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Working Paper No. 525

Financialization: What It Is and Why It Matters*

by

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The Levy Economics Institute

and

Economics for Democratic and Open Societies

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ABSTRACT

Financialization is a process whereby financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes. Financialization transforms the functioning of economic systems at both the macro and micro levels.

Its principal impacts are to (1) elevate the significance of the financial sector relative to the real sector, (2) transfer income from the real sector to the financial sector, and (3) increase income inequality and contribute to wage stagnation. Additionally, there are reasons to believe that financialization may put the economy at risk of debt deflation and prolonged recession.

Financialization operates through three different conduits: changes in the structure and operation of financial markets, changes in the behavior of nonfinancial corporations, and changes in economic policy.

Countering financialization calls for a multifaceted agenda that (1) restores policy control over financial markets, (2) challenges the neoliberal economic policy paradigm encouraged by financialization, (3) makes corporations responsive to interests of stakeholders other than just financial markets, and (4) reforms the political process so as to diminish the influence of corporations and wealthy elites.

Keywords: Financialization; Neoliberal Policy; Deregulation; Debt; Financial Fragility

JEL Classifications: B50, E44, E60

I. FINANCIALIZATION: WHAT IT IS AND WHY IT IS OF CONCERN

This paper explores the construct of “financialization,” which Epstein (2001) defines as follows:

“Financialization refers to the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level (Epstein 2001, p.1).”

The paper focuses on the U.S. economy, which is where financialization seems to be most developed. However, judging by the increase in rentier income shares, financialization appears to have infected all industrialized economies (Power, Epstein & Abrena 2003; Jayadev and Epstein 2007).

Financialization transforms the functioning of the economic system at both the macro and micro levels. Its principal impacts are to (1) elevate the significance of the financial sector relative to the real sector, (2) transfer income from the real sector to the financial sector, and (3) contribute to increased income inequality and wage stagnation.

Financialization raises public policy concerns at both the macroeconomic and microeconomic levels. At the macro level, the era of financialization has been associated with tepid real economic growth, and growth also appears to show a slowing trend.¹ There are also indications of increased financial fragility. Internationally, fragility was evident in the run of financial crises that afflicted the global economy in the late 1990s and early 2000s, and it has surfaced again in the recent U.S. sub-prime mortgage crisis that spread to Europe.

Furthermore, there are serious reservations about the sustainability of the financialization process. The last two decades have been marked by rapidly rising household debt-income ratios and corporate debt-equity ratios. These developments explain both the system’s growth and increasing fragility, but they also indicate unsustainability because debt constraints must eventually bite. The risk is when this happens the economy could be vulnerable to debt-deflation and prolonged recession.

These macroeconomic concerns are compounded by concerns about income distribution. Thus, the era of financialization has witnessed a disconnection of wages

from productivity growth, raising serious concerns regarding wage stagnation and widening income and wealth inequality (Mishel et al. 2007).

The financialization thesis is that these changes in macroeconomic patterns and income distribution are significantly attributable to financial sector developments. Those developments have relaxed constraints on access to finance and increased the influence of the financial sector over the non-financial sector. For households this has enabled greatly increased borrowing. For non-financial firms, it has contributed to changes in firm behavior. When combined with changes in economic policy that have been supported by financial and non-financial business elites, these developments have changed the broader character and performance of the economy.

II. FINANCIALIZATION AND CONVENTIONAL ECONOMIC THEORY

Conventional economic theory has played an important role promoting financialization. One area where theory has been especially important is the formulation of the relationship between firms and financial markets in terms of an agency problem (Jensen and Meckling 1976) whereby the challenge is to get the firm's managers to maximize profits on behalf of shareholders. This representation has had important consequences. First, the agency approach envisages the solution to the corporate governance problem as one of aligning the interests of managers with those of financial market participants. That has been used to rationalize the explosion in top management compensation and stock option grants, and it has also been used to justify the rise of the takeover movement and private equity investment. Second, the agency approach promotes a legal view whereby the sole purpose of corporations—which are a societal construction—is to maximize shareholder returns within the confines of the law. That has served to restrict the focus of policy discussion to how to give shareholders greater control over managers. Meanwhile, broader questions regarding the purpose of corporations and the interest of other stakeholders have been kept completely off the policy table.

Conventional economic theory has also lent support for financialization, by arguing that the expansion of financial markets enhances economic efficiency. This

¹ Stockhammer (2007) has documented that growth in the EU has also been tepid over the past twenty-five years during the era of financialization.

rationale draws from Arrow and Debreu's (1954) construction of financial assets as contingent claims. According to this view, expanding the scope of financial markets and the range of financial assets increases efficiency by expanding the states of nature spanned by financial instruments. This enables markets to better price future economic outcomes, improves the *ex-ante* allocation of resources across future contingent economic conditions, and helps agents assemble portfolios that provide better returns and risk coverage.²

Conventional theory has also tended to dismiss problems of financial speculation using Friedman's (1953) argument that speculation is stabilizing. According to Friedman, market prices are set on the basis of economic fundamentals. When prices diverge from those fundamentals that creates a profitable opportunity. Speculators then step in and buy or sell, driving prices back to the level warranted by fundamentals.

Increasing the number of traders and volume of trading is also regarded as improving financial market outcomes. Increased trade volume increases market liquidity so that market prices are less susceptible to small random disturbances or manipulation by individual market participants.

Last, macroeconomic theory has also supported this optimistic view of financial markets through q-theory (Brainard and Tobin 1977). "q" represents the ratio of the market price of capital to its replacement cost, and the q-ratio supposedly provides firms with a signal that efficiently directs investment and capital accumulation. Thus, when q is greater than unity, the market price exceeds the replacement cost. That sends a signal that capital is in short supply and profitable investment opportunities are available, and firms respond by investing.

As always, there is some mainstream literature challenging these conclusions, and that literature is growing with the emergence of the behavioral finance approach. For instance, rational expectations theory (Flood and Garber 1980) acknowledges that market participants can rationally participate in bubbles if they have expectations of rising prices. The noise trader literature initiated by De Long et al. (1990) argues that risk-neutral

² One caveat to this argument is from second-best theory. If markets are incomplete, expanding the number of markets can theoretically worsen outcomes by increasing the returns to distorted trades, thereby amplifying their volume. However, this is a theoretical possibility and there is no *a priori* reason to believe that this will actually happen.

speculators who trade purely on noise can generate market inefficiency if other traders are risk averse. Hirshleifer (1971) argues that financial market activity can be socially wasteful if the activity is the result of divergent subjectively held beliefs, making it more akin to betting at a racecourse than productive investment. In this case the race uses valuable economic resources but produces nothing. Lastly, Crotty (1990) and Palley (2001) have criticized the logic of q-theory, arguing it erroneously conflates the behaviors and expectations of managers with those of shareholders and the reality is stock market signals to invest can be highly inefficient.

However, these within paradigm critiques of financial market activity have been more akin to bubbles on a stream. That is they show financial markets can generate inefficient outcomes according to conventional theory, but these critiques have had little impact on either broad thinking about financial markets or the direction of policy, both of which remain driven by belief that deregulation and expansion of financial markets is welfare enhancing.

Most importantly, these critiques of financial markets are generated from within the conventional paradigm so that they remain structured by that paradigm. Consequently, financial markets are assessed in terms of the neo-classical allocative efficiency paradigm, rather than being seen as part of an economic system that distributes power and affects the character of production and the distribution of income. The construct of financialization remedies this failing.

III. THE ANATOMY OF FINANCIALIZATION

The defining feature of financialization in the U.S. has been an increase in the volume of debt. Using peak business cycle years for purposes of control, Table 1 shows the evolution of total credit market debt outstanding between 1973 and 2005.³ During this period, total debt rose from 140 to 328.6 percent of GDP. Financial sector debt also grew much faster than non-financial sector debt, so that financial sector debt rose from 9.7 to 31.5 percent of total debt over the same period. 1979 appears to mark a break point, with

³ The years 1973, 1979, 1989, and 2000 correspond to peak years of the business cycle, thereby providing peak-to-peak comparisons that facilitate comparison across business cycles. 2005 is not the peak of the current business cycle but reflects latest available data.

financial sector debt increasing much more rapidly relative to non-financial sector debt thereafter.

Table 1. Credit market debt outstanding

	GDP (\$ bils.)	Total credit market debt (\$ bils.)	Total credit/GDP (%)	Financial sector debt (\$ bils.)	Financial sector debt/total debt (%)	Non- financial sector debt/total debt (%)
1973	1,382.7	2,172.7	140.0%	209.8	9.7%	90.3%
1979	2,563.3	4,276.4	166.8	504.9	11.8	88.2
1989	5,484.4	12,838.7	234.1	2,399.3	18.7	81.3
2000	9,187.0	27,019.6	294.1	8,130.3	30.1	69.9
2005	12,455.8	40,926.0	328.6	12,905.2	31.5	68.5

Source: Economic Report of the President, Table B-1; Flow of Funds, Table L.1, Board of Governors of the Federal Reserve, September 17, 2007; and author's calculations.

Table 2 provides an analysis of non-financial sector debt by type of credit. Consumer revolving credit is stripped out because its evolution largely reflects changes in payments technology (i.e. increased use of credit cards) rather than fundamental changes in indebtedness. Column 6 shows that between 1973 and 2005 non-financial sector debt-x-revolving credit grew significantly faster than GDP, rising from 136.3 percent to 189.5 percent of GDP. Column 8 shows the mortgage component has risen especially rapidly, rising from 48.7 percent to 97.5 percent of GDP. This increase in mortgage debt has been especially sharp in the period 2000 – 2005, reflecting the U.S. house price bubble.

Table 2. Domestic non-financial sector debt.

	GDP (\$ bil.)	Debt of domestic non-fin. sectors (\$ bil)	Consumer revolving credit (\$ bil)	Debt-x- revolving credit (\$ bil.)	Debt-x- revolving credit/GDP (%)	Mortgage debt (\$ bil.)	Mortgage debt/GDP (%)	Debt-x- revolving credit-x- mortgage (\$ bil.)	Debt-x- revolving-x- mortgage/GDP (%)
1973	1,382.7	1,895.5	11.3	1,884.2	136.3%	673.4	48.7%	1,210.8	87.6%
1979	2,563.3	3,603.0	53.6	3,549.4	138.5	1,330.0	51.9	2,219.4	86.6
1989	5,484.4	10,156.7	211.2	9,945.5	181.3	3,591.3	65.5	6,354.2	115.8
2000	9,187.0	18,091.2	683.0	17,408.2	189.5	6,795.2	74.0	10,613.0	115.5
2005	12,455.8	26,647.1	826.6	25,820.5	207.3	12,148.7	97.5	13,671.8	109.8

Source: Economic Report of the President, Tables B-69, B-75 and B-77, 2007, and author's calculations.

Table 3 provides another analysis of non-financial sector debt, this time by type of borrower. The striking feature about this table is the extraordinary rise in household sector debt. Columns 6 and 7 show that both non-financial corporate and household sector debt rose sharply relative to GDP, with the break happening in 1979. However, household sector debt has risen far faster, as evidenced in column 9 which shows its increasing share of total domestic non-financial debt. The relatively more rapid growth of household debt started after 1989. In the 1980s the debt growth increased in both the household and non-financial corporate sector, but at a fairly similar rate. Since, 1989 debt has continued growing in all sectors, but it has been growing far faster in the household sector.

Table 3. Composition of domestic non-financial sector debt

	GDP (\$ bil.)	Debt of domestic non-fin. sector (\$ bil)	Non-fin. corp debt (\$ bil)	Household sector debt (\$ bil)	Non-fin. corp debt/GDP (%)	Household debt/GDP (%)	Non-fin. corp debt/domestic non-fin. debt (%)	Household debt/domestic non-fin. debt (%)
1973	1,638.3	1,895.5	495.6	624.9	30.3%	45.2%	26.2%	33.0%
1979	2,563.3	3,603.0	843.8	1,276.1	32.9	49.8	23.4	35.4
1989	5,484.4	10,156.7	2,401.3	3,335.9	43.8	60.8	23.6	32.8
2000	9,817.0	18,091.2	4,530.7	7,008.8	46.2	76.3	25.0	38.7
2005	12,455.8	26,647.1	5,285.0	11,707.0	42.4	94.0	19.8	43.9

Source: Economic Report of the President, Table B-1; Flow of Funds, Table L.1, Board of Governors of the Federal Reserve, September 17, 2007; and author's calculations.

Turning to the real economy, Table 4 shows the growing importance of the financial sector in the U.S. economy. Between 1979 and 2005, the contribution of the finance, insurance and real estate (FIRE) sector to GDP rose from 15.2 percent to 20.4 percent. Table 5 shows that at the same time, FIRE employment as a share of total private sector employment rose from 6.6 percent to 7.3 percent.

Table 4. Finance, Insurance, and Real Estate (FIRE) output as percent of GDP

	GDP (\$ bil.)	Finance, Insurance & Real Estate (\$ bil.)	% FIRE/GDP
1973	1,638.3	248.2	15.1%
1979	2,563.3	390.3	15.2
1989	5,484.4	975.4	17.8
2000	9,817.0	1,931.0	19.7
2005	12,455.8	2,536.1	20.4

Source: Economic Report of the President, Table B-12, 2007 and author's calculations

Table 5. FIRE employment as a share of total non-agricultural private sector

	Private employment (millions)	FIRE (millions)	% Fire/Private employment
1973	63.1	3.9	6.2%
1979	73.9	4.8	6.6
1989	90.1	6.6	7.3
2000	111.0	7.7	6.9
2005	111.7	8.1	7.3

Source: Economic Report of the President, Table B-46, 2007 and author's calculations

At the macroeconomic level the era of financialization has been associated with generally tepid economic growth. Table 6 show the growth of per capita income in the major industrialized countries over the period 1960 – 2004. In all countries except the U.K., average annual growth fell during the era of financialization that set in after 1979. Additionally, growth also appears to show a slowing trend so that growth in the 1980s was higher than in the 1990s, which in turn was higher than in the 2000s.

Table 6. Annual per capita income growth rates, 1960 – 2004

Country	Annual growth rates (%)				
	1960-79	1979-2004	1979-89	1989-2000	2000-04
U.S.	2.2%	1.9%	2.1%	1.9%	1.3%
Japan	6.6	2.0	3.1	1.5	0.8
Germany*	3.3	1.7	1.8	2.0	0.6
France	3.4	1.6	1.9	1.7	1.0
Italy	5.0	1.7	2.3	1.5	0.7
U.K.	1.7	2.1	2.2	2.0	2.1
Canada	3.0	1.6	1.7	1.6	1.4

Source: Mishel et al. (2007) and author's calculations. * = prior to 1991 includes only West Germany.

Table 7 shows data on U.S. gross investment spending as a share of GDP, and there appears to be a downward trend post-1979. The current business cycle is marked by particular weakness in investment spending, and given the surge in residential investment, that means business investment spending has been especially weak.

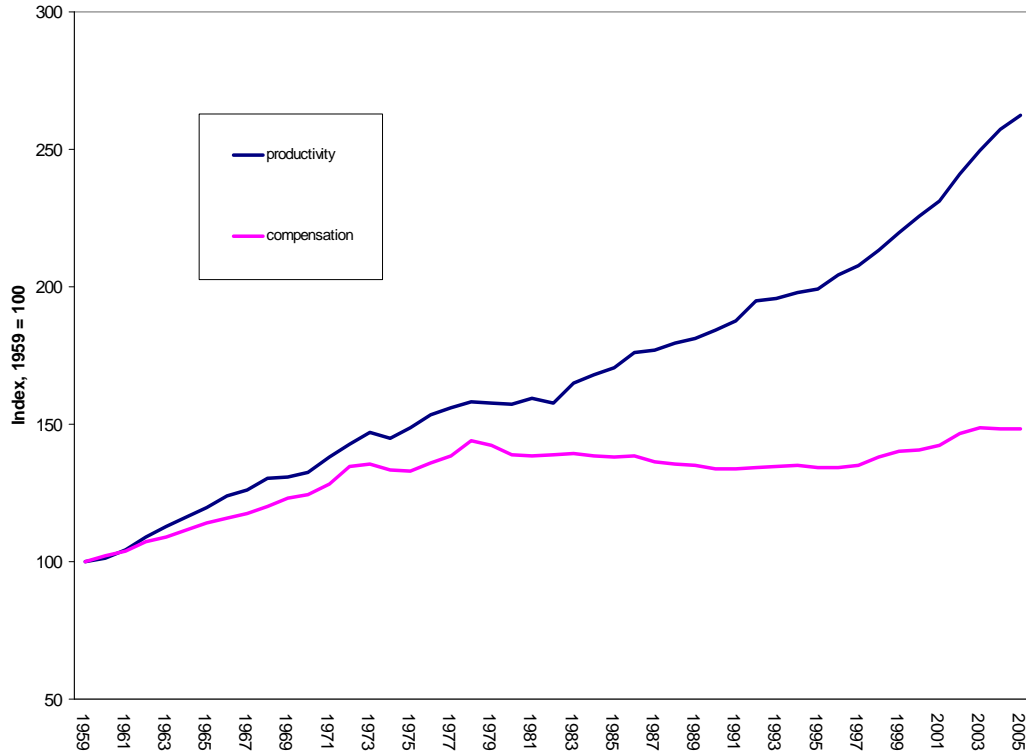
Table 7. Gross investment spending as a share of GDP

	Fixed investment/GDP (%)	Non-residential investment/GDP (%)	Equipment & software/GDP (%)	Residential investment/GDP (%)
1973	17.7%	11.1%	7.1%	5.4%
1979	19.2	13.0	8.4	5.5
1989	20.0	11.1	7.5	4.4
2000	17.7	12.6	9.3	4.6
2005	16.5	10.2	7.4	6.2

Source: Economic Report of the President, Table B-1, 2007 and author's calculations

These headline changes in levels of debt and the composition of macroeconomic activity have been accompanied by changes in the evolution of wages and the distribution of income. Figure 1 shows how wages of U.S. production and non-supervisory workers (who constitute over 80 percent of employment) have become detached from productivity growth during the era of financialization. From 1959 – 1979 wages grew roughly in line with productivity, but thereafter the two have diverged with wages flat-lining while productivity has continued growing.

Figure 1. Index of productivity and hourly compensation of production and non-supervisory workers in the U.S., 1959-2005. Source: Economic Policy Institute.

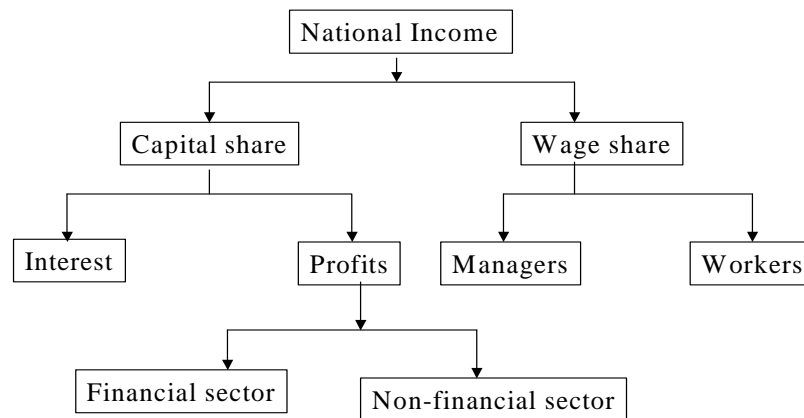


This stagnation of wages has been accompanied by rising income inequality. Mishel et al. (2007) report that in 1979 the income of the top five percent of families was 11.4 times the income of the bottom twenty percent of families. By 2004 this ratio had risen to 20.7 times.

Economists have identified multiple factors behind the stagnation of wages and the growth of income inequality (Palley 1998a; Gordon and Dew-Becker 2007; Levy and Temin 2007). Those factors include the erosion of unions, the minimum wage, and labor market solidarity; globalization and trade; immigration; skill-biased technical change; and rising CEO pay supposedly driven by the logic of the economics of superstars. However, such analysis tends to treat these factors as independent of each other. The financialization thesis maintains that many of these factors should be linked and

interpreted as part of a new economic configuration that has been explicitly promoted by financial sector interests.

Figure 2. Financialization & the Functional Distribution of Income



The stagnation of wages and changes in personal income distribution has been accompanied by changes in the functional distribution of income, and these latter changes spotlight the role of financialization. Figure 2 shows the national income tree that describes how national income can be broken down into payments as wages and capital income. Wages can be decomposed into payments to managers and workers, while capital incomes can be decomposed into profit and interest payments, and profit can be decomposed into financial and non-financial sector profits.

Table 8 shows the evolution of corporate profits before interest relative to employee compensation. Profits and interest rose from 22.3 percent of employee compensation in 1973 to 25.8 percent in 2005, indicating a shift of income away from labor to capital.

Table 8. Capital's share

	Employee compensation (\$ bil)	Corporate profits before interest (\$ bil)	Profits before interest/compensation
1973	811.2	180.7	22.3%
1979	1,500.8	362.1	24.1
1989	3,145.2	858.7	27.3
2000	5,782.7	1,376.9	23.8
2005	7,030.3	1,814.1	25.8

Source: Economic Report of the President, Table B-28, 2007 and author's calculations.

Table 9 provides data on corporate profits and interest payments. From 1973 to 1989 interest payments rose from 44 percent to 101.3 percent of profits, indicating a change in the composition of payments to capital and the high interest rates that prevailed in the 1980s owing to Federal Reserve policy. However, by 2005 corporate interest payments had fallen back to 36.3 percent reflecting the low interest rates that have prevailed in the 2000s and the surge in corporate profits after 2003.

Table 9. Division of capital's share

	Corporate profits after interest (\$ bil.)	Corporate interest Payments (\$ bil.)	Interest as percent of profits %
1973	125.5	55.2	44.0%
1979	223.2	138.9	62.2
1989	426.6	432.1	101.3
2000	817.9	559.0	68.3
2005	1330.7	483.4	36.3

Source: Economic Report of the President, Tables B-28, 2007 and author's calculations.

Last, Table 10 shows the division of domestic corporate profits between the financial and non-financial sector. Between 1973 and 2005 total profits rose from 7.3 percent to 10.3 percent of GDP. The financial sectors share of profits has risen especially strongly. In 1973 financial sector corporate profits were 25.7 percent of non-financial corporate profits, but by 2000 they had risen to 49.7 percent. This has fallen back to 43.2 percent in 2005 owing to the recent strong rise in non-financial corporate profits.

Table 10. Corporate domestic industry profits (without capital consumption adjustment)

	National income (\$ bil.)	Financial sector profits (\$ bil.)	Non-financial profits (\$ bil.)	Financial/non-financial profits	Financial profits/GDP (%)	Non-fin. profits/GDP (%)	Total profits/GDP (%)
1973	1,247.4	20.5	79.9	0.257	1.6%	6.4%	8.0
1979	2,249.1	40.3	156.8	0.257	1.8	7.0	8.8
1989	4,826.6	77.9	222.3	0.350	1.6	4.6	6.2
2000	8,795.2	203.8	409.8	0.497	2.3	4.7	7.0
2005	10,811.8	389.0	900.1	0.432	3.6	8.3	11.9

Source: Economic Report of the President, Tables B-28 and B-91, 2007, and author's calculations.

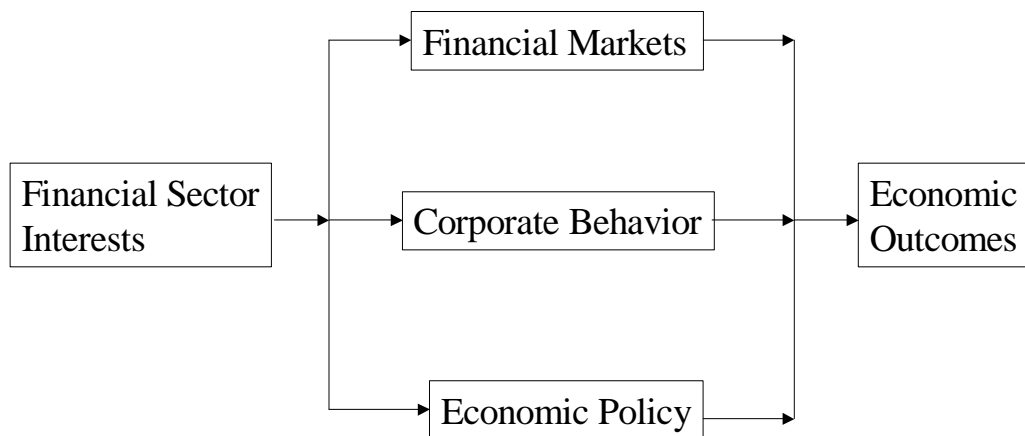
In sum, the era of financialization has been marked by (1) a slight shift in income toward capital, (2) a change in the composition of payments to capital that has increased the interest share, and (3) an increase in the financial sector's share of total profits.

Turning to the composition of the wage share, no formal data exists on its division between managerial and workers wages. However, available evidence suggests there has been a shift in the wage share from workers to managers. Mishel et al. (2007) report that CEO pay has exploded from thirty-eight times average worker pay in 1979 to two hundred and sixty-two times worker pay in 2005. Bebchuck and Grinstein (2005) report that pay for the top five officers of S&P 500 companies rose from 5 percent of corporate profits in the 1990s to over 10 percent in the 2000s. Dew-Becker and Gordon (2005) report that over the period 1966 – 2001 only the top ten percent of the income distribution (which presumably includes the managerial class) had real compensation growth equal to or above productivity growth. Additionally, Mishel et al. (2007) report that among workers there has been an increase in wage inequality, with wages of higher paid workers in the top half of the wage distribution rising much faster than those in the bottom half of the wage distribution.

IV. CONDUITS OF FINANCIALIZATION

The financialization thesis is that these developments regarding increased debt, changes in the functional distribution of income, wage stagnation, and increased income inequality are significantly due to changes wrought by financial sector interests. These changes concern the structure of the economy, economic policy, and the behavior of corporations.

Figure 3. Conduits of Financialization.



The mechanics of financialization are illustrated in Figure 3, which shows how the influence of financial sector interests work through three distinct conduits. The first conduit concerns the structure and operation of financial markets. The second conduit concerns the behavior of non-financial corporations, while the third conduit concerns economic policy. Though not shown in the diagram for reasons of simplicity, these conduits also interact. Thus, economic policy affects the structure of financial markets and changes corporate behavior, and corporations also lobby to affect economic policy.

Changes in the Structure and Operation of Financial Markets

The macroeconomic impacts of financial markets have been a traditional focus of macroeconomists. Financialization has changed the structure and operation of financial markets, and most existing theoretical studies of financialization examine how these changes (particularly regarding credit availability) impact macroeconomic outcomes and

the business cycle. A sense of this work can be gained from the following brief (and non-exhaustive) survey.

Some of the earliest work relevant to financialization concerned the effects of changing the menu of financial assets and liabilities (Tobin 1961) and the macroeconomic effects of financial innovation and deregulation (Tobin and Brainard 1963). Another early channel of inquiry was the impact of wealth and credit rationing on household consumption (Ackley 1951; Modigliani and Brumberg 1954; Modigliani and Ando 1963). Tobin's q-theory (Brainard and Tobin 1977) emphasized the influence of the stock market on business investment spending.

This early work on the macroeconomic effects of financial markets tended to ignore credit and debt, which has become the focus of current work on financialization. Minsky (1982) has been especially influential with his psychological theory of the business cycle that has agents borrowing and bidding up asset prices to unsupportable levels that is then followed by a crash. Additionally, there has been a resurgence of interest in Fisher's (1933) debt-deflation theory of recessions, which links with the long-standing debate in Keynesian economics whether price level adjustment can restore full employment in a monetary economy with nominal debt (Tobin 1980; Caskey and Fazzari 1987; Palley 1999, 2007a).

Minsky's (1982) construction of the business cycle has considerable similarities with the theory of the financial accelerator developed by Bernanke and Gertler (1996). However, Minsky places greater emphasis on subjective psychological forces and speculation. Financial accelerator theory emphasizes asset price inflation that raises collateral values, which allows more borrowing that finances investment spending and drives economic expansion. However, eventually firms' balance sheets become congested so that borrowing and investment fall, setting off a downturn in which asset prices fall. Credit constraints then tighten, causing a cumulative spiral downward (Kiyotaki and Moore 1997).

The financial accelerator, which might also be termed the "balance sheet congestion" approach, has now become the major workhorse for theoretical enquiry into the macroeconomic effects of financialization. The focus is on how changes in financial markets affect collateral values and credit availability, thereby relaxing corporate balance

sheet constraints and potentially making for more volatile and longer business cycles that may even be unstable.

Additionally, there is a specifically Post Keynesian line of inquiry that emphasizes the impact of debt on income distribution and aggregate demand (Palley 1994, 1996a, 1997a). This Post Keynesian approach emphasizes how debt transfers income from high marginal propensity to spend debtors to lower marginal propensity to spend creditors, and this process of transfer can generate business cycles. However, this line of enquiry emphasizing income distribution effects has been ignored by the mainstream, which has instead chosen to focus on the corporate balance sheet congestion mechanism.

Finally, there is an emerging Post Keynesian literature that seeks to examine the effects of financialization on long run growth (Dutt 2005; Palley 2005a; Hein and van Treeck 2007; Lavoie 2007; Skott and Ryoo 2007). This literature focuses on the growth effects of increased indebtedness, increases in the profit share, shifts in income away from workers, and lower retained profits of corporations. The emerging consensus is that these factors tend to reduce the long run equilibrium growth rate. However, this conclusion is sensitive to assumptions about the response of aggregate demand to changes in the profit share. In particular, if investment responds strongly to an increased profit share and consumption is little affected by a lowered wage share, then growth can increase as a result of an increased profit share.

Corporate Behavior

A second conduit for the influence of financialization is corporate behavior, which financial markets have worked to change so as to align with their interests. As discussed earlier, mainstream economic theory has played an important role via its construction of the issue of corporate governance as an agency problem. That construction has given rise to the notion of the market for corporate control, whereby managers are disciplined by the prospect of takeover and ouster if they fail to maximize profits. According to this view, financial innovations such as leveraged buyouts and private equity investing financed by junk bonds are market efficiency improvements that compel managers to satisfy the interests of shareholders, who are the owners.

The agency approach to corporate governance has also fostered the growth of stock option pay, the reasoning being that options serve to align the interests of management with those of shareholders. Top management has benefited from these new pay practices and stock options have given managers an interest in maximizing the short-term stock price, which also benefits financial market money managers. However, it is not clear that shareholders have benefited as the costs of top management pay have become staggeringly large (Bebchuck and Grinstein 2005) and the long-term profitability of companies may have been prejudiced by the focus on the short-term share price.

This realignment of corporate manager interests to coincide with those of financial markets has been facilitated by the destruction of union power. This has removed a countervailing force that previously prevented managers from siding excessively with financial interests.

Corporations have also been encouraged to adopt a cult of debt finance. One reason is the tax code, which treats interest payments more favorably than profits. A second reason is that managers may have used debt as a tactic to drain free cash flow out of firms, thereby putting pressure on workers and leaving less for other claimants on the firms' income stream (Bronars and Deere 1991). A third reason is that debt financing increases leverage, thereby potentially raising the rate of return on equity capital. Such financial engineering fits with the Wall Street agenda that has demanded corporations earn higher rates of return.

The net result of these developments is that corporate behavior has become increasingly dominated by and beholden to financial markets. That means corporate managers may have imported the behaviors of financial markets, which has impacted corporate investment and business decision-making. From an agency theory perspective this is the desired outcome. However, it may not be good for corporations or the economy if financial market behaviors are governed by short-termism (Palley 1995) and herd behavior (Palley 1997b). Moreover, it may simply shift the agency problem from corporate managers to money managers in financial markets.

Evidence for these effects of financialization on corporate behavior is provided by changes in the patterns of corporate financial behavior. Figure 4 shows nominal new equity issuance and new credit market borrowing of non-financial corporations for the

period 1959 – 2006. The striking feature is the abrupt change in the pattern of new equity issuance that turned negative after 1980. Post 1980, rather than being a net source of finance, the stock market has been a net drain of finance.

Figure 4. Non financial corporation net equity issuance and new borrowing, 1959-2006.
Source: Federal Reserve, Flow of Funds, tables F2 and F4.

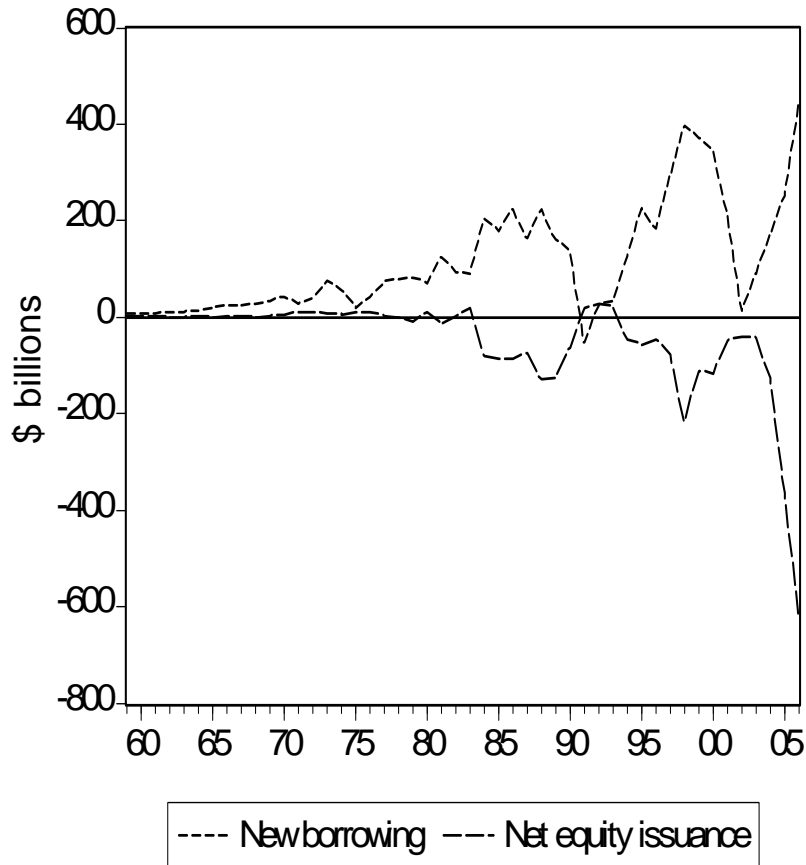
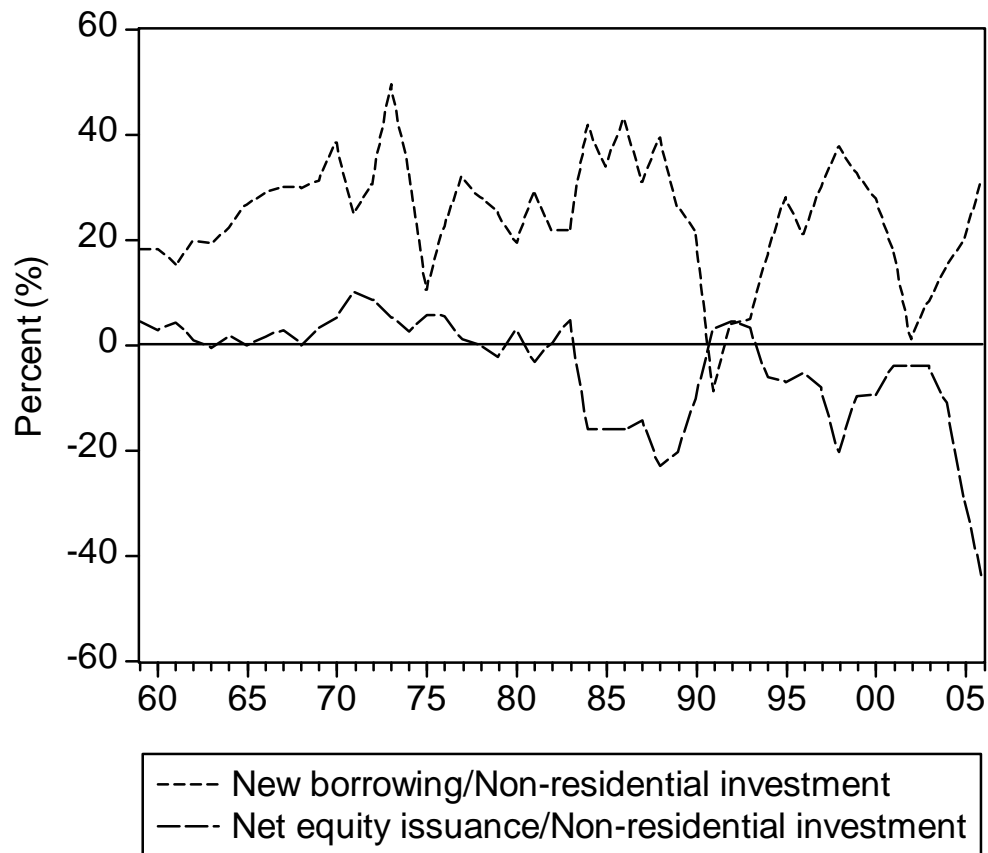


Figure 5 shows non-financial corporate new borrowing and equity issuance as a percent of non-residential investment spending. This gives an indication of the scale of equity buy-backs, which reached 43.9 percent of non-residential investment spending in 2006. Post-1980, new borrowing and equity purchases exhibit a clear negative correlation that is indicative of how firms have borrowed to finance equity buy-backs. This new pattern suggests changed purpose of corporate borrowing. Before 1980 it financed

investment spending, but since 1980 a significant portion of borrowing appears to be for purposes of equity buy-backs. This contributes to raising the debt-equity ratio.

Figure 5. Non-financial corporation new borrowing and net equity issuance as percent of non-residential investment, 1959-2006.



These patterns fit with the financialization thesis. Financial markets tend to prefer that corporations use debt to finance their activities owing to its tax advantages and the higher rates of return on equity that leverage allows. Financial markets have also supported corporations paying management with stock options, which requires purchasing the underlying stock. Additionally, rather than paying dividends that are highly taxed, markets prefer corporations to use profits to repurchase stock, which drives up the stock price and generates lower-taxed capital gains. Finally, increased debt

issuance transforms profit streams into interest payment streams, which reduces corporate income available for other non-financial claimants.

Economic Policy

The third conduit of financialization is economic policy. Financial sector interests, supported by other business interests, have promoted a policy framework favoring their agenda. That framework has uncuffed financial markets and facilitated their expansion, and it has also helped corporations shift income from labor to capital to the benefit of financial sector interests. The new policy framework has been designed to reverse the decline in rates of return to capital that occurred in the 1970s. Thus, short-term three-month real interest rates that were negative for much of the 1970s have been raised to approximately two-and-half percent. Likewise, as shown in Table 11, pre- and after-tax profit rates have been pushed up significantly from 1979 lows.

Table 11. Corporate sector profit rates

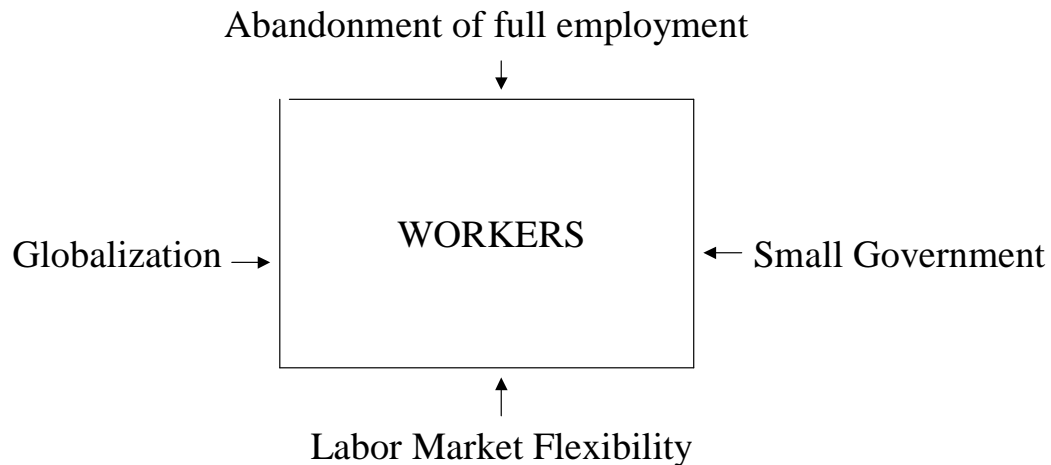
	Pre-tax profit rate (%)	Post-tax profit rate (%)
1973	11.7%	7.0%
1979	9.6	5.7
1989	10.6	7.0
2000	10.6	7.1
2005	11.9	8.6

Source: Mishel et al., 2007.

The new policy framework can be termed the neo-liberal box, the effect of which is to box in workers.⁴ The box is shown in Figure 6, and it has four sides labeled globalization, small government, labor market flexibility, and abandonment of full employment, Workers are inside the box.

⁴ The idea of describing policy with the metaphor of a box is attributable to Ron Blackwell of the AFL-CIO.

Figure 6. Economic Policy and the Neo-liberal box.



“Globalization” refers to the collection of policies associated with free trade, capital mobility, multi-national business, and global sourcing. It also includes the Washington Consensus development policy that spread the neo-liberal box agenda globally, thereby multiplying the agenda’s impact and also establishing a dynamic of deregulatory competition across countries. In this regard, there is a strong international dimension to financialization that centers on the elimination of capital controls and encouraging all countries to deregulate their internal financial markets.

“Small government” refers to the attack on the legitimacy of government activity, privatization, tax cuts that shrink the public revenue base, and deregulation – including financial sector deregulation. The small government agenda also covers policies regarding pension reform and saving. These policies have strongly encouraged a movement away from providing retirement income through group defined benefit

pension plans to individual defined contribution arrangements such as 401(k) retirement saving plans. These new plans advance financial interests in several ways. First, they generate large fee income through charges for custodial services and brokerage commissions. Second, they increase individual investor demand for equities, which boosts equity prices. Third, they create an investor identity among households that then generates favorable political support for policies favored by large financial interests.

The small government agenda has also spawned a version of public sector financialization through plutocratic tax cuts. These tax cuts have lowered higher bracket income taxes and taxes on income from capital and created large budget deficits. Table 12 shows that the publicly held debt-to-GDP ratio rose from 20.8 percent of GDP in 1973 to 36.9 percent in 2005, while government interest payments as a share of total revenues rose from 7.5 percent to 15.6 percent. This increase in public debt and debt service was particularly marked in the 1980s under the Reagan administration. The one period of exception was the Clinton administration in the 1990s that pursued small government policies, but in the context of a balanced budget.

Table 12. Publicly held government debt and government interest payments

	GDP (\$ bil.)	Publicly held debt (\$ bil)	Publicly held debt/GDP (%)	Net interest (\$ bil)	Total budget revenues (\$ bil)	Interest /revenues (%)
1973	1,638.3	340.9	20.8%	17.3	230.8	7.5%
1979	2,563.3	640.3	25.0	42.6	463.3	9.2
1989	5,484.4	2,190.7	39.9	169.0	991.2	17.1
2000	9,817.0	3,409.8	34.7	239.9	2025.5	11.8
2005	12,455.8	4,592.2	36.9	339.3	2153.9	15.6

Source: Economic Report of the President, Tables B-78 and B-80, 2007, and author's calculations.

“Labor market flexibility” refers to the agenda for weakening unions and eroding labor market supports such as the minimum wage, unemployment benefits, employment protections, and employee rights. This agenda has dominated U.S. labor market policy, and it has also been the source of heated political debate in Europe.⁵

⁵ Conventional economic theory charges that higher European unemployment rates are the result of rigid labor markets. Post Keynesian analysis maintains that the principle cause of higher European unemployment is macroeconomic policy failure (Palley 1998b, 2005b).

Finally, “abandonment of full employment” refers to changed priorities regarding macroeconomic policy, which elevated the significance of low inflation and reduced the significance of full employment. This shift of focus toward low inflation has been implemented through policies of inflation targeting and central bank independence, both of which are supported by financial interests (Epstein 2001; Palley 1996b). Additionally, there is evidence that central banks have raised interest rates in economies with high union density despite the lack of any evidence that higher union density is associated with higher inflation (Palley 2005b).

The policy configuration described by the neo-liberal box challenges workers from all sides, and it puts continuous downward pressure on wages. This helps explain why wages have become detached from productivity growth, and why income inequality has increased. Private sector workers are challenged by the box’s globalization agenda; public sector workers are challenged by the small government agenda; and all workers are challenged by the labor market flexibility agenda and the abandonment of full employment as the primary goal of macroeconomic policy.

V. FINANCIALIZATION AND THE NEW BUSINESS CYCLE

The combination of increased access to credit in financial markets and the new policy framework described by the neo-liberal box, have together created a new business cycle since 1980 (Palley 2005c). The business cycles of Presidents Ronald Reagan, George H. Bush, Bill Clinton, and George W. Bush, all share strong similarities and are distinctly different from pre-1980 business cycles. These similarities are an over-valued dollar, trade deficits, disinflation or low inflation, manufacturing job loss, asset price (equities and housing) inflation, widening income inequality, detachment of worker wages from productivity growth, and rising household and corporate indebtedness.

The foundation of the new business cycle is financial boom and cheap imports. Financial boom and asset price inflation provide consumers and firms with collateral to support debt-financed spending. Borrowing is also supported by steady financial innovation that ensures a flow of new financial products allowing increased leverage and widening the range of assets that can be collateralized. Additionally, credit standards have been lowered in recent years, which has made credit even more easily available to

households, firms and financial investors. Meanwhile, cheap imports ameliorate the impacts of wage stagnation, widening income inequality, manufacturing job loss and increased economic insecurity.

This structure contrasts with the pre-1980 business cycle that rested on wage growth tied to productivity growth and full employment. Wage growth, rather than borrowing, fuelled consumption and demand growth. That then encouraged investment spending, which in turn drove productivity and output growth.

The differences between the new and old business cycle are starkly revealed by policy attitudes toward the trade deficit. Prior to 1980 trade deficits were viewed as a serious problem, being a demand leakage that undermined the virtuous circle of robust domestic demand and output growth. Post-1980, trade deficits have been viewed as the outcome of choices made by consenting economic agents, and they help maximize well-being. For the Federal Reserve, trade deficits help with inflation control; and for politicians they help buy-off consumers who face wage stagnation.

Finally, the new business cycle tacitly embeds a new monetary policy stance that replaces concern with real wages with concern about asset prices. Whereas pre-1980 policy tacitly focused on putting a floor under labor markets to preserve employment and wages, now policy tacitly puts a floor under asset prices. This policy behavior has been clearly visible with the 2007 U.S. subprime mortgage crisis. It is not a case of the Fed intentionally bailing out investors. Rather, the macro economy is now vulnerable to asset price declines so that the Fed is obliged to step in to prevent such declines from inflicting broad macroeconomic damage. However, that has the twin consequence of bailing out investors and also potentially creating investor moral hazard. Such moral hazard encourages investors to chase even greater high risk–return ventures because they know there is a good chance they will be bailed out by the Fed if things go wrong.

Moreover, the Fed itself may suffer from cognitive dissonance about this. On one hand good policy requires that investors bear the financial costs of bad decision-making. On the other hand, the macroeconomic system created by financialization may require rising indebtedness and asset prices to maintain growth. Consequently, not only does the Fed have reason to prevent asset price declines, it also has reason to engage in serial

blowing of asset price bubbles. That certainly appears to be the lesson of the 2001–06 house price bubble.

VI. WHAT CAN BE DONE?

Financialization and the new business cycle it has spawned raise serious concerns. Economic growth has been tepid, median wages have stagnated, and income inequality and economic insecurity have both risen. Moreover, there are concerns that the business cycle generated by financialization may be unstable and end in prolonged stagnation. Remedying these failings requires a fundamental change of policy paradigm so as to reconfigure the balance of economic power and the dynamic behind the business cycle.

Financial markets are at the heart of the financialization process, and that suggests there is an urgent need to restore effective control over these markets. Today, the only effective policy tool that monetary authorities have is the short-term interest rate. However, that tool is a blunt instrument, equivalent to a blunderbuss. Thus, attempts to curtail financial speculation by raising interest rates can inflict serious collateral damage on the real economy. This suggests complementing interest rate policy with a new financial sector regulatory framework based on asset based reserve requirements (ABRR).⁶ Such a framework can help stabilize financial markets and provide an additional tool of monetary policy to supplement interest rate policy.

The policy framework described by the neo-liberal box also constitutes a key element of the financialization program. That points to the need to challenge all sides of the box, and calls for restoring full employment policy (Palley 2007b); replacing the current corporate globalization with a globalization that allows policy space and equitable development; replacing the small government agenda with a progressive “better government” agenda; and replacing the labor market flexibility agenda with a good jobs and productive workplaces agenda.

Changed corporate behavior is another key part of financialization, with corporations being increasingly governed by the diktats of financial markets. Dealing with corporations involves three distinct different policy agendas. One agenda is the mainstream corporate accountability agenda that emphasizes reining in excessive CEO

⁶ The workings of a system based on ABRR and its advantages are described by Palley (2000, 2003, 2004).

pay, lack of corporate accountability, and misaligned incentives within firms. In a sense, this agenda recognizes that developments in corporate governance over the last twenty years have actually aligned the interests of top managers and money managers, rather than the interests of top managers and shareholders. A second larger agenda concerns reframing the legal purpose and obligations of corporations so that they also take into account interests of stakeholders other than just shareholders (Blair and Stout, 1999). A third agenda is how to align the incentives of money managers so that these managers represent the interests of savers in mutual funds.

Finally, policy has played a critical role advancing financialization, and policy is significantly driven by politics and lobbying. That simple observation means political reform is also needed. In particular, there is need to address the political power of financial and non-financial corporations, as well as wealthy individuals. Addressing this problem will require tackling issues of lobbying and the influence of wealth on politics. It also concerns the way the democratic political process is organized. That includes disclosure requirements for politicians. It also may require changing the rules of elections, perhaps replacing current “winner take all” arrangements with forms of proportional representation that can give greater voice to those without resources. The reality is that economic power affects politics, and politics affects economic policy and economic outcomes, in turn impacting economic power. That means politics and economic policy need to be linked, rather than being seen as independent spheres as has historically been the case.

References

- Ackley, G. 1951. "The Wealth – Saving Relationship," Journal of Political Economy, April.
- Arrow, K.J., and G. Debreu. 1954. "Existence of an Equilibrium for a Competitive Economy," Econometrica, 22, 262-290.
- Bebchuk, L.A. and Y. Grinstein. 2005. "The Growth of Executive Pay," Oxford Review of Economic Policy, 21, 283-303.
- Bernanke, B. and M. Gertler. 1996. "The Financial Accelerator and the Flight to Quality," Review of Economics and Statistics, 78, 1-15.
- Blair, M.M., and L.A.Stout. 1999. "A Team Production Theory of Corporate Law," Virginia Law Review, 85 No.2 (March), 248-328.
- Brainard, W. and J. Tobin. 1977. "Asset Markets and the Cost of Capital," in Belassa, B. and R. Nelson (eds.), Economic Progress, Private Values, and Public Policy: Essays in Honor of William Fellner, New York: North Holland.
- Bronars, S.G. and D.R.Deere. 1991. "The Threat of Unionization, the Use of Debt, and the Preservation of Shareholder Wealth," Quarterly Journal of Economics, CVII (February), 231-254.
- Caskey, J. and S. Fazzari. 1987. "Aggregate Demand Contractions with Nominal Debt Commitments: Is Wage Flexibility Stabilizing?" Economic Inquiry, 25 (October), 583- 97.
- Crotty, J.R. 1990. "Owner-Manager Conflict and Financial Theories of Investment Instability: A Critical Assessment of Keynes, Tobin, and Minsky," Journal of Post Keynesian Economics, 12 (Summer), 519-42.
- De Long, J.B., A. Shleifer, L.H.Summers, and R.J. Waldman. 1990. "Noise Trader Risk in Financial Markets," Journal of Political Economy, 98, 703-38.
- Dew-Becker, I., and R. J. Gordon. 2005. "Where Did the Productivity Growth Go? Inflation Dynamics and the Distribution of Income," Brookings Papers on Economic Activity 36, no. 2, 67-127.
- Dutt, A.K. 2005. "Consumption, Debt and Growth," in M. Setterfield (ed.), Interactions in Analytical Political Economy, Armonk, New York: M.E.Sharpe.
- Epstein, G. 2001. "Financialization, Rentier Interests, and Central Bank Policy," manuscript, Department of Economics, University of Massachusetts, Amherst, MA, December.

- Fisher, I. 1933. "The Debt-Deflation Theory of Great Depressions," Econometrica, 1, (October), 337-57.
- Flood, R.P. and P.M.Garber. 1980. "Market Fundamentals versus Price Level Bubbles: The First Tests," Journal of Political Economy, 88, 745-770.
- Friedman, M. 1953. "The Case for Flexible Exchange Rates," in Essays in Positive Economics, Chicago: Chicago University Press.
- Gordon, R.J., and I. Dew-Becker. 2007. "Unresolved Issues in the Rise of American Inequality," paper presented at the Brookings Panel on Economic Activity, Washington, D.C., September 7.
- Hein, E. and T. van Treeck. 2007. "Financialization in Kaleckian/Post-Kaleckian Models of Growth and Distribution," IMK Working Paper, Dusseldorf, Germany.
- Hirshleifer, J. 1971. "The Private and Social Value of Information and the Reward to Inventive Activity," American Economics Review, 61, 561-74.
- Jayadev, A. and G. Epstein. 2007. "The Correlates of Rentier Returns in the OECD Countries," unpublished manuscript, Department of Economics, University of Massachusetts, Amherst, MA, January.
- Jensen, M. J. and W.H. Meckling. 1976. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics, 3, 305-360.
- Kiyotaki, N. and J. Moore. 1997. "Credit Cycles," Journal of Political Economy, 107, 211-48.
- Lavoie, M. 2007. "Financialization Issues in a Post Keynesian Stock-flow Consistent Model," paper presented at a conference on Finance-led Capitalism, in Berlin, Germany, sponsored by the Hans Boeckler Foundation, October 26-27.
- Levy, F. and P. Temin. 2007. "Inequality and Institutions in 20th Century America," Manuscript, MIT.
- Minsky, H.P. 1982. Can "It" Happen Again? Essays on Instability and Finance, Armonk, NY: M.E.Sharpe.
- Mishel, L., J. Bernstein, and S. Allegreto. 2007. The State of Working America 2006/2007, Ithaca, NY: Cornell University Press.
- Modigliani, F. and A. Ando. 1963. "The Life Cycle Hypothesis of Saving: Aggregate Implications and Tests," American Economic Review, 53.

- Modigliani, F. and R. Brumberg. 1954. "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data," in K.Kurihara, ed., Post Keynesian Economics, New Brunswick, N.J.: Rutgers University Press.
- Palley, T.I. 2007a. "Keynesian Models of Deflation and Depression Revisited," Journal of Economic Behavior and Organization, forthcoming.
- . 2007b. "Reviving Full Employment Policy: Challenging the Wall Street Paradigm," EPI Briefing Paper #191, Economic Policy Institute, Washington, D.C., June.
- . 2005a. "Class Conflict and the Cambridge Theory of Distribution," in B.Gibson (ed.), The Economics of Joan Robinson: A Centennial Celebration, Cheltenham: E. Elgar.
- . 2005b. "The Causes of High Unemployment: Labor Market Sclerosis versus Macroeconomic Policy," in Hein, Heise and Truger (eds.), Wages, Employment, Distribution and Growth, London: Palgrave/Macmillan. Also in Stanford and Vosko (eds.), Challenging the Market: The Struggle to Regulate Work and Income, Montreal and Kingston, Canada: McGill-Queens University Press, 2004.
- . 2005c. "The Questionable Legacy of Alan Greenspan," Challenge, 48-6 (November-December), 17-31.
- . 2004. "Asset Based Reserve Requirements: Reasserting Domestic Monetary Control in an Era of Financial Innovation and Instability," Review of Political Economy, 16 (January), 43-58.
- . 2003. "Asset Price Bubbles and the Case for Asset Based Reserve Requirements," Challenge, 46 (May – June), 53 – 72.
- . 2001. "The Stock Market and Investment: Another Look at the Micro Foundations of q Theory," Cambridge Journal of Economics, 25 (September), 657-67.
- . 2000. Stabilizing Finance: The Case for Asset-Based Reserve Requirements, Report issued by the Financial Markets Center, Philomont, VA, August.
- . 1999. "General Disequilibrium Analysis with Inside Debt," Journal of Macroeconomics, 21 (Fall), 785-804.
- . 1998a. Plenty of Nothing: The Downsizing of the American Dream and the Case for Structural Keynesianism, Princeton, N.J.: Princeton University Press.

- . 1998b. "Restoring Prosperity: Why the U.S. Model is Not the Right Answer for the U.S. or Europe," Journal of Post Keynesian Economics, 20 (Spring), 337-54.
- . 1997a. "Endogenous Money and the Business Cycle," Journal of Economics, 65, 133-149.
- . 1997b. "Managerial Turnover and the Theory of Short-termism," Journal of Economic Behavior and Organization, 32, 547-57.
- . 1996a. "Inside Debt, Aggregate Demand, and the Cambridge Theory of Distribution," Cambridge Journal of Economics, 20, 465-74.
- . 1996b. "The Institutionalization of Deflationary Policy Bias," Monnaie et Production, Vol.X of Economies et Societes, 247-68.
- . 1995. "Safety in Numbers: A Theory of Managerial Herd Behavior," Journal of Economic Behavior and Organization, 28, 443-50.
- . 1994. "Debt, Aggregate Demand, and the Business Cycle: An Analysis in the Spirit of Kaldor and Minsky," Journal of Post Keynesian Economics, 16 (Spring), 371-90.
- Power, D., G. Epstein, and M. Abrena. 2003. "Trends in the Rentier Income Share in OECD Countries, 1960 – 2000," Department of Economics, University of Massachusetts, Amherst, MA. April.
- Skott, P. and S. Ryoo. 2007-08. "Macroeconomic Implications of Financialization," Working Paper, Department of Economics, University of Massachusetts, Amherst, MA.
- Stockhammer, E. 2007. "Some Stylized Facts on the Finance-Dominated Accumulation," unpublished manuscript, Department of Economics, VWI, Wirtschaftsuniversitat, Wien, Austria, July 16.
- Tobin, J. 1980. Asset Accumulation and Economic Activity, Chicago: Chicago University Press.
- . 1961. "Money, Capital, and Other Stores of Value," American Economic Review, 51, 26-37.
- Tobin, J. and W. Brainard. 1963. "Financial Intermediaries and the Effectiveness of Monetary Control," American Economic Review, 53, 383-400.