

Fiat Money and the Distribution of Incomes and Wealth

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Abstract: Under a fiat money system, the money supply is subject to the human will. It therefore tends to grow faster than under a commodity money system. We analyse the implications of this fact for the distribution of incomes, and especially for the distribution of wealth. We argue that fiat money systems tend to increase the gap between incomes and wealth and also tend to leverage income differences into even greater differences of wealth.

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Fiat Money and the Distribution of Incomes and Wealth

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ABSTRACT

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KEY WORDS

Fiat money; monetary policy; income distribution; wealth distribution; income-wealth gap

RESUME

L'offre de monnaie fiduciaire est librement choisie. Aussi croît-elle plus rapidement que l'offre de monnaies-marchandises. Nous analysons les implications de ce fait pour la distribution des revenus et des patrimoines. Selon nous, les régimes fiduciaires ont tendance à creuser les écarts entre revenus et patrimoines, et à transformer les différences entre les revenus en différences d'autant plus grandes sur le plan des patrimoines.

MOTS CLEF

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Fiat Money and the Distribution of Incomes and Wealth

Jörg Guido Hülsmann

In the present paper we deal with the impact of monetary policy on incomes and wealth.* We shall start off discussing a few basic theoretical issues and then provide some statistical illustrations for the case of US.

The term monetary policy is today usually understood to refer to the actions of central banks and similar public and semi-public authorities that have control over the “printing press” and thus control the production of fiat money. Indeed, without the possibility to produce fiat money at virtually zero cost there would be no such thing as monetary policy (see Mises 1981, p. 250).

Fiat money systems have been created because they allow for a faster and larger production of money than the traditional commodity money systems. Historically, governments have sought to promote the creation of money not least of all because artificial increases of the money supply are easy ways to fill the public purse. Moreover, various theoretical considerations suggest that an “elastic” money supply might be useful in promoting economic growth.

The bottom line is that, under a fiat money system, the money supply is subject to the human will. It therefore tends to grow faster than under a commodity money system. What

* Our paper is an extended version of the section ‘Gewinner und Verlierer’ in Hülsmann (2013, pp. 195-203) and will appear subsequently in Hülsmann (forthcoming).

are the consequences of this fact for real and monetary incomes? What does it imply for aggregate wealth and the structure of wealth? In what follows, we will start off discussing the impact of money production on the distribution of incomes. Then we shall turn to analysing its impact on the distribution of wealth. Here we shall argue that fiat money systems tend to increase the gap between incomes and wealth, and also tend to leverage income differences into even greater differences of wealth. We then round up our study by considering statistical evidence.

Money Production and the Distribution of Incomes

The starting point for any serious reflection on our subject is the fact that money production does not bring about uniform and simultaneous changes. An increasing money supply tends to entail a higher money price level, but the individual prices change at different points of time and each to a different extent (i.e. Cantillon effects).

As a consequence, money production creates winners and losers. The *winners* are those who can use the new money first, because at this point in time the money prices of the other goods are still relatively low. Due to these expenditures, prices and incomes gradually increase, and in this way the new money spreads through the economy. The *losers* of this process are those who only later – or last of all – enjoy a higher money income. This is because they are already having to pay the higher prices, created by the increased money expenditure of the early users of the new money, out of their previous lower income.

Strictly speaking this distributive effect is independent of the question whether the additional money is actually being spent, and of whether such spending entails any price

changes. For example, in the past five years, the Fed has repeatedly increased the base money supply on a massive scale, while the impact on the price level has remained quite moderate.¹ Nevertheless this increase in the base money supply amounted to a large-scale redistribution, because some market participants received large quantities of a qualitatively better type of money (base money) while the overall money supply (including fiduciary media created by commercial banks) and the price level remained relatively stable.² As a comparison, think of the croupier in a casino, who right at the start of a poker game deals one of the players a few additional aces. The game hasn't even begun, and all players have the same amount of cards, but the privileged player already has the upper hand. We have the same situation here. The overall money supply has not been increased and thus the price level has not yet risen, but some market participants have, in relative terms, improved their position enormously.

¹ The Fed has increased the base money supply from 848 b\$ in August 2008 to 1.711 b\$ one year later, which makes for a 102% increase; then again from 1.961 b\$ in October 2010 to 2.638 b\$ one year later, representing a 35% increase; and again from 2.619 b\$ in June 2012 to 3.201 b\$ one year later, being 22% increase (all data from St Louis Fed, times series BOGMBASE). Similarly, in 2011 the ECB has increased the base money supply from about 1.9 to about 2.7 trillion euros, without the price level increasing strongly during that and the following two years.

² As far as the price level is concerned, available data quality has been questioned by John Williams (shadowstats.com) who argues that the relative price stability in the BLS statistics of the past thirty years is due in no small part to the new ways of calculating the official price level. Applying the traditional calculation methodology, Williams finds that the old-method price-inflation figures are about 7 percent higher than the new-method figures.

Distributive effects of money production exist in every monetary order.³ However, in the case of a natural order based on silver and gold, the distributive impact of money production is severely limited, because money production itself is very limited due to its high costs. The situation is entirely different in our contemporary fiat money system. Here money production is pushed far beyond the level it would reach on a free market. As a result it causes a redistribution of income and money wealth far beyond what would be expected on a free market.

Some economists do not agree. They argue as follows: In our contemporary monetary systems, money is being produced in the form of credit. Central banks and commercial banks do not dig money out of the ground and spend it; they create money by creating credit. Now in that case, it makes no difference who receives the new money first, as the beneficiary is no richer than before. After all, the new money was lent, not given. The gross wealth of the beneficiary rises, indeed, but his debts now rise to the same extent as well. For example, if Mr Jones takes out a loan of one million dollars to buy a house, his *net* wealth does not rise by one cent. It's true that his *gross* wealth is now greater, namely by the said million, but his debts have risen by exactly the same amount.

So far, so good. However, even if we pay due attention to the difference between gross and net wealth, the fact remains that it *does* make a difference whether Jones gets the house due to money creation. The difference is that *Jones* now lives in the nice house, which

³ Moreover, they are not strictly speaking exclusive effects of the production of *money*, but result from *any* production process (see Mises 1981, pp. 237f).

without money creation would have been sold at a lower price to someone else. *He* can now live there with his family. *He* receives his guests there. If we look at the funding of firms, the impact is even greater. Here again it's true that money creation does not necessarily lead to changes in the respective net company fortunes, but it influences the kind of products that now enter the market. Loans to a manufacturer of men's shoes enable *him* to realize his projects. Because of the loan he can pay higher wages and higher prices for leather than, say, the manufacturers of lady purses. The shoe production expands while purse production stagnates or shrinks. Shoe wearers are better off, and purse carriers are worse off.

Thus our above conclusion is confirmed: Money production always affects the distribution of real *incomes*. The first money users win, the last ones lose. But money production also has an impact on the financial structure of society, and thus on the distribution of wealth. This impact is complex and we cannot fully discuss it in the present paper.⁴ We merely wish to focus on one important aspect, namely, on the fact that, in fiat money systems such as ours, in which money is being created in the form of debt, financial markets tend to grow faster than in commodity money systems.

Money Production, Financial Markets, and the Income-Wealth Gap

It is a well-known fact that, for most of the 20th century and until the present time, in virtually all countries of the developed world, financial markets have grown faster than the

⁴ For a more detailed discussion see Huerta de Soto (2006) and Hülsmann (2013).

factor markets and the product markets of the “real” economy (cf. Demirgüç-Kunt and Levine 2001, Levine 2005). This tendency has been particularly patent in the past thirty years. The academic literature has explained this over-proportional growth by focusing on the services provided by financial markets, and financial intermediaries in particular. By contrast, the role of the monetary system in this growth story has been almost completely neglected.⁵

As we have recently shown (Hülsmann 2013, chap. 8), there are at least three mechanisms or channels through which a fiat money system facilitates the growth of financial markets: (1) because financial titles are particularly useful securities in debt contracts; (2) because foreseeable price-inflation, a common consequence of fiat money systems, discourages money hoarding and encourages both the demand for, and the supply of, financial titles; (3) because the production of money through central banks is a matter of sheer human will and therefore creates moral-hazard problems leading to both an artificially high demand for financial titles, and an artificially big supply thereof.

The implication is that fiat money systems modify the relationship between current monetary incomes and wealth. The latter increases relative to the former. It takes more years of work and earning income to accumulate any given level of wealth. In other words, fiat money systems leverage the wealth gap between the haves and the have-nots (respectively the have-not-yets). New wealth needs longer to catch up with old wealth; and

⁵ Exceptions can be found in particular in the Austrian literature, e.g. Howden (2007) and Hülsmann (2008, chap. 13).

those who lose wealth through bad investments or expropriation need longer to get back to where they were. Ultimately, this means that fiat money systems tend to slow down upward social mobility. They hamper what Vilfredo Pareto (1966 [1909]) called the “revolution of elites” and thus contribute to turning a free society into a caste society.

Let us illustrate this wealth-gap leverage effect with a back-of-the-envelope calculation. Assume for simplicity’s sake that all loans have a fixed interest rate; and that in all cases the widespread rule of thirds is applied, i.e. the maximum debt servicing any person is allowed to commit to, is limited in each case to a third of his net income.⁶ Thus suppose three representative people: A blue-collar worker earning a monthly income of \$1,800, a white-collar worker earning \$3,600 and a high-ranking civil servant earning \$7,200. If all three had borrowing costs of 10%, the blue-collar worker could obtain a loan of about \$72,000; the white-collar worker a loan of about \$144,000; and the civil servant a loan of about \$288,000.

Here the initial incomes have been multiplied through the loan market. However, notice that the *relative differences* between the loan amounts correspond exactly to the proportions between the incomes on which they are based. The civil servant earns twice as much as the white-collar worker, so the loans that he can service are always twice as big as those of the white-collar worker. In other words, *distribution of the wealth acquired on credit* in our example *mirrors the distribution of income*. The loan market itself does not have any influence on the

⁶ So for example if A has an annual net income of 36,000 dollars, then the maximum debt servicing he is allowed to commit to is limited to 12,000 dollars.

distribution of the wealth acquired on credit if all market participants take out loans at the *same* interest rate and at the *same* ratio with their income.

Under these assumptions, as we have stated before, the loan market affects the relation between current monetary *income* and financial *wealth*. If all market participants start taking out loans to buy property (especially real estate and equity shares of firms), then the prices of these goods, which cannot be increased *ad libitum*, will start to increase. Thus the buyers need to work and earn income for longer periods as compared to a situation in which fewer people were to finance their purchases with loans.

From a microeconomic perspective, the loan market *always confers advantages in the short run*, because at the moment when the loan is made it enables the beneficiary to buy and control more goods than he otherwise could. But whether any such advantage also exists in the long run depends, from the point of view of the debtor, on the relationship between his debt service and his future income.

Now the fact is that fiat money systems tend to create permanent positive price-inflation rates. This means that prices and monetary incomes are on a steady growth path. Among the beneficiaries of this tendency are all those people who have to serve loans at fixed interest rates, whether they be households, firms, or governments. Indeed, the incomes of all sectors tend to rise with the price level, and thus the fixed interest-rate payments represent an ever-smaller burden on individual budgets. In other words, the individual short-run benefits of the loan market then tend to turn into individual long-run benefits. Under a fiat money system, therefore, there are strong incentives to buy goods (especially

durable goods) on credit, and this leverages, as we have seen, the wealth gap between the haves and the have-nots.

This leverage effect depends most notable on the interest rate. Assume that the borrowing costs in our above example went down from 10% to 5%. Then the loan amount for the blue-collar worker would go up to \$144,000, the white-collar worker's to \$288,000 and the civil servant's to \$576,000. If the loan costs were to fall even more, to 2%, the loan for the blue-collar worker would rise to \$360,000, the white-collar worker's to \$720,000, and the civil servant's to \$1,440,000. Again, the *relative differences* between the loan amounts correspond in each case exactly to the proportions between the incomes on which they are based. The civil servant earns twice as much as the white-collar worker, and the loans that he can service are still always twice as big as those of the white-collar worker. Notice in particular that the proportions remain unchanged even as the *absolute differences* multiply in number. At borrowing costs of 10 percent the public official can borrow (and consequently spend) \$200,000 more than the blue-collar worker. At borrowing costs of 2 percent the difference amounts to more than \$1,000,000. But the relations between the loan sums remain always the same. The civil servant can always borrow and spend four times as much as the blue-collar worker, and twice as much as the white-collar worker.

In other words, we see again that the distribution of *wealth acquired on credit* mirrors the distribution of the underlying incomes, independent of the interest rate. But the general relation between current monetary income and wealth *does* depend (we might add: by definition) on the interest rate. The lower the interest rate, the longer one needs to work and earn income to accumulate any given level of wealth.

Leveraging Income Differences into Larger Wealth Differences

Thus far we have seen that fiat money systems leverage the wealth gap between the haves and the have-nots (and the have-not-yets) through the loan market. This leverage effect obtains even when we assume, as we have done so far, that *all* market participants can take out loans at the *same* interest rate and at the *same* ratio to their income.

But this assumption is rather unrealistic. In fact, it is more difficult for households with lower incomes to restrict their consumption than for those with higher incomes. The ratio between credit and income will therefore be lower for the former than for the latter. Moreover, the loan terms (including the interest rate) for households with higher incomes are as a general rule more favourable than for those with lower incomes. Therefore, the distribution of wealth acquired on credit does not simply mirror the distribution of the underlying incomes. Rather, the loan market tends to leverage income differences into even larger wealth differences. This holds true in any case in the short run; and in fiat money systems, it also tends to hold true in the long run.

In a natural monetary order based on precious metals such as silver and gold, there are no special incentives to take out a loan because here prices tend to fall in the long run (price level rises tend to be temporary). Under such circumstances people will do their best to avoid taking out loans, even though they might benefit from them in the short run. For example, in order to finance the purchase of a house, savings are first accumulated and then the purchase is made. It is quite different in a fiat money system, where the central banks intentionally create a positive price inflation rate, even though at a low level. In this

case, there are virtually irresistible incentives to go into debt and, as we have seen, this has significant repercussions on wealth distribution.

This loan-market channel of wealth distribution is reinforced even more by the fact that inflation of the money supply leads, via Cantillon effects to a redistribution of incomes. Among the main beneficiaries of this redistribution are the entrepreneurs and employees of the finance industry. If, for example, a commercial bank receives a loan of 50 billion dollars at 1 percent from the central bank, then it can invest the entire amount in US government bonds, say, at 3 percent. The reason is that, according to current accounting rules, there is *no legal obligation* for the commercial bank to provide one single cent of equity capital; and there is *no prudential reason* to sacrifice any equity capital either, because government securities are known to enjoy the special protection of the central bank. So the commercial bank can finance the entire investment in US government bonds through the central bank, and it gains about 1.5 billion dollars from this procedure. It incurs no significant risks or costs in doing so. It achieves its profit mainly because the central bank loans it the 50 billion under favourable terms and at the same time makes sure that government bond prices do not nosedive too far.⁷

⁷ Incidentally, this explains in good part – perhaps even the best part of – those fabulous bonuses that were often paid out in the financial sector and to some extent still are paid out. The most famous examples are the Goldman-Sachs payouts. In 2010 the average year-end bonus there amounted to \$430,000. The previous year it had been almost \$500,000. These are, as already mentioned, *average* amounts, based on all employees from the cleaner to the top manager (see Treanor 2011).

Statistical Evidence

The foregoing considerations can be very nicely illustrated with some relevant statistics. The last thirty years, especially in the US, have provided an ideal environment for the above-mentioned mechanisms to fully develop. There has been low but constant price inflation; a permanent redistribution of income via the printing press; relatively great freedom of movement on the financial markets; and constantly decreasing interest rates. In particular the 30-year fixed rate mortgage average has gone down for decades (see figure 1).

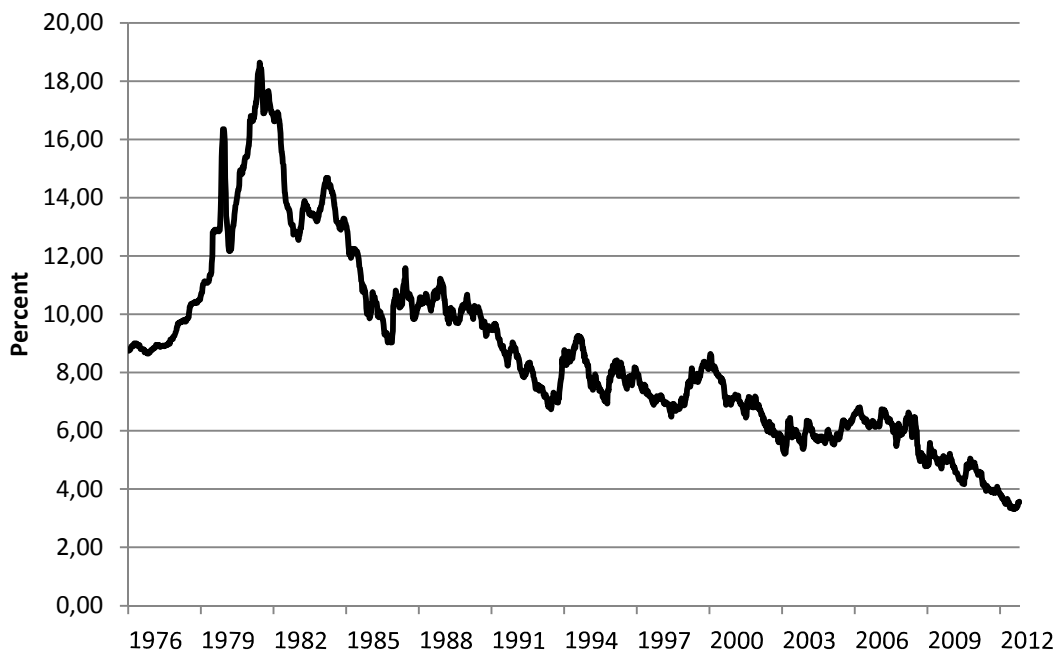


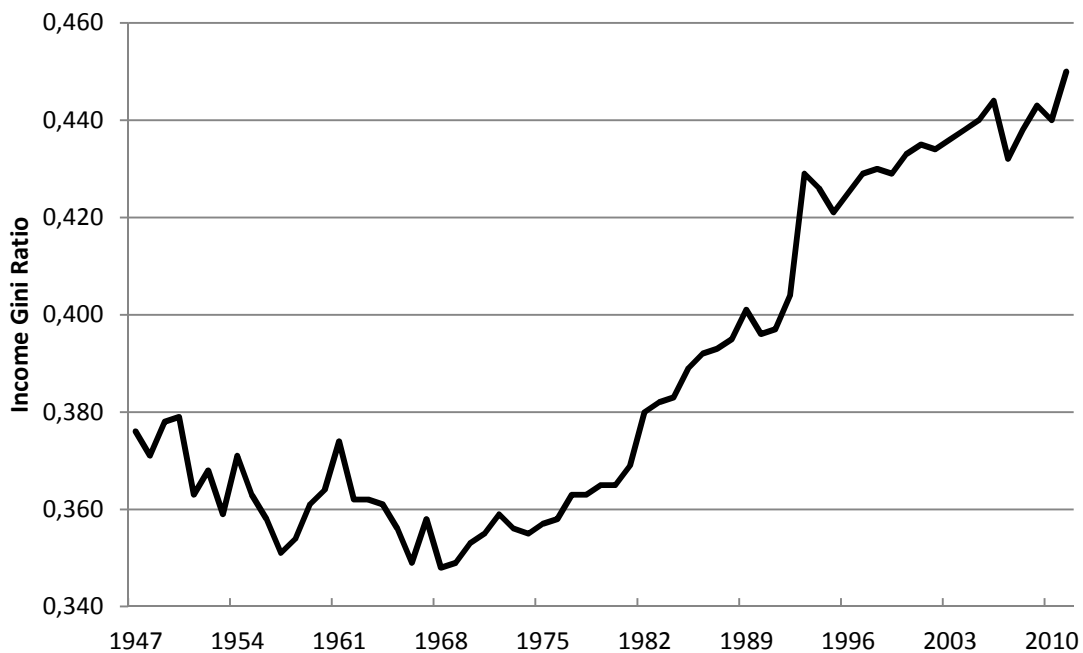
Figure 1

30-Year Fixed Rate Mortgage Average in the United States

Source: Freddie Mac; Federal Reserve Bank of St. Louis, times series MORTGAGE30US

The corollary has been increased income and wealth differentials in the population. Since the mid-1970s the pertinent indicators suggest an increasingly unequal distribution.

The most widely used indicator is the Gini income ratio, which varies between the value 0 (when each member of society has exactly the same income) and the value 1 (one member of society has all income, while the others have none). The Gini income ratio is often used as a benchmark to assess the justice of income distribution, but this only makes sense if the ultimate standard of justice is communism. By contrast, the *variations* of the Gini ratio across time are a useful starting point for scientific enquiry, because they reflect the impact of various factors, among which the monetary system.



Figure

Income Gini Ratio of Families by Race of Householder, All Races

Sources: Census Bureau; Federal Reserve Bank of St. Louis, times series GINIALLRF

Now, in the case of the US, the evolution of the Gini income ratio shows that income distribution has grown unceasingly as from the early 1970s (see figure 2), that is, as from the time when the gold standard was abandoned in favour of the current fiat money system.

In other words, under the US fiat money system the incomes of the relatively poor US households have even further decreased relative to the richer US households.

The reason why this development did not lead to severe social conflicts is probably because in particular from the mid-1980s various other factors (information technology, the collapse of Soviet socialism etc.) led to a growth spurt. Due to money inflation poor families became poorer, but only *relative* to higher income families. In *absolute* terms they were for many years, roughly until the outbreak of the current crisis, better off than ever before. Only in recent years, their relative impoverishment has also gone in hand with an absolute decline of their wealth. Unsurprisingly, the result was widespread dismay and led to protest movements.⁸

Back in the 1920s there was a similar development when the above-described conditions, which constitute the ideal environment for the emergence of a bubble economy, also prevailed in the United States. The income distribution was correspondingly unequal then as well. The crisis of the 1930s then yielded a sharp turnaround of this trend. Almost all countries then subjected their national and international capital flows to strict government regulations. At the same time strongly progressive tax rates were introduced, with top tax rates of over 70 and sometimes over 90 per cent. The well-known consequence was a collapse of the international division of labour and reduced labour productivity,

⁸ It would lead us too far at this place to discuss the motivations and impact of these movements. We notice, however, that only a minority of the protesters in the US is aware of the connection between the current impoverishment and the monetary system. Unless this insight becomes more widespread and leads to a thorough monetary reform the prospects for turning the tides on income and wealth distribution are dim.

which intensified again during the war years. A recovery followed only in the post-war years, this time with a more even income distribution.⁹

Another important distribution indicator is the ratio between the median income and the average (mean) income, or between the median wealth and the average (mean) wealth. The median income is the income of those households who earn less than the 50 percent highest-earning households, but at the same time earn more than the 50 percent lowest-earning households. The mean income on the other hand is the arithmetic average of all household incomes. If the mean is higher than the median, this indicates that the difference between the 50 percent highest income households and the median household is greater than the difference between the 50 percent lowest income households and the median. The wealthier then are so-to-say disproportionately wealthy, and the poorer are disproportionately poor.

	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Mean	56.7	55.6	64.2	60.4	64.3	69.4	71.7	69.8	71.1	67.5
Median	49.8	45.7	50.8	47.6	48.8	52.0	52.0	51.2	52.8	49.4
Ratio	1.14	1.22	1.26	1.27	1.32	1.33	1.38	1.36	1.35	1.37

Table 1

Mean and Median Income of US Households, 1969-2010

Source: Wolff (2012, p. 56); own computations; mean and median figures in thousands, 2010 dollars

In the US, 1983 the median income of American households was \$45,700 (measured in 2010 dollars) and the mean income was \$55,600. So the ratio of the two figures was 1.22.

⁹ Cf. Piketty and Saez (2003, 2006). In their observations the authors neglect the influence of the currency system.

Eighteen years later, in 2001, the median income was \$52,000 and the mean income was \$71,700. The ratio of the two figures rose to 1.38. In the following nine years, the median and mean incomes of US households have been stagnating around that level, with a slight downward tendency since the outbreak of the crisis in 2007. In the thirty years before 2001, there had been a marked trend toward an increased concentration of income in the high-income households. This concentration has then been preserved throughout the following nine years.

This trend is much more pronounced and much longer lasting in the case of *wealth* than of *income*. The mean-median ratio of the net worth of US households has more than doubled in the past thirty years.

	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Mean	232.5	284.4	325.8	316.8	292.6	361.5	468.1	496.9	563.8	463.8
Median	63.6	73.0	78.2	66.7	65.3	81.2	90.5	89.9	107.8	57.0
Ratio	3.65	3.90	4.17	4.74	4.48	4.45	5.17	5.53	5.23	8.14

Table 2

Mean and Median Net Worth of US Households, 1969-2010

Source: Wolff (2012, p. 56); own computations; mean and median figures in thousands, 2010 dollars

Here the ratio of mean to median rose from 4.17 in 1989 to 5.23 in 2007. In the following three years this ratio then virtually mushroomed to 8.145 in 2010.¹⁰ Similarly the

¹⁰ In her study for the Congressional Research Service, Linda Levine (2012, p. 3, table I) reports somewhat lower figures than Wolff (2012) while relying on the same source, the Survey of Consumer Finance Chartbook. Indeed,

Gini net worth ratio increased from 0.826 in 2001 to 0.870 in 2010 (see Wolff 2012, p. 58, Table 2). The very years during which the financial crisis was combated by the printing press were exceptionally favourable years for the concentration of American wealth.¹¹

Finally, the ratio between income and net worth of US families is also in line both with our theoretical analysis and the statistical material considered so far. Indeed, the wealth-income ratio has risen from 5.12 in 1983 to 7.93 in 2007, and then slightly declined to 6.87 in 2010.

	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Mean Net Worth	232.5	284.4	325.8	316.8	292.6	361.5	468.1	496.9	563.8	463.8
Mean Income	56.7	55.6	64.2	60.4	64.3	69.4	71.7	69.8	71.1	67.5
Ratio	4.10	5.12	5.07	5.25	4.55	5.21	6.53	7.12	7.93	6.87

Table 3

Mean Net Worth and Mean Income of US Households, 1969-2010

Source: Wolff (2012, p. 56); own computations; income and net worth figures in thousands, 2010 dollars

The wealth-income ratio can be used, in conjunction with the savings rate, as a measure of how long it takes to accumulate a given level of wealth. Suppose the savings rate of US

Wolff adjusts his figures to take account of the fact that figures on pp. 39f of the Chartbook (on which Levine relies to calculate the mean-median ratio) concern only “families with holdings.”

¹¹ The same applies of course to all the other countries where this policy was implemented. Just one example of many: The bailout of the company *Resona Holdings* by the Japanese government in 2003 led to significant wealth gains for large banks. Cf. Pop and Pop (2009, pp. 1429-1459).

households were 10 percent. Then in 1983, an average US family would have needed about 51 years to accumulate the national average net worth out of its annual income. In 2010, it would have needed 68 years to do the same. In other words, new wealth needed increasingly more time to catch up with old wealth. The gap between the haves and the have-nots (respectively the have-not-yets) has strongly increased under the current fiat money system.

Conclusion

Under a fiat money system, the money supply is subject to the human will and therefore tends to grow faster than under a commodity money system. The Fed has used its terrible power to produce unlimited amounts money apparently without abusing it, keeping price-inflation rates at moderate one-digit figures for most of the past 100 years. But while the leadership of the Fed might have been well-intentioned, the very existence of the Fed has entailed a number of (supposedly) *unintended* consequences that have hampered the working of the market economy. These unintended consequences include most notably the distortion of interest rates, which in turn lead to inter-temporal disequilibria, business cycles, and economic crises. Moreover, the very existence of the fiat money system, combined with the Fed policy of targeting low but positive price-inflation rates, also had a significant impact on the distribution of incomes and wealth.

In our present contribution, we have argued that the Fed has created, and could not avoid creating, artificial income differences, benefitting its clients (commercial banks and governments) at the expense of most other market participants. Furthermore, the Fed

policy of targeting low but positive inflation rates has been a formidable shot in the arm of financial markets. This artificial growth of financial markets has increased the gap between incomes and wealth, thus reinforcing the position of the already wealthy; and it has also leveraged income differences into even greater differences of wealth.

Clearly, these are problematic consequences. The problem is not income and wealth inequality *per se*; the problem is the *artificial* creation of income and wealth inequality by administrative fiat. Let us stress again that we do not claim the Fed leadership intentionally aimed at enriching its clients and the already wealthy at the expense of the rest of society. But as a matter of fact such redistribution has resulted from its operations, and this has happened on a massive scale. It is a consequence, not so much of particularly inept Fed policies, but of fiat money systems as such. It will not disappear as long as US citizens will tolerate being subject to fiat money, with or without the Fed.

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