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The Monetary Circuit in a Developed Financial System: From Credit Creation to Profit Realization

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The Monetary Circuit in a Developed Financial System: From Credit Creation to Profit Realization

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Abstract

In this paper, we analyze the role of financialization, namely securitization and the production of structured financial products, within the functioning of a monetary capitalist economy of production. We do this by embedding such 'financial innovations' in an extended financialized monetary circuit. We complement this theoretical analysis with data about the evolution of the commercial banks in the US economy since the end of World War II. We show how the 'financial side of financialization', by allowing commercial banks to extend more credit to the economy, and household sector in particular, may have significantly contributed to the *monetization* of surplus value in neoliberal capitalist regimes. In this sense, we stress how financialization appears to be fully consistent rather than dysfunctional to the needs of capitalist economies. We also note that this may come at the cost of heightened systemic fragility. While financialization may enable capitalist system to monetize profits more easily, it also modifies the structure of the pyramid of money hierarchy and favor the expansion of what has been defined as 'fictitious liquidity' relative to bank money. In our view, this last contradiction, can make capitalist economies more exposed to in-depth macro-financial instability as soon as financial turmoil emerges.

Keywords: monetary circuit theory, financialization, profits, class conflict

JEL codes: B50, E11, E12, E44.

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1. Introduction

The Monetary Circuit theory (henceforth MCT) developed by Augusto Graziani (1989;2003), among many others, was meant to shed light on the fundamental mechanisms of a *capitalist monetary* economy of production. The basis of this theory lies in the interaction between the financial and real sides of the economy, within the relationship between (commercial) banks and (non-financial) firms in particular.

The MCT shares several aspects with the post-Keynesian theory of money. Money is endogenously created *ex nihilo* by commercial banks issuing loans, according to creditworthy borrowers; in the traditional monetary circuit, these are firms[2]. This is the start of the circuit, *initial* finance in the MCT jargon. Firms use received liquidity to hire workers and pay wages as an advance for production. Firms implement their production plans, whilst workers make consumption and saving decisions. The part of wages spent in purchasing goods (or services) or saved in financial markets by buying corporate bonds moves back to firms. Such money reflux, the co-called *final* finance, cancels out initial money creation and firms' original debt. Wages kept idle in liquid forms instead, i.e., banks' deposits, match with outstanding firms' liabilities.

Some contributions have recently questioned whether changes in the financial system and in the behavior of non-financial firms occurred in the last four decades in most (if not all) advanced economies have structurally modified the monetary circuit just described (see, among many others, Fumagalli and Lucarelli, 2011; Seccareccia, 2012; Sawyer, 2013; Passarella, 2014; Michell, 2017). More specifically, they wonder whether so-called *financialization*[3], or at least some aspects of this multifaceted phenomenon, have changed, perhaps impaired, the well-functioning of a capitalist monetary economy of production.

In this paper, we study whether financialization effectively stands out as a "parasitical" evolution of modern capitalism or is rather fully consistent with the most intimate "essence" of capitalism itself.[4] We focus on what Caverzasi *et al.* (2019) label the "financial side of financialization", namely the spread of securitization and complex financial products (e.g., Asset Backed Securities – ABSs – and Collateralized Debt Obligation – CDOs). We analyze how such relatively new financial practices are functional and may boost the *monetization* of profits, i.e., the final M' in the well-known M-C-

[2] Marc Lavoie (2014) notes that "loans are created *ex nihilo* at the stroke of a pen, or by punching a key on the computer, as long as the borrower is creditworthy […] The loan awarded to the borrower has an immediate counterpart in the liabilities of the bank, by the creation of an equivalent additional deposit" (Lavoie, 2014, p.194 – 195). Rephrasing this process in the context of the MCT, loans applications by firms, when accepted by banks, create deposits and liquidity through which firms get the production process started.

[3] The most frequently cited and, probably, most comprehensive definition of financialization is the one provided by Epstein (2005), according to whom "financialization is the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies" (Epstein, 2005, p.3). This expression thus embraces a lot of variegated phenomena. Some of them are: (i) the "shareholder value orientation" and the crowding-out of productive investment in favor of financial ones by non-financial firms (Lazonick and O'Sullivan, 2000; Tori and Onaran, 2018 and 2020); (ii) the "financialization of everyday life", i.e., increasing households' indebtedness and inclusion in financial processes as a way to get access to services (healthcare or education services, for instance) or the purchase of goods (van der Zwan, 2014); (iii) the introduction of financial innovations and structural changes in the behavior of financial operators that can create self-feeding mechanisms inside the financial sector itself with poor (or weaker) connections with real-economy dynamics (Botta *et al.*, 2015).

[4] For a detailed analysis of this debate see Sotiropoulos, Milios, and Lapastioras (2013).

M' Marxian circular representation of the capitalist process. We do so through an extended monetary circuit emphasizing the connection between the above-mentioned (financial) aspects of financialization and the often-neglected mechanisms through which profits can be monetized in the monetary circuit itself. The focus is on credit to households. We complement our theoretical study with a descriptive analysis of some macro-financial data, in particular, the evolution through time of the size and composition (for different types of borrowers and forms of credit) of commercial banks' lending. We look at the US economy, most likely the most financialized economy worldwide. Two outcomes of our study are worth stressing.

First, given available data, commercial banks' credit to households has always represented an important part of commercial banks' business, as well as a source of profit monetization in the logic of the monetary circuit. Securitization and the production of structured financial products have certainly contributed to expanding it even further and making lending to households outgrow the more "traditional" (at least from the point of view of the MCT) lending to firms. This was particularly true in the 1990s and at the beginning of the 2000s, that is in the way up to the Great Financial Crisis (GFC). In this sense, financialization seems to be fully in line with the intrinsic logic of capitalism by widening the sources of profit monetization for both financial and non-financial firms.

Second, in financialized economies, wider profit opportunities likely come at the cost of higher macroeconomic instability. Securitization and the ensuing creation of complex financial products enable commercial banks to extend more credit to households by freeing space in their balance sheets. When commercial banks' assets (loans) are sold and moved out of their balance sheets, matching liabilities (banks' deposits) are equally destroyed. While commercial banks' original assets are still around in the economy, albeit packaged in some complex financial products and parked in the balance sheet of other financial institutions, the economy is left with less (credit) money and a "thinner" vertex in the pyramid of money hierarchy compared to larger intermediate tiers. In times of financial turmoil, when almost everybody wants to return liquid and move to the upper tiers of such a pyramid, the system may sharply and bitterly realize that the safest assets are no longer there. It is easy to see how, in such an environment, more players will find no "free chairs" and fall to the ground (read go bankruptcy) when the music stops.

The paper is organized as follows. Section 2 provides a brief overview of how MCT captures some essential elements of a capitalist economy, namely the social conflict between capital and labor and the monetization of profits. Section 3 presents relevant macroeconomic data about the transformation of the US banking and financial system and "frames" such "structural" financial developments in an extended financialized version of the monetary circuit. In doing this, it shows how the "financial side of financialization" contributes to profit monetization. Section 4 sheds light on the "flip side" of such finance-centered developments of capitalist economies, i.e., higher exposure to systemic risks in times of financial turmoil. Section 5 concludes.

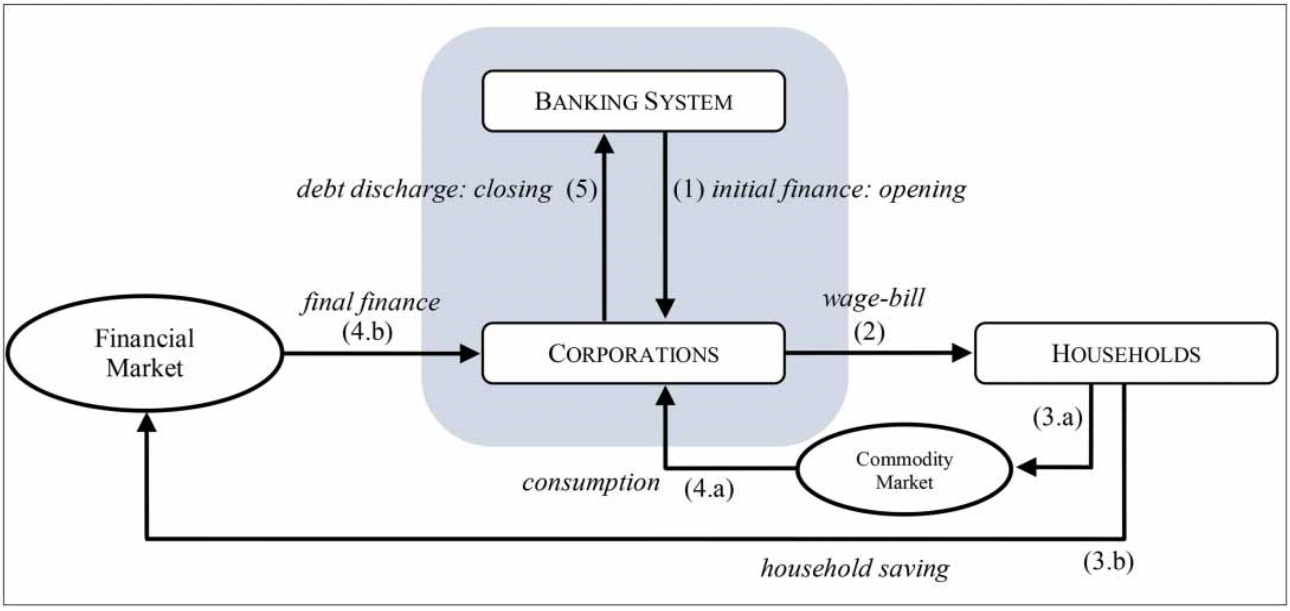
2. The MCT and the essential elements of a capitalist monetary economy of production

As underlined by Bellofiore (2019) and Passarella (2022), the aim of Augusto Graziani when developing the MCT was more than just describing the functioning of modern capitalist economies via the interaction between the financial and real side of the economy itself. The goal was rather the identification of the bulk of a monetary economy, and this resulted from a refined reasoning on different crucial issues in the theoretical debate: the roles of power relationships and that of financing, the nature of money, but also crisis theory, and thus the monetary essence of a capitalist system.

Graziani emphasizes the social divide between capitalists and workers that lies at the basis of capitalist systems as 'class monetary' systems[5]. According to Bellofiore (2019), "access to finance discriminates between capitalists-entrepreneurs and wage-workers" (Bellofiore, 2019, p.533). This is why *initial finance* is primarily a class concept (see Passarella, 2022). Money is capital in the hands of (industrial) capitalists when they get access to banks' finance to buy workers' labor power and control the production process. Money is income in the hands of the workers who use it for consumption and savings.

Whilst the simplest and most abstract version of the MCT as represented by Passarella (2014) in Figure 1 below can well unveil the "class dimension" of initial finance, it remains unable to explain what Bellofiore (2019, p.544) considers "a typical feature of the capitalist process", namely the formation of (monetary) profits.

Figure 1 – The essential monetary circuit in a private pre-credit economy.



Source: Passarella (2014)

[5] Following Bellofiore (2019), this is by no means the unique form of conflict that, according to Graziani, may characterize modern capitalist economies. Graziani recognizes the possibility for intra-capitalist conflicts, between financial and industrial capital in particular, to emerge as well. This conflict becomes explicit (ii) when banks make decisions about rolling over or ration firms' loans; (ii) when banks set interest rates on extended loans, thus redistributing gross profits among capitalists themselves (see Graziani, 2003).

Following Passarella (2022), this is the well-known "paradox of profits" in the MCT, which is "due to the high level of abstraction of [this version of] the model" (Passarella, 2022, p.20). In the most fundamental version of the MCT, with production and price decisions taken by firms once monetary wages have been advanced to workers, profits exist in *real terms*, since the level of real consumption from workers spending their wages on the goods market is lower than what they produce. The problem is how to "monetize" profits. The puzzle can be sorted out by relaxing the abstraction of the monetary circuit and considering some other channels through which banks' credit can be extended to the economy. In this regard, Bellofiore (2019) and Passarella (2022) note the importance of net exports (i.e., a new inflow of money from abroad), the financing of government deficits, as well as banks' loans provided to firms to finance investment demand[6]. Forges Davanzati and Realfonzo (2011), instead, stress the role of consumer credit, in particular under neoliberal economic regimes and in the decades preceding the outbreak of the GFC: "the influx of credit that goes from banks to workers, by increasing total demand, allows firms as a whole to obtain extra profits in money terms" (Forges Davanzati and Realfonzo, 2011)[7]. In Figure 2, we provide a graphical representation of this more elaborated version of the monetary circuit featuring the above-mentioned four extra channels of money creation.

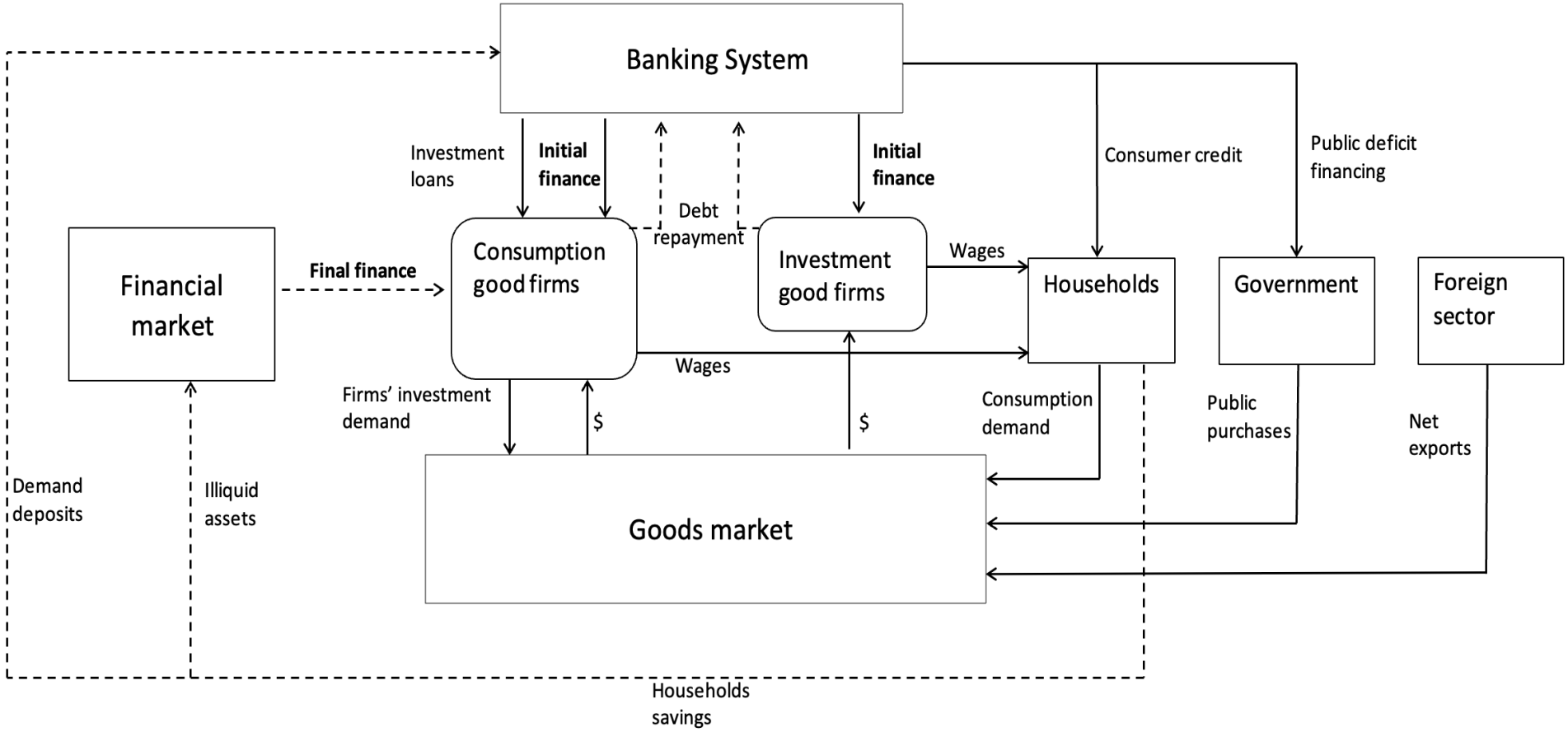
Figure 2 does not claim to provide a complete view of all passages through which (credit) money enters, circulates, and then exits the circuit. It still constitutes a very much stylized representation of the complex nest of money flows featuring modern capitalist economies[8]. Yet, Figure 2 highlights how banks' financing of some components of aggregate demand, on top of initial finance that allows production to get started, enables firms to possibly monetize profits, repay initial finance debt towards banks, and pay interests on such liability (thus solving some alleged paradoxes characterizing the essential monetary circuit portrayed in Figure 1).

[6] In a way, banks' financing of investment projects allows for the well-known Kaldor's description of Kaleckian theory to materialize: "capitalists earn what they spend, and workers spend what they earn" (Kaldor, 1955-1956, p.96). In this regard, Bellofiore *et al*. (2000) note how the monetization of profits that could take place via banks' financing of investment demand represents a process that remains inside the capitalist class. Therefore, "from the 'macro' or 'class' perspective of the capitalist circuit, it is more rigorous to consider the surplus as appropriated in physical terms by the capitalist class and shared between financial capital and industrial capital" (Bellofiore *et al*., 2000, p.404).

[7] Bellofiore and Halevi (2008) label as 'financial Keynesianism' the new historical and social conditions that, in the neoliberal era, at least before the outbreak of the GFC, gave momentum to the US economy and allowed firms to monetize profits and close the monetary circuit via the unprecedented expansion of banks' credit to consumers.

[8] In Figure 2, for instance, we do not consider possible transactions between households and the government in the form of wage payments to public employees, public transfers such as unemployment benefits or tax collection. Also, we do not explicitly the case of public deficits being financed by issuing bonds then (perhaps indirectly) purchased by households on financial markets. In Figure 2, we also make the distinction between firms producing consumption goods and those producing capital goods. We explicitly show banks' loans aimed at financing investment demand just in the case of the former type of firms, as this flow of funds would remain very much hidden in internal transactions in the case of the latter.

Figure 2 – Profit monetization in an open-economy monetary circuit with banks' financing of public purchases, consumption and investment demand.



Source: Authors' elaboration

Given this theoretical background, some contributions have recently tried to show how financialization may have changed the functioning of capitalist economies and, hence, of the monetary circuit. Seccareccia (2012), Sawyer (2013) and Passarella (2014), for instance, stress the reversal in the net lender/borrower position between households and non-financial firms (big corporations mainly). Such a structural switch goes hand in hand with the other two phenomena. First, household credit has replaced loans to firms as the core activity of commercial banks' business. Second, the expansion of the so-called "shadow banking" relative to "clearing" (read commercial) banks (Sawyer, 2013) alongside changes in the modus operandi and business model of commercial banks themselves.

There is no doubt that in the end, as the blowing-up of the GFC itself demonstrates, the "financial side of financialization" (Caverzasi *et al.*, 2019) has been a source of heightened macroeconomic instability and exposure to tail macro-financial risks. It has contributed to the endogenous rise of income inequality in the context of an increasingly rentier-friendly economy (Botta *et al.*, 2021); it has fed the real estate bubble in the 2000s (Herwartz and Xu, 2020); it has incentivized reckless behaviors by financial institutions with leverage levels well beyond limits seen before (Lavoie, 2012; Tori *et al*., 2023). This said, here we wonder whether, in reality, financialization is fully consistent rather than dysfunctional to the needs of a capitalist monetary economy of production, even in its neoliberal more unstable fashion. Financialization might be seen as a deepening of existing capitalist dynamics, with an intensification of financial players' command over the processes of various capital forms (Christophers and Fine, 2020).

In a regime featuring deregulated labor markets, shattered trade unions, reduced workers' bargaining power and, hence, low wage standards, financialization might be instrumental to the need of both financial and non-financial firms to monetize profits. Rather than a paradox, financialization is an expression of the intrinsic (profit-oriented) coherence of modern and increasingly unstable capitalist economies. We address this research question in Section 3 below.

3. Financialization in a capitalist monetary economy of production: a theoretical circuitist analysis based on empirical evidence from the US economy.

Lysandrou (2020) severely criticizes the above-mentioned attempts to analyze financialization through the lenses of the MCT on the grounds of methodological unfitness. According to Lysandrou (2020), this macroaggregated approach is unable to capture the essence of financialization, which lies in the application of Marx's commodity principle to financial relations and in atomistic financial transactions taking place on financial markets. It may well be the case that the MCT cannot grasp all the factors, and socio-demographic dynamics among others, that spurred the outgrowth of some financial institutions (shadow banks or non-bank financial institutions) and some financial products (the broad category of ABSs) in the last four decades. However, we believe that MCT's focus on the movement of (bank-created) money into the system - coupled with the idea that "the starting point for a construction of a macroeconomic model can only be the identification of the social groups present in the community" (Graziani, 2002, p. 19) - is an extremely powerful tool to understand the functioning of the financial system. It allows us to show precisely how securitization and the commodification of credit relations are functional to underpin the further (extreme) expansion of

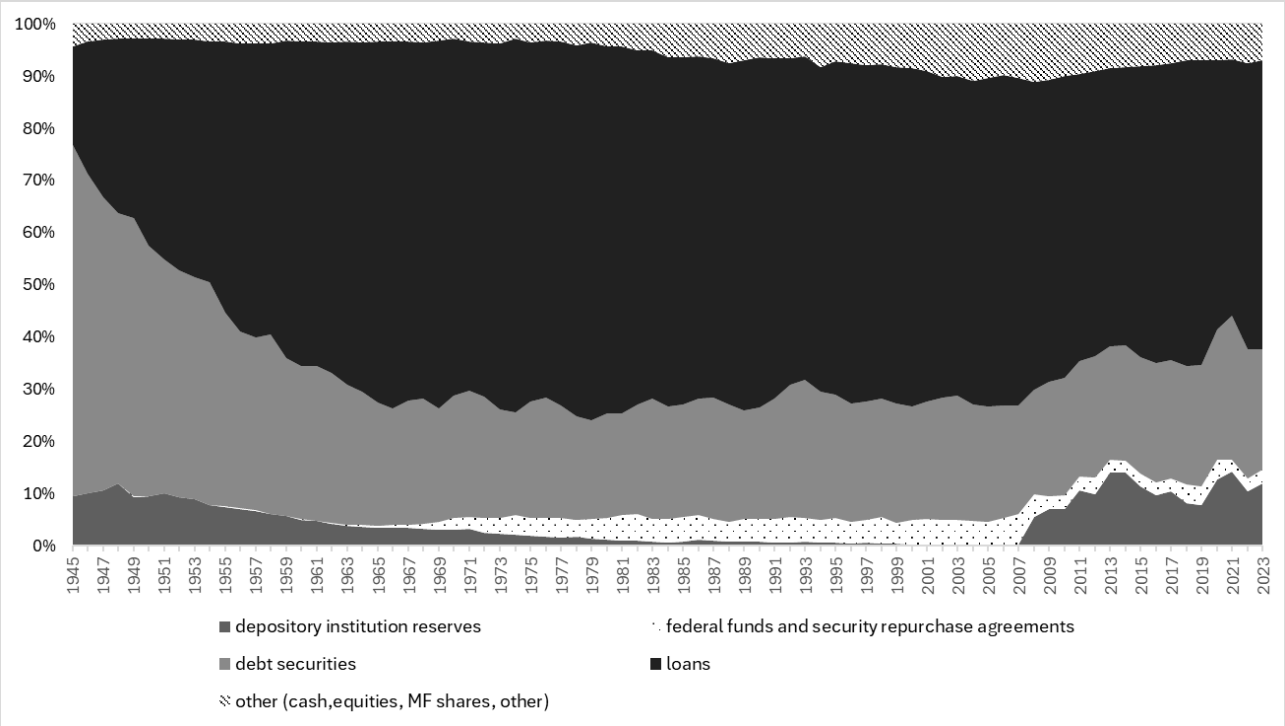
banks' credit to households and, this way, the monetization of profits (i.e., an essential element of whatever form of capitalism). In our view, tracking money circulation inside the system is particularly helpful when applied to the effects of securitization over the balance sheet of commercial banks. It allows us to better understand how securitization makes the balance sheet of commercial banks more flexible and opens space for new rounds of credit creation. It also helps to grasp the securitization-led macroeconomic instability, as it ultimately causes the destruction of bank money and the shrinkage of a top layer in the pyramid of money hierarchy *relative to* the amount of assets (and debts) existing in the economy (see more on this below).

In what follows, we organize our analysis in two steps. First, we examine relevant macro-financial data from the US economy, focusing specifically on commercial banks' balance sheets and assets. We aim to get insights into the evolution of commercial banks' business models from the end of World War II through 2023. Second, we theoretically "frame" such evolutions in the modus operandi of commercial banks and of the whole financial sector in an expanding financialized monetary circuit.

3.1 The evolution of commercial banks in the US economy from the "Golden Age" to "financialized" capitalism: some empirical evidence.

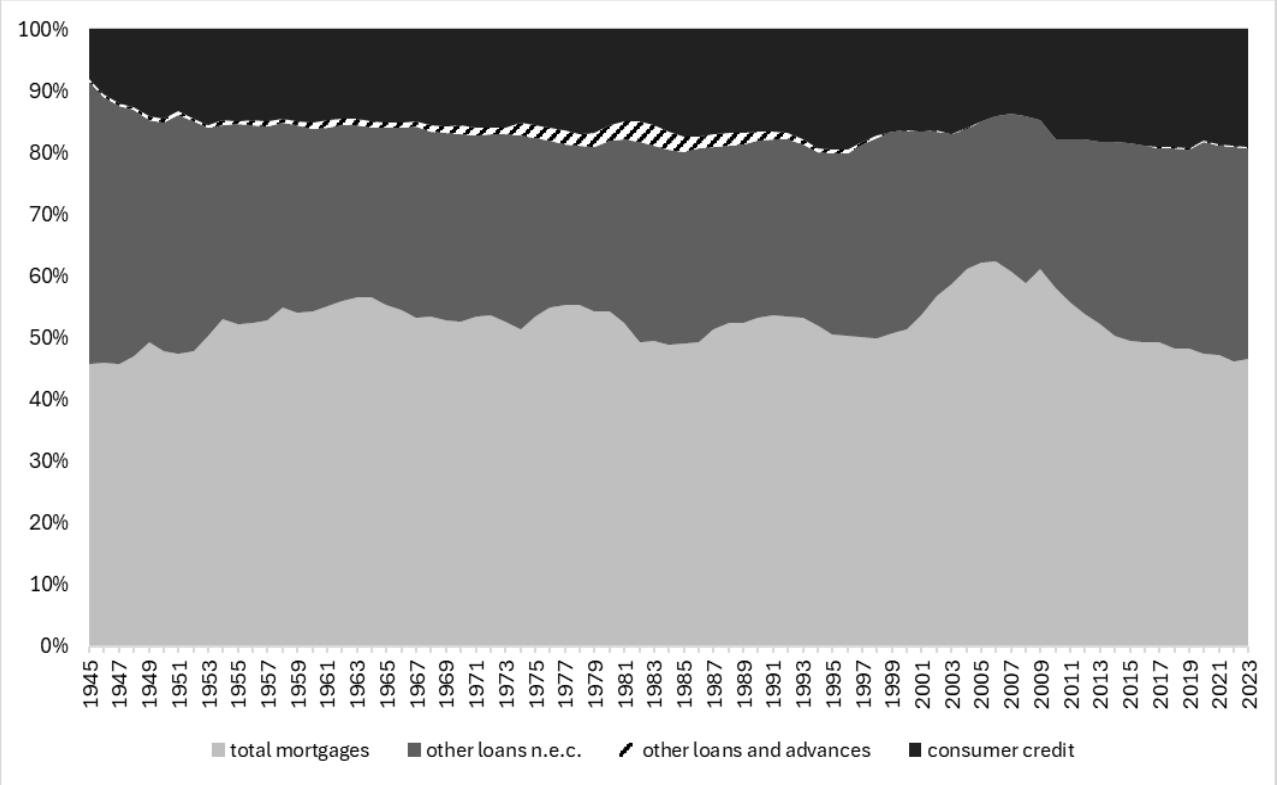
Figures 3 and 4 provide a detailed view of how U.S. commercial banks' balance sheets have evolved between 1945 and 2023, shedding light on the primary avenues through which surplus value has been monetized. These figures reveal how loans represented the core of the banks' total assets, with the bank-household credit relationship as one of the most prominent channels. Consumer credit, along with residential mortgages, which account for from about 50 to 70 per cent of total mortgages throughout the whole period, stand out as a significant portion of bank key assets (loans). In this sense, it is important to note that the reliance on household indebtedness as a source of surplus value monetization is not a new development but rather a continuation of long-established financial practices in the US banking sector and US economy more broadly. In parallel, the role of public deficits, manifested in banks' holdings of debt securities, has been an additional consistent source of monetization. Public debt, fueled by government borrowing, has long played a crucial role in bank portfolios, providing stable, interest-bearing assets. Similarly, firms have historically relied on banks to finance their investments through commercial mortgages and corporate bonds. Therefore, the composition of commercial banks' balance sheets highlights the deep-rooted reliance on traditional credit mechanisms for both households and firms, demonstrating how these channels have been central to the ongoing process of surplus value monetization across decades.

Figure 3. Composition of US commercial banks' assets, 1945-2023.



Source: Financial Accounts of the United States, Z.1 flow of funds.

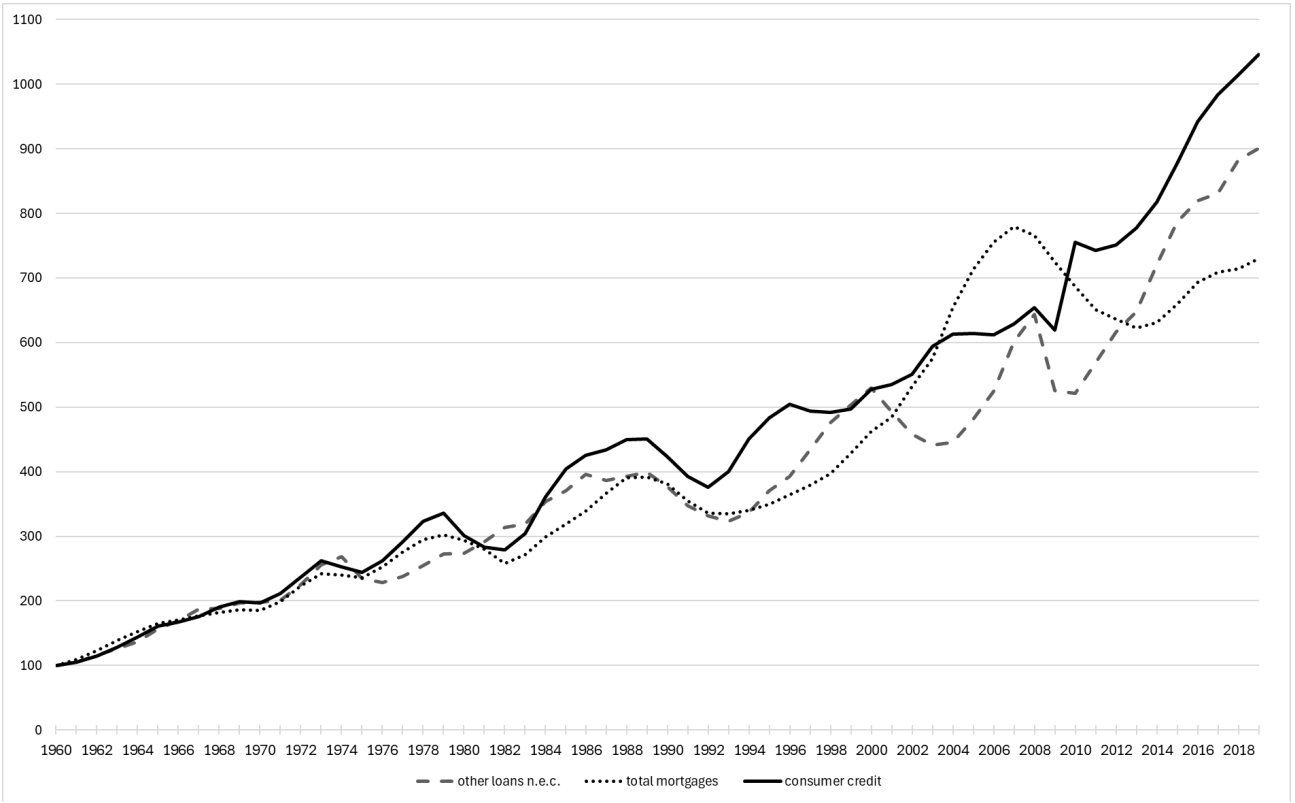
Figure 4. Composition of US commercial banks' loans, 1945-2023.



Source: Financial Accounts of the United States, Z.1 flow of funds.

Although these trends might represent a traditional creditor-debtor relationship, an important element must be considered. In fact, Figure 5 highlights how financialization, including phenomena like securitization, the production of ABSs and collateralized debt obligations (CDOs), and "originate and distribute" practices, have likely amplified the above-mentioned channels for surplus value monetization. First, structured financial instruments have expanded the traditional roles of banks in household, public, and firm financing by creating new avenues for profit realization. Through securitization, banks package loans into securities and sell them off to other financial institutions, thus redistributing risk and allegedly enhancing liquidity (see more on this below). This shift has deepened financial integration into everyday economic activity, enhancing profit realization for the banking sector and financial institutions at large. Second, and perhaps more importantly for the sake of our analysis, securitization has emerged as a powerful tool enabling commercial banks to "elude" capital regulatory requirements and expand the provision of credit to the economy as much as possible, to the household sector first and foremost.

Figure 5. The evolution of commercial banks' loans, 1960-2019 (1960=100).



Source: Financial Accounts of the United States, Z.1 flow of funds.

In Figure 5, this fact emerges quite clearly in the astonishing surge in mortgage lending that took place through the 1990s and up to 2007-2008 before the outbreak of the GFC. In this sense, it is worth stressing that a significant part of new mortgage creation that occurred in that period was not exclusive related to the financing of new home purchases. Quite the opposite, it increasingly reflected the expansion of banks' credit to households for the purpose of "home equity extraction". Homeowners increasingly tapped into the rising value of their homes to secure new loans, somehow using their homes as ATMs. The money "extracted" from housing assets then served several uses,

improvements and enlargements of dwellings or households' portfolio rebalancing for instance, but also the financing of consumption expenditures not directly connected with housing. Figure 5 also reveals how this development pattern has been just temporarily "paused" by the GFC. Indeed, since 2010, US commercial banks registered and unprecedented rise in consumption lending (see black line in Figure 5), albeit not in the form of ballooning (home equity extraction) mortgage lending. Before the Covid-19 shock, bank' lending supporting consumption expenditures outstripped other forms of lending in the US economy, partially making up for long-standing structural issues such as stagnant wages and growth. Anwar Shaik (2011, 2016) provides empirical evidence about the rise of US non-financial corporation profit rate since mid-1980s and, in particular, in the 2000s before the outbreak of the GFC despite continuing labor income repression. This evidence may well confirm that the financial developments just described are essential for the monetization of surplus value in the current neoliberal capitalist regime rather than being parasitic or paradoxical phenomena[9]. In Section 3.2 below, we embed the "financial side of financialization" in an expanded monetary circuit in order to better show, from a systemic point of view, the possible deep consistency between financialization itself and the functioning of a monetary capitalist economy of production, at least its neoliberal form.

3.2 Back to the Monetary Circuit Theory: credit creation and the behavior of commercial banks in a financialized capitalist monetary economy of production.

Canelli *et al.* (2022) offer a detailed description of the institutions of the so-called 'shadow banking' system that expanded more vigorously in financialized economies in the last four decades. Their work is centered around the taxonomy of functions recently associated with shadow banking itself by the US Financial Stability Board (2020). Among other things, they analyze to what extent such functions differ from (credit) money creation traditionally performed by commercial banks. The graphical representation of a modern "financialized" monetary circuit that we provide in Figure 6 below is close in spirit to Canelli *et al*. (2020) and Botta *et al*. (2015). In addition, we believe that our description is in line with Graziani (2003, p.16) himself for whom

"[a] complete theoretical analysis has to explain the whole itinerary followed by money, starting with the moment credit is granted, going through the circulation of money in the market, and reaching the final repayment of the initial bank loan."

We apply a monetary perspective to the understanding of the financial markets. In so doing, our main goal is to shed light on the connection between "shadow banks" and commercial banks. More specifically, we focus on the consequences that the spread of securitization (and the ensuing production of structured financial products) has had on commercial banks' balance sheets and their capability to supply loans to the economy, households in particular.

[9] Forges Davanzati and Realfonzo (2011), for instance, note that profits increased by 80 percent in OECD from 2000 to 2008. According to Palley (2013), financial profits in the US increased by a similar amount, about 89 percent, in the 2000-2007. These figures are more than double than the rise in the compensation to labor registered in the same time period.

Following Seccareccia (2012), the first element of Figure 6 that deserves attention is that the financial system now takes the central stage in the monetary circuit. We consider three main financial players. As before, commercial banks have a crucial role. They create money out of thin air by extending credit to many different actors (black bold lines in Figure 6): non-financial companies (this is the very traditional MCT-type "initial" finance when loans are meant to finance the production process); households via mortgages and consumer credit; the government. In this system, a new channel is depicted[10]. It links commercial banks to investment banks, and it is possibly directed to finance (among other things) the production process of complex financial commodities such as ABSs, CDOs etc. Investment banks, the second main financial player in our scheme, are the "lubricant" of financial markets. Through their activity as brokers and dealers, more generally as market makers, they facilitate the *circulation* of liquidity (green lines in Figure 6) among financial institutions. Perhaps more relevantly for our purposes, in recent decades they have produced those seemingly safe assets[11] (ABSs, CDOs…) used as collaterals (on top of Treasury bonds) in spreading Repurchase Agreements (REPOS) that have further increased the liquidity of financial markets by being perceived as close substitutes of bank money[12] (more on this below). Investment banks have extensively engaged in REPOs, reverse REPOs and repledging activities (a significant part of them being an intra-sectoral phenomenon – see red lines in Figure 6) to speed up money circulation and avoid money remaining "idle". Finally, Figure 6 also reports "money manager"-type institutions such as Money Market Mutual Funds (MMMFs), Pension and or Investment Funds (Institutional investors), and Hedge Funds. They collect funds from households and non-financial companies and allocate them to the different financial assets composing their portfolios according to their search for yield and propensity to risk. MMMFs, for instance, frequently provided liquidity in REPO contracts given their institutional requirements of investing in liquid assets to keep the shares as similar as possible to (unsecured) demand deposits with constant values. Highly leveraged Hedge Funds, instead, acted as primary purchasers of those remunerative but allegedly safe structured financial products (CDOs, CDOs-squared, synthetic CDOs, etc.), whose markets ended up being at the epicenter of the GFC (see Lysandrou, 2012).

The second crucial element of the system portrayed in Figure 6 is the inner-finance circuit that can emerge out of securitization practices and the way they are financed (see orange lines in Figure 6). A sort of reversed causality process may help to explain it. Since the beginning of the 1980s, rising income inequality and wealth concentration have been powerful sources of demand for

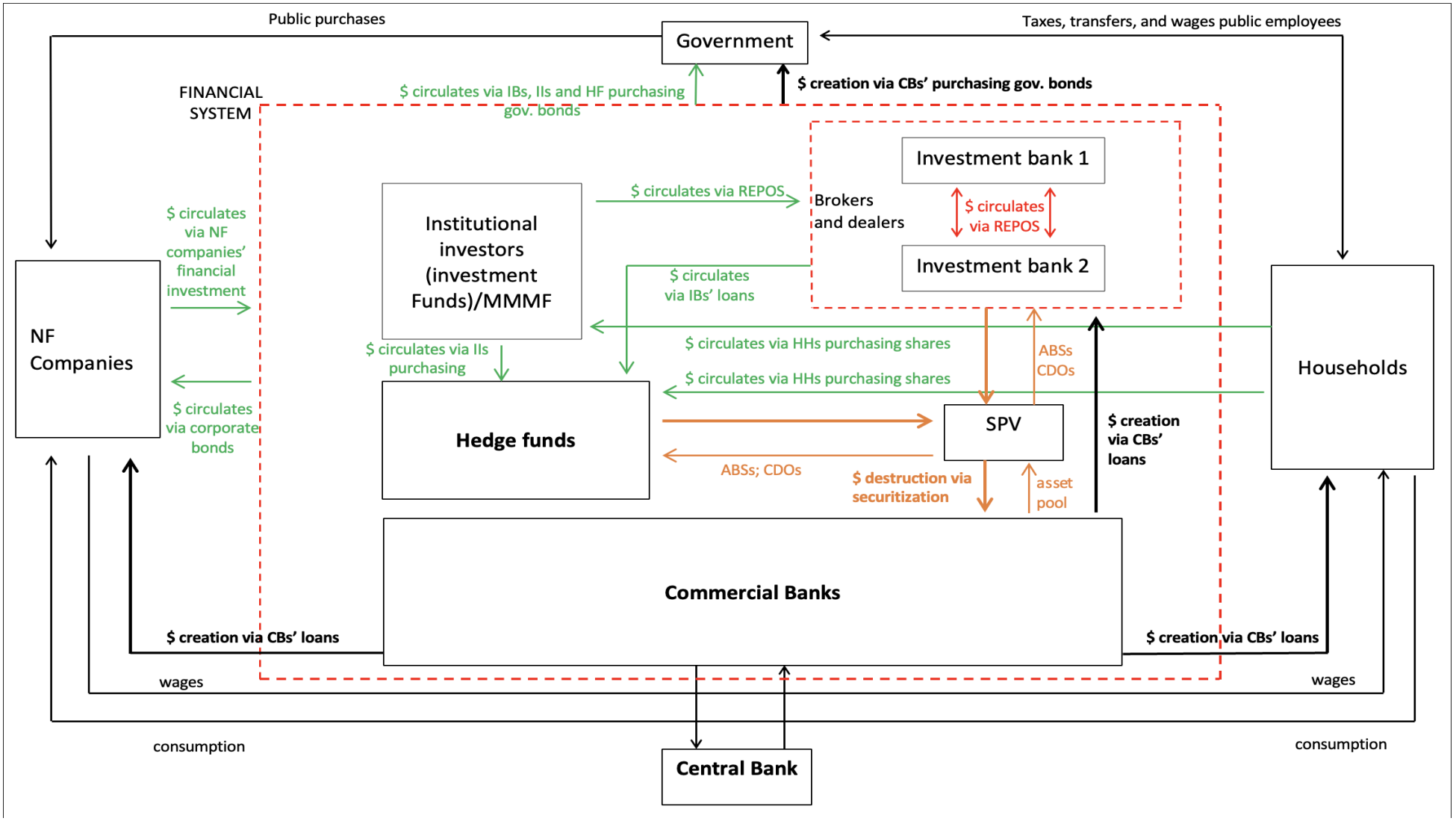
[10] By saying this, we do not mean that such channel has emerged just recently under financialization and that it did not exist before. What we want to emphasize is the fact that such financial link between commercial and investment banks has certainly become more relevant and got momentum in recent decades, at least in the USA after the repeal of the Glass-Steagall Act in the 1990s and the increasing inclusion of both commercial and investment banks' divisions in financial conglomerates.

[11] On the use of privately produced long-term debt as safe assets, see Gorton *et al*. (2012).

[12] REPOs are short-term lending/borrowing contracts in which money, namely commercial banks' deposits, is temporarily exchanged for some allegedly safe assets with stable values on financial markets, most of the time US Treasury bonds, that are used as collaterals. REPOs offer special advantages with respect to normal collateralized lending discussed in more details in Section 4 below. At the peak of the diffusion of REPO contracts just before the outbreak of the GFC, an increasing part of them also used structured financial products created via the securitization process as collaterals. This represented an additional source of demand in financial markets for those MBSs and Senior CDO tranches that, before the 2007-2008 crisis, were rated triple-A very much like US Treasury bonds.

remunerative financial assets by (rentier) households (see Goda and Lysandrou,2014, and Botta *et al*. 2021, among others) and/or 'financialized' corporations (Seccareccia, 2012; Passarella, 2014). Institutional investors, hedge funds, in particular, intermediated such demand. According to Lysandrou (2011, 2012), since the second half of the 1990s, hedge funds collected an increasing number of resources from pension funds and then invested in ABSs, CDOs and the like. Investment banks acted on both sides of the market. On the one hand, they supplied such financial products to other investors. On the other hand, they invested in these same assets to subsequently pledge them as collaterals into REPO contracts. The financing for investment banks' purchases of structured financial products could directly come from commercial banks. The production of ABSs and CDOs needs intermediate inputs though, very much like a traditional manufacturing process. Commercial banks again provide such inputs, namely mortgages or various types of consumer loans moved off commercial banks' balance sheets and pooled onto those of external "pass-through" entities such as Special Purpose Vehicles (SPVs). In the end, funds originally collected from (wealthy) households or provided by commercial banks come back to the latter and close the circuit with the ensuing destruction of (bank) money. What emerges is that "the non-bank sector neither competes with the banking sector nor leads to disintermediation of commercial banks; instead, the two operate in concert" (Michell, 2024, p.191), so that it would be highly misleading to consider commercial banks and shadow banks as parallel and alternative systems.

Figure 6. An expanded "financialized" monetary circuit.



Source: Authors' elaboration

Securitization and the production of structured financial products served a variety of goals, certainly satisfying investors' increasingly voracious appetite for returns[13]. However, as far as commercial banks are concerned, securitization fundamentally emerges as an "asset management" practice aimed at circumventing capital requirements and stretching commercial banks' credit creation potential as much as possible (see also Lavoie,2012 on this)[14]. When the purchases of securitized assets are "indirectly" financed by savings of (wealthy) households, securitization gives rise to the simultaneous removal of commercial banks' assets from their own balance sheets and the destruction of matching liabilities, i.e., commercial banks' deposits (see Figure 7 below). When commercial banks provide themselves with these funds via loans to investment banks, they replace one long-term likely riskier asset, say a mortgage that requires adequate banks' capital provisions, with a hypothetically safer one such as short-term lending to an investment bank. In both cases, banks' compliance with capital requirements improves (see Botta *et al.*, 2020). In the words of Lavoie (2012), "by removing loans from their balance sheets, banks were able to evade Basel-type capital requirements. Indeed […] Basel II regulations were an incentive to pursue securitization as banks would make loans to the private sector that would be subjected to capital requirements, sell them off for a fee to the shadow banking system […] and collect future fees for servicing loan payments" (Lavoie, 2012, p.229). In the end, Minsky was somehow prophetic when saying almost 40 years ago that "securitization implies that there is no limit to bank initiative in creating credits for there is no recourse to bank capital" (Minsky, 1987, p.4).

The search for profit monetization via "hypertrophic" finance may come at a cost though, perhaps another intrinsic contradiction of capitalist systems. It is a well-established fact that securitization, the "originate and distribute" banking model and the connected production of structured financial products fueled the last US housing bubble, but also contributed to its bust due to excessive households' indebtedness (among other factors). In what follows, we analyze financialization-led instability from a different angle. We look at changes in the composition of commercial banks' balance sheets and, more broadly, in the pyramids of money hierarchy. We try to show how, in financialized system, "climbing" up such pyramids in times of mounting financial distress may have become more chaotic and, in the end, source of heightened systemic macro-financial risks.

[13] Goda and Lysandrou (2014) provide anecdotal evidence of this when they quote Mike Francis, executive director at Morgan Stanley claiming in from of the US Financial Crisis Inquiry Commission that "we almost couldn't produce enough [structured financial products] to keep the appetite of our investors happy" (Goda and Lysandrou, 2014, p. 314).

[14] Lavoie (2012) distinguishes this more recent and spreading form of US-type securitization from an "old" one, typical of the German financial system for instance, where the provision of, say, mortgages to households is financed by banks via issuance of Mortgage-Backed Securities (MBS). Created assets remain on the balance sheet of originating banks though, so that securitization eventually amounts to liability management practices short-term liabilities (certificates of deposits, for instance) with longer ones (MBSs).

4. Financialization-led systemic instability through the lenses of money creation, circulation and destruction.

Given the expanded financialized monetary circuit depicted in Figure 6, Figure 7 illustrates what happens to commercial banks' balance sheets if households are the ultimate providers of funds (by buying SPVs' bonds) through which SPVs then purchase the pool of securitized assets. Figure 7 shows more than this though. It somehow makes more explicit the implications that securitization may entail for the stability of the whole financial system.

Figure 7. Securitization and the monetary circuit (case 1): households purchase SPVs' bonds

STEP 1: New mortgage and liquidity creation					
HH		**Commercial bank**		**SPV**	
Asset	**Liability**	**Asset**	**Liability**	**Asset**	**Liability**
Money	Mortgage	Mortgage	Money		

STEP 2: SPV issue bonds purchased by households					
HH		**Commercial bank**		**SPV**	
Asset	**Liability**	**Asset**	**Liability**	**Asset**	**liability**
Bond	Mortgage	Mortgage	Money	Money	Bond

STEP 3: SPVs purchase securitized loans and money gets destroyed					
HH		**Commercial bank**		**SPV**	
Asset	**Liability**	**Asset**	**Liability**	**Asset**	**liability**
Bond	Mortgage			Mortgage	Bond

Source: authors' elaboration

Step 1 in Figure 7 describes the endogenous creation of (bank) money (yellow cell in Figure 7) taking place whenever commercial banks extend loans to the economy, a mortgage to the household sector in our example (blue cell in Figure 7). Mortgages and (bank) money represent commercial banks' assets and liabilities, respectively. The opposite holds true for the household sector. Created money then circulates in the economy. It may directly move from one household to another via the purchase and selling of homes in the second-hand property market. Money circulation may alternatively follow a more indirect route, for instance when construction companies distribute dividends to shareholders. Let's now assume that households holding (excess) liquid assets, namely banks' deposits, want to rebalance their portfolio by investing in financial markets. More specifically, they decide to buy bonds, asset-backed securities for instance, issued by SPVs[15]. Step 2 in Figure 7 shows the connected changes in the balance sheets of households and SPVs. The former now have SPV-issued bonds as interest-bearing assets replacing money and matching outstanding

[15] This is a rather realistic assumption given that, since the year 2000 up to now, the household sector held from 4 percent to 13 percent of the whole stock of agency MBS.

liabilities, i.e., the "original" mortgage. The latter now holds money, i.e., a commercial bank's deposit, versus the issuance of bonds. For the time being, nothing changes in commercial banks' balance sheets, if not the owners of their liabilities. Steps 3 portrays the completion of the securitization process. SPVs use collected money to purchase commercial banks' initial assets, i.e., mortgages. These are securitized, moved off commercial banks' balance sheets, and pooled with other assets to back SPVs' bond issuance. A crucial aspect of this process emerges here. As said, when selling out their assets, commercial banks simultaneously see their liabilities destroyed. Money exits from the circuit, but the original matching assets are still "around" in the economy, albeit not in commercial banks' balance sheets anymore. Through securitization, the economic system, commercial banks first and foremost, can generate new assets but "spares" money. The ratio between assets and (bank) money increases. The vertex of the pyramid of money hierarchy gets relatively thinner (more on this below).

We get a similar outcome when commercial banks finance the securitization process by extending loans to investment banks. This case is portrayed in Figure 8. Nothing changes with respect to the case in Figure 7 as to step 1 of the process. Differences do emerge at step 2 since a new additional influx of (bank) money takes place into the system thanks to the concession of a loan by commercial banks to investment banks. At step 3, investment banks (IBs) use the liquidity they receive from commercial banks to purchase bonds, i.e., ABSs such as MBSs or the like, issued by SPVs. SPVs in turn use the proceedings of bonds' issuance to purchase the mortgage originated by commercial banks at step 1 of the entire process. (Bank) money created at step 2 eventually comes back to commercial banks and gets destroyed.

Following Lavoie (2012), commercial banks 'manage' their assets by replacing a long-term asset, a mortgage, with a short-term presumably safer one, a loan towards IBs. Advantages for commercial banks' capital requirements come from the fact that the former asset would have required more capital provisions than the latter. From a systemic point of view, once again, (bank) money is eventually 'spared' (see yellow cell at step 3 in Figure 8) despite multiple assets being created and "distributed" through the system (loan + mortgage - see blue cells at step 3 in Figure 8). Larger amounts of more or less liquid assets at lower tiers of the money hierarchy pyramid are matched with comparatively smaller top tiers of (bank) money and the central bank's reserves.

For the sake of brevity, we limit our examples to these two three-step cases. However, it would be easy to extend the example further, such as by imagining a hedge funds sector (a) collecting households' savings by (b) issuing shares in order to (c) use collected funds to purchase IBs or SPVs' bonds. In this case, the amount of liabilities - and thus the size of the financial sector's balance sheet - would increase even with the same given amount of money.

Figure 8. Securitization and the monetary circuit (case 2): commercial banks finance investment banks' demand for SPVs' bonds.

STEP 1: new mortgage and liquidity creation							
HH		Commercial bank		SPV		IB	
Asset	Liability	Asset	Liability	Asset	Liability	Asset	Liability
Money	Mortgage	Mortgage	Money				

STEP 2: Loan to IBs to purchase bonds from SPVs							
HH		Commercial bank		SPV		IB	
Asset	Liability	Asset	Liability	Asset	Liability	Asset	Liability
Money	Mortgage	Mortgage	Money				
		Loan	Money			Money	Loan

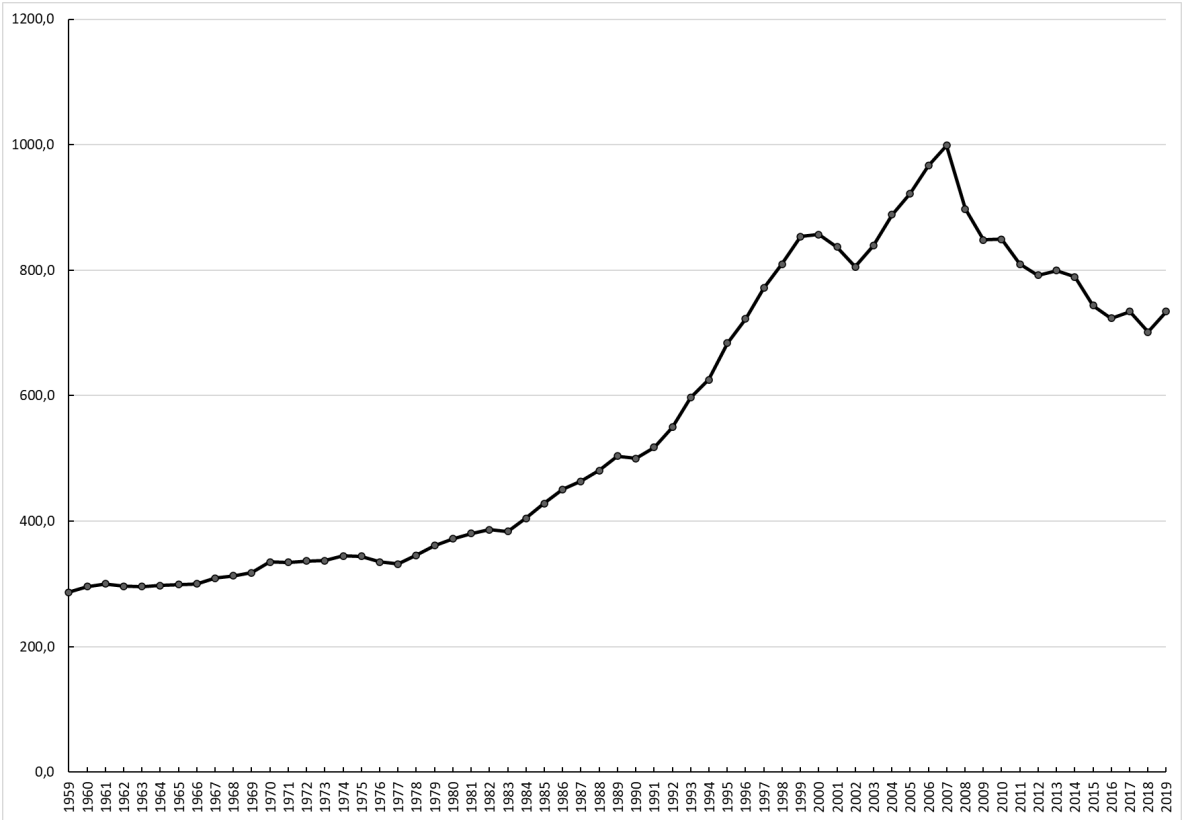
STEP 3: Securitization and money destruction							
HH		Commercial bank		SPV		IB	
Asset	Liability	Asset	Liability	Asset	liability	Asset	Liability
Money	Mortgage	Loan	Money	Mortgage	Bond	Bond	Loan

Source: authors' elaboration

Figure 9 below reports some preliminary evidence matching the theoretical discussion carried out by commenting on Figures 7 and 8. Indeed, Figure 9 shows the evolution of the US economy from 1960 to 2023 of the ratios between the total amount of assets originated by the domestic financial system and the M2 money stock (cash, checking deposits, and other deposits readily convertible to cash). In this sense, Figure 9 shows the astonishing increase in such a ratio taking place in the US from the mid-1980s, and more spectacularly during the 1990s, up until the outbreak of the GFC. Whilst its value increased by roughly one-third from 1960 to 1984, it more than doubled in the following two decades up to the 2007-2008 financial shock. This sharp rise in the ratio of financial assets to the money stock highlights the growing disconnect between financial market activity and the underlying supply of money. Such divergence amplifies financial instability, as the reliance on market-based short-term financial instruments increases the system's vulnerability to liquidity crises, and possibly make the move to higher tiers of the monetary hierarchy more chaotic and disordered when financial turmoil mounts.

Grasping the implications of changes in the structure of the money hierarchy pyramid over financial instability somehow presupposes a clear distinction between what is money and what may be closed to (being) money but actually it is not. With the spread of allegedly liquid assets very much connected to the financial developments described above, this debate is far from being settled. Reverting to some theoretical insights from Graziani's MCT may help us to clarify this point about the nature of money and the inner-investment banks' financial circuit portrayed in Figure 6 (see elements in the red dashed rectangle).

Figure 9. Total US domestic financial sector assets over total money supply (M2), 1959-2019.



Source: Authors' elaboration on the basis of FED's financial accounts of the United States, Z.1 flow of funds

During the 1990s and in the early 2000s, the financial system as a whole and investment banks in particular have been able to increase the velocity of circulation of money. They have done so by increasingly relying on financial instruments such REPOs. Practices like REPO lending and rehypothecation allow money to circulate among financial entities in a mostly institutionalized and safe setting, at least in normal times. REPOs are safe investment for lenders because they benefit of a more favorable regulation than "normal" collateralized lending in terms of protection against counterparty bankruptcy. If the counterpart fails, the collateral is exempted from the automatic stay. It can be sold by the lender to recover lost money. The *implicit* guarantee that makes REPO contract perceived as safe investment is the supposedly stable value of the collateral asset (on top of overcollateralization practices: the value of the collateral is generally higher than the money lent). The institutionalized nature of REPO contracts derives from two facts: (i) REPOs are key tools in FED's implementation of monetary policy; (ii) large part of REPO trading takes place in regulated markets, principally the tri-party REPO market. In this market, a third party – JPMorgan Chase or Bank of New York Mellon – acts as a clearing bank, intermediating the exchange following consolidated and clear rules[16]. Moreover, REPOs grant the possibility to repledge the collateral while the agreement is still in place (i.e., rehypothecation). If an investment bank that lent its bank deposit

[16] This does not apply to but sets a benchmark for the two-party repo agreements, where the two parties of the deal agree on the asset to use as collateral.

in a REPO agreement and received an asset as collateral finds itself in need of liquidity, it can use that same collateral to obtain money from another institution[17].

In normal times, thanks to their great diffusion within the whole dollar-based financial system, REPOs make liquidity never to be perceived as a significant stringent concern[18]. In a nutshell, the combination of REPOs and rehypothecation seems to protect from both credit and liquidity risk. This explains their outstanding success as a very liquid form of investment. So much so that a stream of literature on *shadow* money has emerged, according to which REPOs can be considered substitutes for bank deposits. These contributions pertain to the so-called *critical macro-finance* literature (Dutta *et al.* 2020, Gabor, 2020) and maintain that the concept of money should be broadened to include assets other than bank notes, reserves, and deposits. These contributions either refer to REPOs (Gabor and Vestergaard, 2016) or include other financial assets such as money market funds shares and asset-backed commercial papers in their "shadow money" category (*e.g.*, Murau and Pforr, 2020). This literature offers very interesting insights into the functioning of the REPO market and its role in the financial system (*e.g.*, Gabor, 2016). However, it also raised criticisms on the adequacy of the use of the term "(shadow) money" (Michell, 2017; Ingrao *et al.,* 2022). It is hard to imagine that the two sides of the debate may come to an agreement as divergences stem from a definitory matter. The shadow money literature, inspired among others by the work of Mehrling (2011), makes use of the unconventional definition of money proposed by Pozsar (2014), according to which the quintessential feature of money-like assets, rather than its functions, is that they *trade at par* on demand with other assets located at higher tiers in money hierarchy. Therefore, simplifying, just like bank deposits are money because they trade at par, on demand, with banknotes (or money proper, i.e., State money), so REPOs are money because they trade at par, on demand, with bank deposits.

In our view, the definition of *shadow money* is catchy but possibly misleading since that money and REPOs play two distinct roles in the financial market, with the relation between the two having important implications in terms of financial stability. It is therefore important to keep them clearly distinct. In this regard, and for the sake of our analysis, it may be useful to return to Graziani (2003) and the distinction he made between a *credit economy* and a *monetary economy*. In the latter, money is a form of debt resulting from a triangular relation. It is a liability of a third party used by the two sides of a transaction to settle payments. It is in the "nature of credit", but not a direct credit between two agents. No debt remains pending between the two sides. The debt relation endures only between one of the sides, the one receiving the payment, and the monetary institution issuing money, may it be private (i.e., commercial banks), or public (i.e. the central bank). Money creation through credit is indeed a swap of IOU (Mehrling, 2011), but a specific one due to the specificities of one of the two parts involved. Commercial banks are monetary institutions. They

[17] On the importance and on the regulatory limits of rehypothecation, as well as on the role of non US-based financial institutions, see Singh and Aitken (2010).

[18] Investment banks are at the core of this market. REPOs represent around one-third of this sector's total assets and one-half of their liabilities. Since the 2000s, figures have been even higher than in the 90s. In terms of quota of the stock of REPOs issued as liability by the whole financial sector, these data (Federal Funds and Security Repurchase Agreements in the FED's flow of funds) translate into around 60 percent until the subprime crisis, and then diminished to around 30 percent.

benefit from a privileged relationship with the central bank, and they are highly regulated[19]. Because of that, they are part of the system of payments. This is why bank deposits, unlike other financial assets, REPOs included, can represent an immediate and final settlement.

This distinction is still crucial when looking at the functioning of the financial market, especially with respect to the above-mentioned ability of some financial institutions to expand their balance sheet and the ensuing implication over financial stability. The tri-party settlement scheme characterizing banks' deposits is absent in a REPO contract. The two sides involved in it exchange credit. For instance, a REPO deal in which institution A lends money to institution B implies that A temporarily exchanges a credit toward a commercial bank with a credit toward institution B (a reverse REPO from the point of view of institution A). On top of that, for all the duration of the contract, A obtains the right to repledge the collateral or to sell it may B go bankrupt. The balance sheet of the financial institutions therefore expands, which means that new debt positions are opened. No assets capable of settling the position have been created though. Indeed, institution A cannot use the REPO deal to settle a payment. And the guarantee to reconstitute the original lent money (i.e., moving up the money pyramids) is only provided by market trust in the value of the collateral or, at best, by private insurers via Credit Default Swaps (CDS). Different from banks' deposits, there is no public (read governmental) guarantee.

In a financial system that has expanded enormously by issuing liabilities, most of which are short-term liabilities such as REPOs, the role of money is still central exactly due to its unique capacity to settle a payment. The matter of "what is money" is not merely semantic but it has crucial implications in terms of financial stability. REPOs can represent, at best, a valid alternative to bank deposits only as allegedly liquid forms of investment, but they cannot determine any immediate and final payment. When this is needed, commercial bank deposits are required. Coming back to the money pyramids, Figures 7 – 9 show that, thanks to securitization and the connected financial innovations, the liabilities (assets) issued by the whole financial systems have increased much faster than the stock of money. This determines more acute systemic financial fragility. Indeed, in the event financial turbulences emerge, a wider range of more leveraged financial institutions will need money and try to move up in the money hierarchy in order to unwind their positions. But differently from more traditional bank runs[20], there is no (or less) public guarantee that this will happen. If the continuous circulation of liquidity comes to an end, say for a decrease in trust in the market or in the value of the collaterals as in 2008, the perceived absence of liquidity problems may suddenly and abruptly vanish. Practices like rehypothecation on short-term REPOs make numerous debt positions synchronous. A crisis may thus easily emerge and quickly spread through interrelated

[19] Commercial banks' deposits, for instance, are generally protected by public insurances that ultimately guarantee deposits' holders against the risk of not being able to convert deposits into money proper. In theory, there is usually a limit to the amount of deposits being insured, but this limit does not apply in reality (see Nersisyan and Dantas, 2017), as even some recent events in the US banking system tend to demonstrate. The US government provides a de facto complete guarantee of banks' deposits precisely due to their centrality in the orderly functioning of the payment system and of the economy as a whole.

[20] In the different scenario without securitization and with original mortgages (hence corresponding deposits) held in the balance sheet of commercial banks, financial distress would more likely take the form of "more traditional" bank runs. The capability of the system to address this type of crises is undoubtedly strengthened by the above-mentioned special relation connecting commercial banks to the central bank and by the public insurance that deposits will be converted at par into money proper.

"balance sheets" (Minsky, 1975, p.6), hence determining a "run on REPO" (Gorton and Metrick, 2012). Using the musical chairs game for kids as a metaphor, the D.J. (securitization) may allow music to play longer whilst reducing the number of chairs (bank deposits) around which kids (financial assets/liabilities) may keep on dancing with apparent no harm. But when the music stops, the number of chairs will be much less than that of kinds, and there won't be enough seats accommodating everyone.

In the end, a definition sounder than "shadow money" is the one proposed by Nersisyan and Dantas (2017), who refer to "fictitious forms of liquidity". This definition is to be preferred as it stresses the idea that REPOs can be perceived as an alternative allocation of wealth in a liquid asset, other than a deposit, without inaccurately suggesting that they may share with money other characteristics, in particular the ability to settle a payment and to dismiss debts.

5. Conclusion

Financialization serves as a fundamental component of the capitalist monetary economy of production, rather than a transient or dysfunctional "rentier outgrowth" as some interpretations suggest. By enhancing profit realization through financial channels, processes of financialization became integral to the system's functioning. However, these can also divert capital into an "inside-finance" circuit, where money is ultimately destroyed without passing through firms' final finance, leaving behind assets and liabilities that still exist in the system. This dynamic contributes to heightened systemic financial instability, particularly as it steepens the pyramid of the money hierarchy. In times of financial turbulence, actors seek to move up the monetary hierarchy to settle claims with higher-level (more liquid) instruments, but this process is fraught with risk if such instruments are no longer available, amplifying financial crises. This paper shows how the application of Graziani's methodology, alongside his Monetary Circuit Theory (MCT), offers powerful tools to trace how financialization reshapes the process of surplus value monetization and affects the stability of the system. This approach enables a nuanced analysis of the sequential steps of money flows within the financialized monetary economy of production, revealing both its functional role and the vulnerabilities it creates. Ultimately, while financialization is a crucial driver of capitalist dynamics, its systemic risks demand a deeper understanding of how it influences both profit generation and financial stability.

References

Bellofiore, R., Forges Davanzati, G., Realfonzo, R. (2000). Marx inside the circuit: Discipline device, wage bargaining and unemployment in a sequential monetary economy, *Review of Political Economy*, vol.12 (4): 403 – 417.

Bellofiore, R., Halevi, J. (2008). Deconstructing labor. What is 'new' in contemporary capitalism and economic policies: A Marxian-Kaleckian perspective, in Gnos, C., Rochon, L.P. (eds.), *Employment, growth, and development. A post-Keynesian approach*, Cheltenham: Edward Elgar.

Bellofiore, R. (2019). Augusto Graziani and the Marx-Schumpeter-Keynes 'Cycle of Money Capital': A personal look at the early Italian circuitism from an insider, *Review of Political Economy*, vol.31 (4): 528 – 558.

BIS (2024), International banking and financial market developments, BIS Quarterly Review March 2024.

Botta, A., Caverzasi, E., Tori, D. (2015). Financial-real-side interactions in an extended monetary circuit with shadow banking: Loving or dangerous hugs? *International Journal of Political Economy*, vol.44 (3): 196 – 227.

Botta, A., Caverzasi, E., Tori, D. (2020). The macroeconomics of shadow banking, *Macroeconomic Dynamics*, vol.24 (SI 1): 161 – 190.

Botta, A., Caverzasi, E., Russo, A., Gallegati, M., Stiglitz, J.E. (2021). Inequality and finance in a rent economy, *Journal of Economic Behavior and Organization*, vol.183 (March): 998 – 1029.

Canelli, R., Fontana, G., and Realfonzo, R. (2022). *A Monetary circuitist interpretation of the nature and role of the shadow banking system in modern economies*. Paper presented at the 26th FMM conference "Post-Keynesian economics and global challenges". Paper freely downloadable at https://www.boeckler.de/pdf/v_2022_10_21_fontana.pdf.

Caverzasi, E., Botta, A., Capelli, C. (2019). Shadow banking and the financial side of financialization, *Cambridge Journal of Economics*, vol.43 (4): 1029–1051.

Christophers, B., Fine, B. (2020). The value of financialization and the financialization of value. In: P. Mader, D. Mertens, N. van der Zwan (Eds.), *The Routledge International Handbook of Financialization*, Routledge, 19 – 31.

Dutta, S. J., Kremers, R., Pape, F., Petry, J. (2020) Critical macro-finance: An introduction. *Finance and Society*, vol.6 (1):34 – 44.

Epstein, G. (2005). Introduction: Financialization and the World Economy, in Epstein, G. (ed.), *Financialization and the World Economy*, Northampton: Edward Elgar.

FED (2024). Financial Stability Report. April, 2024. Board of Governors of the Federal Reserve System.

Financial Stability Board (2020). *Global monitoring on non-bank financial intermediation 2020*. Report downloadable at https://www.fsb.org/2020/12/global-monitoring-report-on-non-bank-financial-intermediation-2020/.

Forges Davanzati, G., Realfonzo, R. (2011). Low wages, consumer credit and the crisis: A monetary theory of production approach, in Brancaccio, E., and Fontana, G. (eds.), *The global economic crisis. New perspectives on the critique of economic theory and policy*, Milton Park and New York: Routledge.

Fumagalli, A., Lucarelli, S. (2011). A financialized monetary economy of production, *International Journal of Political Economy*, vol.40 (1): 48 – 68.

Gabor, D., Vestergaard, J. (2016). *Towards a Theory of Shadow Money*. INET Working Paper – April 2016. Institute for New Economic Thinking

Gabor, D. (2020). Critical Macro-Finance. A Theoretical Lens. *Finance and Society*, vol.6 (1): 45 – 55.

Gabor, D. (2016). The (impossible) repo trinity: The political economy of repo markets. *Review of International Political Economy*, vol.23 (6): 967 – 1000.

Goda, T., Lysandrou, P. (2014). The contribution of wealth concentration to the subprime crisis: A quantitative estimation, *Cambridge Journal of Economics*, vol.38 (2): 301 – 327.

Gorton, G., Lewellen, S., Metrick, A. (2012). The Safe-Asset Share. *American Economic Review*, vol.102 (3): 101 – 06.

Gorton, G.,A. Metrick (2012). Securitized banking and the run on repo. *Journal of Financial Economics*, vol.104 (3): 425 – 451.

Graziani, A. (1989). *The Theory of the Monetary Circuit*, Thames Papers in Political Economy no. 89/1.

Graziani, A. (2003). *The Monetary Theory of Production*, Cambridge: Cambridge University Press.

Kaldor, N. (1955-56). Alternative theories of distribution, *Review of Economic Studies*, vol.23: 83 – 100.

Herwarts, H., Xu, F. (2020). Low mortgage rates and securitization: A distinct perspective on the US housing boom, *Scandinavian Journal of Economics*, vol.122 (1): 164 – 190.

Ingrao, B., Ruggeri, F., Sardoni, C. (2022) Are Shadow Moneys Money Proper? A Critical Discussion from the Perspective of the History of Monetary Theory, *Review of Political Economy*, vol.34 (4): 647 – 664.

Lavoie, M. (2012). Financialization, neo-liberalism, and securitization, *Journal of Post Keynesian Economics*, vol.35 (2): 215 – 233.

Lavoie, M. (2014). *Post-Keynesian Economics: New foundations*. Cheltenham (UK) and Northampton, Massachusetts (USA): Edward Elgar.

Lazonick, W., O'Sullivan, M. (2000). Maximizing shareholder value: a new ideology for corporate governance, *Economy and Society*, vol.29 (1): 13 – 35.

Lysandrou, P. (2011). The primary of hedge funds in the subprime crisis, *Journal of Post Keynesian Economics*, vol.34 (2): 225 – 253.

Lysandrou, P. (2020). Financialization and the limits of the circuit theory, *Finance and Society*, vol.6 (1): 1 – 18.

Mehrling, P. (2011) *The New Lombard Street: How the Fed Became the Dealer of Last Resort*. Princeton, NJ: Princeton University Press.

Michell, J. (2017). Do shadow banks create money? Financialization and the monetary circuit, *Metroeconomica*, vol.68 (2): 354 – 377.

Michell, J. (2024). Theorizing non-bank financial intermediation, *Review of Keynesian Economics*, vol.12 (2): 181 – 196.

Minsky, H. P. (1987). *Securitization*, reproduced in Levy Economics Institute of Bard College Policy Note no. 2008/2.

Murau, S., Pforr, T. (2020). What Is Money in a Critical Macro-Finance Framework?, *Finance and Society*, vol.6 (1): 56 – 66.

Nersisyan, Y., Dantas, F. (2017). Rethinking liquidity creation: Banks, shadow banks and the elasticity of finance. *Journal of Post Keynesian Economics*, vol.40 (4): 279 – 699.

Palley, T. (2013). *Financialization. The economics of finance capital domination*, New York: Palgrave Macmillan.

Passarella, M. (2014). Financialization and the monetary circuit: A macro-accounting approach, *Review of Political Economy*, vol.26 (1): 128 – 148.

Passarella, M. (2022). It is not *la vie en rose*: New insights from Graziani's theory of the monetary circuit, forthcoming in *European Journal of Economics and Economic Policies: Intervention*. Available online at https://doi.org/10.4337/ejeep.2022.0084.

Pozsar, Z. (2014). *Shadow Banking. The Money View*. Working Paper. Office of Financial Research.

Sawyer, M. (2013). Endogenous money, circuits and financialization, *Review of Keynesian Economics*, vol.1 (2): 230 – 241.

Sawyer, M., Passarella, M. (2017). The monetary circuit in the age of financialization: A stock-flow consistent model with a twofold banking sector, *Metroeconomica*, vol.68 (2): 321 – 353.

Seccareccia, M. (2012). Financialization and the transformation of commercial banking: understanding the recent Canadian experience before and during the international financial crisis, *Journal of Post Keynesian Economics*, vol.35 (2): 277 – 299.

Shaik, A. (2011). The first great depression of the 21st century, *Socialist Register*, vol.47: 44 – 63.

Shaik, A. (2016). *Capitalism: Competition, conflict, crises*. Oxford University Press: New York.

Singh, M., Aitken, J. (2010). *The* (*Sizable*) *Role of Rehypothecation in the Shadow Banking System*, IMF Working Papers 2010/172, International Monetary Fund.

Sotiropoulos, D. P., Milios, J., Lapatsioras, S. (2013). *A Political Economy of Contemporary Capitalism and Its Crisis: Demystifying Finance*. London: Routledge.

Tori, D., Onaran, Ö. (2018). The effects of financialization on investment: evidence from firm-level data for the UK, *Cambridge Journal of Economics*, vol.42 (5): 1393 – 1416.

Tori, D., Onaran, Ö. (2020). Financialization, financial development and investment. Evidence from European non-financial corporations, *Socio-Economic Review*, vol.18 (3): 681 – 718.

Tori, D., Caverzasi, E.,Gallegati, M. (2023). Financial production and the subprime mortgage crisis. *Journal of Evolutionary Economics*, 33(2):573-603.

Van der Zwan, N. (2014). Making sense of financialization, *Socio-Economic Review*, vol.12 (1): 99 – 129.