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**Financialisation and Market
Concentration in the USA:
A Monetary Circuit Theory**

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Abstract

This paper explains the emergence of financialisation of nonfinancial corporations (NFCs) in the USA by way of the increased pension fund savings of white-collar workers which can be considered by Monetary Circuit Theory (MCT) as 'leakages' causing equity issuances to be replenished. The indirect causal nexus can briefly be explained that pension fund savings of white-collar workers have been facilitated by the increasing wage differential between white-collar and blue-collar workers which is driven by the increased market concentration. Since pension funds savings are channelled to financial markets instead of being spent for consumption goods, liquidity deficits of firms being replenished throughout stock markets and because of excess inflows into financial markets, profit expectations of NFCs from liquid financial assets have come to exceed the quasi-rent expectations from illiquid capital assets due to depressed demand for consumption goods. This paper stands as a reconstructive summary of findings of three published articles on each arguments of causal nexus and a contribution to MCT which has not yet considered market concentration.

Keywords: financialisation, market concentration, white-collar workers, wage differential, Monetary Circuit Theory.

JEL Codes: E44, J31, L1

1. Introduction

The literature on financialisation mostly deals with its macroeconomic implications (Skott and Ryoo, 2008; Hein, 2012; Lin and Tomaskovic-Devey, 2013; Palley, 2014 and Alvarez, 2015) and its impact on distribution (Onaran et al., 2011). Concerning the emergence of financialisation in the relevant literature it has been argued that the inauguration of private pension schemes in 1970s led capital markets to inflate (Toporowski, 2000) and financialisation to emerge (Lazonick and O'Sullivan, 2000), but the intermediary causal mechanism was not emphasised. Soener (2015) deals with the reasons behind the financialisation of NFCs, but within an organisational and institutional framework, rather than in an economic manner.

In the existing literature, only Palley's reminder that monopoly power increases the savings of managers due to their rising income level (Palley, 2015, p. 235) seems like an attempt to connect financialisation to market concentration and the savings of high income-earners. But Palley's analysis deals with growth and distribution; it does not deal in detail with financialisation and wage dispersion. On the other hand, to my knowledge, the impact of the wage dispersion on financialisation has not yet been discussed in the literature¹, except Vasudevan (2015) which emphasizes the role of managerial class, but not the role of white-collar workers² as this study does. Since the US-economy represents the distinguishing exemplary case of financialization, this study focuses on the US case.

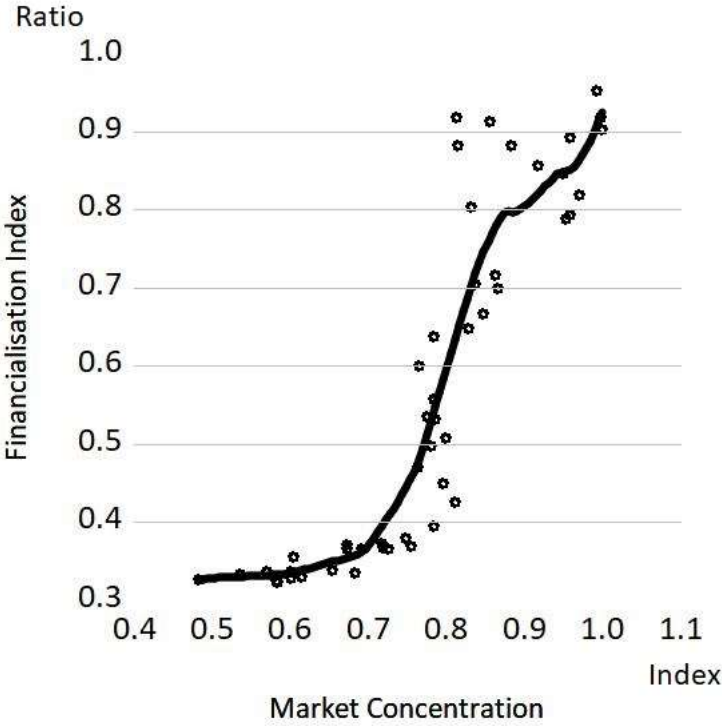
The main argument is that market concentration has increased the wage differential between white-collar and blue-collar workers (Dögüs, 2019); wage dispersion has then given a rise to white-collar workers' pension fund savings (Dögüs, 2018a) that led to 'leakages' to be replenished by way of equity issuances (Toporowski, 2000; Graziani, 2003), and this, in turn, has resulted in the inflation in financial markets and thus in the profit expectations of NFCs from liquid financial assets exceeding their quasi-rent expectations from illiquid capital assets, due to the depressed demand for consumption goods (Dögüs, 2018b). Figure 1 shows that after a certain level of concentration, the relationship between financialisation and concentration becomes sharper and stronger.

¹ Concerning the inverse relationship, Fontana et al. (2016), Herr and Ruoff (2014) and Dünhaupt (2014) argue that financialisation leads to wage dispersion between financial sector workers and non-financial sector workers, and between executive and non-executive compensation.

² See Dögüs (2019) for further discussion on the distinction between white-collar and blue-collar workers.

The argument might sound like it has been derived from Baran and Sweezy’s Marxist treatise *Monopoly Capital* (1966), which relies on Hilferding (1981 [1910]) and asserts that capitalist accumulation in the 20th century was characterized by three trends: first, slowing down of the rate of growth; second, rise of monopolistic multinational corporations; third, financialisation (Lapavitsas 2011, p. 612).

Figure 1: Market concentration at macro level in non-financial sector (=reverse of break-even point)³ and financialisation index (=Ratio of financial assets to non-financial assets held by US-NFCs.)⁴. 1964-2007, USA.



Sources: own calculations based on <https://fred.stlouisfed.org/>

In fact, the argument relies mainly upon Monetary Circuit Theory (MCT) developed by Graziani (1990) and on the works of Minsky (1975 and 1986), while combining them with Steindl (1952 and 1990), Kalecki (1954, 1971 and 1990) and Toporowski (2000), since Minsky does not consider market structure and income distribution in detail. Even though he distinguishes financial and capital assets and acknowledges that investment is fundamentally a financial decision, he does not take the differences between profit

³ See Dögüs (2019) for details.

⁴ See Dögüs (2018b) for details.

expectations from these different assets into account with respect to investment decisions, as this study does.

As post-Keynesian analysis of financialization does not derive from Minsky (Lapavistas ,2011, p. 614), this study represents a contribution to the post-Keynesian literature and to MCT which has not yet dealt with concentrated markets. The study also makes a contribution to financial macroeconomics by interconnecting labour markets and financial markets by way of goods markets (market structure)⁵. Pilkington (2009), Passarella (2014) and Michell (2017) deal with financialisation based on MCT but not through causal nexus as discussed here.

Section two briefly summarizes MCT, section three will provide a reconstructive summary of findings of three published articles on each arguments of causal nexus, and the last section concludes⁶.

2. Monetary Circuit Theory

MCT which initiates the economic circulation and production with loans granted by banks out of nothing ‘describes the working of the economy as a sequential process, characterized by successive stages forming a monetary circuit’ (Fontana et al., 2017) and ‘the borrower–bank–lender triangular relationship’ (Michell, 2017). According to MCT, banks do not simply intermediate between borrowers and savers, ‘since savers do not ‘lend’ their deposits to banks’ as banks do not employ these savings to grant loans, rather ‘banks have to issue new loans in order to refinance any outstanding debts by firms’ (Parguez and Seccareccia, 2002, p. 114). Rochon (2005, p. 126) traces the roots of MCT back to work of Quesnay, and Vernengo and Rochon (2001, p. 82) emphasise that Robinson (1956) has a clear understanding of distinction of initial and final finance, *ex nihilo* creation of credit, savings as leakages and destruction of money when loans are repaid which are distinctive essence of the circuit approach.

⁵ Foster (2010), which relies on Baran and Sweezy (1966), deals with financialisation and monopolization (i.e. market concentration) by considering Kalecki, Steindl and Minsky. Foster does not, however, explain the mechanism, as this study does. Durand and Gueuder (2018) discusses monopolisation and financialisation as phenomena of last decades however does not construct a causality from monopolisation to financialisation, except that monopolisation makes retained earnings useless

⁶ No econometric analysis preferred as main assumptions of econometry relying on ergodicity, predictable future and normal distribution are inconsistent with the post-Keynesian main assumptions of non-ergodicity and fundamental uncertainty of the future.

'Initial finance' implies the loans borrowed to finance investment and production⁷ whereas 'final finance' refers to the money which returns from workers to firms either when workers consume or when workers convert their deposits into stocks (Michell, 2017, p. 256). If workers spent their total wage income for consumption, then firms will be able to repay their debt and close the circuit without losses (Graziani, 2003, p. 30). However, 'the greater the liquid balances held by wage-earners, the greater the losses of revenue suffered by the corporate sector' (Passarella, 2014, p. 129). Total savings and investments at macro level in a closed and balanced budget economy are still equal, yet the distribution of savings between workers and capitalists changes.

The increase in amount of equity issuances at global level as of 56 percent in 2020⁸ during the pandemic which led production and investments to decline and hence household savings to rise stands as a strong evidence for the argument that equities are mainly issued in order to replenish liquidity deficit caused by savings, not to finance investments⁹.

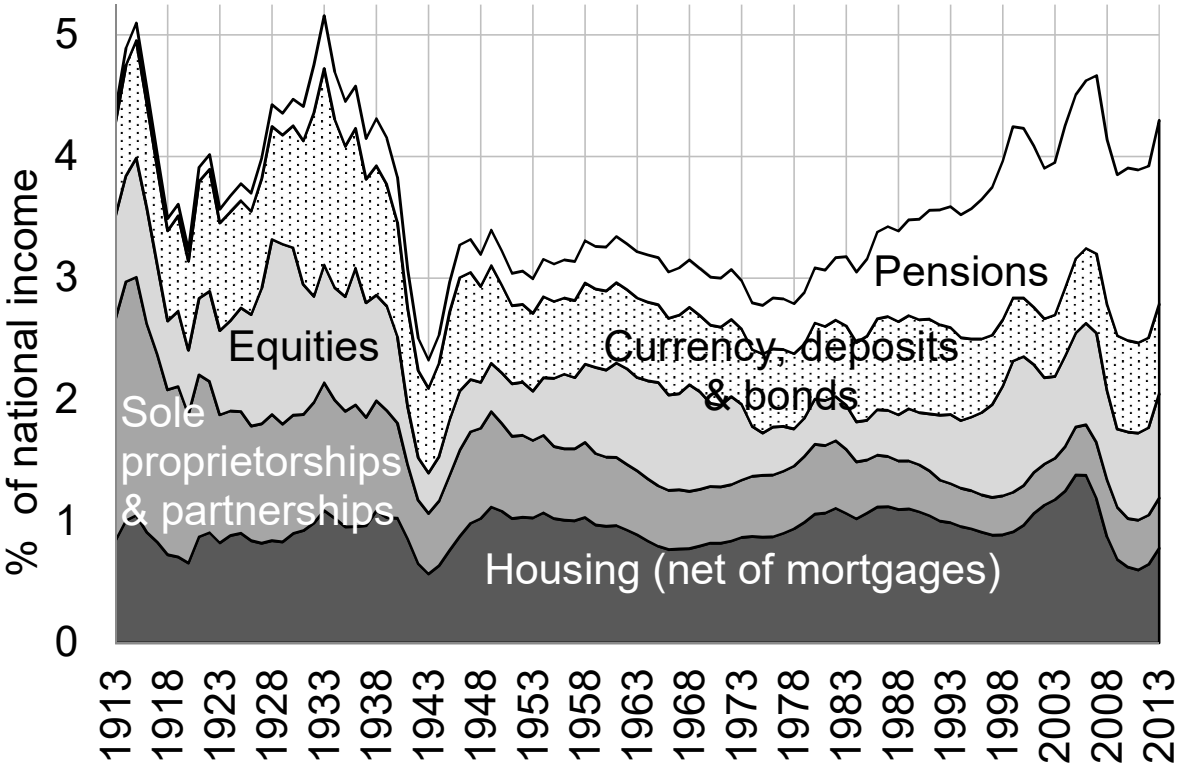
When households, particularly workers save and 'decide to put their current savings into a bank deposit, firms lose the same amount of liquidity and their bank debt is correspondingly increased. The consequence is that banks and firms compete for the available financial savings' (Graziani, 2003, p.114). Banks compete with firms since when households transform their deposits into other financial assets, in this case into equities, then credit-deposit ratio of banks and hence their liquidity needs rise which can basically be met at central banks. If central banks do not accommodate liquidity needs, then banks can appeal to interbank markets or sell government bonds they hold to convert them to liquidity or raise deposit rates up in order to call deposits back (Lavoie, 1996) all of which create 'liquidity management costs' that are mostly confused with cost of credit creation for banks which is indeed zero.

⁷ See Rochon (2009) for a discussion in the MCT on whether loans to finance investment or production (wage bills) or both and on how firms generate profits enabling interest payments in the circuit. Similar to incorporating time dimension to resolve the dilemma, as done by Rochon (2009, pp. 73-75), Toporowski (2020) reminds that interest payments are not made always out of current profits, unlike assumed by Ricardian perspective, rather and mostly, out of past profits.

⁸ <https://www.refinitiv.com/perspectives/market-insights/global-capital-markets-answer-2020s-distress-call/>

⁹ Individual firms can of course employ equities, i.e. savings, to finance their investments however this would not bring about a positive growth rate as the total amount of money is fixed. Growth at macro level requires new money creation through loans created by banks.

Figure 2: Composition of US-households' wealth as a share of GDP, 193-2013.



Source: saezzucman.eu, Main Data, figure 2.

Figure 2 depicts that banks have been losing out to firms as share of equities and pension funds within households' wealth have been rising higher than deposits since the outset of financialisation, just because of that people with lower income level have limited financial assets and their portfolio is inclined to fixed-income assets. On the other hand, large proportion of portfolios of people with higher income level consist of stocks. Thus, an increase in income inequality tends to raise the demand for stocks (Skott, 2013) and in turn this increases the wealth inequality (Ederer et al., 2021).

Under such circumstances of persisting inequality, 'share value maximisation' (Lazonick and O'Sullivan, 2000) has become a target for financialised NFCs because demand for goods depressed and firms face liquidity deficits to be replenished by way of equity issuances and monetary circuit being heavily closed through equities rather than consumption expenditures. This does not indicate a new business model in which selling equities replaces selling goods, rather an alteration of the way of final finance.

The next section attempts to explain this process by way of analysing the rising wage differential between white-collar and blue-collar workers as white-collar workers are those who can save due to their relatively higher income level.

3. Causal nexus: Market concentration, wage differential, pension fund savings and financialisation

Before starting to discuss on the causal nexus it is worth to present first some stylized facts concerning financialisation, market concentration and the increase in wage differential between white-collar and blue-collar workers:

Facts about Financialisation: The ratio of stock market capitalization to GDP for the United States has increased from 41.3% in 1980 to 146.2% in 2014¹⁰. The ratio of the financial assets held by US-NFCs to their nonfinancial assets has increased from 38.6% in 1980 to 91.4% in 2013¹¹. The ratio of profits in the financial sector relative to those of the non-financial sector has more than doubled since the mid-1980s (Jackson, 2010, p. 23); and in the US, institutional investors like investment funds, hedge funds, retirement funds, and insurance companies have increased their weight in GDP in terms of assets from 70.5% in 1980 to 182.9% in 2004 (Peralta and Garcia, 2008: 4). The ratio of portfolio income relative to cash flow for US-NFCs has risen by 300% from 1970 to 2000 (Krippner, 2005, p. 185) and the ratio of financial profits to non-financial profits has increased from 20% in 1984 to 90% in 2002 (NIPA, Table 6).

Facts about Market Concentration: A network analysis conducted by Vitali et al. (2011) found that 737 Transnational Corporations (TNCs) control 80% of the network and a 'super entity' comprised of 147 corporations have control of 40% of the network. In addition, brands from US-based companies account for just over half of the list of most valuable global brands (Forbes, 2016).

An April 2016 Issue Brief of the Council of Economic Advisers (CEA)¹² reports that market concentration in the USA has increased and that for the period from 1977 to 2013, firm entry rates have declined over time, whereas firm exit rates have been more or less steady (CEA, 2016, p. 5). Using plant-level data from the U.S. Census Bureau covering the entire

¹⁰ <https://fred.stlouisfed.org/series/DDDM01USA156NWDB>

¹¹ Own calculation based on [/research.stlouisfed.org/](https://research.stlouisfed.org/)

¹² <https://www.whitehouse.gov/administration/eop/cea>

manufacturing sector over the period from 1997 to 2007, Blonigen and Pierce (2016, p. 24) of the Federal Reserve Board (Fed) found that evidence for increased average markups from M&A activity is significant and robust.

According to my own calculations, market concentration as the reverse of break-even point, based on Steindl (1990), has increased by 53% from 1966 to 2013.

Facts about the Rise of White-Collar Workers: The share of college graduates employed in white-collar jobs has increased by 144% from 1973 to 2015¹³. During the same period, wage inequality between the 90th and the 50th percentiles has increased by 30%¹⁴. The wage differential between white-collar and blue-collar workers has increased by 31% from 1964 to 2015¹⁵.

Facts about Pension Funds: The share of pension funds in household wealth, as of national income, has increased by 290% from 1964 to 2013 in the USA¹⁶. In 2014, 49,3% of pension funds invested in stocks and the value of pension funds accounted for 96% of US GDP¹⁷.

3.1. Market concentration to wage differential

According to the findings of Dögüs (2019) based on US data between 1964 and 2007, up to 35% of the variations in wage differential between white-collar and blue-collar workers in the long run are caused by market concentration. Large NFCs prefer to employ and pay more white-collar workers to enhance their market share, since innovative tasks carried out by white-collar workers – such as advertisement, market research, product design and differentiation, R&D, etc. – work to reduce the break-even point where costs and revenues are equalized (ibid).

¹³ <http://www.epi.org/data/#?preset=wage-education>

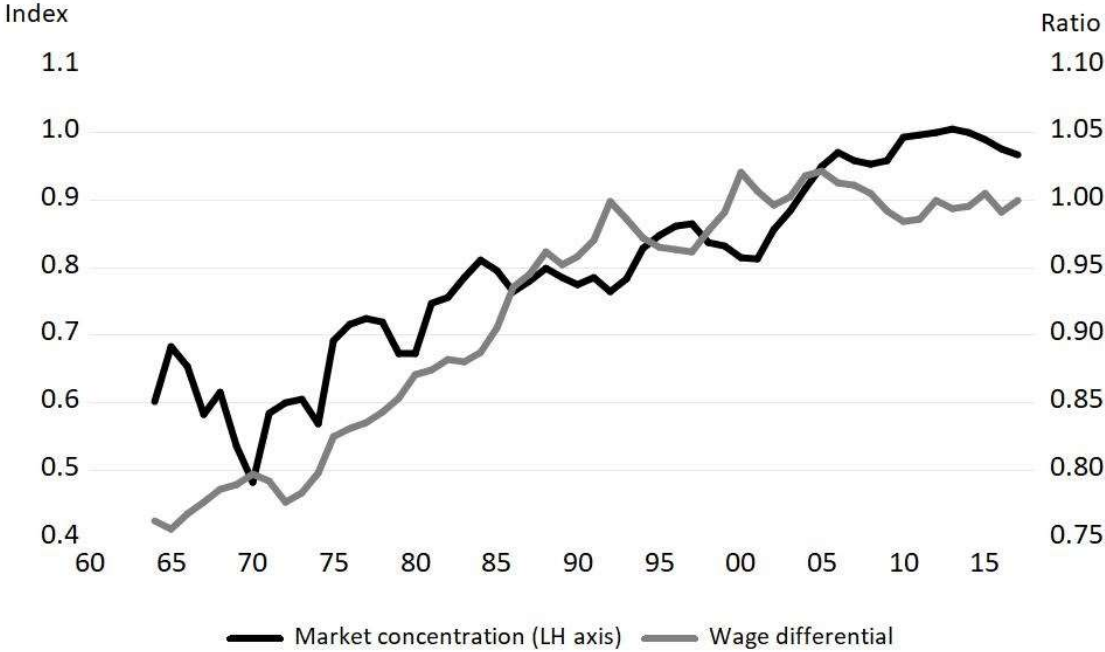
¹⁴ stateofworkingamerica.org, Figures 4K and 4L

¹⁵ Own calculations based on <https://fred.stlouisfed.org/>.

¹⁶ saezzman.eu, Table A2

¹⁷ <https://www.oecd.org/finance/Pension-funds-pre-data-2015.pdf>

Figure 3: Market concentration and wage differential between white-collar and blue-collar workers.



Notes: Market concentration is calculated as the reverse of the break-even point of US-nonfinancial corporations. Wage differential is calculated as the ratio of annual average hourly compensation of all employees in the non-financial corporation (NFC) sector to the average hourly earnings of production workers in the private sector. *Sources:* Own calculations based on fred.stlouisfed annual datasets, 1964-2015, USA. See Dögüs (2019) for further details.

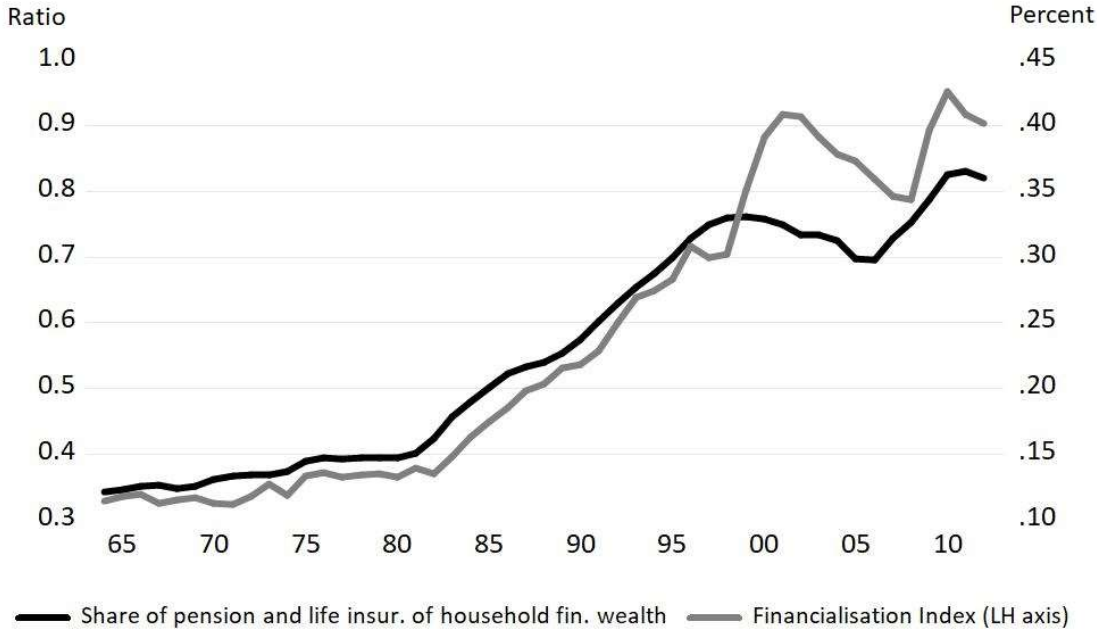
The causal nexus of the relatively higher growth of salaries of white-collar workers due to market concentration can be explained by remembering that employment and thus wage growth are mainly demand-driven (Keynes, 1936, Ch. 19) and that competition in innovation and hence diffusion of innovations across sectors creates a higher demand for white-collar workers. The rising share of higher-income-earner white-collars within the employment composition makes the demand curve more inelastic through product differentiation, advertisement, brand-value, and market research and the cost curve flatter via their labour-saving technological tasks and thereby reduces the firm’s break-even point and thereby enables it to charge a higher mark-up. In such a concentrated market case where diffusion of innovations due to competition in innovation is being expedited by white-collar workers, big firms can extract monopoly rents via competitive advantages enabled by innovations carried out by white-collar workers; thus, the growth of salaries of white-collar workers is higher than the growth of wages of blue-collar

workers as white-collar workers validate their employment by way of their consumption (Minsky, 1986) as they prefer high-end, expensive goods produced by market dominating large NFCs (Dögüs, 2021).

3.2. Wage differential to inflation in financial markets

Toporowski (2000) points out that the excess inflow into financial markets, ‘which is made up of the contributions to pension funds, plus the investment income which is not paid out as pensions’ (ibid., p. 69), inflates the prices of financial assets (ibid., 75). Thereby, it stimulates the demand for financial assets by increasing the expected capital gains from them (Toporowski, 2008b, p. 8), as ‘changes in profits and trends in stock prices attract savings from other nonfinancial securities markets, such as bank deposits, gold and property, which also act as repositories for savings’ (ibid., p. 32). This renders NFCs overcapitalized, by encouraging them to refinance ‘in excess of their current needs’ (Toporowski, 1993, p. 29). Figure 4 depicts the increasing share of financial assets held by NFCs hand in hand with pension funds’ share within US-households’ financial wealth.

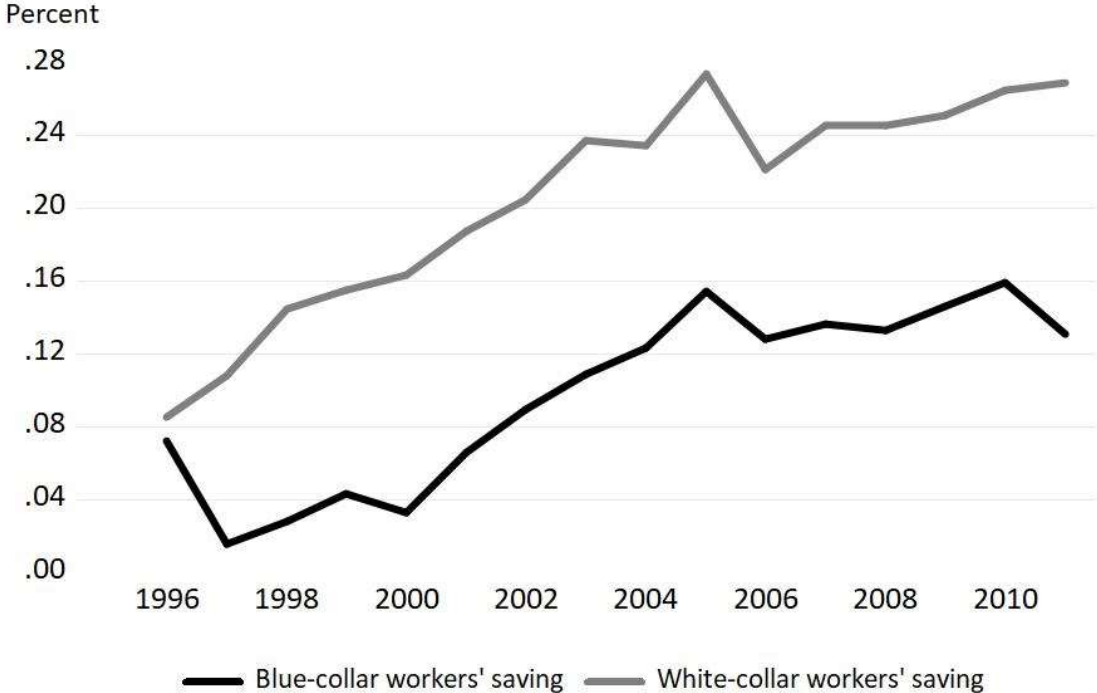
Figure 4: Financialisation Index and Pension funds’ share within households’ financial wealth.



Notes: the Financialisation Index is defined as the ratio of financial assets to non-financial assets held by NFCs. Sources: saezzucman.eu, Table A3; and www.research.stlouisfed.org

The relatively higher wages of white-collar workers enable them to save more relative to blue-collar workers (see Figure 5) and to contribute to private pension schemes, resulting in the inflation of financial markets. According to the findings of Dögüs (2018a), variance in pension funds due to a shock in wage differential between white-collar and blue-collar workers starts rising after the fifth year and reaches 69% in the tenth year.

Figure 5: Average saving rates of blue-collar and white-collar workers.



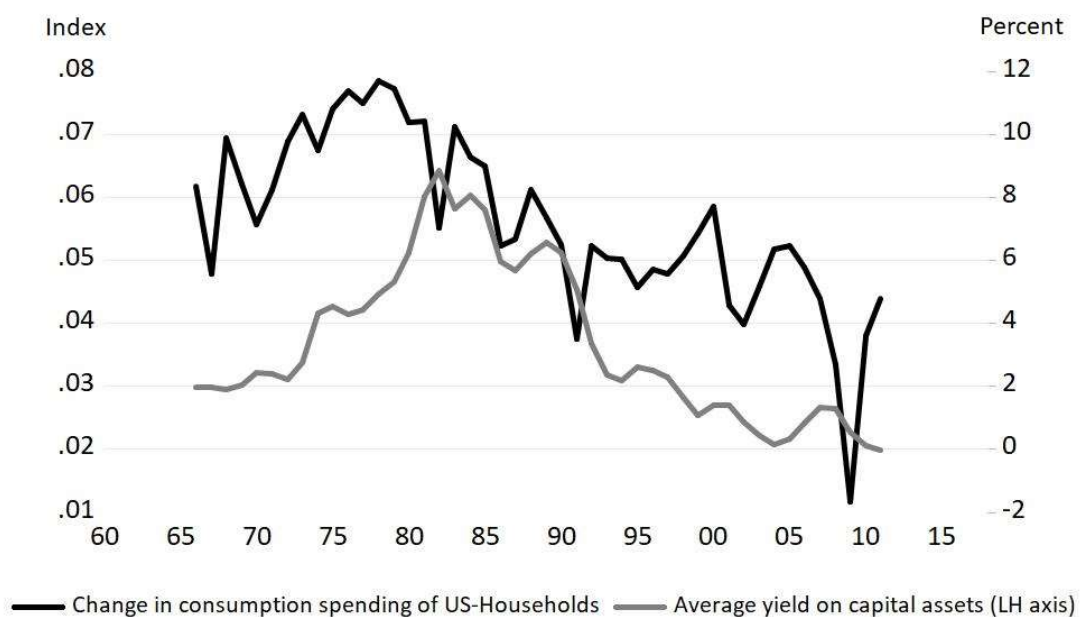
Notes: average saving rates are defined as $(1 - \text{real consumption expenditure})/\text{real income after taxes}$.
Source: Consumer Expenditure Survey (CES), available at <http://www.bls.gov/cex/csxstnd.htm#2011>.

The amount of total savings out of the salaries of white-collar workers, that has not flowed into the goods markets but rather into financial markets, depresses demand and discourages real investment, and makes the closure of monetary circuit inclined to be through equity markets instead of through consumption expenditures (Dögüs, 2018a). As Minsky points out: ‘The greater the income of the managerial, technical, and professional labor force – and the greater their savings – the lower the cash flows [internal funds] available for capitalist and rentier income’ (Minsky, 1986, p. 174).

3.3. Financialisation of large NFCs

As white-collar workers (managerial, technical, and professional labor force) being heavily employed and paid more by large NFCs since Small and Medium Enterprises (SMEs), due to their more elastic demand curves and restrictive cost structures, cannot afford to employ and pay white-collar workers as much as big firms can (Dögüs, 2019, p. 230), mostly large NFCs have engaged in financial transactions, as Davis (2018) has shown by way of an empirical investigation of NFCs in the USA in the period between 1971 and 2011. This is not only because small firms cannot easily handle financial operations due to their cost structures, but also because customers of small firms are mostly composed of blue-collar workers those cannot save so much (Dögüs, 2021). As customers of large firms composed of white-collar workers those who are able to save, large firms try to capture their savings by way of equity issuances and engaging in finance and become rentiers (Toporowski, 1993): 'growing profits and retained earnings associated with a relatively weak business investment have slowly transformed (or rentierized) the nonfinancial business sector itself into a net lender that seeks profitable outlets that provide high financial returns for its internal funds' (Seccareccia, 2012, p. 282).

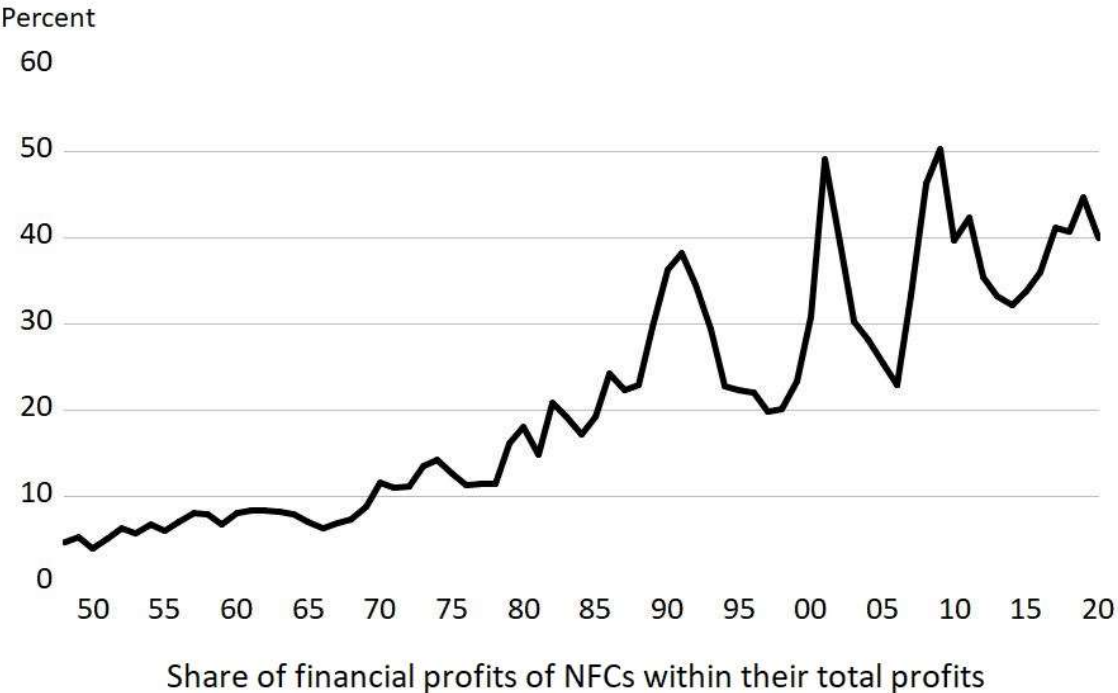
Figure 6: Average yield on capital assets, US-NFCs and change in US-household consumption spending.



Sources: <https://www.bea.gov/> and gabriel-zucman.eu.

If the employment share and savings rate of white-collar workers were the same in 2011 as they were in 1984, the total real consumption expenditure of workers would be 35% higher (Dögüs, 2018a). As consumption spending declines due to the rising wage inequality, not only closure of the circuit to be by way of equities instead of consumption expenditures; but also NFCs engage more in finance rather than production as average yield on capital assets decreases (Figure 6), quasi-rent expectations from financial assets exceed quasi-rent expectations from capital assets and thus NFCs prefer to hold financial assets more than non-financial assets (Dögüs, 2018b)¹⁸. Result of this process is the rising share of financial profits of NFCs within their total profits (see Figure 7).

Figure 7: Share of financial profits of NFCs within their total profits.



Sources: own calculations based on <https://fred.stlouisfed.org/>.¹⁹

¹⁸ Regarding the other side of the coin, i.e. contribution of household debt which has mainly increased due to stagnated wages- in order to maintain life conditions- to financial profits to exceed non-financial profits, Leclaire’s reminding is useful: ‘As it [household debt] increases, households use a greater proportion of their incomes to repay consumer debt rather than purchase new goods and services and save. Nonfinancial firms are no longer able to get the wage bill back to close the productive circuit and financial firms make a growing proportion of their profits from household debt rather than nonfinancial firm profits/household saving’ (Leclaire, 2021, p. 17).

¹⁹ [Corporate profits before tax (<https://fred.stlouisfed.org/series/A053RC1Q027SBEA>)- Profits of NFCs before tax (<https://fred.stlouisfed.org/series/A464RC1Q027SBEA>) – Profits of financial corporates before tax (<https://fred.stlouisfed.org/series/A587RC1Q027SBEA>)] / Profits of NFCs before tax (<https://fred.stlouisfed.org/series/A464RC1Q027SBEA>).

4. Conclusion

In short, because of the increase in market concentration, closure of monetary circuit is less likely to be by way of consumption expenditures and more likely through stock markets as wage differential leads pension fund savings of white-collar workers those who are mainly customers of large firms and their savings to be channelled to financial markets. In addition to the increase of white-collar workers' savings, demand for goods of blue-collar workers those who are customers of SMEs and have higher propensity to consume to be depressed and hence quasi-rent expectations from financial assets exceed capital assets and NFCs find it more attractive to make profit over financial assets and so they do.

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