



## Incorporating the *Rentier* Sectors into a Financial Model<sup>1</sup>

**Michael Hudson**

University of Missouri at Kansas City & Levy Institute, USA

**Dirk Bezemer**

University of Groningen, Netherlands

---

### Abstract

Current macroeconomics ignores the roles that rent, debt and the financial sector play in shaping our economy. We discuss the Classical view on rents and policy responses to the *rentier* sector in the 19<sup>th</sup> century. The finance, insurance & real estate sector is today's incarnation of the *rentier* sector. This paper shows how financial flows can be conceptually and statistically studied separately from (but interacting with) the real sector. We discuss finance's interaction with government and with the international economy.

Key words: asset prices, debt, deflation, FIRE-sector, *rentier* sectors

---

### 1. Introduction

Now that the Bubble Economy has given way to debt deflation, the world is discovering the shortcoming of models that fail to explain how most credit creation today 1) inflates asset prices without raising commodity prices or wage levels, and 2) creates a reciprocal flow of debt service. This debt service tends to rise as a proportion of personal and business income, outgrowing the ability of debtors to pay – leading to 3) debt deflation. The only way to prevent this phenomenon from plunging economies into depression and keeping them there is 4) to write down the debts so as to free revenue for spending once again on goods and services.

By promoting a misleading view of how the economy works, the above omissions lead to a policy that fails to prevent debt bubbles or deal effectively with the ensuing depression. To avoid a replay of the recent financial crisis – and indeed, to extricate economies from their present debt strait-jacket that subordinates recovery to the overhang of creditor claims (that is, saving the banks from taking a loss on their bad loans and gambles) – it is necessary to explain how credit creation inflates housing and other asset prices, while interest and other financial charges deflate the 'real' economy, holding down commodity prices, shrinking markets and employment, and holding down wages in a downward economic spiral. We are dealing with two price trends that go in opposite directions: asset prices and commodity prices. It therefore is necessary to explain how credit expansion pushes asset prices up while simultaneously causing debt deflation.

Yet the typical  $MV=PT$  monetary and price model focused on commodity prices and wages, not on the asset prices inflated by debt leveraging. Similarly, today's Dynamic Stochastic General Equilibrium (or DSGE) models are characterized by the "absence of an appropriate way of modeling financial markets" ([Tovar 2008, p. 29](#)). While Schumpeter (1934, p. 95) already noted that "processes in terms of means of payment are not merely reflexes of processes in terms of goods. In every possible strain, with rare unanimity, even with impatience and moral and intellectual indignation, a very long line of theorists have assured us of the

---

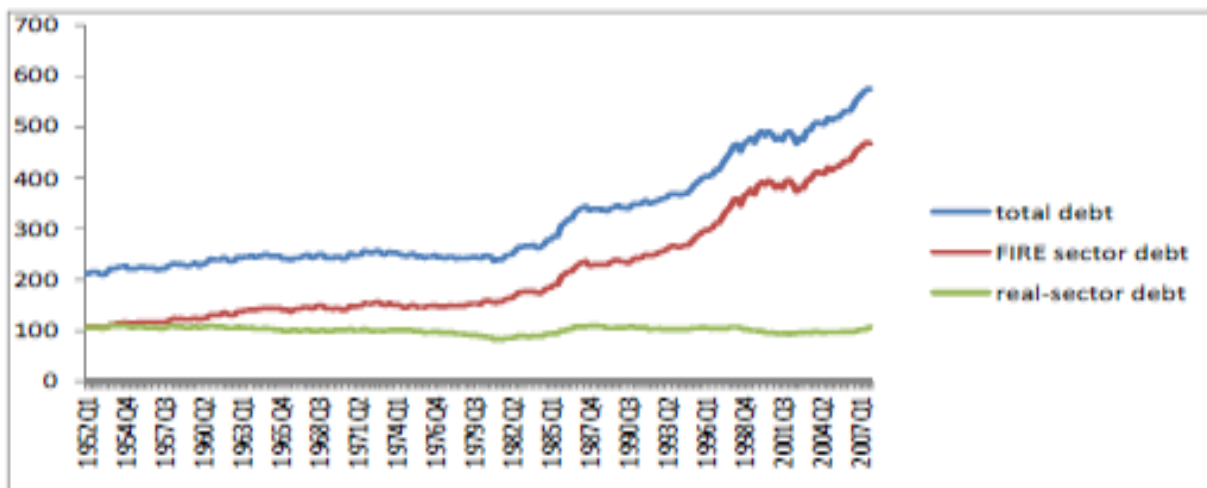
<sup>1</sup>An earlier version of this article will be in Hudson's forthcoming book, *The Bubble and Beyond*. The authors declare no conflict of interest.

opposite”, this finds no place in DSGE models or, for that matter macroeconomics in the last decades. Cecchetti et al (2011, p. 2) describe current practice in writing that “for a macroeconomist working to construct a theoretical structure for understanding the economy as a whole, debt is... trivial... because (in a closed economy) it is net zero – the liabilities of all borrowers always exactly match the assets of all lenders. ...With no active role for money, integrating credit in the mainstream framework has proven to be difficult”. And yet credit and its counterpart, debt, have shaped our economic systems since prehistory (Hudson 2004). Understanding how credit is used is therefore a sine qua non for understanding our economy. That requires, in turn, to think about a fundamentally different model which can replace DGSE type models as the standard for analysis. Only then can the “naked emperor be dethroned” (Keen 2011).

**2. Finance is not *the* economy**

In the real world most credit today is spent to buy assets already in place, not to create new productive capacity. Some 80 percent of bank loans in the English-speaking world are real estate mortgages, and much of the balance is lent against stocks and bonds already issued. Banks lend to buyers of real estate, corporate raiders, ambitious financial empire-builders, and to management for debt-leveraged buyouts. A first approximation of this trend is to chart the share of bank lending that goes to the ‘Fire, Insurance and Real Estate’ sector, aka the nonbank financial sector. Graph 1 shows that its ratio to GDP has quadrupled since the 1950s. The contrast is with lending to the real sector, which has remained about constant relative to GDP. This is how our debt burden has grown.

**Graph 1: Private debt growth is due to lending to the FIRE sector: the US, 1952-2007**



Source: Bezemer (2012) based on US flow of fund data, BEA ‘Z’ tables

What is true for America is true for many other countries: mortgage lending and other household debt have been “the final stage in an artificially extended Ponzi Bubble” as Keen (2009, pp. 347–357) shows for Australia. Extending credit to purchase assets already in place bids up their price. Prospective homebuyers need to take on larger mortgages to obtain a home. The effect is to turn property rents into a flow of mortgage interest. These payments divert the revenue of consumers and businesses from being spent on consumption or new capital investment. The effect is deflationary for the economy’s product markets, and hence consumer prices and employment, and therefore wages. This is why we had a long period of low cpi inflation but skyrocketing asset price inflation. The two trends are linked.

Debt-leveraged buyouts and commercial real estate purchases turn business cash flow (ebitda: earnings before interest, taxes, depreciation and amortization) into interest payments. Likewise, bank or bondholder financing of public debt (especially in the Eurozone, which lacks a central bank to monetize such

debt) has turned a rising share of tax revenue into interest payments. As creditors recycle their receipts of interest and amortization (and capital gains) into new lending to buyers of real estate, stocks and bonds, a rising share of employee income, real estate rent, business revenue and even government tax revenue is diverted to pay debt service. By leaving less to spend on goods and services, the effect is to reduce new investment and employment. Contemporary evidence for major OECD economies since the 1980s shows that rising capital gains may indeed divert finance away from the real sector's productivity growth (Stockhammer 2004, pp. 719-41) and more generally that 'financialization' (Epstein 2005) has hurt growth and incomes. Money created for capital gains has a small propensity to be spent by their *rentier* owners on goods and services, so that an increasing proportion of the economy's money flows are diverted to circulation in the financial sector. So wages do not increase, even as prices for property and financial securities rise – just the well-known trend that we have seen in the Western world since the 1970s, and which persists into the post-2001 Bubble Economy.

It is especially the case since 1991 in the post-Soviet economies, where neoliberal (that is, pro-financial) policy makers have had a free hand to shape tax and financial policy in favor of banks (mainly foreign bank branches). Latvia is cited as a neoliberal success story, but it would be hard to find an example where *rentier* income and prices have diverged more sharply from wages and the 'real' production economy.

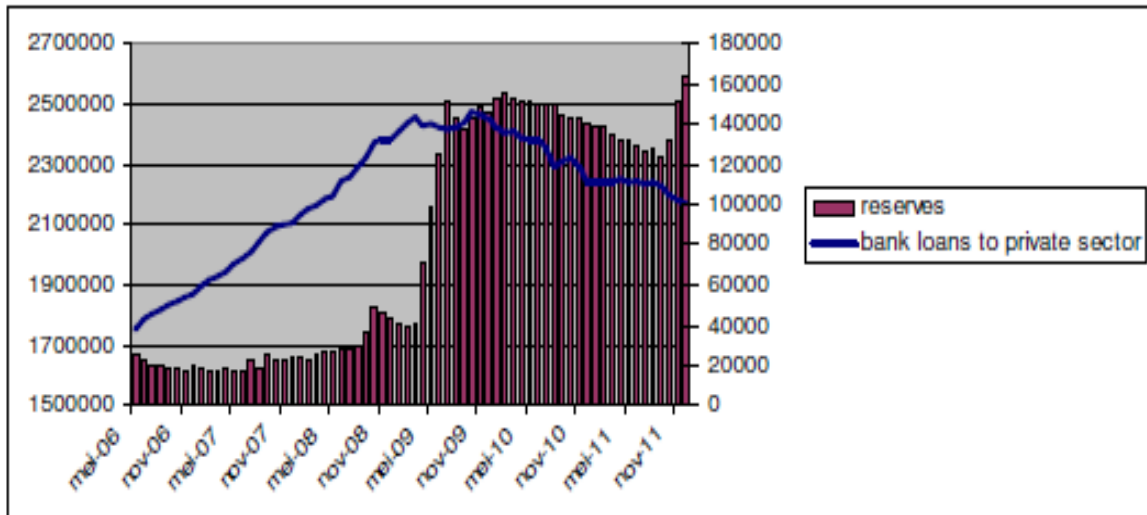
The more credit creation takes the form of inflating asset prices – rather than financing purchases of goods and services or direct investment employing labor – the more deflationary its effects are on the 'real' economy of production and consumption. Housing and other asset prices crash, causing negative equity. Yet homeowners and businesses still have to pay off their debts. The national income accounts classify this pay-down as 'saving', although the revenue is not available to the debtors doing the 'saving' by 'deleveraging'.

The moral is that using homes as what Alan Greenspan referred to as 'piggy banks' to take out home-equity loans was not really like drawing down a bank account at all. When a bank account is drawn down there is less money available, but no residual obligation to pay. New income can be spent at the discretion of its recipient. But borrowing against a home implies an obligation to set aside future income to pay the banker – and hence a loss of future discretionary spending.

### 3. Towards a model of financialized economies

Creating a more realistic model of today's financialized economies to trace this phenomenon requires a breakdown of the national income and product accounts (NIPA) to see the economy as a set of distinct sectors interacting with each other. These accounts juxtapose the private and public sectors as far as current spending, saving and taxation is concerned. But the implication is that government budget deficits inflate the private-sector economy as a whole. However, a budget deficit that takes the form of transfer payments to banks, as in the case of the post-September 2008 bank bailout, the Federal Reserve's \$2 trillion in cash-for-trash financial swaps and the \$700 billion QE2 credit creation by the Federal Reserve to lend to banks at 0.25% interest in 2011, has a different effect from deficits that reflect social spending programs, Social Security and Medicare, public infrastructure investment or the purchase of other goods and services. The effect of transfer payments to the financial sector – as well as the \$5.3 trillion increase in US Treasury debt from taking Fannie Mae and Freddie Mac onto the public balance sheet – is to support asset prices (above all those of the banking system), not inflate commodity prices and wages. Similarly, the 2009 'quantitative easing' policy in Britain confused loans used in the real economy (which were stagnating or falling throughout the experiment) with boosting bank balances with the Bank of England which quadrupled over 2009 (Graph 3). Bezemer and Gardiner (2010) show that neither bank loans nor spending nor GDP increased noticeably during or after the exercise, but there was a curious stock market rally during 2009. A London Stock Exchange press release on 29 December 2009 reported that "a record £82.5 billion was raised through new and further issues of equity on the London Stock Exchange during the course of 2009... despite difficult market conditions". Finance is not the economy.

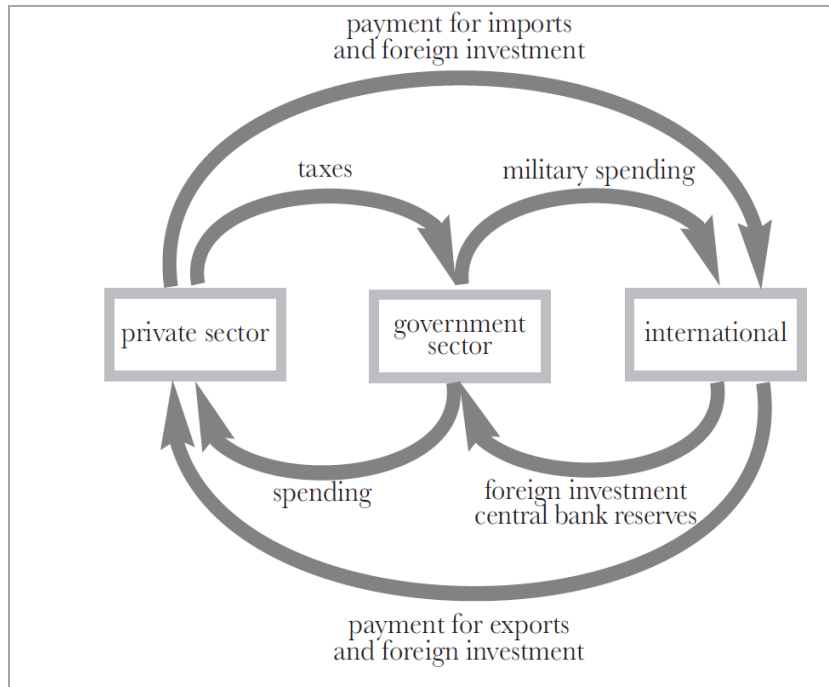
**Graph 2: ‘Quantitative Easing’ in Britain increased bank reserves (right hand axis), but not lending to the real sector (left-hand axis) (billion Pound Sterling)**



Source: Bezemer (2012) based on Bank of England data and author's calculations

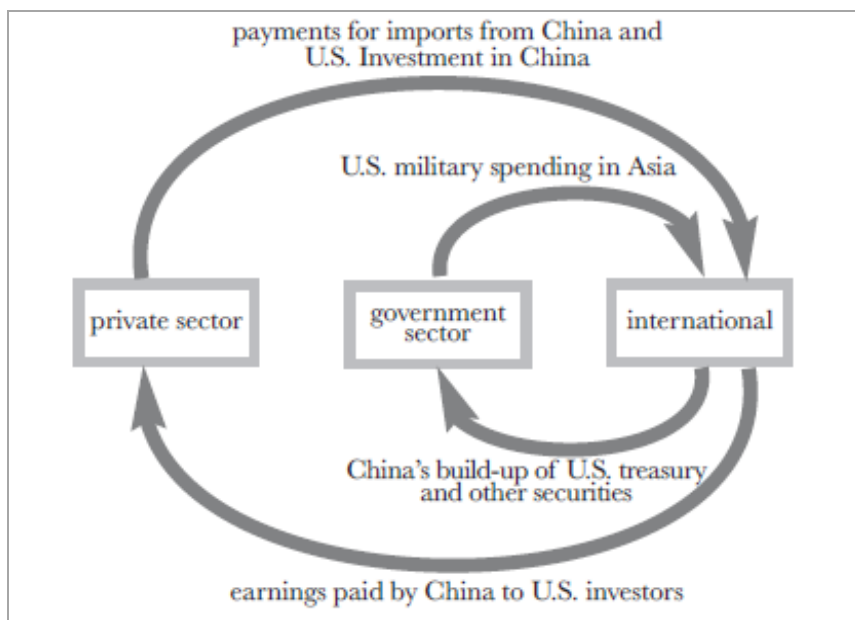
Most models treat the international sector either as a ‘leakage’ (as Keynes termed foreign trade and capital flows) or as a balancing item in the private/public sector surplus or shortfall (as in the Levy Institute model – see [Zeza 2009, pp. 289-310](#) for an analytical description). But the international sector involves not only export and import trade and other current account items (emigrants’ remittances, and above all, military spending) but also foreign investment and income – and foreign central bank reserves held in US Treasury and other securities, that is, loans to the US Government. Capital flows have swollen enormously since the turn of the millennium, and they have increasingly been matched by outflows of investments into dollar-denominated assets held both by private citizens and their governments. This was facilitated by new investment vehicles such as Sovereign Wealth Funds (SWFs). UNCTAD (2011, p. 119) reports 25 newly established SWFs since 2000 only. Thanks to capital inflows, the capital account is now moving independently from the current account. It is not as if the buildup of international savings requires current account surpluses. Even developing countries with current account *deficits* had accumulated foreign reserves as well as private investments in enormous quantities at the eve of the crisis, as Obstfeld ([2009](#)) reports. At the heart of this is the US economy and its financial markets. For instance, US consumers and businesses ran a trade deficit, and banks used the entire \$700 billion QE2 supply of Fed credit for foreign currency arbitrage and other international speculation, not for lending to the domestic US economy. But the US Treasury received an inflow from foreign central banks building up their dollar reserves by buying Treasury securities and other US financial securities.

**Figure 1: Private sector, government sector, international sector**



This model can be used to trace US transactions with China. The economy runs a trade deficit with China, and also a private-sector investment outflow to China. There is some return of earnings from these investments to US companies. But on balance, there is a dollar outflow to China – which also receives dollars from its exports to third countries. China’s central bank has recycled most of these dollar receipts to the US Treasury (and earlier, into Fannie Mae bonds and kindred investments), but was not permitted to buy US companies such as Unocal’s refinery operations.

**Fig. 1a: US transactions with China, private and government sectors**



This public/private/international model may be made more realistic by treating the financial, insurance and real estate (FIRE) sector as distinct from the underlying production and consumption economy, as motivated in Graph 1.

#### 4. The FIRE sector, rents, and the Progressive response

The FIRE sector deals with the economy's balance sheet of assets and debts, real estate, stocks and bonds, mortgages and other bank loans – and the payment of interest, money management commissions and other fees to the financial sector, as well as insurance payments and also rental payments for housing. The FIRE sector is today's form that the *rentier* class takes. *Rentiers* are those who benefit from control over assets that the economy needs to function, and who, therefore, grow disproportionately rich as the economy develops. These proceeds are rents – revenues from ownership “without working, risking, or economizing”, as John Stuart Mill (1848) wrote of the landlords of his day, explaining that “they grow richer, as it were in their sleep”. Classical economics from Adam Smith onwards analysed rents, its effects, and policies towards rents, but the very concept is lost on today's economics.

Just as landlords were the archetypal *rentiers* of their agricultural societies, so investors, financiers and bankers are in the largest *rentier* sector of today's financialized economies: finance controls the economy's engine of growth, which is credit in all its forms. Economies obviously need banking services, insurance services, and real estate development and so, of course, not all of finance is “without working, risking, or economizing”. The problem today remains what it was in the 13th century: how to isolate what is socially necessary for ‘retail’ banking – processing payments by checks and credit cards, deciding how to relend savings and new credit under normal (non-speculative) conditions – from extortionate charges such as 29% interest on credit cards, penalty fees and other charges in excess of what is socially necessary cost-value.

In principle, all monopolies should be included in this *rentier* sector, as they represent a special privilege (control over markets, especially for necessities) whose return in the form of prices and income in excess of necessary costs of production is a form of economic rent, that is, a transfer payment rather than ‘earned’ income. But statistically there is no practical way to isolate monopoly rent in the NIPA, as this would include a large part of the information technology sector, pharmaceuticals, and much ‘industry’. The ideal conceptual framework for statistics would be to separate economic rent from underlying cost value.

Classical political economists from the Physiocrats through Adam Smith, John Stuart Mill and their Progressive Era followers were reformers in the sense that they treated the *rentier* sectors as extracting transfer payments rather than earning a return for producing actual output (‘services’). Their labor theory of value found its counterpart in the ‘economic rent theory of prices’ to distinguish the necessary costs of production and doing business (reduced ultimately to the value of labor) from ‘unearned income’ consisting mainly of land rent, monopoly rent, and financial interest and fees. The various categories of *rentier* income were depicted as the ‘hollow’ element of prices. Land rent, natural resource rent, monopoly rent and returns to privilege (including financial interest and fees) had no counterpart in necessary costs of production. They were historical and institutional products of privileges handed down largely from the medieval conquests that created Europe's landed aristocracy and banking practice that developed largely by insider dealing, legitimized by lending to kings to finance war debts in an epoch when money and credit were the sinews of war. So banking as well as military rivalries for land essentially involved the foreign sector. Mill (1848) asked “What claim have they, on the general principle of social justice, to this accession of riches? In what would they have been wronged if society had, from the beginning, reserved the right of taxing the spontaneous increase of rent, to the highest amount required by financial exigencies?”.

The political aim of classical analysis, then, was to minimize the economy's cost structure by freeing industrial capitalism from these carry-overs from feudalism. The reformers' guiding idea was to minimize the role of *rentier* income (economic rent) by public investment, tax policy and regulation. We consider these in turn.

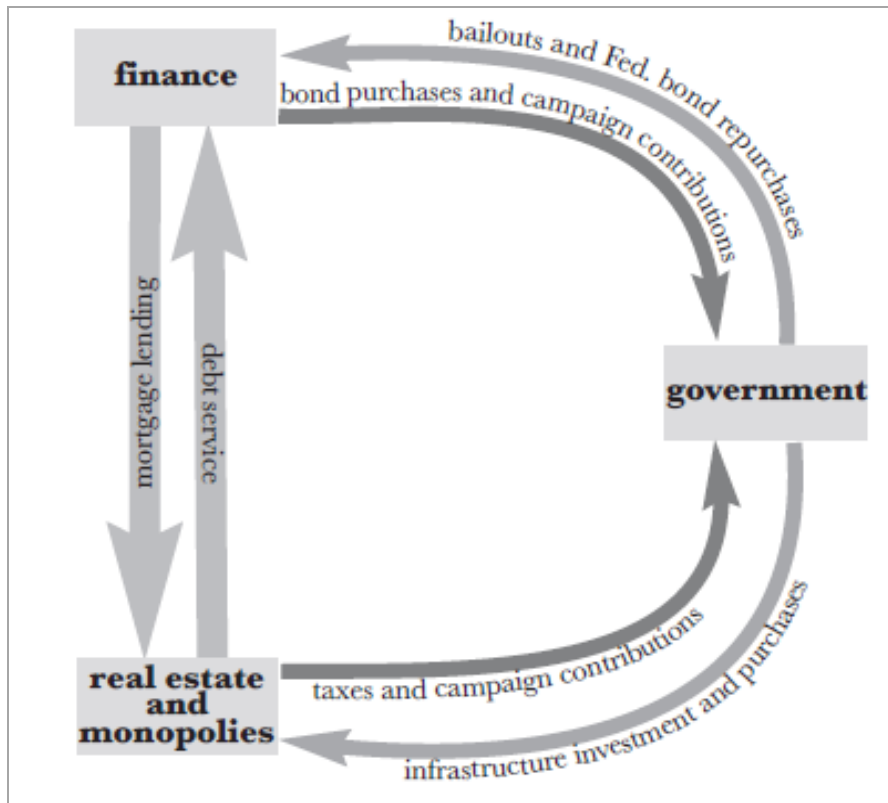
1. Direct public investment in basic infrastructure, including education, transportation systems, communication systems and other enterprises that were long kept in the public domain or publicly regulated from the late 19th century onward. The premier example of this is the French *Crédit Mobilier* bank founded by followers of the Count de Saint-Simon (1760–1825), who inspired key Classical economists including Karl Marx and John Stuart Mill. The *Crédit Mobilier* bank, founded in 1852, was named in contrast to the common mortgage bank (*Sociétés du Crédit Foncier*) or land banks, which lent money on the security of immovable property. The *Crédit Mobilier* aimed to loan to the owners of movable property and so to promote industrial enterprise, mining and the construction of railways and other infrastructure. Today, the bulk of bank lending is again to real estate and other property already in existence, not for the creation of new productive capacity and innovation of production processes. We need *Crédit Mobilier* –type financial institutions.
2. Tax policy (taxing land and natural resources). Here the foremost Classical-era name is Henry George (1839-1897). In his *Progress and Poverty* (1879) he observed that much of the wealth created by social and technological advances is captured by landowners and other monopolists via economic rents. This concentration of ‘unearned’ income – which strictly speaking is not income, though it is a revenue stream – in the hands of the few is, according to George, the cause of increasing poverty precisely in those areas which are more developed. The plight of the poor in the mature economy of New York struck him as much worse than the living standards of the poor in his native (then underdeveloped) California. Today, the impoverishing rent flows are (a) in payment for inflated assets prices and (b) in servicing loans against those assets. A large part of the economy’s surplus flows to the property and finance sectors in payment of loans, interest and fees for the use of land and housing. And today just as in George’s days, inequality has increased strongly as bank loans have been reoriented away from supporting the real sector and towards FIRE sector loans. This drives up asset prices and thus mortgages, increasing the drain from the real economy while enriching assets owners.
3. Regulatory policy to keep the prices charged by natural monopolies such a railroads, power and gas companies in line with actual production costs plus normal profit. The classical example of this is the US Sherman Antitrust Act (1890), enacted in response to the development of business conglomerates or ‘trusts’ in the last third of the 19th century, which often stifled competition and manipulated prices. Today again the global financial market place is dominated by a few giants; and in most economies three of four banks control 80% or more of domestic markets. The result is just the behavior that progressive Americans deplored in 19th century business, now played out in finance: artificial price increases for bank services and banker’s remuneration, far above the level necessary to cover costs with a reasonable profit left; block buying and price fixing in the trading of financial products; and even fraud and intimidation of competitors. And after the crisis, small banks have been bankrupted in their hundreds while the large banks have been bailed out. Re-introduction of financial anti-trust policies will not be the end (in the first 10 years of existence of the Sherman Antitrust Act, many more actions were brought against unions than against big business). But it will be a start.

### 5. How the FIRE sector operates

The financial sector has become the leading *rentier* sector. Its ‘product’ is debt claims *on* the ‘real’ economy, underwriting, and money management on a fee basis. For this it receives interest and dividends from real estate and business borrowers, and from consumers. Over time, a real estate buyer typically pays more in interest to their mortgage lenders than the original purchase price paid to the property seller.



Fig. 3: Interaction between the FIRE and government sectors



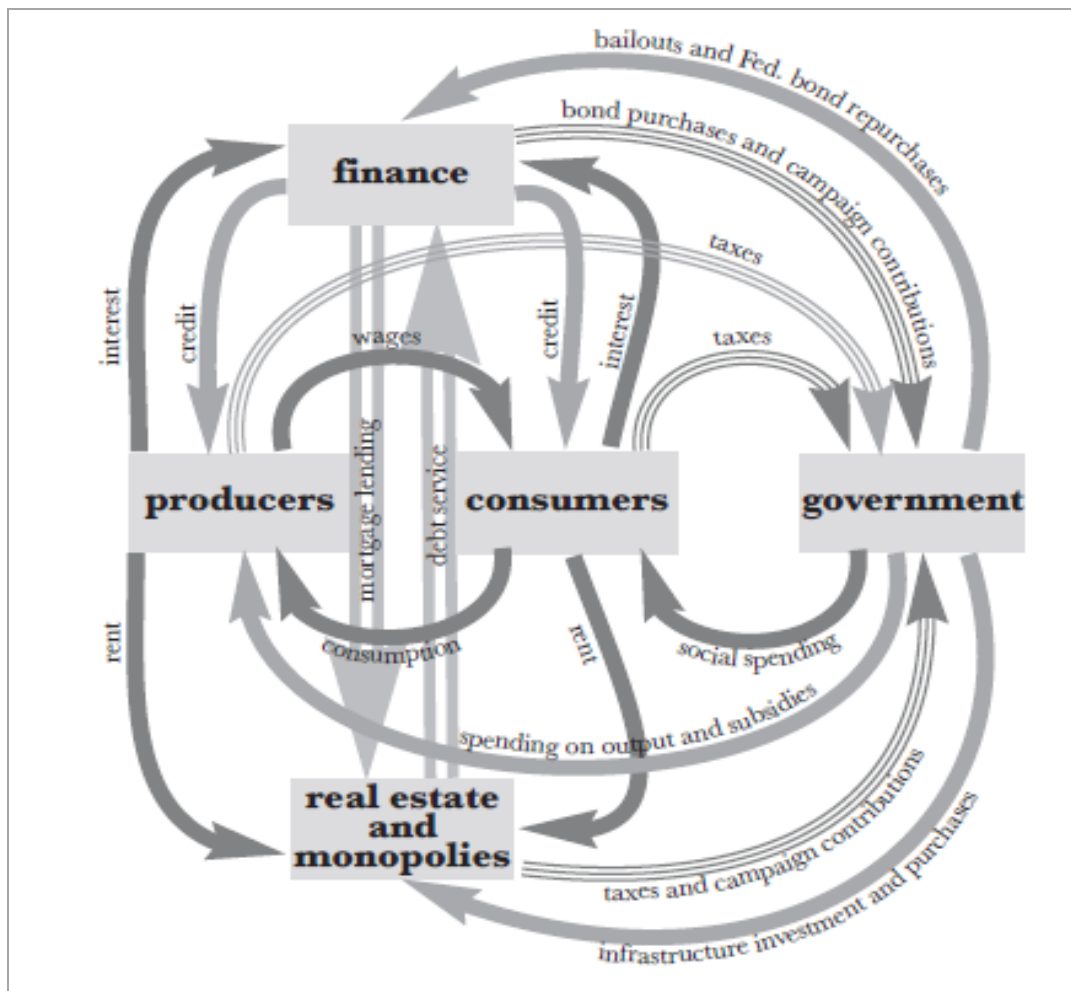
In its interactions with the government, the financial sector buys bonds (and also makes campaign contributions). The Federal Reserve pumps money into the banking system by purchasing bonds and, when the system breaks down, makes enormous bailout payments to cover the bad debts run up by banks and other institutions to mortgage borrowers, businesses and consumers. The government also enhances the real estate sector by providing transportation and other basic infrastructure that enhances the site value of property along the routes. Finally, the government acts as direct purchaser of monopoly services from health insurance providers, pharmaceutical companies and other monopolies. In the other direction, the US Government receives a modicum of taxes from real estate (mainly at the local level for property taxes), not much income tax but some capital gains tax in good years.

Hardly by surprise, the financial sector prefers to make itself invisible – not only to the tax collector and government regulators, but to voters. In fact, tax policies favor unearned income. The ordinary income tax rate in the US is twice the level of taxes on capital gains: for the 15 % income tax rate brackets, 5-year capital gains taxes are 8%; and for the 39.6% bracket, they are 18% (Kiplinger's, 2009). And yet, since capital gains are not income, higher capital gains tax is opposed on the grounds that this tax falls on (non-capital gains) incomes, which would therefore be unfairly taxed. Minarik (1992, p. 16) writes against capital gains taxation asserting that "the burden of proof should rest on those who would violate the basic principle of equal tax rates on incomes from whatever source". This conflates revenue streams with income.

Successful attempts to break out the *rentier* sector from the rest of the economy – and hence, balance sheet and debt transactions from the purchase of goods and services – have helped soften criticism of shifting the tax burden off land and monopoly rent, and off finance. Yet Epstein and Crotty report that "financial sector total financial assets grew from about a third of total US economy financial assets in the post-World War II decades to 45 percent of total financial assets. Their value was approximately equal to the US GDP in the early 1950s, whereas now it amounts to 4.5 times of the US GDP. Financial sector profit has grown from about 10 percent in the 1950-60s to 40 percent of total domestic profits in the early 2000s".



Fig. 4: Overall model of the FIRE sector: producers, consumers, government, world



The distinction between *rentier* and 'earned' income was not incorporated into the NIPA. It is as if all income was earned by playing a productive role, and in which money (and hence, credit and debt) were 'neutral', only a 'veil', not as affecting the distribution of income and wealth. Credit was spent only on goods and services, not on assets. And the financial sector's loans always took the form of productive credit, enabling businesses to pay back the loans out of future earnings while consumers paid out of rising future incomes. This is still the representation found in most textbooks today. For instance, Mishkin (2012: pp. 1 and 24) explains that "in our economy, nonbank finance also plays an important role in channeling funds from lender-savers to borrower-spenders... Finance companies raise funds by issuing commercial paper and stocks and bonds and use the proceeds to make loans that are particularly suited to consumer and business needs".

There thus was no explanation of how a credit bubble could inflate real estate prices and then collapse into a negative equity disaster. Finance seemed only to create wealth, not impoverish the underlying economy. Amazingly, this was claimed even for the exotic products whose proliferation preceded the 2008 crash. As late as 2006 academics asserted that "[f]inancial risks, particularly credit risks, are no longer borne by banks. They are increasingly moved off balance sheets. Assets are converted into tradable securities, which in turn eliminates credit risks. Derivative transactions like interest rate swaps also serve the same purpose [of eliminating credit risks, MH & DB]" (Das 2006).

Nor was there any way for mainstream models to distinguish government transfer payments to the financial sector (eg. the \$13 trillion in post-2008 financial bailouts in the United States) from Keynesian-style deficit spending. Such transfer payments did not 'jumpstart' the economy. They turned a politically well-connected financial elite into new vested interests. All this is completely missed in conventional

macroeconomics, which cannot come to grips with the role of the financial sector in the economy. Eminent economists have described training in today's macro models as a useless, even socially wasteful activity ([Buiter 2009](#); also Krugman 2009; [Solow 2010](#)).

One can understand why the financial sector has had so little interest in tracing the effect of rising money and credit on diverting income from the circular flow between producers and consumers, diverting business revenue from new capital formation, and stripping industrial assets and natural resources. Most model builders isolate these long-term structural, environmental and demographic feedbacks as 'externalities'. But they are part and parcel of reality. So one is tempted to say that the financial element of economic models is too important to be left to bankers and the think tanks they sponsor.

### 6. Effects on the environment, demography and the economy

Just as debt deflation diverts income to pay interest and other financial charges – often at the cost of paying so much corporate cash flow that assets must be sold off to pay creditors – so the phenomenon leads to stripping the natural environment. The so-called 'debt-resource-hypothesis' suggests that high indebtedness leads to increased natural resource exploitation as well as more unsustainable patterns of resource use (Neumayer 2012, pp. 127-141). This is what occurs, for instance, when the IMF and World Bank act on behalf of global banks to demand that Brazil pay its foreign debt by privatizing its Amazon forest so that loggers can earn enough foreign exchange to pay foreign bankers on the nation's foreign-currency debt. The analogy is for absentee landlords who pay their mortgages by not repairing their property but letting it deteriorate. In all these cases the effect of debt deflation extracting interest is not only on spending – and hence on current prices – but on the economy's long-term ability to produce, by eating into natural resources and the environment as well as society's manmade capital stock.

Demographically, the effect of debt deflation is emigration and other negative effects. For example, after Latvian property prices soared as Swedish bank branches fueled the real estate bubble, living standards plunged. Families had to take on a lifetime of debt in order to gain the housing that was bequeathed to the country debt-free when the Soviet Union broke up in 1991. When Latvia's government imposed neoliberal austerity policies in 2009-10, wage levels plunged by 30 percent in the public sector, and private-sector wages followed the decline (Sommers et al 2010). Emigration and capital flight accelerated: the *Economist* ([2010](#)) reported that an estimated 30,000 Latvians were leaving every year, on a 2.2m population. In debt-strapped Iceland, the census reported in 2011 that 8% of the population had emigrated (mainly to Norway).

In as much as investors today have come to aim more at 'total returns' (net income + capital gains) rather than simply income by itself, a realistic model should integrate capital gains and investment into the current production-consumption model. Producers not only pay wages and buy capital goods as in 'current economy' models; they also use their cash flow (and even borrow) to buy other companies, as well as their own stock. When they make acquisitions on credit, the resulting debt leveraging finds its counterpart in interest payments that absorb a rising share of corporate cash flow.

This has an effect on the government's fiscal position, because interest is a tax-deductible expense. By displacing taxable profits, the business revenue that hitherto was paid out as income taxes is now used to pay interest to creditors. The result in the early 1980s when debt-leveraged buyouts really gained momentum was that financial investors were able to obtain twice as high a return (at a 50% corporate income tax rate) by debt financing as they could get by equity financing. This tax incentive for debt leveraging rather than equity investment is the reverse of what Saint-Simon and his followers urged in the 19<sup>th</sup> century to become the wave of the future.

### 7. Conclusion

Only a portion of FIRE sector cash flow is spent on goods and services. The great bulk is recycled into the purchase of financial securities and other assets, or lent out as yet more interest-bearing debt – on easier and easier credit terms as the repertory of bankable direct investments is exhausted. So the pressing task today is

to trace how directing most credit into the asset markets affects asset prices much more than commodity prices. Loan standards deteriorate as debt/equity ratios increase and creditors 'race to the bottom' to find borrowers in markets further distanced from the 'real' economy. This increasingly unproductive character of credit explains why wealth is being concentrated in the hands of the population's wealthiest 10 percent. It is the dysfunctional result of economic parasitism.

Keynes recognized a 'leakage' in the form of saving (specifically, hoarding). But at the time he wrote in the midst of the Great Depression there was little motivation to focus on debt service, or on the distinction between direct capital investment (tangible capital formation) and financial securities speculation or real estate speculation (which had all but dried up as asset markets were shrinking to reflect the economy's shrinking). Saving took the form of non-spending, not of paying down debt. There was little lending under depression conditions.

Today's post-bubble attempts to incorporate balance-sheet analysis into NIPA statistics on current activity are too crude. Stock averages do not give an adequate quantitative measure distinguishing the flow of funds into land and capital improvements or industrial capital formation in contrast to speculation in financial securities. So monetary analysis needs to be reformulated along with a better structural breakdown of NIPA to distinguish between money and credit spent on goods and services from that spent on financial assets and debt service.

### References

Buiter, W (2009), [The unfortunate uselessness of most 'state of the art' academic monetary economics](#). *Financial Times*, March 3<sup>rd</sup>.

Cecchetti, S, M Mohanty and F Zampolli (2011), [The real effects of debt](#). BIS Working Papers 52, Basel: Bank for International Settlements.

Das, D (2006), [Globalization in the World of Finance: An Analytical History](#). *Global Economy Journal* 6 (1) article 2.

Economist (2010), [Far from home: Migration and Latvia](#). *The Economist*, October 1<sup>st</sup>.

Epstein G and J Crotty (2012), *How big is too big? On the social efficiency of the financial sector in the United States*. Paper presented at the INET conference, Berlin. Available at [www.ineteconomics.org/](http://www.ineteconomics.org/)

Epstein, G (ed.) (2005), *Financialization and the world economy*. Aldershot: Edward Elgar.

George, H (1879), [Progress and Poverty: An Inquiry into the Cause of Industrial Depressions and of Increase of Want with Increase of Wealth, The Remedy](#). Garden City, NY: Doubleday, Page, & Co.

Hudson, M (2004), 'The archeology of money: debt versus barter theories of money's origin. In: R Wray (2004) (ed.) *Credit and state theories of money: the contributions of Michael Innes*. Cheltenham UK: Edward Elgar.

Keen, S (2009), [Household debt: The final stage in an artificially extended Ponzi bubble](#). *Australian Economic Review* 42, pp. 347-357.

Keen, S (2011), *Debunking economics: The naked emperor dethroned?* London: Zed Books.

Kiplinger (2009), Tax law changes for 2008–2017. *Kiplinger's*.

Krugman, P (2009), How did economists get it so wrong?, *New York Times*, September 6<sup>th</sup>.

Mill, J S (1848), Principles of political economy with some of their applications to social philosophy. Available on [http://oll.libertyfund.org/index.php?option=com\\_staticxt&staticfile=show.php%3Ftitle=101&Itemid=27](http://oll.libertyfund.org/index.php?option=com_staticxt&staticfile=show.php%3Ftitle=101&Itemid=27)

Minarik, J (1992), 'Capital Gains Taxation, Growth, And Fairness', *Contemporary Economic Policy*, Volume 10, Issue 3, pp. 16-25, July 1992.

Mishkin F S (2012), *The economics of money, banking, and financial markets*. New York: Pearson.

Neumayer, E (2012), Does high indebtedness increase natural resource exploitation? *Environment and Development Economics*, 10, pp. 127-141.

Obstfeld, M (2009), *International finance and growth in developing countries: What have we learned?* IMF Staff Papers Volume 56, Number 1.

Schumpeter, J (1934), *The Theory of Economic Development*. New York: Harvard University Press.

Solow, R (2010), [Building a science of economics for the real world](#). Prepared Statement of Robert Solow, Professor Emeritus, MIT, to the House Committee on Science and Technology, Subcommittee on Investigations and Oversight: 20 July.

Sommers, J D, D Bezemer and M Hudson (2010), The Human Costs of Financial Instability in Latvia. In: D Tavasci and J Toporowski (eds.) *Minsky, Financial Development and Crisis*. Basingstoke, Hampshire, UK: Palgrave MacMillan.

Stockhammer E (2004), '[Financialization and the slowdown of accumulation](#)', *Cambridge Journal of Economics*, 28 (5), pp. 719-741.

Tovar, C (2008), [DSGE models and central banks](#). BIS Monetary and Economic Department Working Paper No.258. Basel: Bank for International Settlements.

UNCTAD (2011), *Trade and development report 2012*. Geneva: United Nations Conference on Trade and Development.

Zeza, G (2009), '[Fiscal policy and the economics of financial balances](#)', *European Journal of Economics and Economic Policies*, 6 (2), pp. 289-310.