



## Financial Development, Corporations, and Inequality

Richard Sylla

Modern financial systems, of which corporations are a key component, have increased inequalities of incomes and wealth across nations for several centuries. This has been called “the great divergence,” and some quantitative dimensions of it are set forth here. Financial systems also tend to increase inequalities within nations; the United States is an example discussed here. Inequality does not result from finance, per se, but rather from differential *access* to its benefits. Increasing nations’ and households’ access to finance can reduce inequalities, but that will require more financial education and financial literacy, which at present appear to be woefully inadequate.

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### Introduction

Economic historians have established that economic inequalities *across nations*—in rough terms, The West (and Japan) and the Rest—increased markedly over the course of the last three centuries. Some have branded it as “the Great Divergence.” A number of them relate this great divergence to financial development. It appears that today’s rich nations owe at least some, perhaps a lot, of their riches to the development of their financial systems early in their histories. Less developed nations of today had no such comparable financial development in the past, but it is an important item on their national agenda now. Among the key institutional components of modern financial systems are banks, securities markets, and corporations, the dominant form of business organization of the modern world.

Thomas Piketty’s *Capital in the Twenty-First Century* (2014) suggests that inequalities *within nations* could also be related to financial development, although he doesn’t really explore the suggestion. If one does investigate it in more depth, there are some reasons why the relationship might hold. One is that the banks, securities markets, and corporations of modern financial systems are quite effective in seeking out investment opportunities for which  $r > g$  (i.e. the return to capital is greater than the

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Richard Sylla <[rsylla@stern.nyu.edu](mailto:rsylla@stern.nyu.edu)> is the Henry Kaufman Professor of History of Financial Institutions and Markets and a professor of economics at New York University Stern School of Business. He is the author of several books including *The American Capital Market* and *A History of Interest Rates*.

growth rate of an economy). That is what they are supposed to do (i.e. allocate scarce capital resources to investments with the highest risk-adjusted returns). But not everyone in developed economies today has access to finance, and even smaller proportions of the population had such access in the past. Those with access thus become the major beneficiaries of  $r > g$ , and inequalities of incomes and wealth increase.

Corporate profits, including those of banks, lead to equity market returns in rich economies that typically are well above those economies' rates of overall growth. In the United States of America (which may not be typical), inflation-adjusted equity returns have averaged around six-and-a-half percent per year over long periods of market history, while inflation adjusted economic growth has been lower over those same periods, in the range of three to four-and-a-half percent. If every household held equity proportional to its income and wealth, the return to equity above the rate of growth wouldn't necessarily increase inequalities of income and wealth. But that is far from the case. In modern economies, rich individuals and families own most of the corporate equity, and they also tend to save and invest a higher proportion of their incomes than do the non-rich. This leads Piketty and others to predict that wealth, which is more highly concentrated than incomes, will tend to become ever more concentrated as incomes and wealth increase.

This paper considers some of the evidence that financial development increases inequality across and within nations. If there is a tendency for financial development, usually considered a good thing because it leads to economic growth, to increase economic inequality, which is usually considered problematical, if not a bad thing, can anything be done about it? Piketty thinks so, and in the more controversial part of his book he recommends higher income and wealth taxes to reduce inequality. I argue that there is another and perhaps less controversial alternative (or complementary) solution: increase the *access* of more people to the financial system. But access by itself is not enough. Access to finance without knowledge of what it can and can't accomplish often leads to bad results. Therefore, we need to couple increased access to finance with greater financial education and financial literacy, both of which, many studies show, appear to be woefully inadequate at present.

### **Key Institutional Components of Modern Financial Systems**

Just what is a modern financial system? In my own work as an economic and financial historian, I have identified six key components of such a system:

- Strong governmental finances and public debt management
- Stable money
- An effective central bank
- A banking system
- Efficient securities markets—bond, stock, and money markets
- Corporations, financial and non-financial, that enable individuals to pool their resources to take advantage of capital-intensive technologies and economies of scale

Each of these components interacts with the others to create the synergies of modern financial networks. When all of the components are working well, there are positive network externalities that lead to modern economic growth. Entrepreneurs, corporations, and governments receive financing. When there is a breakdown in one part of the

network, the effects spread to other parts of it, as happened in 2007-2009, to create negative network externalities, aka financial crises. Credit channels dry up, asset prices fall, and the economy contracts.

In modern history, several nations had what some of us call financial revolutions. These can be thought of as creating in a short period of time all the key components of a modern financial system. The first was the Dutch Republic four centuries ago. Next was the United Kingdom, emulating the Dutch three centuries ago. The USA, emulating the Dutch and British examples, did it a little over two centuries ago in the 1790s. Japan emulated the others when it modernized its financial system in the 1870s and 1880s. These four countries had unique histories and they were quite different from one another when they began to modernize their economies. But they had one thing in common, modern finances early in their modern histories. That led to rapid economic growth and the great divergence.

### **Effects of Financial Modernization: Great Divergences Across Countries**

The results of financial modernization can be seen in Table 1, which shows the evolution of several nations' real GDPs per capita relative to one another and the world at a number of benchmark dates over the last five centuries.

The first comparison in Table 1 is of the Netherlands (Dutch Republic in 1600 and 1700) with Spain, the country from which the Dutch declared independence and then successfully realized it in the Eighty Years War of 1568 to 1648. In 1500, the two were similar with real GDP's per capita a quarter to a third above the world average. Spain, often recognized as the most powerful state of the 16<sup>th</sup> century, advanced to one-and-a-half times the world average in 1600, but then marked time for the next four centuries. The Dutch Republic, in the early phases of financial modernization, did much better, reaching 2.3 times the world average in 1600, and then remained about three times the world average for the next four centuries. With modern finances, the Dutch could always make timely payments to their soldiers, sailors, and public creditors, while Spain could not. Modern finances made it possible for the Dutch to borrow much more money than Spain could, and at much lower interest rates. Hence, the tiny Dutch Republic won its independence from imperial Spain, a much larger country (Hart, 2014, chap. 7).

For a second set of countries in the table, one can tell a similar story about France and the UK (or Great Britain). France was the larger country. It fought numerous wars with Britain from 1688 to 1815, and Britain won all of them. The key difference was that Britain modernized its finances by emulating and improving on the Dutch model after 1688, so it could borrow much more money at much lower interest rates than could France, both before and after the industrial revolution that began in the second half of the 18<sup>th</sup> century (Dickson 1967, Brewer 1989, Ferguson 2001). John Law tried but failed to modernize France's finances from 1715 to 1720, and so the lead in GDP per capita that Britain had already built up by those years increased over the next two centuries.

If the comparison shifts to the UK and the USA, there has to be a different story. The data in the table indicate that the USA was a poorer country than the UK until the late 19<sup>th</sup> century, and its finances were pre-modern in the late 18<sup>th</sup> century when it won its War of Independence from the UK. The data might be wrong, as more recent evidence indicates that all but the very richest American colonists compared favorably with their British counterparts in the late colonial era before 1776 (Lindert and Williamson, 2013, p. 757). That would be consistent with the observed large net movement of people from the UK to

British North America. But there is no denying that American finances were primitive compared to the UK's during the War of Independence. So how could Americans prevail? Better military leadership? Timely financial and military aid from France (and some financial help from Spain) because Britain's enemy was their friend? Luck?

Whatever the answer, it is well documented that the USA modernized its finances very quickly in the early 1790s, and parlayed that into becoming the most successful emerging market of the next two centuries. By the 20<sup>th</sup> century it was both larger and richer than either the UK or France, and in a return of old favors it helped to prevent them from being defeated in World Wars I and II.

The last set of countries in Table 1 is perhaps the most interesting of the three sets. In the pre-modern world of 1500, 1600, and 1700, China, India, and Japan are close to each other and to the world average of per capita real GDP. This hardly surprising since China and India then, before the great divergence, contained (and still contain) a large proportion of the world's population. Even by 1820, although slipping down a little, all three were not far off the world average. For the next 150 years, China and India decline sharply relative to world average real GDP per capita; by 1970 each is barely a fifth of the world average. They missed out on the modern technologies and revolution in productivity brought about by industrialization in other parts of the world, chiefly Western Europe, North America, and Japan.

Japan is a most interesting case. Isolated by choice from the rest of the world for two-and-a-half centuries after 1600, Japan opened up (or was opened up) in the 1850s. Then the Meiji-era reformers pursued rapid modernization after 1868. Learning history's lessons, the main way they did so was to modernize Japan's finances—by introducing all the key components of modern financial systems—in the 1870s and 1880s (Sylla, 1999). From 1870 to 1940, apart from Japan and the USA, every country in the table loses ground relative to the world average, and Japan's gain, starting from a much lower level, is even more rapid than that of the USA. In an Asian version of the great divergence, Japan moved far ahead of China and India during the century after 1870.

The evidence seems pretty clear that financial modernization, usually prompted by political and military objectives, was at the heart of the economic great divergence across the world's countries during the past two-to-three centuries. The Dutch financial revolution preceded the country's Golden Age. The British financial revolution preceded the First Industrial Revolution. The US financial revolution preceded the country's rapid rise in the world. And Japan's financial revolution in a matter of decades made Japan a world power, and in some more decades, the one non-Western country to equal the rich Western countries in just about every economic aspect.

A few of the world's countries had access to modern finance early in their histories and as a result of it became very rich. Most did not. A glance at the table makes it evident that uneven access to finance, and therefore to modern economic growth, made the world a more unequal place in the second half of the 20<sup>th</sup> century than it had been at any time in the past 500 years, and probably at any time in history. In 1973 and 1990, the USA had a per capita GDP 15-20 times greater than the per capita GDPs of China and India. Such inequalities across nations were not so great before the late 20<sup>th</sup> century.

### **Effects of Financial Modernization: Inequalities Within Developing Economies**

Economic historians put technological change at the forefront of factors explaining the explosion of incomes, wealth, and living standards during the past two-to-three centuries. They ought to include finance—introducing modern financial systems—among the important technological changes. But typically, if they consider finance at all, they don't consider it to be a technology. This is the economic-history equivalent of the tendency of economists to think that the economy can be divided into “real” and “monetary” sectors, with almost everything important happening in the former except the determination of the price level by money, which at least in the long run is “neutral.” It was this tendency, along with a lack of attention to finance apart from money, that led to the failure of almost all economists to foresee the build-up to the 2007-2009 crisis, and then to be flummoxed by it when it happened.

Since finance is a modern technology, we should expect it, like other modern technologies, to have strong impacts on some economic sectors—those that use modern financing—and limited impacts on others that don't make much use of it. Substitute “countries” for “economic sectors” in the previous sentence, and we are back at Table 1. Japan and China were at roughly the same levels of real output per capita from 1500 to 1870, but by 1913 Japan in the early stages of the Meiji Revolution had two-and-a-half times China's output. Then Japan, armed with financial and other modern technologies pulled far ahead; in 1940 output per person in Japan was five times China's. In 1973, it was 13 times, and in 1990, as China was beginning to awake from its long economic slumber, it was still 10 times. Obviously financial and other modern technologies increase inequality across nations.

Why should we expect a different outcome within a nation? Although mobility of goods, services, and the factors of production are likely greater within a country than between countries, even within a country, access to modern technologies including finance is uneven. At the start of economic modernization, most people in the economy are farmers. Then, if there is a financial revolution, suddenly banks, stock markets, and corporations appear and they finance—mostly—new, highly productive technologies, in the manufacturing and transportation sectors. The rapid expansion of these sectors in response to high profits creates wage gaps between the modern sectors and farming. Such wage differentials induce farmers to abandon their farms and move to cities and towns to become industrial, transportation, and service workers. That's what happens in the early and middle phases of industrialization and economic modernization in most industrializing nations. It is a gradual process, not one that happens quickly. As it unfolds gradually, inequalities of incomes and wealth arise between urban and rural areas, and between industrial and agricultural regions. These inequalities are mostly an effect of economic modernization. But as long as they persist, they sustain the momentum of modernization by creating opportunities (e.g., for farmers to better themselves).

In the later phases of modernization, what once happened to farmers happens to industrial workers. Productivity-enhancing technologies reduce the demand for wage workers even as they increase industrial output. Industrial workers and their children take jobs in the service sector, well-paid ones if they are educated and low-paid ones if they aren't. Most workers in the modern economy are neither farmers nor industrial laborers.

Is this general analysis borne out by concrete historical examples such as, say, the USA's economic development? It appears to be. In their 1980 study of inequality

throughout American history, Williamson and Lindert detected a marked increase in inequalities of wealth in the early to mid-19<sup>th</sup> century when the nation was industrializing. The ratio of the average wealth of the top one and 10 percent to the average of all other groups roughly tripled between 1774 and 1860, with most of the change occurring, they argued, between 1820 and 1850 (Williamson and Lindert, 1980, p. 62). Inequality remained at high levels, apart from occasional short interruptions such as World War I, from the Civil War era to 1929. After 1929 began a half century of leveling, or reduced inequality, that continued into the 1970s.

Williamson and Lindert predicted in 1980 that the post 1929 leveling would continue, or at least that the more equal distribution of income and wealth that emerged in the previous half century would persist. We now know that their prediction was terribly inaccurate. Piketty and others have shown that in the third of a century after 1980, inequality has increased dramatically. It will be interesting to see what Williamson and Lindert say about this in their forthcoming book on American incomes, wealth, and inequality.

It is also interesting that the half century of leveling in America after 1929 was associated with financial repression. As far as banking is concerned, after the thousands of bank failures of the Great Depression, the New Deal reformers introduced a heavily regulated, federally insured, and cartelized version of banking, intended to make it safe. That was fine for a time; hardly any banks failed from 1933 into the 1970s, and three-six-three (borrow at three percent, lend at six percent, and tee off at the golf course at 3pm) banking was the norm. But in time, the banking system lost share to the less regulated money and capital markets. It demanded deregulation, and a new generation of reformers supplied it.

As far as the capital markets were concerned, although they were somewhat less regulated than banking by the New Deal reforms, they were not free to allocate capital globally. The so-called trilemma says that an economy can have no more than two of three good things, namely fixed exchange rates, central bank discretion, and free international capital flows. During the leveling period in the US, the first two were chosen, which meant that governments regulated capital movements and they, along with international organizations, not capital markets, were in charge of capital flows. Only after the breakdown of the Bretton Woods fixed-exchange-rate system in the early 1970s could markets once again allocate capital internationally. Such restrictions on capital markets for four decades after 1933 were another form of financial repression. When they were gradually abandoned, a new era of financial globalization emerged.

In more recent work on trends in growth and income inequality from the late colonial period of US history to 1840, Lindert and Williamson (2013) find that income was distributed fairly equally in 1774, before (as their earlier work had shown) it became less equally distributed as modernization took hold in the first half of the 19<sup>th</sup> century. That modernization, their data indicate, was more rapid from 1800 to 1840 than virtually all previous work had indicated, but only in two of the three US regions they study. They find that in New England, real income per capita increased at rates of 2.3 to 2.4 percent per year from 1800 to 1840, and in the Middle Atlantic region, the rates ranged from 1.6 to 1.8 percent per year. The South Atlantic region grew more slowly at rates of 0.5 to 0.7 percent. Overall, the US real income per capita grew at rates of 1.4 to 1.6 percent in the first four decades of the 19<sup>th</sup> century (Lindert and Williamson, 2013, p. 750). These early growth rates are only slightly below the long-term rates calculated by others for the US

over one-and-a-half or two centuries. It seems that modern economic growth characterized the US from its beginning, and the growth was centered in the New England and Middle Atlantic regions.

We can associate the early 19<sup>th</sup> century's faster growth of the New England and Middle Atlantic regions, and presumably the rising inequalities of incomes and wealth detected by Lindert and Williamson, with financial development. Table 2 shows why. The two northeastern US regions contained about half of the US population—50 percent of it in both 1790 and 1800, and then a slow decline to 43 percent in 1830 and 1840. All 20 banks in the US were located in the two regions in 1795, and that share also declined slowly to 1835, when the two regions' 474 banks represented 81 percent of the total for the nation.

Legislatively chartered corporations (left out are some general incorporations, but these were not so important before the 1840s) reveal a similar story. In the 1790s, the 200 charters granted by New England and Middle Atlantic states were 81 percent of all charters granted in that decade. Over the next three decades, the New England/Middle Atlantic shares of all incorporations were 0.88, 0.69, and 0.77. Only in the 1830s did the rest of the country come to charter almost as many corporations as did the state legislatures of the two old northeastern regions.

Besides banks and corporations, securities markets are third key component of modern financial systems. Almost all of them—Boston, New York, Philadelphia, and Baltimore—and all the formal stock exchanges—Philadelphia and New York—in these early decades were in the New England and Middle Atlantic regions. We know, of course, that it was precisely in these two regions where most of the country's economic modernization was taking place. It was there that economic growth was greatest, and it was there that inequalities of incomes and wealth increased the most. Modern financial arrangements had a large role in all this.

## Conclusion

What are the “take-aways” (as we say in business schools) from the foregoing analysis?

First, as historical examples demonstrate, financial modernization, including the proliferation of banks, corporations, and securities markets, leads to economic growth. It is not the other way around. The Dutch, the British, the Americans, and the Japanese all modernized their finances *before* their economies shot ahead of their neighbors and other countries around the world. Once sustained growth sets in, of course, economic expansion has feedbacks that encourage financial-system expansion.

Second, by promoting economic growth and development, modern financial systems increase inequalities of incomes and wealth across nations and within them. Are those inequalities good, bad, or just inevitable aspects of capitalism's creative destruction? Opinions vary. Piketty and others view inequality as bad and call for more progressivity in income taxation and taxes on wealth. Conservatives and libertarians think that's a bad idea because it will limit incentives to work hard and be creative, and therefore reduce economic growth. Their theory is straightforward, even good, economics. But they ought to explain why growth in the US was just about the same and its fruits more equally distributed during the leveling period with its financial repression as it has been in the era of deregulation after 1980.

Third, a lot of the history of financial development, economic growth, and rising inequality is really a story about *access*. The rich, developed nations mentioned here, and

others like them, were nations that had access to modern financial technologies one to four centuries ago. Other nations and places did not, and so a huge inequality across nations developed and did not reach a peak until the late 20<sup>th</sup> century. Since then, access to financial and other technologies has become more equal across the world, and inequality across nations is declining.

Within countries, access to the traditional banking system, securities markets, and corporate forms of enterprise has improved, but is still limited. The poor still rely on loan sharks and payday lenders; the banks don't particularly want their business. Access to securities investing has increased a lot, but many people still stay away from it because they don't really understand it and/or deem it too risky. So they hold their financial wealth in low-interest bank and thrift accounts if they save at all, and many do not save as much as they should. For many people, it is probably easier today to form a corporation than it is to open a bank account or learn about the equity and bond markets, but for most of these people there likely is no good reason to start a corporation.

In rich countries, however, most people are not poor, and the financial system has greatly increased access to financial products. The masses have credit cards, which are convenient in making payments but an expensive way to access credit; there is too much credit-card debt. Home equity lines of credit are another form of modern access to finance, but recent experience indicates that they were overused and came to threaten home foreclosures. These examples indicate that access to finance is not enough. Access has to be coupled with greater financial literacy.

Financial literacy and financial education are much studied today, and as indicated at the outset of this paper, most studies report that financial literacy and education are woefully inadequate. Like other products, financial products can prove dangerous if the people who use them don't understand how they work and what they can and cannot do. The Dodd-Frank law of 2010 addressed this issue by creating the Consumer Financial Protection Bureau, a controversial step possibly in the right direction but hardly a solution to the problem of widespread financial illiteracy.

If Piketty is successful in persuading governments to increase taxes on top income earners and the wealthiest one or 10 percent (who may own as much as 80 percent of corporate stock), I would hope that some of the revenue would be used to increase financial literacy by funding programs of financial education. That would further increase access to finance, possibly in ways that might help to reduce inequalities of incomes and wealth. Without public or private expansion of financial education, those with access to finance and the knowledge to use it properly will likely increase their incomes and wealth faster than those who have access but lack knowledge and those without either access or knowledge. In that case, finance will continue to increase inequalities of income and wealth, as it has for the past four centuries.

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DATE	COUNTRY								
	SPAIN	NETHERLANDS	FRANCE	UK	USA		JAPAN	CHINA	INDIA
1500	1.24	1.33	1.29	1.26	0.71		0.88	1.06	0.97
1600	1.52	2.31	1.41	1.64	0.67		0.88	1.01	0.93
1700	1.46	3.43	1.6	2.03	0.86		0.93	0.98	0.89
1820	1.3	2.63	1.59	2.91	1.91		0.9	0.84	0.75
1870	1.37	3.1	2.27	3.77	2.76		0.83	0.6	0.6
1913	1.33	2.62	2.26	3.13	3.43		0.89	0.36	0.44
1940	0.95	2.41	2.19	3.14	3.21		1.31	0.26	0.31
		1939	1939						
1950	1.04	2.85	2.46	3.3	4.54		0.91	0.21	0.29
1973	1.88	3.2	3.14	2.95	4.1		2.8	0.21	0.21
1990	2.34	3.35	3.42	3.19	4.51		3.65	0.36	0.25
2010	2.15	3.11	2.75	3.04	3.9		2.81	1.03	0.43
Sources: For 1500-1700, derived from Angus Maddison, <i>The World Economy: A Millennial Perspective</i> (2001), Table B-21, p. 264.									
For 1820-2010, the Madison Project database: <a href="http://www.ggdc.net/maddison/maddison-project/data.htm">http://www.ggdc.net/maddison/maddison-project/data.htm</a>									

**Table 2. New England and Middle Atlantic number and shares of all US banks and legislatively chartered corporations, 1790-1840**

Banks			Corporations		
Date	Number	US share	Date	Number	US share
1795	20	1	1790s	200	0.81
1805	64	0.9	1800s	683	0.88
1815	178	0.84	1810s	1050	0.69
1825	281	0.85	1820s	1214	0.77
1835	474	0.81	1830s	2606	0.51

Sources: Banks, Sylla (1998); Corporations, Sylla and Wright (2013)