corrected) value of μ is actually greater than 220 percent: the corrected wealth of

the dead is nearly twice as great as that of the living. We are once again living in a golden age of gift giving, much more so than in the nineteenth century.

It is interesting to note that the vast majority of gifts, today as in the nineteenth century, go to children, often in the context of a real estate investment, and they are given on average about ten years before the death of the donor (a gap that has remained relatively stable over time). The growing importance of gifts since the 1970s has led to a decrease in the average age of the recipient: in 2000–2010, the average age of an heir is forty-five to fifty, while that of the recipient of a gift is thirty-five to forty, so that the difference between today and the nineteenth or early twentieth centuries is not as great as it seems from Figure 11.3.¹³ The most convincing explanation of this gradual and progressive increase of gift giving, which began in the 1970s, well before fiscal incentives were put in place in 1990–2000, is that parents with means gradually became aware that owing to the increase in life expectancy, there might be good reasons to share their wealth with their children at the age of thirty-five to forty rather than forty-five to fifty or even later. In any case, whatever the exact role of each of the various possible explanations, the fact is that the upsurge in gift giving, which we also find in other European countries, including Germany, is an essential ingredient in the revived importance of inherited wealth in contemporary society.

The Fifties and the Eighties: Age and Fortune in the Belle Époque

In order to better understand the dynamics of wealth accumulation and the detailed data used to calculate μ , it is useful to examine the evolution of the average wealth profile as a function of age. Table 11.1 presents wealth-age profiles for a number of years between 1820 and 2010.¹⁴ The most striking fact is no doubt the impressive aging of wealth throughout the nineteenth century, as capital became increasingly concentrated. In 1820, the elderly were barely wealthier on average than people in their fifties (which I have taken as a reference group): sexagenarians were 34 percent wealthier and octogenarians 53 percent wealthier. But the gaps widened steadily thereafter. By 1900–1910, the average wealth of sexagenarians and septuagenarians was on the order of 60–80 percent higher than the reference group, and octogenarians were two and a half times wealthier. Note that these are averages for all of France. If we restrict our attention to Paris, where the largest fortunes were concentrated, the situation is even more extreme. On the eve of World War I, Parisian fortunes swelled with

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TABLE 11.1.

*The age-wealth profile in France, 1820–2010: Average wealth of each age group
(% of average wealth of 50- to 59-year-olds).*

Year	20–29 years	30–39 years	40–49 years	50–59 years	60–69 years	70–79 years	80 years and over
1820	29	37	47	100	134	148	153
1850	28	37	52	100	128	144	142
1880	30	39	61	100	148	166	220
1902	26	57	65	100	172	176	238
1912	23	54	72	100	158	178	257
1931	22	59	77	100	123	137	143
1947	23	52	77	100	99	76	62
1960	28	52	74	100	110	101	87
1984	19	55	83	100	118	113	105
2000	19	46	66	100	122	121	118
2010	25	42	74	100	111	106	134

Note: In 1820, the average wealth of individuals aged 60–69 was 34% higher than that of 50- to 59-year-olds, and the average wealth of those aged 80 and over was 53% higher than that of 50- to 59-year-olds.

Sources: See piketty.pse.ens.fr/capital21c, table 2.

age, with septuagenarians and octogenarians on average three or even four times as wealthy as fifty-year-olds.¹⁵ To be sure, the majority of people died with no wealth at all, and the absence of any pension system tended to aggravate this “golden-age poverty.” But among the minority with some fortune, the aging of wealth is quite impressive. Quite clearly, the spectacular enrichment of octogenarians cannot be explained by income from labor or entrepreneurial activity: it is hard to imagine people in their eighties creating a new startup every morning.

This enrichment of the elderly is striking, in part because it explains the high value of μ , the ratio of average wealth at time of death to average wealth of the living, in the Belle Époque (and therefore the high inheritance flows), and even more because it tells us something quite specific about the underlying economic process. The individual data we have are quite clear on this point: the very rapid increase of wealth among the elderly in the late nine-

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teenth and early twentieth centuries was a straightforward consequence of the inequality $r > g$ and of the cumulative and multiplicative logic it implies. Concretely, elderly people with the largest fortunes often enjoyed capital incomes far in excess of what they needed to live. Suppose, for example, that they obtained a return of 5 percent and consumed two-fifths of their capital income while reinvesting the other three-fifths. Their wealth would then have grown at a rate of 3 percent a year, and by the age of eighty-five they would have been more than twice as rich as they were at age sixty. The mechanism is simple but extremely powerful, and it explains the observed facts very well, except that the people with the largest fortunes could often save more than three-fifths of their capital income (which would have accelerated the divergence process), and the general growth of mean income and wealth was not quite zero (but about 1 percent a year, which would have slowed it down a bit).

The study of the dynamics of accumulation and concentration of wealth in France in 1870–1914, especially in Paris, has many lessons to teach about the world today and in the future. Not only are the data exceptionally detailed and reliable, but this period is also emblematic of the first globalization of trade and finance. As noted, it had modern, diversified capital markets, and individuals held complex portfolios consisting of domestic and foreign, public and private assets paying fixed and variable amounts. To be sure, economic growth was only 1–1.5 percent a year, but such a growth rate, as I showed earlier, is actually quite substantial from a generational standpoint or in the historical perspective of the very long run. It is by no means indicative of a static agricultural society. This was an era of technological and industrial innovation: the automobile, electricity, the cinema, and many other novelties became important in these years, and many of them originated in France, at least in part. Between 1870 and 1914, not all fortunes of fifty- and sixty-year-olds were inherited. Far from it: we find a considerable number of wealthy people who made their money through entrepreneurial activities in industry and finance.

Nevertheless, the dominant dynamic, which explains most of the concentration of wealth, was an inevitable consequence of the inequality $r > g$. Regardless of whether the wealth a person holds at age fifty or sixty is inherited or earned, the fact remains that beyond a certain threshold, capital tends to reproduce itself and accumulates exponentially. The logic of $r > g$ implies that the entrepreneur always tends to turn into a rentier. Even if this happens later in life, the phenomenon becomes important as life expectancy increases. The

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fact that a person has good ideas at age thirty or forty does not imply that she will still be having them at seventy or eighty, yet her wealth will continue to increase by itself. Or it can be passed on to the next generation and continue to increase there. Nineteenth-century French economic elites were creative and dynamic entrepreneurs, but the crucial fact remains that their efforts ultimately—and largely unwittingly—reinforced and perpetuated a society of rentiers owing to the logic of $r > g$.

The Rejuvenation of Wealth Owing to War

This self-sustaining mechanism collapsed owing to the repeated shocks suffered by capital and its owners in the period 1914–1945. A significant rejuvenation of wealth was one consequence of the two world wars. One sees this clearly in Figure 11.5: for the first time in history—and to this day the only time—average wealth at death in 1940–1950 fell below the average wealth of the living. This fact emerges even more clearly in the detailed profiles by age cohort in Table 11.1. In 1912, on the eve of World War I, octogenarians were more than two and a half times as wealthy as people in their fifties. In 1931, they were only 50 percent wealthier. And in 1947, the fifty-somethings were 40 percent wealthier than the eighty-somethings. To add insult to injury, the octogenarians even fell slightly behind people in their forties in that year. This was a period in which all old certainties were called into question. In the years after World War II, the plot of wealth versus age suddenly took the form of a bell curve with a peak in the fifty to fifty-nine age bracket—a form close to the “Modigliani triangle,” except for the fact that wealth did not fall to zero at the most advanced ages. This stands in sharp contrast to the nineteenth century, during which the wealth-age curve was monotonically increasing with age.

There is a simple explanation for this spectacular rejuvenation of wealth. As noted in Part Two, all fortunes suffered multiple shocks in the period 1914–1945—destruction of property, inflation, bankruptcy, expropriation, and so on—so that the capital/income ratio fell sharply. To a first approximation, one might assume that all fortunes suffered to the same degree, leaving the age profile unchanged. In fact, however, the younger generations, which in any case did not have much to lose, recovered more quickly from these wartime shocks than their elders did. A person who was sixty years old in 1940 and lost

everything he owned in a bombardment, expropriation, or bankruptcy had little hope of recovering. He would likely have died between 1950 and 1960 at the age of seventy or eighty with nothing to pass on to his heirs. Conversely, a person who was thirty in 1940 and lost everything (which was probably not much) still had plenty of time to accumulate wealth after the war and by the 1950s would have been in his forties and wealthier than that septuagenarian. The war reset all counters to zero, or close to zero, and inevitably resulted in a rejuvenation of wealth. In this respect, it was indeed the two world wars that wiped the slate clean in the twentieth century and created the illusion that capitalism had been overcome.

This is the central explanation for the exceptionally low inheritance flows observed in the decades after World War II: individuals who should have inherited fortunes in 1950–1960 did not inherit much because their parents had not had time to recover from the shocks of the previous decades and died without much wealth to their names.

In particular, this argument enables us to understand why the collapse of inheritance flows was greater than the collapse of wealth itself—nearly twice as large, in fact. As I showed in Part Two, total private wealth fell by more than two-thirds between 1910–1920 and 1950–1960: the private capital stock decreased from seven years of national income to just two to two and a half years (see Figure 3.6). The annual flow of inheritance fell by almost five-sixths, from 25 percent of national income on the eve of World War I to just 4–5 percent in the 1950s (see Figure 11.1).

The crucial fact, however, is that this situation did not last long. “Reconstruction capitalism” was by its nature a transitional phase and not the structural transformation some people imagined. In 1950–1960, as capital was once again accumulated and the capital/income ratio β rose, fortunes began to age once more, so that the ratio μ between average wealth at death and average wealth of the living also increased. Growing wealth went hand in hand with aging wealth, thereby laying the groundwork for an even stronger comeback of inherited wealth. By 1960, the profile observed in 1947 was already a memory: sexagenarians and septuagenarians were slightly wealthier than people in their fifties (see Table 11.1). The octogenarians’ turn came in the 1980s. In 1990–2000 the graph of wealth against age was increasing even more steeply. By 2010, the average wealth of people in their eighties was more than 30 percent higher than that of people in their fifties. If one were to include

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(which Table 11.1 does not) gifts made prior to death in the wealth of different age cohorts, the graph for 2000–2010 would be steeper still, approximately the same as in 1900–1910, with average wealth for people in their seventies and eighties on the order of twice as great as people in their fifties, except that most deaths now occur at a more advanced age, which yields a considerably higher μ (see Figure 11.5).

How Will Inheritance Flows Evolve in the Twenty-First Century?

In view of the rapid increase of inheritance flows in recent decades, it is natural to ask if this increase is likely to continue. Figure 11.6 shows two possible evolutions for the twenty-first century. The central scenario is based on the assumption of an annual growth rate of 1.7 percent for the period 2010–2100 and a net return on capital of 3 percent.¹⁶ The alternative scenario is based on the assumption that growth will be reduced to 1 percent for the period 2010–2100, while the return on capital will rise to 5 percent. This could happen, for instance, if all taxes on capital and capital income, including the corporate income tax, were eliminated, or if such taxes were reduced while capital's share of income increased.

In the central scenario, simulations based on the theoretical model (which successfully accounts for the evolutions of 1820–2010) suggest that the annual inheritance flow would continue to grow until 2030–2040 and then stabilize at around 16–17 percent of national income. According to the alternative scenario, the inheritance flow should increase even more until 2060–2070 and then stabilize at around 24–25 percent of national income, a level similar to that observed in 1870–1910. In the first case, inherited wealth would make only a partial comeback; in the second, its comeback would be complete (as far as the total amount of inheritances and gifts is concerned). In both cases, the flow of inheritances and gifts in the twenty-first century is expected to be quite high, and in particular much higher than it was during the exceptionally low phase observed in the mid-twentieth century.

Such predictions are obviously highly uncertain and are of interest primarily for their illustrative value. The evolution of inheritance flows in the twenty-first century depends on many economic, demographic, and political

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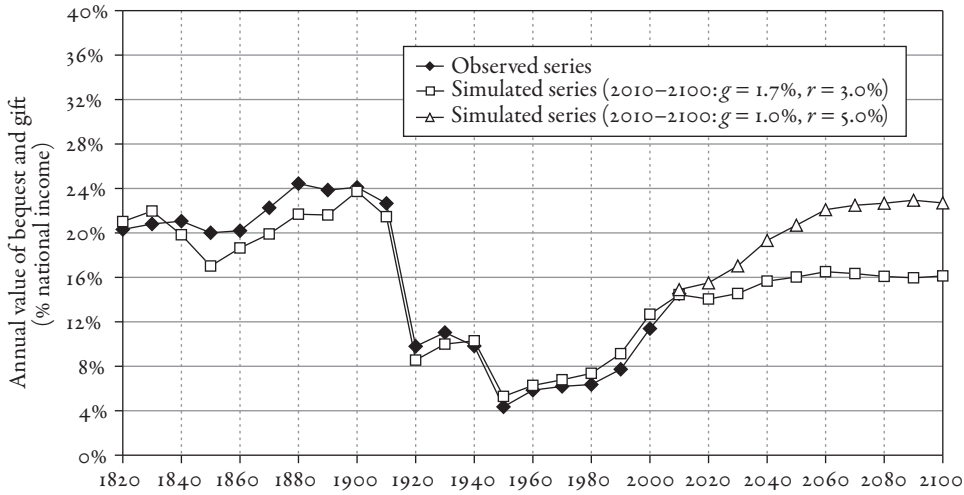


FIGURE 11.6. Observed and simulated inheritance flow, France, 1820–2100

Simulations based upon the theoretical model indicate that the level of the inheritance flow in the twenty-first century will depend upon the growth rate and the net rate of return to capital.

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

factors, and history shows that these are subject to large and highly unpredictable changes. It is easy to imagine other scenarios that would lead to different outcomes: for instance, a spectacular acceleration of demographic or economic growth (which seems rather implausible) or a radical change in public policy in regard to private capital or inheritance (which may be more realistic).¹⁷

It is also important to note that the evolution of the wealth-age profile depends primarily on savings behavior, that is, on the reasons why different groups of people accumulate wealth. As already discussed at some length, there are many such reasons, and their relative importance varies widely from individual to individual. One may save in anticipation of retirement or job loss (life-cycle or precautionary saving). Or one may save to amass or perpetuate a family fortune. Or, indeed, one may simply have a taste for wealth and the prestige that sometimes goes with it (dynastic saving or pure accumulation). In the abstract, it is perfectly possible to imagine a world in which all people would choose to convert all of their wealth into annuities and die with nothing. If such behavior were suddenly to become predominant in the twenty-first

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century, inheritance flows would obviously shrink to virtually zero, regardless of the growth rate or return on capital.

Nevertheless, the two scenarios presented in Figure 11.6 are the most plausible in light of currently available information. In particular, I have assumed that savings behavior in 2010–2100 will remain similar to what it has been in the past, which can be characterized as follows. Despite wide variations in individual behavior, we find that savings rates increase with income and initial endowment, but variations by age group are much smaller: to a first approximation, people save on average at a similar rate regardless of age.¹⁸ In particular, the massive dissaving by the elderly predicted by the life-cycle theory of saving does not seem to occur, no matter how much life expectancy increases. The reason for this is no doubt the importance of the family transmission motive (no one really wants to die with nothing, even in aging societies), together with a logic of pure accumulation as well as the sense of security—and not merely prestige or power—that wealth brings.¹⁹ The very high concentration of wealth (with the upper decile always owning at least 50–60 percent of all wealth, even within each age cohort) is the missing link that explains all these facts, which Modigliani's theory totally overlooks. The gradual return to a dynastic type of wealth inequality since 1950–1960 explains the absence of dissaving by the elderly (most wealth belongs to individuals who have the means to finance their lifestyles without selling assets) and therefore the persistence of high inheritance flows and the perpetuation of the new equilibrium, in which mobility, though positive, is limited.

The essential point is that for a given structure of savings behavior, the cumulative process becomes more rapid and inegalitarian as the return on capital rises and the growth rate falls. The very high growth of the three postwar decades explains the relatively slow increase of μ (the ratio of average wealth at death to average wealth of the living) and therefore of inheritance flows in the period 1950–1970. Conversely, slower growth explains the accelerated aging of wealth and the rebound of inherited wealth that have occurred since the 1980s. Intuitively, when growth is high, for example, when wages increase 5 percent a year, it is easier for younger generations to accumulate wealth and level the playing field with their elders. When the growth of wages drops to 1–2 percent a year, the elderly will inevitably acquire most of the available assets, and their wealth will increase at a rate determined by the return on capital.²⁰ This simple but important process explains very well

the evolution of the ratio μ and the annual inheritance flow. It also explains why the observed and simulated series are so close for the entire period 1820–2010.²¹

Uncertainties notwithstanding, it is therefore natural to think that these simulations provide a useful guide for the future. Theoretically, one can show that for a large class of savings behaviors, when growth is low compared to the return on capital, the increase in μ nearly exactly balances the decrease in the mortality rate m , so that the product $\mu \times m$ is virtually independent of life expectancy and is almost entirely determined by the duration of a generation. The central result is that a growth of about 1 percent is in this respect not very different from zero growth: in both cases, the intuition that an aging population will spend down its savings and thus put an end to inherited wealth turns out to be false. In an aging society, heirs come into their inheritances later in life but inherit larger amounts (at least for those who inherit anything), so the overall importance of inherited wealth remains unchanged.²²

From the Annual Inheritance Flow to the Stock of Inherited Wealth

How does one go from the annual inheritance flow to the stock of inherited wealth? The detailed data assembled on inheritance flows and ages of the deceased, their heirs, and gift givers and recipients enable us to estimate for each year in the period 1820–2010 the share of inherited wealth in the total wealth of individuals alive in that year (the method is essentially to add up bequests and gifts received over the previous thirty years, sometimes more in the case of particularly early inheritances or exceptionally long lives or less in the opposite case) and thus to determine the share of inherited wealth in total private wealth. The principal results are indicated in Figure 11.7, where I also show the results of simulations for the period 2010–2100 based on the two scenarios discussed above.

The orders of magnitude to bear in mind are the following. In the nineteenth and early twentieth centuries, when the annual inheritance flow was 20–25 percent of national income, inherited wealth accounted for nearly all private wealth: somewhere between 80 and 90 percent, with an upward trend. Note, however, that in all societies, at all levels of wealth, a significant number of wealthy individuals, between 10 and 20 percent, accumulate fortunes during

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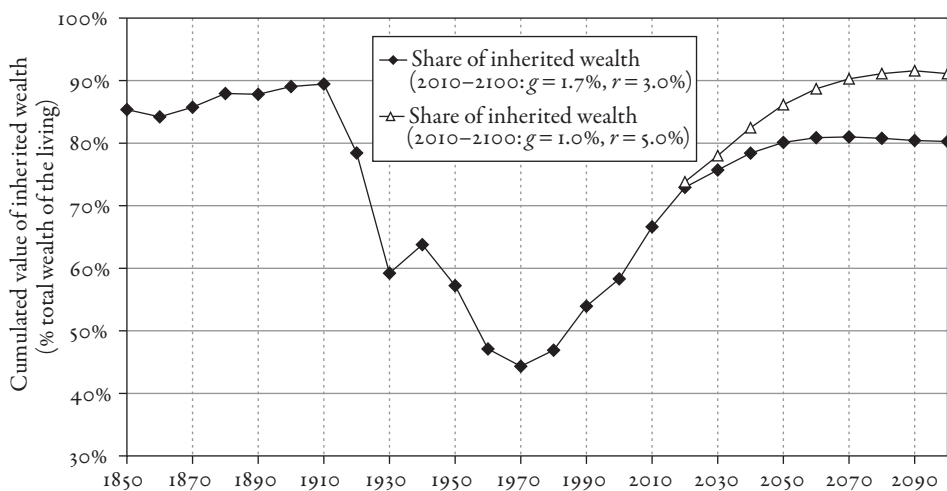


FIGURE 11.7. The share of inherited wealth in total wealth, France, 1850–2100

Inherited wealth represents 80–90 percent of total wealth in France in the nineteenth century; this share fell to 40–50 percent during the twentieth century, and might return to 80–90 percent during the twenty-first century.

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

their lifetimes, having started with nothing. Nevertheless, inherited wealth accounts for the vast majority of cases. This should come as no surprise: if one adds up an annual inheritance flow of 20 percent of national income for approximately thirty years, one accumulates a very large sum of legacies and gifts, on the order of six years of national income, which thus accounts for nearly all of private wealth.²³

Over the course of the twentieth century, following the collapse of inheritance flows, this equilibrium changed dramatically. The low point was attained in the 1970s: after several decades of small inheritances and accumulation of new wealth, inherited capital accounted for just over 40 percent of total private capital. For the first time in history (except in new countries), wealth accumulated in the lifetime of the living constituted the majority of all wealth: nearly 60 percent. It is important to realize two things: first, the nature of capital effectively changed in the postwar period, and second, we are just emerging from this exceptional period. Nevertheless, we are now clearly out of it: the share of inherited wealth in total wealth has grown steadily since the 1970s. Inherited wealth once again ac-

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counted for the majority of wealth in the 1980s, and according to the latest available figures it represents roughly two-thirds of private capital in France in 2010, compared with barely one-third of capital accumulated from savings. In view of today's very high inheritance flows, it is quite likely, if current trends continue, that the share of inherited wealth will continue to grow in the decades to come, surpassing 70 percent by 2020 and approaching 80 percent in the 2030s. If the scenario of 1 percent growth and 5 percent return on capital is correct, the share of inherited wealth could continue to rise, reaching 90 percent by the 2050s, or approximately the same level as in the Belle Époque.

Thus we see that the U-shaped curve of annual inheritance flows as a proportion of national income in the twentieth century went hand in hand with an equally impressive U-shaped curve of accumulated stock of inherited wealth as a proportion of national wealth. In order to understand the relation between these two curves, it is useful to compare the level of inheritance flows to the savings rate, which as noted in Part Two is generally around 10 percent of national income. When the inheritance flow is 20–25 percent of national income, as it was in the nineteenth century, then the amounts received each year as bequests and gifts are more than twice as large as the flow of new savings. If we add that a part of the new savings comes from the income of inherited capital (indeed, this was the major part of saving in the nineteenth century), it is clearly inevitable that inherited wealth will largely predominate over saved wealth. Conversely, when the inheritance flow falls to just 5 percent of national income, or half of new savings (again assuming a savings rate of 10 percent), as in the 1950s, it is not surprising that saved capital will dominate inherited capital. The central fact is that the annual inheritance flow surpassed the savings rate again in the 1980s and rose well above it in 2000–2010. Today it is nearly 15 percent of national income (counting both inheritances and gifts).

To get a better idea of the sums involved, it may be useful to recall that household disposable (monetary) income is 70–75 percent of national income in a country like France today (after correcting for transfers in kind, such as health, education, security, public services, etc. not included in disposable income). If we express the inheritance flow not as a proportion of national income, as I have done thus far, but as a proportion of disposable income, we find that the inheritances and gifts received each year by French households

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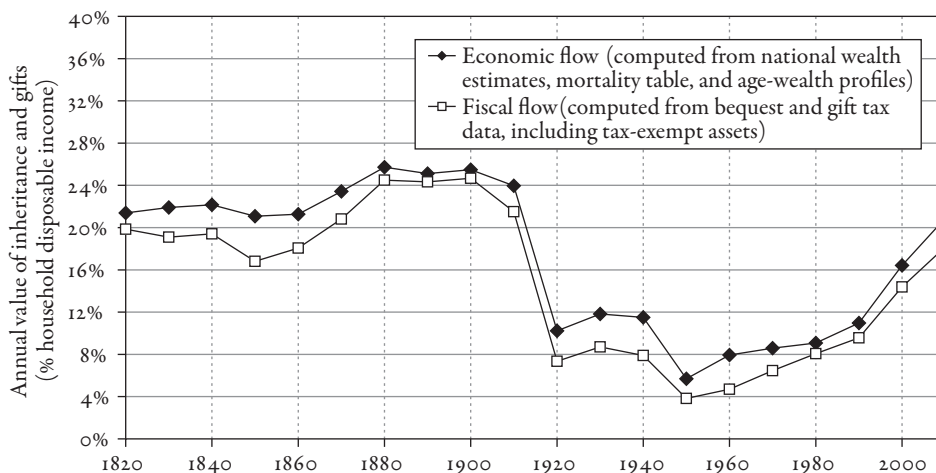


FIGURE 11.8. The annual inheritance flow as a fraction of household disposable income, France, 1820–2010

Expressed as a fraction of household disposable income (rather than national income), the annual inheritance flow is about 20 percent in 2010, in other words, close to its nineteenth-century level.

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

amounted to about 20 percent of their disposable income in the early 2010s, so that in this sense inheritance is already as important today as it was in 1820–1910 (see Figure 11.8). As noted in Chapter 5, it is probably better to use national income (rather than disposable income) as the reference denominator for purposes of spatial and temporal comparison. Nevertheless, the comparison with disposable income reflects today’s reality in a more concrete way and shows that inherited wealth already accounts for one-fifth of household monetary resources (available for saving, for example) and will soon account for a quarter or more.

Back to Vautrin’s Lecture

In order to have a more concrete idea of what inheritance represents in different people’s lives, and in particular to respond more precisely to the existential question raised by Vautrin’s lecture (what sort of life can one hope to live on earned income alone, compared to the life one can lead with inherited

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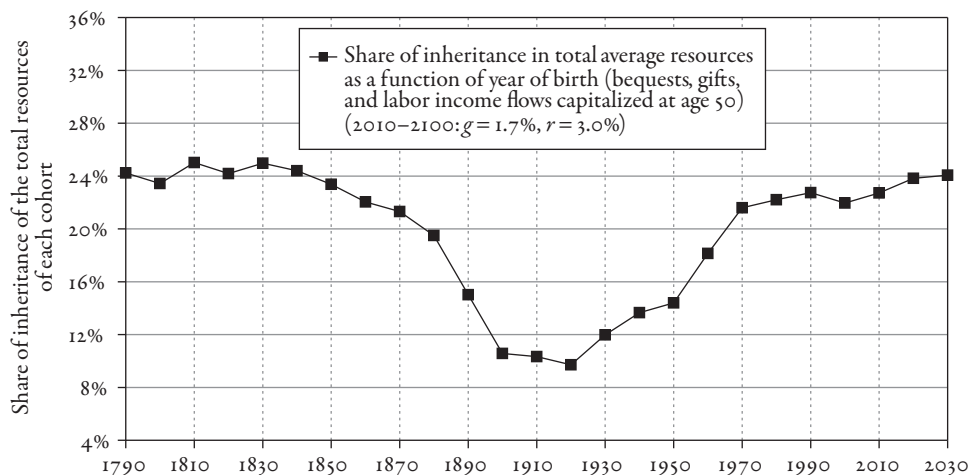


FIGURE 11.9. The share of inheritance in the total resources (inheritance and work) of cohorts born in 1790–2030

Inheritance made about 25 percent of the resources of nineteenth-century cohorts, down to less than 10 percent for cohorts born in 1910–1920 (who should have inherited in 1950–1960).

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

wealth?), the best way to proceed is to consider things from the point of view of successive generations in France since the beginning of the nineteenth century and compare the various resources to which they would have had access in their lifetime. This is the only way to account correctly for the fact that an inheritance is not a resource one receives every year.²⁴

Consider first the evolution of the share of inheritance in the total resources available to generations born in France in the period 1790–2030 (see Figure 11.9). I proceeded as follows. Starting with series of annual inheritance flows and detailed data concerning ages of the deceased, heirs, gift givers, and gift recipients, I calculated the share of inherited wealth in total available resources as a function of year of birth. Available resources include both inherited wealth (bequests and gifts) and income from labor, less taxes,²⁵ capitalized over the individual’s lifetime using the average net return on capital in each year. Although this is the most reasonable way to approach the question initially, note that it probably leads to a slight underestimate of the share of inheritance, because heirs (and people with large fortunes more generally) are

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usually able to obtain a higher return on capital than the interest rate paid on savings from earned income.²⁶

The results obtained are the following. If we look at all people born in France in the 1790s, we find that inheritance accounted for about 24 percent of the total resources available to them during their lifetimes, so that income from labor accounted for about 76 percent. For individuals born in the 1810s, the share of inheritance was 25 percent, leaving 75 percent for earned income. The same is approximately true for all the cohorts of the nineteenth century and up to World War I. Note that the 25 percent share for inheritance is slightly higher than the inheritance flow expressed as a percentage of national income (20–25 percent in the nineteenth century): this is because income from capital, generally about a third of national income, is de facto reassigned in part to inheritance and in part to earned income.²⁷

For cohorts born in the 1870s and after, the share of inheritance in total resources begins to decline gradually. This is because a growing share of these individuals should have inherited after World War I and therefore received less than expected owing to the shocks to their parents' assets. The lowest point was reached by cohorts born in 1910–1920: these individuals should have inherited in the years between the end of World War II and 1960, that is, at a time when the inheritance flow had reached its lowest level, so that inheritance accounted for only 8–10 percent of total resources. The rebound began with cohorts born in 1930–1950, who inherited in 1970–1990, and for whom inheritance accounted for 12–14 percent of total resources. But it is above all for cohorts born in 1970–1980, who began to receive gifts and bequests in 2000–2010, that inheritance regained an importance not seen since the nineteenth century: around 22–24 percent of total resources. These figures show clearly that we have only just emerged from the “end of inheritance” era, and they also show how differently different cohorts born in the twentieth century experienced the relative importance of savings and inheritance: the baby boom cohorts had to make it on their own, almost as much as the interwar and turn-of-the-century cohorts, who were devastated by war. By contrast, the cohorts born in the last third of the century experienced the powerful influence of inherited wealth to almost the same degree as the cohorts of the nineteenth and twenty-first centuries.

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Rastignac's Dilemma

Thus far I have examined only averages. One of the principal characteristics of inherited wealth, however, is that it is distributed in a highly inegalitarian fashion. By introducing into the previous estimates inequality of inheritance on the one hand and inequality of earned income on the other, we will at last be able to analyze the degree to which Vautrin's somber lesson was true in different periods. Figure 11.10 shows that the cohorts born in the late eighteenth century and throughout the nineteenth century, including Eugène de Rastignac's cohort (Balzac tells us that he was born in 1798), did indeed face the terrible dilemma described by the ex-convict: those who could somehow lay hands on inherited wealth were able to live far better than those obliged to make their way by study and work.

In order to make it possible to interpret the different levels of resources as concretely and intuitively as possible, I have expressed resources in terms of multiples of the average income of the least well paid 50 percent of workers in each period. We may take this baseline as the standard of living of the "lower class," which generally claimed about half of national income in this period. This is a useful reference point for judging inequality in a society.²⁸

The principal results obtained are the following. In the nineteenth century, the lifetime resources available to the wealthiest 1 percent of heirs (that is, the individuals inheriting the top 1 percent of legacies in their generation) were 25–30 times greater than the resources of the lower class. In other words, a person who could obtain such an inheritance, either from parents or via a spouse, could afford to pay a staff of 25–30 domestic servants throughout his life. At the same time, the resources afforded by the top 1 percent of earned incomes (in jobs such as judge, prosecutor, or attorney, as in Vautrin's lecture) were about ten times the resources of the lower class. This was not negligible, but it was clearly a much lower standard of living, especially since, as Vautrin observed, such jobs were not easy to obtain. It was not enough to do brilliantly in law school. Often one had to plot and scheme for many long years with no guarantee of success. Under such conditions, if the opportunity to lay hands on an inheritance in the top centile presented itself, it was surely better not to pass it up. At the very least, it was worth a moment's reflection.

If we now do the same calculation for the generations born in 1910–1920, we find that they faced different life choices. The top 1 percent of inheritances

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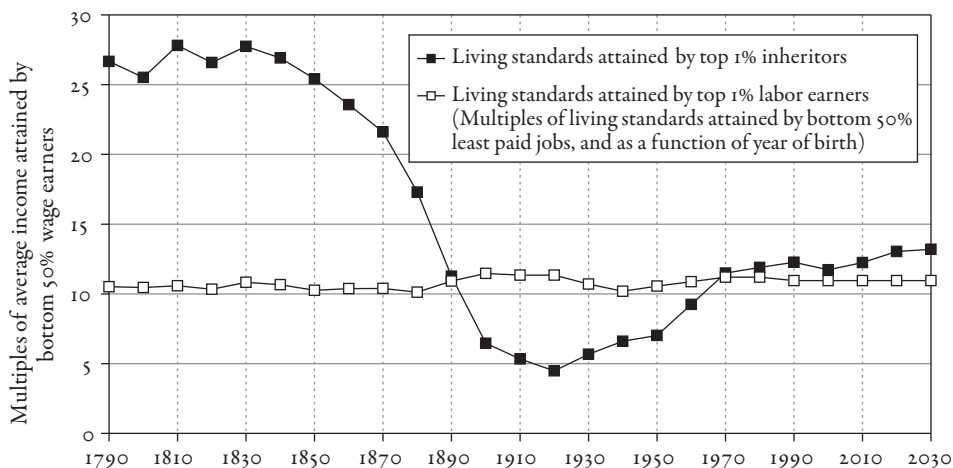


FIGURE 11.10. The dilemma of Rastignac for cohorts born in 1790–2030

In the nineteenth century, the living standards that could be attained by the top 1 percent inheritors were a lot higher than those that could be attained by the top 1 percent labor earners.

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

afforded resources that were barely 5 times the lower class standard. The best paid 1 percent of jobs still afforded 10–12 times that standard (as a consequence of the fact that the top centile of the wage hierarchy was relatively stable at about 6–7 percent of total wages over a long period).²⁹ For the first time in history, no doubt, one could live better by obtaining a job in the top centile rather than an inheritance in the top centile: study, work, and talent paid better than inheritance.

The choice was almost as clear for the baby boom cohorts: a Rastignac born in 1940–1950 had every reason to aim for a job in the top centile (which afforded resources 10–12 times greater than the lower class standard) and to ignore the Vautrins of the day (since the top centile of inheritances brought in just 6–7 times the lower class standard). For all these generations, success through work was more profitable and not just more moral.

Concretely, these results also indicate that throughout this period, and for all the cohorts born between 1910 and 1960, the top centile of the income hierarchy consisted largely of people whose primary source of income was work. This was a major change, not only because it was a historical first

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(in France and most likely in all other European countries) but also because the top centile is an extremely important group in every society.³⁰ As noted in Chapter 7, the top centile is a relatively broad elite that plays a central role in shaping the economic, political, and symbolic structure of society.³¹ In all traditional societies (remember that the aristocracy represented 1–2 percent of the population in 1789), and in fact down to the Belle Époque (despite the hopes kindled by the French Revolution), this group was always dominated by inherited capital. The fact that this was not the case for the cohorts born in the first half of the twentieth century was therefore a major event, which fostered unprecedented faith in the irreversibility of social progress and the end of the old social order. To be sure, inequality was not eradicated in the three decades after World War II, but it was viewed primarily from the optimistic angle of wage inequalities. To be sure, there were significant differences between blue-collar workers, white-collar workers, and managers, and these disparities tended to grow wider in France in the 1950s. But there was a fundamental unity to this society, in which everyone participated in the communion of labor and honored the meritocratic ideal. People believed that the arbitrary inequalities of inherited wealth were a thing of the past.

For the cohorts born in the 1970s, and even more for those born later, things are quite different. In particular, life choices have become more complex: the inherited wealth of the top centile counts for about as much as the employment of the top centile (or even slightly more: 12–13 times the lower class standard of living for inheritance versus 10–11 times for earned income). Note, however, that the structure of inequality and of the top centile today is also quite different from what it was in the nineteenth century, because inherited wealth is significantly less concentrated today than in the past.³² Today's cohorts face a unique set of inequalities and social structures, which are in a sense somewhere between the world cynically described by Vautrin (in which inheritance predominated over labor) and the enchanted world of the postwar decades (in which labor predominated over inheritance). According to our findings, the top centile of the social hierarchy in France today are likely to derive their income about equally from inherited wealth and their own labor.

The Basic Arithmetic of Rentiers and Managers

To recapitulate: a society in which income from inherited capital predominates over income from labor at the summit of the social hierarchy—that is, a society like those described by Balzac and Austen—two conditions must be satisfied. First, the capital stock and, within it, the share of inherited capital, must be large. Typically, the capital/income ratio must be on the order of 6 or 7, and most of the capital stock must consist of inherited capital. In such a society, inherited wealth can account for about a quarter of the average resources available to each cohort (or even as much as a third if one assumes a high degree of inequality in returns on capital). This was the case in the eighteenth and nineteenth centuries, until 1914. This first condition, which concerns the stock of inherited wealth, is once again close to being satisfied today.

The second condition is that inherited wealth must be extremely concentrated. If inherited wealth were distributed in the same way as income from labor (with identical levels for the top decile, top centile, etc., of the hierarchies of both inheritance and labor income), then Vautrin's world could never exist: income from labor would always far outweigh income from inherited wealth (by a factor of at least three),³³ and the top 1 percent of earned incomes would systematically and mechanically outweigh the top 1 percent of incomes from inherited capital.³⁴

In order for the concentration effect to dominate the volume effect, the top centile of the inheritance hierarchy must by itself claim the lion's share of inherited wealth. This was indeed the case in the eighteenth and nineteenth centuries, when the top centile owned 50–60 percent of total wealth (or as much as 70 percent in Britain or Belle Époque Paris), which is nearly 10 times greater than the top centile's share of earned income (about 6–7 percent, a figure that remained stable over a very long period of time). This 10:1 ratio between wealth and salary concentrations is enough to counterbalance the 3:1 volume ratio and explains why an inherited fortune in the top centile enabled a person to live practically 3 times better than an employment in the top centile in the patrimonial society of the nineteenth century (see Figure 11.10).

This basic arithmetic of rentiers and managers also helps us to understand why the top centiles of inherited wealth and earned income are almost balanced in France today: the concentration of wealth is about three times

greater than the concentration of earned income (the top centile owns 20 percent of total wealth, while the top centile of earners claims 6–7 percent of total wages), so the concentration effect roughly balances the volume effect. We can also see why heirs were so clearly dominated by managers during the Trente Glorieuses (the 3:1 concentration effect was too small to balance the 10:1 mass effect). Apart from these situations, which are the result of extreme shocks and specific public policies (especially tax policies), however, the “natural” structure of inequality seems rather to favor a domination of rentiers over managers. In particular, when growth is low and the return on capital is distinctly greater than the growth rate, it is almost inevitable (at least in the most plausible dynamic models) that wealth will become so concentrated that top incomes from capital will predominate over top incomes from labor by a wide margin.³⁵

The Classic Patrimonial Society: The World of Balzac and Austen

Nineteenth-century novelists obviously did not use the same categories we do to describe the social structures of their time, but they depicted the same deep structures: those of a society in which a truly comfortable life required the possession of a large fortune. It is striking to see how similar the inegalitarian structures, orders of magnitude, and amounts minutely specified by Balzac and Austen were on both sides of the English Channel, despite the differences in currency, literary style, and plot. As noted in Chapter 2, monetary markers were extremely stable in the inflation-free world described by both novelists, so that they were able to specify precisely how large an income (or fortune) one needed to rise above mediocrity and live with a minimum of elegance. For both writers, the material and psychological threshold was about 30 times the average income of the day. Below that level, a Balzacian or Austenian hero found it difficult to live a dignified life. It was quite possible to cross that threshold if one was among the wealthiest 1 percent (and even better if one approached the top 0.5 or even 0.1 percent) of French or British society in the nineteenth century. This was a well-defined and fairly numerous social group—a minority, to be sure, but a large enough minority to define the structure of society and sustain a novelistic universe.³⁶ But it was totally out of reach for anyone content to practice a profession, no matter how well it paid: the best paid 1 percent of professions did not allow

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one to come anywhere near this standard of living (nor did the best paid 0.1 percent).³⁷

In most of these novels, the financial, social, and psychological setting is established in the first few pages and occasionally alluded to thereafter, so that the reader will not forget everything that sets the characters of the novel apart from the rest of society: the monetary markers that shape their lives, their rivalries, their strategies, and their hopes. In *Père Goriot*, the old man's fall from grace is conveyed at once by the fact that he has been obliged to make do with the filthiest room in the Vauquer boardinghouse and survive on the skimpiest of meals in order to reduce his annual expenditure to 500 francs (or roughly the average annual income at the time—abject poverty for Balzac).³⁸ The old man sacrificed everything for his daughters, each of whom received a dowry of 500,000 francs, or an annual rent of 25,000 francs, about 50 times the average income: in Balzac's novels, this is the basic unit of fortune, the symbol of true wealth and elegant living. The contrast between the two extremes of society is thus established at the outset. Nevertheless, Balzac does not forget that between abject poverty and true wealth all sorts of intermediate situations exist—some more mediocre than others. The small Rastignac estate near Angoulême yields barely 3,000 francs a year (or 6 times the average income). For Balzac, this is typical of the moneyless lesser nobility of the provinces. Eugène's family can spare only 1,200 francs a year to pay for his law studies in the capital. In Vautrin's lecture, the annual salary of 5,000 francs (or 10 times average income) that young Rastignac could potentially earn as a royal prosecutor after much effort and with great uncertainty is the very symbol of mediocrity—proof, if proof were needed, that study leads nowhere. Balzac depicts a society in which the minimum objective is to obtain 20–30 times the average income of the day, or even 50 times (as Delphine and Anastasie are able to do thanks to their dowries), or better yet, 100 times, thanks to the 50,000 francs in annual rent that Mademoiselle Victorine's million will earn.

In *César Birotteau*, the audacious perfumer also covets a fortune of a million francs so that he can keep half for himself and his wife while using the other half as a dowry for his daughter, which is what he believes it will take for her to marry well and allow his future son-in-law to purchase the practice of the notary Roguin. His wife, who would prefer to return to the land, tries to convince him that they can retire on an annual rent of 2,000 francs and

marry their daughter with only 8,000 francs of rent, but César will not hear of it: he does not want to wind up like his associate, Pillerault, who retired with just 5,000 francs of rent. To live well, he needs 20–30 times the average income. With only 5–10 times the average, one barely survives.

We find precisely the same orders of magnitude on the other side of the Channel. In *Sense and Sensibility*, the kernel of the plot (financial as well as psychological) is established in the first ten pages in the appalling dialogue between John Dashwood and his wife, Fanny. John has just inherited the vast Norland estate, which brings in 4,000 pounds a year, or more than 100 times the average income of the day (which was barely more than 30 pounds a year in 1800–1810).³⁹ Norland is the quintessential example of a very large landed estate, the pinnacle of wealth in Jane Austen's novels. With 2,000 pounds a year (or more than 60 times the average income), Colonel Brandon and his Delaford estate are well within expectations for a great landowner. In other novels we discover that 1,000 pounds a year is quite sufficient for an Austenian hero. By contrast, 600 pounds a year (20 times average income) is just enough to leave John Willoughby at the lower limit of a comfortable existence, and people wonder how the handsome and impetuous young man can live so large on so little. This is no doubt the reason why he soon abandons Marianne, distraught and inconsolable, for Miss Grey and her dowry of 50,000 pounds (2,500 pounds in annual rent, or 80 times average income), which is almost exactly the same size as Mademoiselle Victorine's dowry of a million francs under prevailing exchange rates. As in Balzac, a dowry half that size, such as Delphine's or Anastasie's, is perfectly satisfactory. For example, Miss Morton, the only daughter of Lord Norton, has a capital of 30,000 pounds (1,500 pounds of rent, or 50 times average income), which makes her the ideal heiress and the quarry of every prospective mother-in-law, starting with Mrs. Ferrars, who has no difficulty imagining the girl married to her son Edward.⁴⁰

From the opening pages, John Dashwood's opulence is contrasted with the comparative poverty of his half-sisters, Elinor, Marianne, and Margaret, who, along with their mother, must get by on 500 pounds a year (or 125 pounds apiece, barely four times the average per capita income), which is woefully inadequate for the girls to find suitable husbands. Mrs. Jennings, who revels in the social gossip of the Devonshire countryside, likes to remind them of this during the many balls, courtesy calls, and musical evenings that fill their days and frequently bring them into contact with young and attractive

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suitors, who unfortunately do not always tarry: “The smallness of your fortune may make him hang back.” As in Balzac’s novels, so too in Jane Austen’s: only a very modest life is possible with just 5 or 10 times the average income. Incomes close to or below the average of 30 pounds a year are not even mentioned, moreover: this, one suspects, is not much above the level of the servants, so there is no point in talking about it. When Edward Ferrars thinks of becoming a pastor and accepting the parish of Deliford with its living of 200 pounds a year (between 6 and 7 times the average), he is nearly taken for a saint. Even though he supplements his living with the income from the small sum left him by his family as punishment for his *mésalliance*, and with the meager income that Elinor brings, the couple will not go very far, and “they were neither of them quite enough in love to think that three hundred and fifty pounds a year would supply them with the comforts of life.”⁴¹ This happy and virtuous outcome should not be allowed to hide the essence of the matter: by accepting the advice of the odious Fanny and refusing to aid his half-sisters or to share one iota of his immense fortune, despite the promises he made to his father on his deathbed, John Dashwood forces Elinor and Marianne to live mediocre and humiliating lives. Their fate is entirely sealed by the appalling dialogue at the beginning of the book.

Toward the end of the nineteenth century, the same type of inegalitarian financial arrangement could also be found in the United States. In *Washington Square*, a novel published by Henry James in 1881 and magnificently translated to the screen in William Wyler’s film *The Heiress* (1949), the plot revolves entirely around confusion as to the amount of a dowry. But arithmetic is merciless, and it is best not to make a mistake, as Catherine Sloper discovers when her fiancé flees on learning that her dowry will bring him only \$10,000 a year in rent rather than the \$30,000 he was counting on (or just 20 times the average US income of the time instead of 60). “You are too ugly,” her tyrannical, extremely rich, widower father tells her, in a manner reminiscent of Prince Bolkonsky with Princess Marie in *War and Peace*. Men can also find themselves in very fragile positions: in *The Magnificent Ambersons*, Orson Welles shows us the downfall of an arrogant heir, George, who at one point has enjoyed an annual income of \$60,000 (120 times the average) before falling victim in the early 1900s to the automobile revolution and ending up with a job that pays a below-average \$350 a year.

*Extreme Inequality of Wealth: A Condition of Civilization
in a Poor Society?*

Interestingly, nineteenth-century novelists were not content simply to describe precisely the income and wealth hierarchies that existed in their time. They often give a very concrete and intimate account of how people lived and what different levels of income meant in terms of the realities of everyday life. Sometimes this went along with a certain justification of extreme inequality of wealth, in the sense that one can read between the lines an argument that without such inequality it would have been impossible for a very small elite to concern themselves with something other than subsistence: extreme inequality is almost a condition of civilization.

In particular, Jane Austen minutely describes daily life in the early nineteenth century: she tells us what it cost to eat, to buy furniture and clothing, and to travel about. And indeed, in the absence of modern technology, everything is very costly and takes time and above all staff. Servants are needed to gather and prepare food (which cannot easily be preserved). Clothing costs money: even the most minimal fancy dress might cost several months' or even years' income. Travel was also expensive. It required horses, carriages, servants to take care of them, feed for the animals, and so on. The reader is made to see that life would have been objectively quite difficult for a person with only 3–5 times the average income, because it would then have been necessary to spend most of one's time attending to the needs of daily life. If you wanted books or musical instruments or jewelry or ball gowns, then there was no choice but to have an income 20–30 times the average of the day.

In Part One I noted that it was difficult and simplistic to compare purchasing power over long periods of time because consumption patterns and prices change radically in so many dimensions that no single index can capture the reality. Nevertheless, according to official indices, the average per capita purchasing power in Britain and France in 1800 was about one-tenth what it was in 2010. In other words, with 20 or 30 times the average income in 1800, a person would probably have lived no better than with 2 or 3 times the average income today. With 5–10 times the average income in 1800, one would have been in a situation somewhere between the minimum and average wage today.

In any case, a Balzacian or Austenian character would have used the services of dozens of servants with no embarrassment. For the most part, we are

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not even told their names. At times both novelists mocked the pretensions and extravagant needs of their characters, as, for example, when Marianne, who imagines herself in an elegant marriage with Willoughby, explains with a blush that according to her calculations it is difficult to live with less than 2,000 pounds a year (more than 60 times the average income of the time): “I am sure I am not extravagant in my demands. A proper establishment of servants, a carriage, perhaps two, and hunters, cannot be supported on less.”⁴² Elinor cannot refrain from pointing out to her sister that she *is* being extravagant. Similarly, Vautrin himself observed that it took an income of 25,000 francs (more than 50 times the average) to live with a minimum of dignity. In particular, he insists, with an abundance of detail, on the cost of clothing, servants, and travel. No one tells him that he is exaggerating, but Vautrin is so cynical that readers are in no doubt.⁴³ One finds a similarly unembarrassed recital of needs, with a similar notion of how much it takes to live comfortably, in Arthur Young’s account of his travels.⁴⁴

Notwithstanding the extravagance of some of their characters, these nineteenth-century novelists describe a world in which inequality was to a certain extent necessary: if there had not been a sufficiently wealthy minority, no one would have been able to worry about anything other than survival. This view of inequality deserves credit for not describing itself as meritocratic, if nothing else. In a sense, a minority was chosen to live on behalf of everyone else, but no one tried to pretend that this minority was more meritorious or virtuous than the rest. In this world, it was perfectly obvious, moreover, that without a fortune it was impossible to live a dignified life. Having a diploma or skill might allow a person to produce, and therefore to earn, 5 or 10 times more than the average, but not much more than that. Modern meritocratic society, especially in the United States, is much harder on the losers, because it seeks to justify domination on the grounds of justice, virtue, and merit, to say nothing of the insufficient productivity of those at the bottom.⁴⁵

Meritocratic Extremism in Wealthy Societies

It is interesting, moreover, to note that the most ardent meritocratic beliefs are often invoked to justify very large wage inequalities, which are said to be more justified than inequalities due to inheritance. From the time of Napoleon to World War I, France has had a small number of very well paid and

high-ranking civil servants (earning 50–100 times the average income of the day), starting with government ministers. This has always been justified—including by Napoleon himself, a scion of the minor Corsican nobility—by the idea that the most capable and talented individuals ought to be able to live on their salaries with as much dignity and elegance as the wealthiest heirs (a top-down response to Vautrin, as it were). As Adolphe Thiers remarked in the Chamber of Deputies in 1831: “prefects should be able to occupy a rank equal to the notable citizens in the *départements* they live in.”⁴⁶ In 1881, Paul Leroy-Beaulieu explained that the state went too far by raising only the lowest salaries. He vigorously defended the high civil servants of his day, most of whom received little more than “15,000 to 20,000 francs a year”; these were “figures that might seem enormous to the common man” but actually “make it impossible to live with elegance or amass savings of any size.”⁴⁷

The most worrisome aspect of this defense of meritocracy is that one finds the same type of argument in the wealthiest societies, where Jane Austen’s points about need and dignity make little sense. In the United States in recent years, one frequently has heard this type of justification for the stratospheric pay of supermanagers (50–100 times average income, if not more). Proponents of such high pay argued that without it, only the heirs of large fortunes would be able to achieve true wealth, which would be unfair. In the end, therefore, the millions or tens of millions of dollars a year paid to supermanagers contribute to greater social justice.⁴⁸ This kind of argument could well lay the groundwork for greater and more violent inequality in the future. The world to come may well combine the worst of two past worlds: both very large inequality of inherited wealth and very high wage inequalities justified in terms of merit and productivity (claims with very little factual basis, as noted). Meritocratic extremism can thus lead to a race between supermanagers and rentiers, to the detriment of those who are neither.

It also bears emphasizing that the role of meritocratic beliefs in justifying inequality in modern societies is evident not only at the top of hierarchy but lower down as well, as an explanation for the disparity between the lower and middle classes. In the late 1980s, Michèle Lamont conducted several hundred in-depth interviews with representatives of the “upper middle class” in the United States and France, not only in large cities such as New York and Paris but also in smaller cities such as Indianapolis and Clermont-Ferrand. She asked about their careers, how they saw their social identity and place in

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society, and what differentiated them from other social groups and categories. One of the main conclusions of her study was that in both countries, the “educated elite” placed primary emphasis on their personal merit and moral qualities, which they described using terms such as rigor, patience, work, effort, and so on (but also tolerance, kindness, etc.).⁴⁹ The heroes and heroines in the novels of Austen and Balzac would never have seen the need to compare their personal qualities to those of their servants (who go unmentioned in their texts).

The Society of Petits Rentiers

The time has come to return to today’s world, and more precisely to France in the 2010s. According to my estimates, inheritance will represent about one quarter of total lifetime resources (from both inheritance and labor) for cohorts born in the 1970s and after. In terms of total amounts involved, inheritance has thus nearly regained the importance it had for nineteenth-century cohorts (see Figure 11.9). I should add that these predictions are based on the central scenario: if the alternative scenario turns out to be closer to the truth (lower growth, higher net return on capital), inheritance could represent a third or even as much as four-tenths of the resources of twenty-first-century cohorts.⁵⁰

The fact that the total volume of inheritance has regained the same level as in the past does not mean that it plays the same social role, however. As noted, the very significant deconcentration of wealth (which has seen the top centile’s share decrease by nearly two-thirds in a century from 60 percent in 1910–1920 to just over 20 percent today) and the emergence of a patrimonial middle class imply that there are far fewer very large estates today than there were in the nineteenth century. Concretely, the dowries of 500,000 francs that Père Goriot and César Birotteau sought for their daughters—dowries that yielded an annual rent of 25,000 francs, or 50 times the average annual per capita income of 500 francs at that time—would be equivalent to an estate of 30 million euros today, with a yield in interest, dividends, and rents on the order of 1.5 million euros a year (or 50 times the average per capita income of 30,000 euros).⁵¹ Inheritances of this magnitude do exist, as do considerably larger ones, but there are far fewer of them than in the nineteenth century, even though the total volume of wealth and inheritance has practically regained its previous high level.

Furthermore, no contemporary novelist would fill her plots with estates valued at 30 million euros as Balzac, Austen, and James did. Explicit monetary references vanished from literature after inflation blurred the meaning of the traditional numbers. But more than that, rentiers themselves vanished from literature as well, and the whole social representation of inequality changed as a result. In contemporary fiction, inequalities between social groups appear almost exclusively in the form of disparities with respect to work, wages, and skills. A society structured by the hierarchy of wealth has been replaced by a society whose structure depends almost entirely on the hierarchy of labor and human capital. It is striking, for example, that many recent American TV series feature heroes and heroines laden with degrees and high-level skills, whether to cure serious maladies (*House*), solve mysterious crimes (*Bones*), or even to preside over the United States (*West Wing*). The writers apparently believe that it is best to have several doctorates or even a Nobel Prize. It is not unreasonable to interpret any number of such series as offering a hymn to a just inequality, based on merit, education, and the social utility of elites. Still, certain more recent creations depict a more worrisome inequality, based more clearly on vast wealth. *Damages* depicts unfeeling big businessmen who have stolen hundreds of millions of dollars from their workers and whose even more selfish spouses want to divorce their husbands without giving up the cash or the swimming pool. In season 3, inspired by the Madoff affair, the children of the crooked financier do everything they can to hold on to their father's assets, which are stashed in Antigua, in order to maintain their high standard of living.⁵² In *Dirty Sexy Money* we see decadent young heirs and heiresses with little merit or virtue living shamelessly on family money. But these are the exceptions that prove the rule, and any character who lives on wealth accumulated in the past is normally depicted in a negative light, if not frankly denounced, whereas such a life is perfectly natural in Austen and Balzac and necessary if there are to be any true feelings among the characters.

This huge change in the social representation of inequality is in part justified, yet it rests on a number of misunderstandings. First, it is obvious that education plays a more important role today than in the eighteenth century. (In a world where nearly everyone possesses some kind of degree and certain skills, it is not a good idea to go without: it is in everyone's interest to acquire some skill, even those who stand to inherit substantial wealth,

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especially since inheritance often comes too late from the standpoint of the heirs.) However, it does not follow that society has become more meritocratic. In particular, it does not follow that the share of national income going to labor has actually increased (as noted, it has not, in any substantial amount), and it certainly does not follow that everyone has access to the same opportunities to acquire skills of every variety. Indeed, inequalities of training have to a large extent simply been translated upward, and there is no evidence that education has really increased intergenerational mobility.⁵³ Nevertheless, the transmission of human capital is always more complicated than the transmission of financial capital or real estate (the heir must make some effort), and this has given rise to a widespread—and partially justified—faith in the idea that the end of inherited wealth has made for a more just society.

The chief misunderstanding is, I think, the following. First, inheritance did not come to an end: the distribution of inherited capital has changed, which is something else entirely. In France today, there are certainly fewer very large estates—estates of 30 million or even 5 or 10 million euros are less common—than in the nineteenth century. But since the total volume of inherited wealth has almost regained its previous level, it follows that there are many more substantial and even fairly large inheritances: 200,000, 500,000, 1 million, or even 2 million euros. Such bequests, though much too small to allow the beneficiaries to give up all thought of a career and live on the interest, are nevertheless substantial amounts, especially when compared with what much of the population earns over the course of a working lifetime. In other words, we have moved from a society with a small number of very wealthy rentiers to one with a much larger number of less wealthy rentiers: a society of *petits rentiers* if you will.

The index that I think is most pertinent for representing this change is presented in Figure 11.11. It is the percentage of individuals in each cohort who inherit (as bequest or gift) amounts larger than the least well paid 50 percent of the population earn in a lifetime. This amount changes over time: at present, the average annual wage of the bottom half of the income distribution is around 15,000 euros, or a total of 750,000 euros over the course of a fifty-year career (including retirement). This is more less what a life at minimum wage brings in. As the figure shows, in the nineteenth century about 10 percent of a cohort inherited amounts greater than this. This proportion fell to barely more

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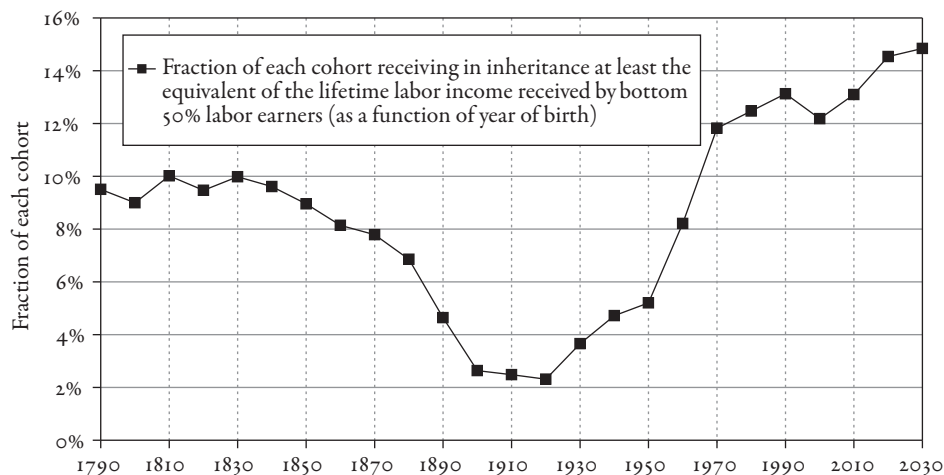


FIGURE 11.11. Which fraction of a cohort receives in inheritance the equivalent of a lifetime labor income?

Within the cohorts born around 1970–1980, 12–14 percent of individuals receive in inheritance the equivalent of the lifetime labor income received by the bottom 50 percent less well paid workers.

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

than 2 percent for cohorts born in 1910–1920 and 4–5 percent for cohorts born in 1930–1950. According to my estimates, the proportion has already risen to about 12 percent for cohorts born in 1970–1980 and may reach or exceed 15 percent for cohorts born in 2010–2020. In other words, nearly one-sixth of each cohort will receive an inheritance larger than the amount the bottom half of the population earns through labor in a lifetime. (And this group largely coincides with the half of the population that inherits next to nothing).⁵⁴ Of course, there is nothing to prevent the inheriting sixth from acquiring diplomas or working and no doubt earning more through work than the bottom half of the income distribution. This is nevertheless a fairly disturbing form of inequality, which is in the process of attaining historically unprecedented heights. It is also more difficult to represent artistically or to correct politically, because it is a commonplace inequality opposing broad segments of the population rather than pitting a small elite against the rest of society.

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The Rentier, Enemy of Democracy

Second, there is no guarantee that the distribution of inherited capital will not ultimately become as inegalitarian in the twenty-first century as it was in the nineteenth. As noted in the previous chapter, there is no ineluctable force standing in the way of a return to extreme concentration of wealth, as extreme as in the Belle Époque, especially if growth slows and the return on capital increases, which could happen, for example, if tax competition between nations heats up. If this were to happen, I believe that it would lead to significant political upheaval. Our democratic societies rest on a meritocratic worldview, or at any rate a meritocratic hope, by which I mean a belief in a society in which inequality is based more on merit and effort than on kinship and rents. This belief and this hope play a very crucial role in modern society, for a simple reason: in a democracy, the professed equality of rights of all citizens contrasts sharply with the very real inequality of living conditions, and in order to overcome this contradiction it is vital to make sure that social inequalities derive from rational and universal principles rather than arbitrary contingencies. Inequalities must therefore be just and useful to all, at least in the realm of discourse and as far as possible in reality as well. (“Social distinctions can be based only on common utility,” according to article 1 of the 1789 Declaration of the Rights of Man and the Citizen.) In 1893, Emile Durkheim predicted that modern democratic society would not put up for long with the existence of inherited wealth and would ultimately see to it that ownership of property ended at death.⁵⁵

It is also significant that the words “rent” and “rentier” took on highly pejorative connotations in the twentieth century. In this book, I use these words in their original descriptive sense, to denote the annual rents produced by a capital asset and the individuals who live on those rents. Today, the rents produced by an asset are nothing other than the income on capital, whether in the form of rent, interest, dividends, profits, royalties, or any other legal category of revenue, provided that such income is simply remuneration for ownership of the asset, independent of any labor. It was in this original sense that the words “rent” and “rentiers” were used in the eighteenth and nineteenth centuries, for example in the novels of Balzac and Austen, at a time when the domination of wealth and its income at the top of the income hierarchy was acknowledged and accepted, at least among the elite. It is striking to ob-

serve that this original meaning largely disappeared as democratic and meritocratic values took hold. During the twentieth century, the word “rent” became an insult and a rather abusive one. This linguistic change can be observed everywhere.

It is particularly interesting to note that the word “rent” is often used nowadays in a very different sense: to denote an imperfection in the market (as in “monopoly rent”), or, more generally, to refer to any undue or unjustified income. At times, one almost has the impression that “rent” has become synonymous with “economic ill.” Rent is the enemy of modern rationality and must be eliminated root and branch by striving for ever purer and more perfect competition. A typical example of this use of the word can be seen in a recent interview that the president of the European Central Bank granted to several major European newspapers a few months after his nomination. When the journalists posed questions about his strategy for resolving Europe’s problems, he offered this lapidary response: “We must fight against rents.”⁵⁶ No further details were offered. What the central banker had in mind, apparently, was lack of competition in the service sector: taxi drivers, hairdressers, and the like were presumably making too much money.⁵⁷

The problem posed by this use of the word “rent” is very simple: the fact that capital yields income, which in accordance with the original meaning of the word we refer to in this book as “annual rent produced by capital,” has absolutely nothing to do with the problem of imperfect competition or monopoly. If capital plays a useful role in the process of production, it is natural that it should be paid. When growth is slow, it is almost inevitable that this return on capital is significantly higher than the growth rate, which automatically bestows outsized importance on inequalities of wealth accumulated in the past. This logical contradiction cannot be resolved by a dose of additional competition. Rent is not an imperfection in the market: it is rather the consequence of a “pure and perfect” market for capital, as economists understand it: a capital market in which each owner of capital, including the least capable of heirs, can obtain the highest possible yield on the most diversified portfolio that can be assembled in the national or global economy. To be sure, there is something astonishing about the notion that capital yields rent, or income that the owner of capital obtains without working. There is something in this notion that is an affront to common sense and that has in fact perturbed any number of civilizations, which have responded in various ways,

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not always benign, ranging from the prohibition of usury to Soviet-style communism. Nevertheless, rent is a reality in any market economy where capital is privately owned. The fact that landed capital became industrial and financial capital and real estate left this deeper reality unchanged. Some people think that the logic of economic development has been to undermine the distinction between labor and capital. In fact, it is just the opposite: the growing sophistication of capital markets and financial intermediation tends to separate owners from managers more and more and thus to sharpen the distinction between pure capital income and labor income. Economic and technological rationality at times has nothing to do with democratic rationality. The former stems from the Enlightenment, and people have all too commonly assumed that the latter would somehow naturally derive from it, as if by magic. But real democracy and social justice require specific institutions of their own, not just those of the market, and not just parliaments and other formal democratic institutions.

To recapitulate: the fundamental force for divergence, which I have emphasized throughout this book, can be summed up in the inequality $r > g$, which has nothing to do with market imperfections and will not disappear as markets become freer and more competitive. The idea that unrestricted competition will put an end to inheritance and move toward a more meritocratic world is a dangerous illusion. The advent of universal suffrage and the end of property qualifications for voting (which in the nineteenth century limited the right to vote to people meeting a minimum wealth requirement, typically the wealthiest 1 or 2 percent in France and Britain in 1820–1840, or about the same percentage of the population as was subject to the wealth tax in France in 2000–2010), ended the legal domination of politics by the wealthy.⁵⁸ But it did not abolish the economic forces capable of producing a society of rentiers.

*The Return of Inherited Wealth: A European or
Global Phenomenon?*

Can our results concerning the return of inherited wealth in France be extended to other countries? In view of the limitations of the available data, it is unfortunately impossible to give a precise answer to this question. There are apparently no other countries with estate records as rich and comprehensive as the French data. Nevertheless, a number of points seem to be well established. First, the imperfect data collected to date for other European coun-

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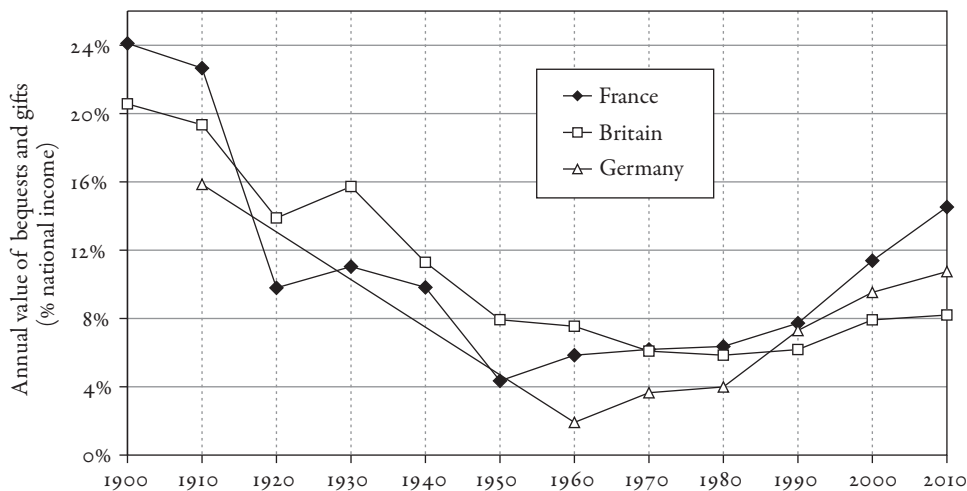


FIGURE 11.12. The inheritance flow in Europe, 1900–2010

The inheritance flow follows a U-shape in curve in France as well as in the United Kingdom and Germany. It is possible that gifts are underestimated in the United Kingdom at the end of the period.

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

tries, especially Germany and Britain, suggest that the U-shaped curve of inheritance flows in France in the twentieth century actually reflects the reality everywhere in Europe (see Figure 11.12).

In Germany, in particular, available estimates—unfortunately based on a limited number of years—suggest that inheritance flows collapsed even further than in France following the shocks of 1914–1945, from about 16 percent of national income in 1910 to just 2 percent in 1960. Since then they have risen sharply and steadily, with an acceleration in 1980–1990, until in 2000–2010 they attained a level of 10–11 percent of national income. This is lower than in France (where the figure for 2010 was about 15 percent of national income), but since Germany started from a lower point in 1950–1960, the rebound of inheritance flows has actually been stronger there. In addition, the current difference between flows in France and Germany is entirely due to the difference in the capital/income ratio (β , presented in Part Two). If total private wealth in Germany were to rise to the same level as in France, the inheritance flows would also equalize (all other things being equal). It is also interesting to note that the strong rebound of inheritance flows in Germany is largely due

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to a very sharp increase in gifts, just as in France. The annual volume of gifts recorded by the German authorities represented the equivalent of 10–20 percent of the total amount of inheritances before 1970–1980. Thereafter it rose gradually to about 60 percent in 2000–2010. Finally, the smaller inheritance flow in Germany in 1910 was largely a result of more rapid demographic growth north of the Rhine at that time (the “ m effect,” as it were). By the same token, because German demographic growth today is stagnant, it is possible that inheritance flows there will exceed those in France in the decades to come.⁵⁹ Other European countries affected by demographic decline and a falling birthrate, such as Italy and Spain, should obey a similar logic, although we unfortunately have no reliable historical data on inheritance flows in these two cases.

As for Britain, inheritance flows there at the turn of the twentieth century were approximately the same as in France: 20–25 percent of national income.⁶⁰ The inheritance flow did not fall as far as in France or Germany after the two world wars, and this seems consistent with the fact that the stock of private wealth was less violently affected (the β effect) and that wealth accumulation was not set back as far (μ effect). The annual inheritance and gift flow fell to about 8 percent of national income in 1950–1960 and to 6 percent in 1970–1980. The rebound since the 1980s has been significant but not as strong as in France or Germany: according to the available data, the inheritance flow in Britain in 2000–2010 was just over 8 percent of national income.

In the abstract, several explanations are possible. The lower British inheritance flow might be due to the fact that a larger share of private wealth is held in pension funds and is therefore not transmissible to descendants. This can only be a small part of the explanation, however, because pension funds account for only 15–20 percent of the British private capital stock. Furthermore, it is by no means certain that life-cycle wealth is supplanting transmissible wealth: logically speaking, the two types of wealth should be added together, so that a country that relies more on pension funds to finance its retirements should be able to accumulate a larger total stock of private wealth and perhaps to invest part of this in other countries.⁶¹

It is also possible that the lower inheritance flow in Britain is due to different psychological attitudes toward savings and familial gifts and bequests. Before reaching that conclusion, however, it is important to note that the difference observed in 2000–2010 can be explained entirely by a lower level of

gift giving in Britain, where gifts have remained stable at about 10 percent of the total amount of inheritances since 1970–1980, whereas gift giving in France and Germany increased to 60–80 percent of the total. Given the difficulty of recording gifts and correcting for different national practices, the gap seems somewhat suspect, and it cannot be ruled out that it is due, at least in part, to an underestimation of gift giving in Britain. In the current state of the data, it is unfortunately impossible to say with certainty whether the smaller rebound of inheritance flows in Britain reflects an actual difference in behavior (Britons with means consume more of their wealth and pass on less to their children than their French and German counterparts) or a purely statistical bias. (If we applied the same gift/inheritance ratio that we observe in France and Germany, the British inheritance flow in 2000–2010 would be on the order of 15 percent of national income, as in France.)

The available inheritance sources for the United States pose even more difficult problems. The federal estate tax, created in 1916, has never applied to more than a small minority of estates (generally less than 2 percent), and the requirements for declaring gifts are also fairly limited, so that the statistical data derived from this tax leave much to be desired. It is unfortunately impossible to make up for this lack by relying on other sources. In particular, bequests and gifts are notoriously underestimated in surveys conducted by national statistical bureaus. This leaves major gaps in our knowledge, which all too many studies based on such surveys forget. In France, for example, we find that gifts and bequests declared in the surveys represent barely half the flow observed in the fiscal data (which is only a lower bound on the actual flow, since exempt assets such as life insurance contracts are omitted). Clearly, the individuals surveyed tend to forget to declare what they actually received and to present the history of their fortunes in the most favorable light (which is in itself an interesting fact about how inheritance is seen in modern society).⁶² In many countries, including the United States, it is unfortunately impossible to compare the survey data with fiscal records. But there is no reason to believe that the underestimation by survey participants is any smaller than in France, especially since the public perception of inherited wealth is at least as negative in the United States.

In any case, the unreliability of the US sources makes it very difficult to study the historical evolution of inheritance flows in the United States with any precision. This partly explains the intensity of the controversy that erupted

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in the 1980s over two diametrically opposed economic theories: Modigliani's life-cycle theory, and with it the idea that inherited wealth accounts for only 20–30 percent of total US capital, and the Kotlikoff-Summers thesis, according to which inherited wealth accounts for 70–80 percent of total capital. I was a young student when I discovered this work in the 1990s, and the controversy stunned me: how could such a dramatic disagreement exist among serious economists? Note, first of all, that both sides in the dispute relied on rather poor quality data from the late 1960s and early 1970s. If we reexamine their estimates in light of the data available today, it seems that the truth lies somewhere between the two positions but significantly closer to Kotlikoff-Summers than Modigliani: inherited wealth probably accounted for at least 50–60 percent of total private capital in the United States in 1970–1980.⁶³ More generally, if one tries to estimate for the United States the evolution of the share of inherited wealth over the course of the twentieth century, as we did for France in Figure 11.7 (on the basis of much more complete data), it seems that the U-shaped curve was less pronounced in the United States and that the share of inherited wealth was somewhat smaller than in France at both the turn of the twentieth century and the turn of the twenty-first (and slightly larger in 1950–1970). The main reason for this is the higher rate of demographic growth in the United States, which implies a smaller capital/income ratio (β effect) and a less pronounced aging of wealth (m and μ effects). The difference should not be exaggerated, however: inheritance also plays an important role in the United States. Above all, it once again bears emphasizing that this difference between Europe and the United States has little to do a priori with eternal cultural differences: it seems to be explained mainly by differences in demographic structure and population growth. If population growth in the United States someday decreases, as long-term forecasts suggest it will, then inherited wealth will probably rebound as strongly there as in Europe.

As for the poor and emerging countries, we unfortunately lack reliable historical sources concerning inherited wealth and its evolution. It seems plausible that if demographic and economic growth ultimately decrease, as they are likely to do this century, then inherited wealth will acquire as much importance in most countries as it has had in low-growth countries throughout history. In countries that experience negative demographic growth, inherited wealth could even take on hitherto unprecedented importance. It is impor-

MERIT AND INHERITANCE IN THE LONG RUN

tant to point out, however, that this will take time. With the rate of growth currently observed in emergent countries such as China, it seems clear that inheritance flows are for the time being quite limited. For working-age Chinese, who are currently experiencing income growth of 5–10 percent a year, wealth in the vast majority of cases comes primarily from savings and not from grandparents, whose income was many times smaller. The global rebound of inherited wealth will no doubt be an important feature of the twenty-first century, but for some decades to come it will affect mainly Europe and to a lesser degree the United States.

Global Inequality of Wealth in the Twenty-First Century

I have thus far adopted a too narrowly national point of view concerning the dynamics of wealth inequality. To be sure, the crucial role of foreign assets owned by citizens of Britain and France in the nineteenth and early twentieth centuries has been mentioned several times, but more needs to be said, because the question of international inequality of wealth concerns the future above all. Hence I turn now to the dynamics of wealth inequality at the global level and to the principal forces at work today. Is there a danger that the forces of financial globalization will lead to an even greater concentration of capital in the future than ever before? Has this not perhaps already happened?

To begin my examination of this question, I will look first at individual fortunes: Will the share of capital owned by the people listed by magazines as “the richest in the world” increase in the twenty-first century? Then I will ask about inequalities between countries: Will today’s wealthy countries end up owned by petroleum exporting states or China or perhaps by their own billionaires? But before doing either of these things, I must discuss a hitherto neglected force, which will play an essential role in the analysis: unequal returns on capital.

The Inequality of Returns on Capital

Many economic models assume that the return on capital is the same for all owners, no matter how large or small their fortunes. This is far from certain, however: it is perfectly possible that wealthier people obtain higher average returns than less wealthy people. There are several reasons why this might be the case. The most obvious one is that a person with 10 million euros rather than 100,000, or 1 billion euros rather than 10 million, has greater means to employ wealth management consultants and financial advisors. If such intermediaries make it possible to identify better investments, on average, there

may be “economies of scale” in portfolio management that give rise to higher average returns on larger portfolios. A second reason is that it is easier for an investor to take risks, and to be patient, if she has substantial reserves than if she owns next to nothing. For both of these reasons—and all signs are that the first is more important in practice than the second—it is quite plausible to think that if the average return on capital is 4 percent, wealthier people might get as much as 6 or 7 percent, whereas less wealthy individuals might have to make do with as little as 2 or 3 percent. Indeed, I will show in a moment that around the world, the largest fortunes (including inherited ones) have grown at very high rates in recent decades (on the order of 6–7 percent a year)—significantly higher than the average growth rate of wealth.

It is easy to see that such a mechanism can automatically lead to a radical divergence in the distribution of capital. If the fortunes of the top decile or top centile of the global wealth hierarchy grow faster for structural reasons than the fortunes of the lower deciles, then inequality of wealth will of course tend to increase without limit. This inegalitarian process may take on unprecedented proportions in the new global economy. In view of the law of compound interest discussed in Chapter 1, it is also clear that this mechanism can account for very rapid divergence, so that if there is nothing to counteract it, very large fortunes can attain extreme levels within a few decades. Thus unequal returns on capital are a force for divergence that significantly amplifies and aggravates the effects of the inequality $r > g$. Indeed, the difference $r - g$ can be high for large fortunes without necessarily being high for the economy as a whole.

In strict logic, the only “natural” countervailing force (where by “natural” I mean not involving government intervention) is once again growth. If the global growth rate is high, the relative growth rate of very large fortunes will remain moderate—not much higher than the average growth rate of income and wealth. Concretely, if the global growth rate is 3.5 percent a year, as was the case between 1990 and 2012 and may continue to be the case until 2030, the largest fortunes will still grow more rapidly than the rest but less spectacularly so than if the global growth rate were only 1 or 2 percent. Furthermore, today’s global growth rate includes a large demographic component, and wealthy people from emerging economies are rapidly joining the ranks of the wealthiest people in the world. This gives the impression that the ranks of the wealthiest are changing rapidly, while leading many people in the wealthy

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countries to feel an oppressive and growing sense that they are falling behind. The resulting anxiety sometimes outweighs all other concerns. Yet in the long run, if and when the poor countries have caught up with the rich ones and global growth slows, the inequality of returns on capital should be of far greater concern. In the long run, unequal wealth within nations is surely more worrisome than unequal wealth between nations.

I will begin to tackle the question of unequal returns on capital by looking at international wealth rankings. Then I will look at the returns obtained by the endowments of major US universities. This might seem like anecdotal evidence, but it will enable us to analyze in a clear and dispassionate way unequal returns as a function of portfolio size. I will then examine the returns on sovereign wealth funds, in particular those of the petroleum exporting countries and China, and this will bring the discussion back to the question of inequalities of wealth between countries.

The Evolution of Global Wealth Rankings

Economists as a general rule do not have much respect for the wealth rankings published by magazines such as *Forbes* in the United States and other weeklies in many countries around the world. Indeed, such rankings suffer from important biases and serious methodological problems (to put it mildly). But at least they exist, and in their way they respond to a legitimate and pressing social demand for information about a major issue of the day: the global distribution of wealth and its evolution over time. Economists should take note. It is important, moreover, to recognize that we suffer from a serious lack of reliable information about the global dynamics of wealth. National governments and statistical agencies cannot begin to keep up with the globalization of capital, and the tools they use, such as household surveys confined to a single country, are insufficient for analyzing how things are evolving in the twenty-first century. The magazines' wealth rankings can and must be improved by comparison with government statistics, tax records, and bank data, but it would be absurd and counterproductive to ignore the magazine rankings altogether, especially since these supplementary sources are at present very poorly coordinated at the global level. I will therefore examine what useful information can be derived from these league tables of wealth.

GLOBAL INEQUALITY OF WEALTH IN THE TWENTY-FIRST CENTURY

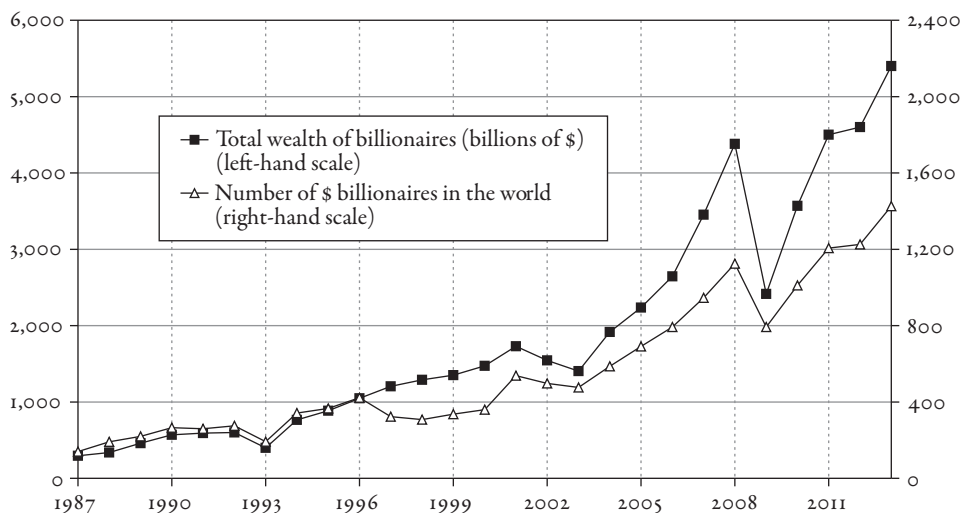


FIGURE 12.1. The world's billionaires according to *Forbes*, 1987–2013

Between 1987 and 2013, the number of \$ billionaires rose according to *Forbes* from 140 to 1,400, and their total wealth rose from 300 to 5,400 billion dollars.

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

The oldest and most systematic ranking of large fortunes is the global list of billionaires that *Forbes* has published since 1987. Every year, the magazine's journalists try to compile from all kinds of sources a complete list of everyone in the world whose net worth exceeds a billion dollars. The list was led by a Japanese billionaire from 1987 to 1995, then an American one from 1995 to 2009, and finally a Mexican since 2010. According to *Forbes*, the planet was home to just over 140 billionaires in 1987 but counts more than 1,400 today (2013), an increase by a factor of 10 (see Figure 12.1). In view of inflation and global economic growth since 1987, however, these spectacular numbers, repeated every year by media around the world, are difficult to interpret. If we look at the numbers in relation to the global population and total private wealth, we obtain the following results, which make somewhat more sense. The planet boasted barely 5 billionaires per 100 million adults in 1987 and 30 in 2013. Billionaires owned just 0.4 percent of global private wealth in 1987 but more than 1.5 percent in 2013, which is above the previous record attained in 2008, on the eve of the global financial

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THE STRUCTURE OF INEQUALITY

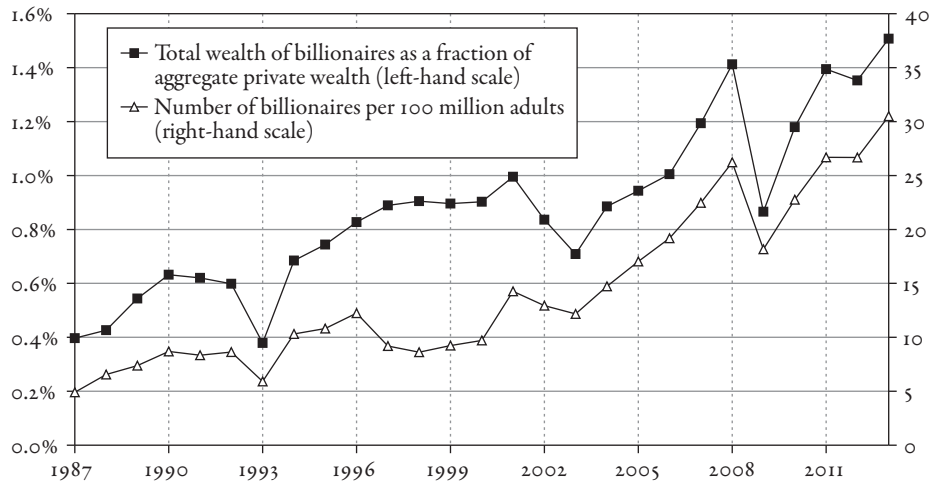


FIGURE 12.2. Billionaires as a fraction of global population and wealth, 1987–2013

Between 1987 and 2013, the number of billionaires per 100 million adults rose from five to thirty, and their share in aggregate private wealth rose from 0.4 percent to 1.5 percent.

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

crisis and the bankruptcy of Lehman Brothers (see Figure 12.2).¹ This is an obscure way of presenting the data, however: there is nothing really surprising about the fact that a group containing 6 times as many people as a proportion of the population should own 4 times as great a proportion of the world’s wealth.

The only way to make sense of these wealth rankings is to examine the evolution of the amount of wealth owned by a fixed percentage of the world’s population, say the richest twenty-millionth of the adult population of the planet: roughly 150 people out of 3 billion adults in the late 1980s and 225 people out of 4.5 billion in the early 2010s. We then find that the average wealth of this group has increased from just over \$1.5 billion in 1987 to nearly \$15 billion in 2013, for an average growth rate of 6.4 percent above inflation.² If we now consider the one-hundred-millionth wealthiest part of the world’s population, or about 30 people out of 3 billion in the late 1980s and 45 out of 4.5 billion in the early 2010s, we find that their average wealth increased from just over \$3 billion to almost \$35 billion, for an even higher growth rate of 6.8 percent above inflation. For the sake of comparison, average global wealth per

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GLOBAL INEQUALITY OF WEALTH IN THE TWENTY-FIRST CENTURY

capita increased by 2.1 percent a year, and average global income by 1.4 percent a year, as indicated in Table 12.1.³

To sum up: since the 1980s, global wealth has increased on average a little faster than income (this is the upward trend in the capital/income ratio examined in Part Two), and the largest fortunes grew much more rapidly than average wealth. This is the new fact that the *Forbes* rankings help us bring to light, assuming that they are reliable.

Note that the precise conclusions depend quite heavily on the years chosen for consideration. For example, if we look at the period 1990–2010 instead of 1987–2013, the real rate of growth of the largest fortunes drops to 4 percent a year instead of 6 or 7.⁴ This is because 1990 marked a peak in global stock and real estate prices, while 2010 was a fairly low point for both (see Figure 12.2). Nevertheless, no matter what years we choose, the structural rate of growth of the largest fortunes seems always to be greater than the average growth of the average fortune (roughly at least twice as great). If we look at the evolution of the shares of the various millionths of large fortunes in global wealth, we find increases by more than a factor of 3 in less than thirty years (see Figure 12.3). To be sure, the amounts remain relatively small when expressed as a proportion of global wealth, but the rate of divergence is nevertheless

TABLE 12.1.
The growth rate of top global wealth, 1987–2013.

	Average real growth rate per year (after deduction of inflation) (%)
The top 1/(100 million) highest wealth holders ^a	6.8
The top 1/(20 million) highest wealth holders ^b	6.4
Average world wealth per adult	2.1
Average world income per adult	1.4
World adult population	1.9
World GDP	3.3

Note: Between 1987 and 2013, the highest global wealth fractiles have grown at 6%–7% per year versus 2.1% for average world wealth and 1.4% for average world income. All growth rates are net of inflation (2.3% per year between 1987 and 2013).

a. About 30 adults out of 3 billion in the 1980s, and 45 adults out of 4.5 billion in 2010.

b. About 150 adults out of 3 billion in the 1980s, and 225 adults out of 4.5 billion in the 2010s.

Sources: See piketty.pse.ens.fr/capital21c

THE STRUCTURE OF INEQUALITY

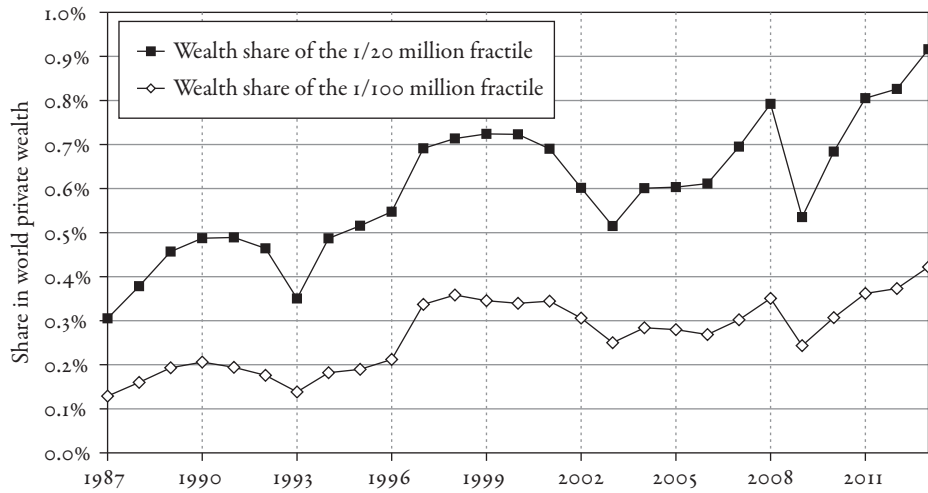


FIGURE 12.3. The share of top wealth fractiles in world wealth, 1987–2013

Between 1987 and 2013, the share of the top 1/20 million fractile rose from 0.3 percent to 0.9 percent of world wealth, and the share of the top 1/100 million fractile rose from 0.1 percent to 0.4 percent.

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

spectacular. If such an evolution were to continue indefinitely, the share of these extremely tiny groups could reach quite substantial levels by the end of the twenty-first century.⁵

Can this conclusion perhaps be extended to broader segments of the global wealth distribution, in which case the divergence would occur much more rapidly? The first problem with the *Forbes* and other magazine rankings is that they list too few people to be truly significant in macroeconomic terms. Regardless of the rapid rates of divergence and the extreme size of certain individual fortunes, the data pertain to only a few hundred or at most a few thousand individuals, who at the present time represent only a little over 1 percent of global wealth.⁶ This leaves out nearly 99 percent of global capital, which is unfortunate.⁷

From Rankings of Billionaires to “Global Wealth Reports”

To proceed further and estimate the shares of the top decile, centile, and thousandth of the global wealth hierarchy, we need to use fiscal and statistical sources of the type I relied on in Chapter 10. There I showed that inequality of

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wealth has been trending upward in all the rich countries since 1980–1990, so it would not be surprising to discover that the same was true at the global level. Unfortunately, the available sources are marred by numerous approximations. (We may be underestimating the upward trend in the rich countries, and the statistics from many of the emerging countries are so inadequate, in part owing to the absence of any system of progressive taxation worthy of the name, that one hesitates to use them.) Hence it is quite difficult at present to arrive at anything close to a precise estimate of the evolving shares of the top decile, centile, and thousandth in global wealth.

For some years now, a number of international financial institutions have attempted to respond to growing social demand for information on these issues by trying to extend the magazine rankings and publishing “global wealth reports” that include more than just billionaires. In particular, since 2010, *Crédit Suisse*, one of the leading Swiss banks, has published an ambitious annual report on the global distribution of wealth covering the entire population of the planet.⁸ Other banks, brokerages, and insurance companies (Merrill Lynch, Allianz, etc.) have specialized in the study of the world’s millionaires (the famous HNWI, or “high net worth individuals”). Every institution wants its own report, preferably on glossy paper. It is of course ironic to see institutions that make much of their money by managing fortunes filling the role of government statistical agencies by seeking to produce objective information about the global distribution of wealth. It is also important to note that these reports must often rely on heroic hypotheses and approximations, not all of them convincing, in order to arrive at anything like a “global” view of wealth. In any case, they rarely cover anything more than the past few years, a decade at most, and are unfortunately useless for studying long-term evolutions or even reliably detecting trends in global inequality, given the extremely piecemeal nature of the data used.⁹

Like the *Forbes* and similar rankings, these reports have, if nothing else, the merit of existing, and the absence of anything better points up the failure of national and international agencies—and most economists—to play the role they ought to be playing. Democratic transparency requires it: in the absence of reliable information about the global distribution of wealth, it is possible to say anything and everything and to feed fantasies of all kinds. Imperfect as they are, and until better information comes along, these reports can at least impose some discipline on public debate.¹⁰

If we adopt the same global approach as these reports and compare the various available estimates, we come to the following approximate conclusion: global inequality of wealth in the early 2010s appears to be comparable in magnitude to that observed in Europe in 1900–1910. The top thousandth seems to own nearly 20 percent of total global wealth today, the top centile about 50 percent, and the top decile somewhere between 80 and 90 percent. The bottom half of the global wealth distribution undoubtedly owns that less than 5 percent of total global wealth.

Concretely, the wealthiest 0.1 percent of people on the planet, some 4.5 million out of an adult population of 4.5 billion, apparently possess fortunes on the order of 10 million euros on average, or nearly 200 times average global wealth of 60,000 euros per adult, amounting in aggregate to nearly 20 percent of total global wealth. The wealthiest 1 percent—45 million people out of 4.5 billion—have about 3 million euros apiece on average (broadly speaking, this group consists of those individuals whose personal fortunes exceed 1 million euros). This is about 50 times the size of the average global fortune, or 50 percent of total global wealth in aggregate.

Bear in mind that these estimates are highly uncertain (including the figures given for total and average global wealth). Even more than most of the statistics cited in this book, these numbers should be taken simply as orders of magnitude, useful only for focusing one's thoughts.¹¹

Note, too, that this very high concentration of wealth, significantly higher than is observed within countries, stems in large part from international inequalities. The average global fortune is barely 60,000 euros per adult, so that many people in the developed countries, including members of the “patrimonial middle class,” seem quite wealthy in terms of the global wealth hierarchy. For the same reason, it is by no means certain that inequalities of wealth are actually increasing at the global level: as the poorer countries catch up with the richer ones, catch-up effects may for the moment outweigh the forces of divergence. The available data do not allow for a clear answer at this point.¹²

The information at our disposal suggests, however, that the forces of divergence at the top of the global wealth hierarchy are already very powerful. This is true not only for the billion-dollar fortunes in the *Forbes* ranking but probably also for smaller fortunes of 10–100 million euros. This is a much larger group of people: the top thousandth (a group of 4.5 million individuals

with an average fortune of 10 million euros) owns about 20 percent of global wealth, which is much more than the 1.5 percent owned by the *Forbes* billionaires.¹³ It is therefore essential to understand the magnitude of the divergence mechanism acting on this group, which depends in particular on unequal returns to capital in portfolios of this size. This will determine whether divergence at the top is sufficiently powerful to overcome the force of international catch-up. Is the divergence process occurring solely among billionaires, or is it also affecting the groups immediately below?

For example, if the top thousandth enjoy a 6 percent rate of return on their wealth, while average global wealth grows at only 2 percent a year, then after thirty years the top thousandth's share of global capital will have more than tripled. The top thousandth would then own 60 percent of global wealth, which is hard to imagine in the framework of existing political institutions unless there is a particularly effective system of repression or an extremely powerful apparatus of persuasion, or perhaps both. Even if the top thousandth's capital returned only 4 percent a year, their share would still practically double in thirty years to nearly 40 percent. Once again, the force for divergence at the top of the wealth hierarchy would win out over the global forces of catch-up and convergence, so that the shares of the top decile and centile would increase significantly, with a large upward redistribution from the middle and upper-middle classes to the very rich. Such an impoverishment of the middle class would very likely trigger a violent political reaction. It is of course impossible at this stage to be certain that such a scenario is about to unfold. But it is important to realize that the inequality $r > g$, amplified by inequality in the returns on capital as a function of initial portfolio size, can potentially give rise to a global dynamic of accumulation and distribution of wealth characterized by explosive trajectories and uncontrolled inegalitarian spirals. As we will see, only a progressive tax on capital can effectively impede such a dynamic.

Heirs and Entrepreneurs in the Wealth Rankings

One of the most striking lessons of the *Forbes* rankings is that, past a certain threshold, all large fortunes, whether inherited or entrepreneurial in origin, grow at extremely high rates, regardless of whether the owner of the fortune works or not. To be sure, one should be careful not to overestimate the

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precision of the conclusions one can draw from these data, which are based on a small number of observations and collected in a somewhat careless and piecemeal fashion. The fact is nevertheless interesting.

Take a particularly clear example at the very top of the global wealth hierarchy. Between 1990 and 2010, the fortune of Bill Gates—the founder of Microsoft, the world leader in operating systems, and the very incarnation of entrepreneurial wealth and number one in the *Forbes* rankings for more than ten years—increased from \$4 billion to \$50 billion.¹⁴ At the same time, the fortune of Liliane Bettencourt—the heiress of L'Oréal, the world leader in cosmetics, founded by her father Eugène Schueller, who in 1907 invented a range of hair dyes that were destined to do well in a way reminiscent of César Birotteau's success with perfume a century earlier—increased from \$2 billion to \$25 billion, again according to *Forbes*.¹⁵ Both fortunes thus grew at an annual rate of more than 13 percent from 1990 to 2010, equivalent to a real return on capital of 10 or 11 percent after correcting for inflation.

In other words, Liliane Bettencourt, who never worked a day in her life, saw her fortune grow exactly as fast as that of Bill Gates, the high-tech pioneer, whose wealth has incidentally continued to grow just as rapidly since he stopped working. Once a fortune is established, the capital grows according to a dynamic of its own, and it can continue to grow at a rapid pace for decades simply because of its size. Note, in particular, that once a fortune passes a certain threshold, size effects due to economies of scale in the management of the portfolio and opportunities for risk are reinforced by the fact that nearly all the income on this capital can be plowed back into investment. An individual with this level of wealth can easily live magnificently on an amount equivalent to only a few tenths of percent of his capital each year, and he can therefore reinvest nearly all of his income.¹⁶ This is a basic but important economic mechanism, with dramatic consequences for the long-term dynamics of accumulation and distribution of wealth. Money tends to reproduce itself. This stark reality did not escape the notice of Balzac, who describes the irresistible rise of his pasta manufacturer in the following terms: "Citizen Goriot amassed the capital that would later allow him to do business with all the superiority that a great sum of money bestows on the person who possesses it."¹⁷

Note, too, that Steve Jobs, who even more than Bill Gates is the epitome of the admired and talented entrepreneur who fully deserves his fortune, was worth only about \$8 billion in 2011, at the height of his glory and the peak of

Apple's stock price. That is just one-sixth as wealthy as Microsoft's founder (even though many observers judge Gates to have been less innovative than Jobs) and one-third as wealthy as Liliane Bettencourt. The *Forbes* rankings list dozens of people with inherited fortunes larger than Jobs's. Obviously wealth is not just a matter of merit. The reason for this is the simple fact that the return on inherited fortunes is often very high solely because of their initial size.

It is unfortunately impossible to proceed further with this type of investigation, because the *Forbes* data are far too limited to allow for systematic and robust analysis (in contrast to the data on university endowments that I will turn to next). In particular, the methods used by *Forbes* and other magazines significantly underestimate the size of inherited fortunes. Journalists do not have access to comprehensive tax or other government records that would allow them to report more accurate figures. They do what they can to collect information from a wide variety of sources. By telephone and e-mail they gather data not available elsewhere, but these data are not always very reliable. There is nothing inherently wrong with such a pragmatic approach, which is inevitable when governments fail to collect this kind of information properly, for example, by requiring annual declarations of wealth, which would serve a genuinely useful public purpose and could be largely automated with the aid of modern technology. But it is important to be aware of the consequences of the magazines' haphazard methods. In practice, the journalists begin with data on large publicly traded corporations and compile lists of their stockholders. By its very nature, such an approach makes it far more difficult to measure the size of inherited fortunes (which are often invested in diversified portfolios) as compared with entrepreneurial or other nascent fortunes (which are generally more concentrated in a single firm).

For the largest inherited fortunes, on the order of tens of billions of dollars or euros, one can probably assume that most of the money remains invested in the family firm (as is the case with the Bettencourt family with L'Oréal and the Walton family with Walmart in the United States). If so, then the size of these fortunes is as easy to measure as the wealth of Bill Gates or Steve Jobs. But this is probably not true at all levels: as we move down the list into the \$1–10 billion range (and according to *Forbes*, several hundred new fortunes appear in this range somewhere in the world almost every year), or even more into the \$10–\$100 million range, it is likely that many inherited

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fortunes are held in diversified portfolios, in which case they are difficult for journalists to detect (especially since the individuals involved are generally far less eager to be known publicly than entrepreneurs are). Because of this straightforward statistical bias, wealth rankings inevitably tend to underestimate the size of inherited fortunes.

Some magazines, such as *Challenges* in France, state openly that their goal is simply to catalog so-called business-related fortunes, that is, fortunes consisting primarily of the stock of a particular company. Diversified portfolios do not interest them. The problem is that it is difficult to find out what their definition of a “business-related fortune” is. How is the ownership threshold defined, that is, when does a portfolio cease being considered diversified and begin to be seen as representing a controlling stake? Does it depend on the size of the company, and if so, how is this decided? In fact, the criteria for inclusion seem thoroughly pragmatic. First, journalists need to have heard of the fortune. Then it has to meet certain criteria: for *Forbes*, to be worth more than a billion dollars; for *Challenges* and magazines in many other countries, to be among the five hundred wealthiest people in the country. Such pragmatism is understandable, but such a haphazard sampling method obviously raises serious problems when it comes to international or intertemporal comparison. Furthermore, the magazine rankings are never very clear about the unit of observation: in principle it is the individual, but sometimes entire family groups are counted as a single fortune, which creates a bias in the other direction, because it tends to exaggerate the size of large fortunes. Clearly, this is not a very robust basis for studying the delicate question of the role of inheritance in capital formation or the evolution of inequalities of wealth.¹⁸

Furthermore, the magazines often exhibit a rather obvious ideological bias in favor of entrepreneurs and do not bother to hide their wish to celebrate them, even if it means exaggerating their importance. It is no insult to *Forbes* to observe that it can often be read, and even presents itself as, an ode to the entrepreneur and the usefulness of merited wealth. The owner of the magazine, Steve Forbes, himself a billionaire and twice an unsuccessful candidate for the presidential nomination of the Republican Party, is nevertheless an heir: it was his grandfather who founded the magazine in 1917, establishing the Forbes family fortune, which he subsequently increased. The magazine’s rankings sometimes break billionaires down into three groups: pure entrepreneurs, pure heirs, and heirs who subsequently “grow their wealth.” According to *Forbes*’s

own data, each of these three groups represents about a third of the total, although the magazine also says that the number of pure heirs is decreasing and that of partial heirs increasing. The problem is that *Forbes* has never given a precise definition of these groups (in particular of the exact boundary between “pure” and “partial”), and the amount of inherited wealth is never specified.¹⁹ Under these conditions, it is quite difficult to reach any precise conclusions about this possible trend.

In view of all these difficulties, what can we say about the respective numbers of heirs and entrepreneurs among the largest fortunes? If we include both the pure and partial heirs in the *Forbes* rankings (and assume that half of the wealth of the latter is inherited), and if we allow for the methodological biases that lead to underestimating the size of inherited fortunes, it seems fairly clear that inherited wealth accounts for more than half of the total amount of the largest fortunes worldwide. An estimate of 60–70 percent seems fairly realistic a priori, and this is a level markedly lower than that observed in France in the Belle Époque (80–90 percent). This might be explained by the currently high global growth rate, which would imply that new fortunes from the emerging countries are rapidly being added to the rankings. But this is a hypothesis, not a certainty.

The Moral Hierarchy of Wealth

In any case, I think there is an urgent need to move beyond the often sterile debate about merit and wealth, which is ill conceived. No one denies that it is important for society to have entrepreneurs, inventions, and innovations. There were many innovations in the Belle Époque, such as the automobile, movies, and electricity, just as there are many today. The problem is simply that the entrepreneurial argument cannot justify all inequalities of wealth, no matter how extreme. The inequality $r > g$, combined with the inequality of returns on capital as a function of initial wealth, can lead to excessive and lasting concentration of capital: no matter how justified inequalities of wealth may be initially, fortunes can grow and perpetuate themselves beyond all reasonable limits and beyond any possible rational justification in terms of social utility.

Entrepreneurs thus tend to turn into rentiers, not only with the passing of generations but even within a single lifetime, especially as life expectancy

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increases: a person who has had good ideas at the age of forty will not necessarily still be having them at ninety, nor are his children sure to have any. Yet the wealth remains, in some cases multiplied more than tenfold in twenty years, as in the case of Bill Gates or Liliane Bettencourt.

This is the main justification for a progressive annual tax on the largest fortunes worldwide. Such a tax is the only way of democratically controlling this potentially explosive process while preserving entrepreneurial dynamism and international economic openness. In Part Four we will examine this idea further, as well as its limitations.

The fiscal approach is also a way to move beyond the futile debate about the moral hierarchy of wealth. Every fortune is partially justified yet potentially excessive. Outright theft is rare, as is absolute merit. The advantage of a progressive tax on capital is that it provides a way to treat different situations in a supple, consistent, and predictable manner while exposing large fortunes to democratic control—which is already quite a lot.

All too often, the global debate about great wealth comes down to a few peremptory—and largely arbitrary—assertions about the relative merits of this or that individual. For example, it is rather common to contrast the man who is currently the world's wealthiest, Carlos Slim, a Mexican real estate and telecom tycoon who is of Lebanese extraction and is often described in the Western press as one who owes his great wealth to monopoly rents obtained through (implicitly corrupt) government favors, and Bill Gates, the former number one, who is seen as a model of the meritorious entrepreneur. At times one almost has the impression that Bill Gates himself invented computer science and the microprocessor and that he would be 10 times richer still if he had been paid his full marginal productivity and compensated for his personal contribution to global well-being (and fortunately the good people of the planet have been the beneficiaries of his “positive externalities” since he retired). No doubt the veritable cult of Bill Gates is an outgrowth of the apparently irrepressible need of modern democratic societies to make sense of inequality. To be frank, I know virtually nothing about exactly how Carlos Slim or Bill Gates became rich, and I am quite incapable of assessing their relative merits. Nevertheless, it seems to me that Bill Gates also profited from a virtual monopoly on operating systems (as have many other high-tech entrepreneurs in industries ranging from telecommunications to Facebook, whose fortunes were also built on monopoly rents). Furthermore, I believe that Gates's

contributions depended on the work of thousands of engineers and scientists doing basic research in electronics and computer science, without whom none of his innovations would have been possible. These people did not patent their scientific papers. In short, it seems unreasonable to draw such an extreme contrast between Gates and Slim without so much as a glance at the facts.²⁰

As for the Japanese billionaires (Yoshiaki Tsutsumi and Taikichi Mori) who from 1987 to 1994 preceded Bill Gates at the top of the *Forbes* ranking, people in the Western world have all but forgotten their names. Perhaps there is a feeling that these men owe their fortunes entirely to the real estate and stock market bubbles that existed at the time in the Land of the Rising Sun, or else to some not very savory Asian wheeling and dealing. Yet Japanese growth from 1950 to 1990 was the greatest history had ever seen to that point, much greater than US growth in 1990–2010, and there is reason to believe that entrepreneurs played some role in this.

Rather than indulge in constructing a moral hierarchy of wealth, which in practice often amounts to an exercise in Western ethnocentrism, I think it is more useful to try to understand the general laws that govern the dynamics of wealth—leaving individuals aside and thinking instead about modes of regulation, and in particular taxation, that apply equally to everyone, regardless of nationality. In France, when Arcelor (then the second largest steel company worldwide) was bought by the steel magnate Lakshmi Mittal in 2006, the French media found the actions of the Indian billionaire particularly outrageous. They renewed their outrage in the fall of 2012, when Mittal was accused of failing to invest enough in the firm's factory in Florange. In India, everyone believes that the hostility to Mittal is due, at least in part, to the color of his skin. And who can be sure that this did not play a role? To be sure, Mittal's methods are brutal, and his sumptuous lifestyle is seen as scandalous. The entire French press took umbrage at his luxurious London residences, "worth three times as much as his investment in Florange."²¹ Somehow, though, the outrage is soft-pedaled when it comes to a certain residence in Neuilly-sur-Seine, a posh suburb of Paris, or a homegrown billionaire like Arnaud Lagardère, a young heir not particularly well known for his merit, virtue, or social utility yet on whom the French government decided at about the same time to bestow the sum of a billion euros in exchange for his share of the European Aeronautic, Defense, and Space Co. (EADS), a world leader in aeronautics.

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One final example, even more extreme: in February 2012, a French court ordered the seizure of more than 200 cubic meters of property (luxury cars, old master paintings, etc.) from the Avenue Foch home of Teodorin Obiang, the son of the dictator of Equatorial Guinea. It is an established fact that his share of the company, which was authorized to exploit Guinea's forests (from which he derives most of his income), was acquired in a dubious way and that these forest resources were to a large extent stolen from the people of Equatorial Guinea. The case is instructive in that it shows that private property is not quite as sacred as people sometimes think, and that it was technically possible, when someone really wanted to, to find a way through the maze of dummy corporations by means of which Teodorin Obiang administered his capital. There is little doubt, however, that it would not be very difficult to find in Paris or London other individuals—Russian oligarchs or Qatari billionaires, say—with fortunes ultimately derived from the private appropriation of natural resources. It may be that these appropriations of oil, gas, and aluminum deposits are not as clear-cut cases of theft as Obiang's forests. And perhaps judicial action is more justified when the theft is committed at the expense of a very poor country, as opposed to a less poor one.²² At the very least, the reader will grant that these various cases are not fundamentally different but belong to a continuum, and that a fortune is often deemed more suspect if its owner is black. In any case, the courts cannot resolve every case of ill-gotten gains or unjustified wealth. A tax on capital would be a less blunt and more systematic instrument for dealing with the question.

Broadly speaking, the central fact is that the return on capital often inextricably combines elements of true entrepreneurial labor (an absolutely indispensable force for economic development), pure luck (one happens at the right moment to buy a promising asset at a good price), and outright theft. The arbitrariness of wealth accumulation is a much broader phenomenon than the arbitrariness of inheritance. The return on capital is by nature volatile and unpredictable and can easily generate capital gains (or losses) equivalent to dozens of years of earned income. At the top of the wealth hierarchy, these effects are even more extreme. It has always been this way. In the novel *Ibiscus* (1926), Alexei Tolstoy depicted the horrors of capitalism. In 1917, in St. Petersburg, the accountant Simon Novzorov bashes in the skull of an antique dealer who has offered him a job and steals a small fortune. The antique dealer had become rich by purchasing, at rock-bottom prices, the possessions of aristo-

crats fleeing the Revolution. Novzorov manages to multiply his initial capital by 10 in six months, thanks to the gambling den he sets up in Moscow with his new friend Ritechev. Novzorov is a nasty, petty parasite who embodies the idea that wealth and merit are totally unrelated: property sometimes begins with theft, and the arbitrary return on capital can easily perpetuate the initial crime.

The Pure Return on University Endowments

In order to gain a better understanding of unequal returns on capital without being distracted by issues of individual character, it is useful to look at what has happened with the endowments of American universities over the past few decades. Indeed, this is one of the few cases where we have very complete data about investments made and returns received over a relatively long period of time, as a function of initial capital.

There are currently more than eight hundred public and private universities in the United States that manage their own endowments. These endowments range from some tens of millions of dollars (for example, North Iowa Community College, ranked 785th in 2012 with an endowment of \$11.5 million) to tens of billions. The top-ranked universities are invariably Harvard (with an endowment of some \$30 billion in the early 2010s), Yale (\$20 billion), and Princeton and Stanford (more than \$15 billion). Then come MIT and Columbia, with a little less than \$10 billion, then Chicago and Pennsylvania, at around \$7 billion, and so on. All told, these eight hundred US universities owned nearly \$400 billion worth of assets in 2010 (or a little under \$500 million per university on average, with a median slightly less than \$100 million). To be sure, this is less than 1 percent of the total private wealth of US households, but it is still a large sum, which annually yields significant income for US universities—or at any rate some of them.²³ Above all—and this is the point that is of interest here—US universities publish regular, reliable, and detailed reports on their endowments, which can be used to study the annual returns each institution obtains. This is not possible with most private fortunes. In particular, these data have been collected since the late 1970s by the National Association of College and University Business Officers, which has published voluminous statistical surveys every year since 1979.

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The main results I have been able to derive from these data are shown in Table 12.2.²⁴ The first conclusion is that the return on US university endowments has been extremely high in recent decades, averaging 8.2 percent a year between 1980 and 2010 (and 7.2 percent for the period 1990–2010).²⁵ To be sure, there have been ups and downs in each decade, with years of low or even negative returns, such as 2008–2009, and good years in which the average endowment grew by more than 10 percent. But the important point is that if we average over ten, twenty, or thirty years, we find extremely high returns, of the same sort I examined for the billionaires in the *Forbes* rankings.

To be clear, the returns indicated in Table 12.2 are net real returns allowing for capital gains and inflation, prevailing taxes (virtually nonexistent for nonprofit institutions), and management fees. (The latter include the salaries of everyone inside or outside the university who is involved in planning and executing the institution’s investment strategy.) Hence these figures reflect the pure return on capital as defined in this book, that is, the return that

TABLE 12.2.
The return on the capital endowments of US universities, 1980–2010.

	Average real annual rate of return (after deduction of inflation and all administrative costs and financial fees) (%)
All universities (850)	8.2
Harvard, Yale, and Princeton	10.2
Endowments higher than \$1 billion (60)	8.8
Endowments between \$500 million and 1 billion (66)	7.8
Endowments between \$100 and \$500 million (226)	7.1
Endowments less than \$100 million (498)	6.2

Note: Between 1980 and 2010, US universities earned an average real return of 8.2% on their capital endowments, and all the more so for higher endowments. All returns reported here are net of inflation (2.4% per year between 1980 and 2010) and of all administrative costs and financial fees.

Sources: See piketty.pse.ens.fr/capital21c.

comes simply from owning capital, apart from any remuneration of the labor required to manage it.

The second conclusion that emerges clearly from Table 12.2 is that the return increases rapidly with size of endowment. For the 500 of 850 universities whose endowment was less than \$100 million, the average return was 6.2 percent in 1980–2010 (and 5.1 percent in 1990–2010), which is already fairly high and significantly above the average return on all private wealth in these periods.²⁶ The greater the endowment, the greater the return. For the 60 universities with endowments of more than \$1 billion, the average return was 8.8 percent in 1980–2010 (and 7.8 percent in 1990–2010). For the top trio (Harvard, Yale, and Princeton), which has not changed since 1980, the yield was 10.2 percent in 1980–2010 (and 10.0 percent in 1990–2010), twice as much as the less well-endowed institutions.²⁷

If we look at the investment strategies of different universities, we find highly diversified portfolios at all levels, with a clear preference for US and foreign stocks and private sector bonds (government bonds, especially US Treasuries, which do not pay well, account for less than 10 percent of all these portfolios and are almost totally absent from the largest endowments). The higher we go in the endowment hierarchy, the more often we find “alternative investment strategies,” that is, very high yield investments such as shares in private equity funds and unlisted foreign stocks (which require great expertise), hedge funds, derivatives, real estate, and raw materials, including energy, natural resources, and related products (these, too, require specialized expertise and offer very high potential yields).²⁸ If we consider the importance in these various portfolios of “alternative investments,” whose only common feature is that they abandon the usual strategies of investing in stocks and bonds accessible to all, we find that they represent only 10 percent of the portfolios of institutions with endowments of less than 50 million euros, 25 percent of those with endowments between 50 and 100 million euros, 35 percent of those between 100 and 500 million euros, 45 percent of those between 500 million and 1 billion euros, and ultimately more than 60 percent of those above 1 billion euros. The available data, which are both public and extremely detailed, show unambiguously that it is these alternative investment strategies that enable the very largest endowments to obtain real returns of close to 10 percent a year, while smaller endowments must make do with 5 percent.

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It is interesting to note that the year-to-year volatility of these returns does not seem to be any greater for the largest endowments than for the smaller ones: the returns obtained by Harvard and Yale vary around their mean but not much more so than the returns of smaller institutions, and if one averages over several years, the mean returns of the largest institutions are systematically higher than those of the smaller ones, with a gap that remains fairly constant over time. In other words, the higher returns of the largest endowments are not due primarily to greater risk taking but to a more sophisticated investment strategy that consistently produces better results.²⁹

How can these facts be explained? By economies of scale in portfolio management. Concretely, Harvard currently spends nearly \$100 million a year to manage its endowment. This munificent sum goes to pay a team of top-notch portfolio managers capable of identifying the best investment opportunities around the world. But given the size of Harvard's endowment (around \$30 billion), \$100 million in management costs is just over 0.3 percent a year. If paying that amount makes it possible to obtain an annual return of 10 percent rather than 5, it is obviously a very good deal. On the other hand, a university with an endowment of only \$1 billion (which is nevertheless substantial) could not afford to pay \$100 million a year—10 percent of its portfolio—in management costs. In practice, no university pays more than 1 percent for portfolio management, and most pay less than 0.5 percent, so to manage assets worth \$1 billion, one would pay \$5 million, which is not enough to pay the kind of specialists in alternative investments that one can hire with \$100 million. As for North Iowa Community College, with an endowment of \$11.5 million, even 1 percent a year would amount to only \$115,000, which is just enough to pay a half-time or even quarter-time financial advisor at going market rates. Of course a US citizen at the median of the wealth distribution has only \$100,000 to invest, so he must be his own money manager and probably has to rely on the advice of his brother-in-law. To be sure, financial advisors and money managers are not infallible (to say the least), but their ability to identify more profitable investments is the main reason why the largest endowments obtain the highest returns.

These results are striking, because they illustrate in a particularly clear and concrete way how large initial endowments can give rise to better returns and thus to substantial inequalities in returns on capital. These high returns largely account for the prosperity of the most prestigious US universities. It is

not alumni gifts, which constitute a much smaller flow: just one-tenth to one-fifth of the annual return on endowment.³⁰

These findings should be interpreted cautiously, however. In particular, it would be too much to try to use them to predict how global wealth inequality will evolve over the next few decades. For one thing, the very high returns that we see in the period 1980–2010 in part reflect the long-term rebound of global asset prices (stocks and real estate), which may not continue (in which case the long-term returns discussed above would have to be reduced somewhat in the future).³¹ For another, it is possible that economies of scale affect mainly the largest portfolios and are greatly reduced for more “modest” fortunes of 10–50 million euros, which, as noted, account for a much larger share of total global wealth than do the *Forbes* billionaires. Finally, leaving management fees aside, these returns still depend on the institution’s ability to choose the right managers. But a family is not an institution: there always comes a time when a prodigal child squanders the family fortune, which the Harvard Corporation is unlikely to do, simply because any number of people would come forward to stand in the way. Because family fortunes are subject to this kind of random “shock,” it is unlikely that inequality of wealth will grow indefinitely at the individual level; rather, the wealth distribution will converge toward a certain equilibrium.

These arguments are not altogether reassuring, however. It would in any case be rather imprudent to rely solely on the eternal but arbitrary force of family degeneration to limit the future proliferation of billionaires. As noted, a gap $r - g$ of fairly modest size is all that it takes to arrive at an extremely inegalitarian distribution of wealth. The return on capital does not need to rise as high as 10 percent for all large fortunes: a smaller gap would be enough to deliver a major inegalitarian shock.

Another important point is that wealthy people are constantly coming up with new and ever more sophisticated legal structures to house their fortunes. Trust funds, foundations, and the like often serve to avoid taxes, but they also constrain the freedom of future generations to do as they please with the associated assets. In other words, the boundary between fallible individuals and eternal foundations is not as clear-cut as is sometimes thought. Restrictions on the rights of future generations were in theory drastically reduced when entails were abolished more than two centuries ago (see Chapter 10). In practice, however, the rules can be circumvented when the stakes require. In particular,

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it is often difficult to distinguish purely private family foundations from true charitable foundations. In fact, families often use foundations for both private and charitable purposes and are generally careful to maintain control of their assets even when housed in a primarily charitable foundation.³² It is often not easy to know what exact rights children and relatives have in these complex structures, because important details are often hidden in legal documents that are not public. In some cases, a family trust whose purpose is primarily to serve as an inheritance vehicle exists alongside a foundation with a more charitable purpose.³³ It is also interesting to note that the amount of gifts declared to the tax authorities always falls drastically when oversight is tightened (for example, when donors are required to submit accurate receipts, or when foundations are required to submit more detailed financial statements to certify that their official purpose is in fact respected and private use of foundation funds does not exceed certain limits), confirming the idea that there is a certain porosity between public and private uses of these legal entities.³⁴ Ultimately, it is very difficult to say precisely what proportion of foundations fulfill purposes that can truly be characterized as being in the public interest.³⁵

*What Is the Effect of Inflation on Inequality
of Returns to Capital?*

The results concerning the returns on university endowments suggest that it may also be useful to say a few words about the pure return on capital and the inegalitarian effects of inflation. As I showed in Chapter 1, the rate of inflation in the wealthy countries has been stable at around 2 percent since the 1980s: this new norm is both much lower than the peak inflation rates seen in the twentieth century and much higher than the zero or virtually zero inflation that prevailed in the nineteenth century and up to World War I. In the emerging countries, inflation is currently higher than in the rich countries (often above 5 percent). The question, then, is the following: What is the effect on returns to capital of inflation at 2 percent or even 5 percent rather than 0 percent?

Some people think, wrongly, that inflation reduces the average return on capital. This is false, because the average asset price (that is, the average price of real estate and financial securities) tends to rise at the same pace as con-

sumer prices. Take a country with a capital stock equal to six years of national income ($\beta = 6$) and where capital's share of national income equals 30 percent ($\alpha = 30\%$), so that the average return on capital is 5 percent ($r = 5\%$). Imagine that inflation in this country increases from 0 to 2 percent a year. Is it really true that the average return on capital will then decrease from 5 percent to 3? Obviously not. To a first approximation, if consumer prices rise by 2 percent a year, then it is probable that asset prices will also increase by 2 percent a year on average. There will be no capital gains or losses, and the return on capital will still be 5 percent. By contrast, it is likely that inflation changes the distribution of this average return among individual citizens. The problem is that in practice the redistributions induced by inflation are always complex, multi-dimensional, and largely unpredictable and uncontrollable.

People sometimes believe that inflation is the enemy of the rentier and that this may in part explain why modern societies like inflation. This is partly true, in the sense that inflation forces people to pay some attention to their capital. When inflation exists, anyone who is content to perch on a pile of banknotes will see that pile melt away before his eyes, leaving him with nothing even if wealth is untaxed. In this respect, inflation is indeed a tax on the idle rich, or, more precisely, on wealth that is not invested. But as I have noted a number of times already, it is enough to invest one's wealth in real assets, such as real estate or shares of stock, in order to escape the inflation tax entirely.³⁶ Our results on university endowments confirm this in the clearest possible terms. There can be no doubt that inflation of 2 percent rather than 0 percent in no way prevents large fortunes from obtaining very high real returns.

One can even imagine that inflation tends to improve the relative position of the wealthiest individuals compared to the least wealthy, in that it enhances the importance of financial managers and intermediaries. A person with 10 or 50 million euros cannot afford the money managers that Harvard has but can nevertheless pay financial advisors and stockbrokers to mitigate the effects of inflation. By contrast, a person with only 10 or 50 thousand euros to invest will not be offered the same choices by her broker (if she has one): contacts with financial advisors are briefer, and many people in this category keep most of their savings in checking accounts that pay little or nothing and/or savings accounts that pay little more than the rate of inflation. Furthermore, some assets exhibit size effects of their own, but these are generally unavailable

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to small investors. It is important to realize that this inequality of access to the most remunerative investments as a reality for everyone (and thus much broader than the extreme case of “alternative investments” available only to the wealthiest individuals and largest endowments). For example, some financial products require very large minimum investments (on the order of hundreds of thousands of euros), so that small investors must make do with less profitable opportunities (allowing intermediaries to charge big investors more for their services).

These size effects are particularly important in regard to real estate. In practice, this is the most important type of capital asset for the vast majority of the population. For most people, the simplest way to invest is to buy a home. This provides protection against inflation (since the price of housing generally rises at least as fast as the price of consumption), and it also allows the owner to avoid paying rent, which is equivalent to a real return on investment of 3–4 percent a year. But for a person with 10 to 50 thousand euros, it is not enough to decide to buy a home: the possibility may not exist. And even for a person with 100 or 200 thousand euros but who works in a big city in a job whose pay is not in the top 2 or 3 centiles of the wage hierarchy, it may be difficult to purchase a home or apartment even if one is willing to go into debt for a long period of time and pay a high rate of interest. As a result, those who start out with a small initial fortune will often remain tenants, who must therefore pay a substantial rent (affording a high return on capital to the landlord) for a long period of time, possibly for life, while their bank savings are just barely protected from inflation.

Conversely, a person who starts out with more wealth thanks to an inheritance or gift, or who earns a sufficiently high salary, or both, will more quickly be in a position to buy a home or apartment and therefore earn a real return of 3–4 percent on their investment while being able to save more thanks to not having to pay rent. This unequal access to real estate as an effect of fortune size has of course always existed.³⁷ One could conceivably circumvent the barrier by buying a smaller apartment than one needs (in order to rent it) or by investing in other types of assets. But the problem has to some extent been aggravated by modern inflation: in the nineteenth century, when inflation was zero, it was relatively easy for a small saver to obtain a real return of 3 or 4 percent, for example by buying government bonds. Today, many small savers cannot enjoy such returns.

To sum up: the main effect of inflation is not to reduce the average return on capital but to redistribute it. And even though the effects of inflation are complex and multidimensional, the preponderance of the evidence suggests that the redistribution induced by inflation is mainly to the detriment of the least wealthy and to the benefit of the wealthiest, hence in the opposite direction from what is generally desired. To be sure, inflation may slightly reduce the pure return on capital, in that it forces everyone to spend more time doing asset management. One might compare this historic change to the very long-run increase in the rate of depreciation of capital, which requires more frequent investment decisions and replacement of old assets with new ones.³⁸ In both cases, one has to work a little harder today to obtain a given return: capital has become more “dynamic.” But these are relatively indirect and ineffective ways of combating rent: the evidence suggests that the slight decrease in the pure return on capital due to these causes is much smaller than the increase of inequality of returns on capital; in particular, it poses little threat to the largest fortunes.

Inflation does not do away with rent: on the contrary, it probably helps to make the distribution of capital more unequal.

To avoid any misunderstanding, let me say at once that I am not proposing a return to the gold standard or zero inflation. Under some conditions, inflation may have virtues, though smaller virtues than is sometimes imagined. I will come back to this when I discuss the role of central banks in monetary creation, especially in times of financial crisis and large sovereign debt. There are ways for people of modest means to have access to remunerative saving without zero inflation and government bonds as in the nineteenth century. But it is important to realize that inflation is today an extremely blunt instrument, and often a counterproductive one, if the goal is to avoid a return to a society of rentiers and, more generally, to reduce inequalities of wealth. A progressive tax on capital is a much more appropriate policy in terms of both democratic transparency and real efficacy.

The Return on Sovereign Wealth Funds: Capital and Politics

Consider now the case of sovereign wealth funds, which have grown substantially in recent years, particularly in the petroleum exporting countries. Unfortunately, there is much less publicly available data concerning the

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investment strategies and returns obtained by sovereign wealth funds than there is for university endowments, and this is all the more unfortunate in that the financial stakes are much, much larger. The Norwegian sovereign wealth fund, which alone was worth more than 700 billion euros in 2013 (twice as much as all US university endowments combined), publishes the most detailed financial reports. Its investment strategy, at least at the beginning, seems to have been more standard than that of the university endowments, in part, no doubt, because it was subject to public scrutiny (and the people of Norway may have been less willing than the Harvard Corporation to accept massive investments in hedge funds and unlisted stocks), and the returns obtained were apparently not as good.³⁹ The fund's officials recently received authorization to place larger amounts in alternative investments (especially international real estate), and returns may be higher in the future. Note, too, that the fund's management costs are less than 0.1 percent of its assets (compared with 0.3 percent for Harvard), but since the Norwegian fund is 20 times larger than Harvard's endowment, this is enough to pay for thorough investment advice. We also learn that during the period 1970–2010, about 60 percent of the money Norway earned from petroleum was invested in the fund, while 40 percent a year went to government expenses. The Norwegian authorities do not tell us what their long-term objective for the fund is or when the country can begin to consume all or part of the returns on its investment. They probably do not know themselves: everything depends on how Norway's petroleum reserves evolve as well as on the price of a barrel of oil and the fund's returns in the decades ahead.

If we look at other sovereign wealth funds, particularly in the Middle East, we unfortunately find that they are much more opaque than the Norwegian fund. Their financial reports are frequently rather scanty. It is generally impossible to know precisely what the investment strategy is, and returns are discussed obliquely at best, with little consistency from year to year. The most recent reports published by the Abu Dhabi Investment Authority, which manages the world's largest sovereign wealth fund (about the same size as Norway's), speak of a real return greater than 7 percent a year for 1990–2010 and more than 8 percent for 1980–2010. In view of the returns obtained by university endowments, these figures seem entirely plausible, but in the absence of detailed annual information, it is difficult to say more.

It is interesting to note that different funds apparently follow very different investment strategies, which are related, moreover, to very different ways of communicating with the public and very different approaches to global politics. Abu Dhabi is outspoken about its fund's high returns, but Saudi Arabia's sovereign wealth fund, which ranks third after Abu Dhabi and Norway among sovereign wealth funds of petroleum exporting states and ahead of Kuwait, Qatar, and Russia, has chosen to keep a very low profile. The small petroleum states of the Persian Gulf, which have only tiny populations to worry about, are clearly addressing the international financial community as the primary audience for their reports. The Saudi reports are more sober and provide information not only about oil reserves but also about national accounts and the government budget. These are clearly addressed to the people of the Kingdom of Saudi Arabia, whose population was close to 20 million in 2010—still small compared to the large countries in the region (Iran, 80 million; Egypt, 85 million; Iraq, 35 million) but far larger than the microstates of the Gulf.⁴⁰ And that is not the only difference: Saudi funds seem to be invested much less aggressively. According to official documents, the average return on the Saudi sovereign wealth fund was no more than 2–3 percent, mainly because much of the money was invested in US Treasury bonds. Saudi financial reports do not come close to providing enough information to know how the portfolio has evolved, but the information they do provide is much more detailed than that provided by the Emirates, and on this specific point they seem to be accurate.

Why would Saudi Arabia choose to invest in US Treasury bonds when it is possible to get far better returns elsewhere? The question is worth asking, especially since US university endowments stopped investing in their own government's debt decades ago and roam the world in search of the best return, investing in hedge funds, unlisted shares, and commodities-based derivatives. To be sure, US Treasuries offer an enviable guarantee of stability in an unstable world, and it is possible that the Saudi public has little taste for alternative investments. But the political and military aspects of the choice must also be taken into account: even though it is never stated explicitly, it is not illogical for Saudi Arabia to lend at low interest to the country that protects it militarily. To my knowledge, no one has ever attempted to calculate precisely the return on such an investment, but it seems clear that it is rather

high. If the United States, backed by other Western powers, had not driven the Iraqi army out of Kuwait in 1991, Iraq would probably have threatened Saudi Arabia's oil fields next, and it is possible that other countries in the region, such as Iran, would have joined the fray to redistribute the region's petroleum rents. The dynamics of the global distribution of capital are at once economic, political, and military. This was already the case in the colonial era, when the great powers of the day, Britain and France foremost among them, were quick to roll out the cannon to protect their investments. Clearly, the same will be true in the twenty-first century, in a tense new global political configuration whose contours are difficult to predict in advance.

Will Sovereign Wealth Funds Own the World?

How much richer can the sovereign wealth funds become in the decades ahead? According to available (and notoriously imperfect) estimates, sovereign wealth funds in 2013 had total investments worth a little over \$5.3 trillion, of which about \$3.2 trillion belongs to the funds of petroleum exporting states (including, in addition to those mentioned above, the smaller funds of Dubai, Libya, Kazakhstan, Algeria, Iran, Azerbaijan, Brunei, Oman, and many others), and approximately \$2.1 trillion to funds of nonpetroleum states (primarily China, Hong Kong, Singapore, and many smaller funds).⁴¹ For reference, note that this is almost exactly the same total wealth as that represented by the *Forbes* billionaires (around \$5.4 trillion in 2013). In other words, billionaires today own roughly 1.5 percent of the world's total private wealth, and sovereign wealth funds own another 1.5 percent. It is perhaps reassuring to note that this leaves 97 percent of global capital for the rest.⁴² One can also do projections for the sovereign wealth funds just as I did for billionaires, from which it follows that they will not achieve decisive importance—10–20 percent of global capital—before the second half of the twenty-first century, and we are still a long way from having to pay our monthly rent to the emir of Qatar (or the taxpayers of Norway). Nevertheless, it would still be a mistake to ignore the issue. In the first place, there is no reason why we should not worry about the rents our children and grandchildren may have to pay, and we need not wait until things come to a head to think about what to do. Second, a substantial part of global capital is in relatively illiquid form (including real estate and business capital that cannot be traded on financial markets), so

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that the share of truly liquid capital owned by sovereign wealth funds (and to a lesser extent billionaires)—capital that can be used, say, to take over a bankrupt company, buy a football team, or invest in a decaying neighborhood when strapped governments lack the means to do so—is actually much higher.⁴³ In fact, the issue of investments originating in the petroleum exporting countries has become increasingly salient in the wealthy countries, especially France, and as noted, these are perhaps the countries least psychologically prepared for the comeback of capital.

Last but not least, the key difference between the sovereign wealth funds and the billionaires is that the funds, or at any rate those of the petroleum exporting countries, grow not only by reinvesting their returns but also by investing part of the proceeds of oil sales. Although the future amounts of such proceeds are highly uncertain, owing to uncertainties about the amount of oil still in the ground, the demand for oil, and the price per barrel, it is quite plausible to assume that this income from petroleum sales will largely outweigh the returns on existing investments. The annual rent derived from the exploitation of natural resources, defined as the difference between receipts from sales and the cost of production, has been about 5 percent of global GDP since the mid-2000s (half of which is petroleum rent and the rest rent on other natural resources, mainly gas, coal, minerals, and wood), compared with about 2 percent in the 1990s and less than 1 percent in the early 1970s.⁴⁴ According to some forecasting models, the price of petroleum, currently around \$100 a barrel (compared with \$25 in the early 2000s) could rise as high as \$200 a barrel by 2020–2030. If a sufficiently large fraction of the corresponding rent is invested in sovereign wealth funds every year (a fraction that should be considerably larger than it is today), one can imagine a scenario in which the sovereign wealth funds would own 10–20 percent or more of global capital by 2030–2040. No law of economics rules this out. Everything depends on supply and demand, on whether or not new oil deposits and/or sources of energy are discovered, and on how rapidly people learn to live without petroleum. In any event, it is almost inevitable that the sovereign wealth funds of the petroleum exporting countries will continue to grow and that their share of global assets in 2030–2040 will be at least two to three times greater than it is today—a significant increase.

If this happens, it is likely that the Western countries would find it increasingly difficult to accept the idea of being owned in substantial part by

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the sovereign wealth funds of the oil states, and sooner or later this would trigger political reactions, such as restrictions on the purchase of real estate and industrial and financial assets by sovereign wealth funds or even partial or total expropriations. Such a reaction would neither be terribly smart politically nor especially effective economically, but it is the kind of response that is within the power of national governments, even of smaller states. Note, moreover, that the petroleum exporting countries themselves have already begun to limit their foreign investments and have begun investing heavily in their own countries to build museums, hotels, universities, and even ski slopes, at times on a scale that seems devoid of economic and financial rationality. It may be that this behavior reflects awareness of the fact that it is harder to expropriate an investment made at home than one made abroad. There is no guarantee, however, that the process will always be peaceful: no one knows the precise location of the psychological and political boundaries that must not be crossed when it comes to the ownership of one country by another.

Will China Own the World?

The sovereign wealth funds of non-petroleum-exporting countries raise a different kind of problem. Why would a country with no particular natural resources to speak of decide to own another country? One possibility is of course neocolonial ambitions, a pure will to power, as in the era of European colonialism. But the difference is that in those days the European countries enjoyed a technological advantage that ensured their domination. China and other emerging nonpetroleum countries are growing very rapidly, to be sure, but the evidence suggests that this rapid growth will end once they catch up with the leaders in terms of productivity and standard of living. The diffusion of knowledge and productive technologies is a fundamentally equalizing process: once the less advanced countries catch up with the more advanced, they cease to grow more rapidly.

In the central scenario for the evolution of the global capital/income ratio that I discussed in Chapter 5, I assumed that the savings rate would stabilize at around 10 percent of national income as this international convergence process neared its end. In that case, the accumulation of capital would attain comparable proportions everywhere. A very large share of the world's capital stock would of course be accumulated in Asia, and especially China, in keep-

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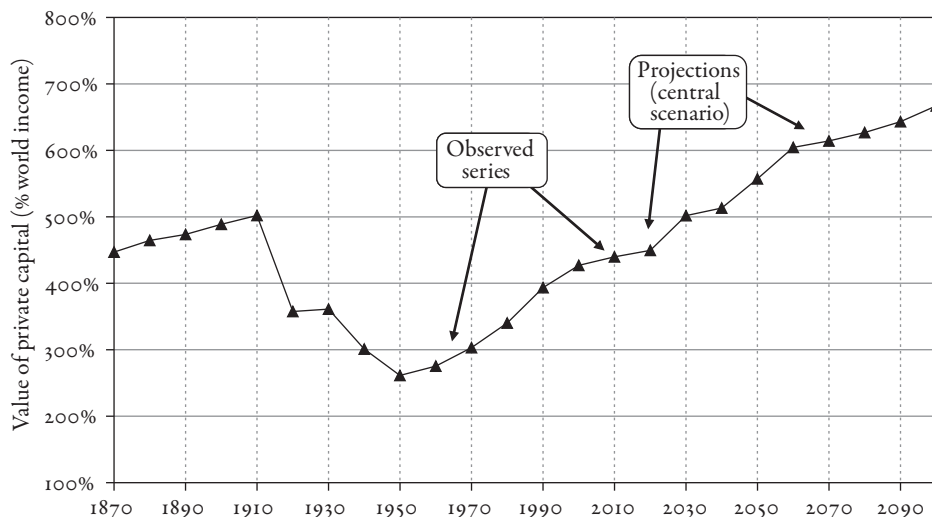


FIGURE 12.4. The world capital/income ratio, 1870–2100

According to the simulations (central scenario), the world capital/income ratio might be near to 700 percent by the end of the twenty-first century.

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

ing with the region's future share of global output. But according to the central scenario, the capital/income ratio would be the same on all continents, so that there would be no major imbalance between savings and investment in any region. Africa would be the only exception: in the central scenario depicted in Figures 12.4 and 12.5, the capital/income ratio is expected to be lower in Africa than in other continents throughout the twenty-first century (essentially because Africa is catching up economically much more slowly and its demographic transition is also delayed).⁴⁵ If capital can flow freely across borders, one would expect to see a flow of investments in Africa from other countries, especially China and other Asian nations. For the reasons discussed above, this could give rise to serious tensions, signs of which are already visible.

To be sure, one can easily imagine scenarios much more unbalanced than the central scenario. Nevertheless, the forces of divergence are much less obvious than in the case of the sovereign wealth funds, whose growth depends on windfalls totally disproportionate to the needs of the populations benefiting from them (especially where those populations are tiny). This leads to endless

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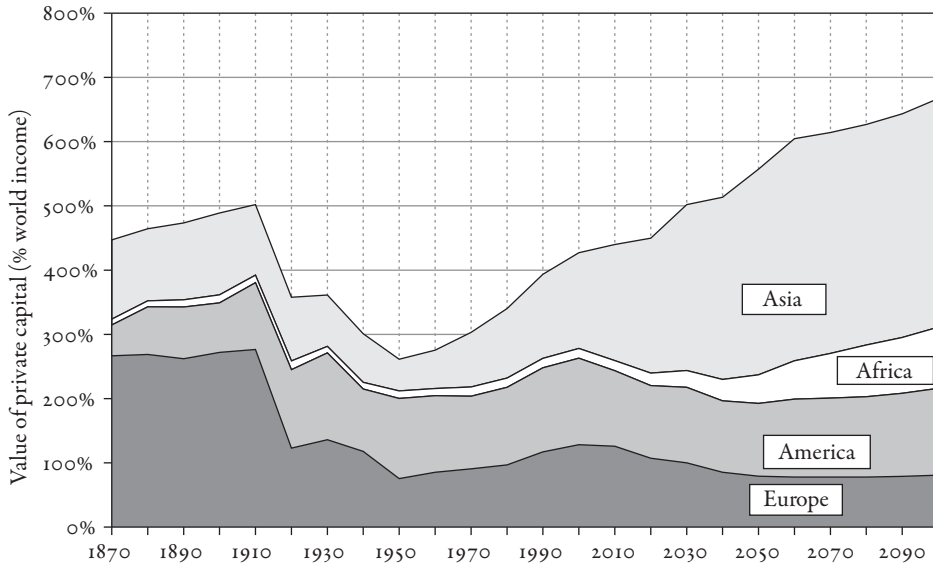


FIGURE 12.5. The distribution of world capital, 1870–2100

According to the central scenario, Asian countries should own about half of world capital by the end of the twenty-first century.

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

accumulation, which the inequality $r > g$ transforms into a permanent divergence in the global capital distribution. To sum up, petroleum rents might well enable the oil states to buy the rest of the planet (or much of it) and to live on the rents of their accumulated capital.⁴⁶

China, India, and other emerging countries are different. These countries have large populations whose needs (for both consumption and investment) remain far from satisfied. One can of course imagine scenarios in which the Chinese savings rate would remain persistently above the savings rate in Europe or North America: for example, China might choose a retirement system funded by investments rather than a pay-as-you-go system—a rather tempting choice in a low-growth environment (and even more tempting if demographic growth is negative).⁴⁷ For example, if China saves 20 percent of its national income until 2100, while Europe and the United States save only 10 percent, then by 2100 a large part of the Old and New Worlds will be owned by enormous Chinese pension funds.⁴⁸ Although this is logically possible, it is

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not very plausible, in part because Chinese workers and Chinese society as a whole would no doubt prefer (not without reason) to rely in large part on a public partition system for their retirement (as in Europe and the United States) and in part because of the political considerations already noted in the case of the petroleum exporting countries and their sovereign wealth funds, which would apply with equal force to Chinese pension funds.

International Divergence, Oligarchic Divergence

In any case, this threat of international divergence owing to a gradual acquisition of the rich countries by China (or by the petroleum exporters' sovereign wealth funds) seems less credible and dangerous than an oligarchic type of divergence, that is, a process in which the rich countries would come to be owned by their own billionaires or, more generally, in which all countries, including China and the petroleum exporters, would come to be owned more and more by the planet's billionaires and multimillionaires. As noted, this process is already well under way. As global growth slows and international competition for capital heats up, there is every reason to believe that r will be much greater than g in the decades ahead. If we add to this the fact that the return on capital increases with the size of the initial endowment, a phenomenon that may well be reinforced by the growing complexity of global financial markets, then clearly all the ingredients are in place for the top centile and thousandth of the global wealth distribution to pull farther and farther ahead of the rest. To be sure, it is quite difficult to foresee how rapidly this oligarchic divergence will occur, but the risk seems much greater than the risk of international divergence.⁴⁹

In particular, it is important to stress that the currently prevalent fears of growing Chinese ownership are a pure fantasy. The wealthy countries are in fact much wealthier than they sometimes think. The total real estate and financial assets net of debt owned by European households today amount to some 70 trillion euros. By comparison, the total assets of the various Chinese sovereign wealth funds plus the reserves of the Bank of China represent around 3 trillion euros, or less than one-twentieth the former amount.⁵⁰ The rich countries are not about to be taken over by the poor countries, which would have to get much richer to do anything of the kind, and that will take many more decades.

What, then, is the source of this fear, this feeling of dispossession, which is partly irrational? Part of the reason is no doubt the universal tendency to look elsewhere for the source of domestic difficulties. For example, many people in France believe that rich foreign buyers are responsible for the skyrocketing price of Paris real estate. When one looks closely at who is buying what type of apartment, however, one finds that the increase in the number of foreign (or foreign-resident) buyers can explain barely 3 percent of the price increase. In other words, 97 percent of today's very high real estate prices are due to the fact that there are enough French buyers residing in France who are prosperous enough to pay such large amounts for property.⁵¹

To my mind, this feeling of dispossession is due primarily to the fact that wealth is very highly concentrated in the rich countries (so that for much of the population, capital is an abstraction) and the process of the political secession of the largest fortunes is already well under way. For most people living in the wealthy countries, of Europe especially, the idea that European households own 20 times as much capital as China is rather hard to grasp, especially since this wealth is private and cannot be mobilized by governments for public purposes such as aiding Greece, as China helpfully proposed not long ago. Yet this private European wealth is very real, and if the governments of the European Union decided to tap it, they could. But the fact is that it is very difficult for any single government to regulate or tax capital and the income it generates. The main reason for the feeling of dispossession that grips the rich countries today is this loss of democratic sovereignty. This is especially true in Europe, whose territory is carved up into small states in competition with one another for capital, which aggravates the whole process. The very substantial increase in gross foreign asset positions (with each country owning a larger and larger stake in its neighbors, as discussed in Chapter 5) is also part of this process, and contributes to the sense of helplessness.

In Part Four I will show how useful a tool a global (or if need be European) tax on capital would be for overcoming these contradictions, and I will also consider what other government responses might be possible. To be clear, oligarchic divergence is not only more probable than international divergence, it is also much more difficult to combat, because it demands a high degree of international coordination among countries that are ordinarily engaged in competition with one another. The secession of wealth tends, moreover, to obscure the very idea of nationality, since the wealthiest individuals can to

some extent take their money and change their nationality, cutting all ties to their original community. Only a coordinated response at a relatively broad regional level can overcome this difficulty.

Are the Rich Countries Really Poor?

Another point that needs to be emphasized is that a substantial fraction of global financial assets is already hidden away in various tax havens, thus limiting our ability to analyze the geographic distribution of global wealth. To judge by official statistics alone (relying on national data collated by international organizations such as the IMF), it would seem that the net asset position of the wealthy countries vis-à-vis the rest of the world is negative. As noted in Part Two, Japan and Germany are in substantial surplus relative to the rest of the world (meaning that their households, firms, and governments own a lot more foreign assets than the rest of the world owns of their assets), which reflects the fact that they have been running large trade surpluses in recent decades. But the net position of the United States is negative, and that of most European countries other than Germany is close to zero, if not in the red.⁵² All told, when one adds up the positions of all the wealthy countries, one is left with a slightly negative position, equivalent to about -4 percent of global GDP in 2010, compared with close to zero in the mid-1980s, as Figure 12.6 shows.⁵³ It is important to recognize, however, that it is a very slightly negative position (amounting to just 1 percent of global wealth). In any case, as I have already discussed at length, we are living in a time when international positions are relatively balanced, at least when compared with the colonial period, when the rich countries enjoyed a much larger positive position with respect to the rest of the world.⁵⁴

Of course this slightly negative official position should in principle be counterbalanced by an equivalent positive position for the rest of the world. In other words, the poor countries should own more assets in the rich countries than vice versa, with a surplus on the order of 4 percent of global GDP (or 1 percent of global wealth) in their favor. In fact, this is not the case: if one adds up the financial statistics for the various countries of the world, one finds that the poor countries also have a negative position and that the world as a whole is in a substantially negative situation. It seems, in other words, that Earth must be owned by Mars. This is a fairly old “statistical anomaly,” but

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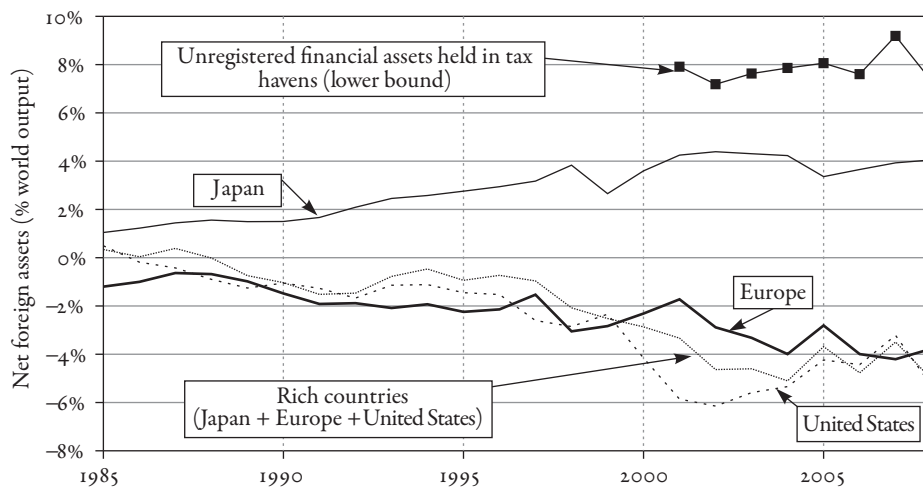


FIGURE 12.6. The net foreign asset position of rich countries

Unregistered financial assets held in tax havens are higher than the official net foreign debt of rich countries.

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

according to various international organizations it has gotten worse in recent years. (The global balance of payments is regularly negative: more money leaves countries than enters them, which is theoretically impossible.) No real explanation of this phenomenon has been forthcoming. Note that these financial statistics and balance-of-payments data in theory cover the entire world. In particular, banks in the tax havens are theoretically required to report their accounts to international institutions. The “anomaly” can presumably be explained by various statistical biases and measurement errors.

By comparing all the available sources and exploiting previously unused Swiss bank data, Gabriel Zucman was able to show that the most plausible reason for the discrepancy is that large amounts of unreported financial assets are held in tax havens. By his cautious estimate, these amount to nearly 10 percent of global GDP.⁵⁵ Certain nongovernmental organizations have proposed even larger estimates (up to 2 or 3 times larger). Given the current state of the available sources, I believe that Zucman’s estimate is slightly more realistic, but such estimates are by nature uncertain, and it is possible that Zucman’s is a lower bound.⁵⁶ In any event, the important fact is that this lower bound is already extremely high. In particular, it is more than twice as large as

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the official negative net position of the combined rich countries (see Figure 12.6).⁵⁷ Now, all the evidence indicates that the vast majority (at least three-quarters) of the financial assets held in tax havens belongs to residents of the rich countries. The conclusion is obvious: the net asset position of the rich countries relative to the rest of the world is in fact positive (the rich countries own on average more than the poor countries and not vice versa, which ultimately is not very surprising), but this is masked by the fact that the wealthiest residents of the rich countries are hiding some of their assets in tax havens. In particular, this implies that the very sharp increase in private wealth (relative to national income) in the rich countries in recent decades is actually even larger than we estimated on the basis of official accounts. The same is true of the upward trend of the share of large fortunes in total wealth.⁵⁸ Indeed, this shows how difficult it is to track assets in the globalized capitalism of the early twenty-first century, thus blurring our picture of the basic geography of wealth.