Finance for Investment?

Explaining Macrofinancial Slippage

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(draft version – comments welcome)

ABSTRACT

Contemporary capitalism is characterized by 'macrofinancial slippage': the growth of assets and liabilities in excess of the growth of activity and saving. This paper presents empirical evidence and develops an explanation centered on asset markets. In the Schumpeter-Keynes-Minsky view of the economy, money and finance are endogenous, hierarchical, dynamic and hybrid. In the context of the post-Keynesian financial-monetary circuit and given financial liberalization, this leads to four processes: an innate tendency for finance to expand; for this expansion to go beyond investment and spending; growing complexity of the financial sector; and Treasury and central bank policies that support capital gains. Combined with insufficient public investment and balance sheet space for private profit and investment, this leads to macrofinancial slippage. The paper concludes with policy implications and new research questions on capital gains.

KEYWORDS financialisation, monetary theory, debt, equity, macrofinance

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1. Introduction

The rhetoric of financial development features a strong link between finance and investment. This posits finance – the economy's structure of assets and liabilities - in exclusive relation to investment into the expansion of the productive capital stock, or into other desirable real-sector changes in businesses, countries, and globally. For instance, IMF (2025b) notes that "[f]inancial development enables larger investments, including in much-needed infrastructure, and a more productive allocation of capital". The OECD (2025:1) states that "[m]eeting environmental goals will require aligning and significantly scaling up all sources of green finance". And the UN (2025:2) at its Fourth International Conference on Financing for Development in Sevilla (June 2025) agreed on an "ambitious package of reforms and actions to close this financing gap with urgency and catalyse sustainable development investments at scale."

And yet there is much growth of finance unrelated to the productive process or to development. Woetzel et al (2021) report that globally since 2000, assets and liabilities have been growing 50% faster than the global gross domestic product, which measures spending on value-added. Zooming in on the two key financial asset classes, between 2001 and 2020 global bond and equity markets both rose by a factor 3.7 in nominal dollar terms, while the global GDP increased by a factor 2.5 (Figure 2). This must mean that there is much growth of financial assets and liabilities that does not translate into growth of value-added and incomes – a trend which may be termed 'macrofinancial slippage'. It is as if the gears of finance slip and do not mesh with the productive investment that finance is supposed to support.

There is extensive and diverse evidence for the growth of volumes of stocks, bonds, real estate and other assets, as well as growth of (debt and other) liabilities, beyond growth of spending in the real sector. The growth is observably in both households and nonfinancial businesses (Davis, 2016). It concerns banks (Arcand et al, 2015) as well as the wider financial sector (Greenwood and Scharfstein 2013), governments (IMF, 2025a) and the global economy (Woetzel et al, 2021). It occurred in all major asset classes, including stocks (Kuvshinov and Zimmermann, 2015), bonds (BIS 2025) and real estate (Jordà et al, 2019).

There is no dearth of proposed explanations for each of these phenomena. These include financial–system globalisation (Borio, 2014) and the rise of global capital flows (Prasad et al, 2007), central bank inflation-targeting policies (Epstein 2019), consumer debt growth (Soederberg, 2014), pro-home ownership policies (Offer, 2017) including mortgage-biased credit polices (Bezemer et al, 2021), pro-debt fiscal treatment (De Mooij, 2012; Luca and Tieman, 2019), pension funding and capital market inflation (Toporowski, 2000; 2010), profit distribution and 'quarterly' capitalism (Lazonick and O'Sullivan, 2000; Stockhammer, 2004). These manifestations of macrofinancial slippage form the backdrop for the present paper.

These accounts have withstood critical scrutiny, continue to be developed, and provide vital insights. Without discounting these explanations of the separate trends, here the focus is on their common denominator: the divergence between the growth of financial assets and liabilities and growth of economic activity, which is macrofinancial slippage. Addressing this trend requires both a high level of generality and a narrower focus than the research just discussed. The ambition of the present paper is to develop a theoretical account that is sufficiently general to speak to all these national and historical settings. It aims to be complementary to the literature on financialisation, which focuses on structural changes, policies and institutions ((Arrighi 1994; Krippner 2005; Epstein 2006; Palley 2013; Van der Zwan 2014; Amable et al 2019). The present contribution is to link the growth of finance to the nature of money and finance, in the context of those policies and institutions. This generality defines the limitations of the paper while it also invites applied work (as in Bezemer et al, 2025 on the UK). I return to this limitation and promise in the closing section.

In the next section, the rise of wealth through macrofinancial slippage is contrasted to saving out of income, and macrofinancial slippage is empirically illustrated. The concept is also positioned in Keynesian theory. Section 3 accounts for the neglect of macrofinancial slippage in conventional macroeconomics, and infers the implied view on money and finance as exogenous (to the real sector), undifferentiated, static rather than dynamic and private rather than public. Section 4 distills from post-Keynesian and Schumpeterian theory that money and finance are endogenous, hierarchical, dynamic and hybrid. Set in the context of a financial monetary circuit (section 5), these features help account for the structural expansion of financial assets and liabilities relative to economic activity (section 6), which is macrofinancial slippage. The paper concludes in section 7 with suggestions for the exploration of the causes, consequences and manifestations of macrofinancial slippage and capital gains.

2. Macrofinancial slippage positioned

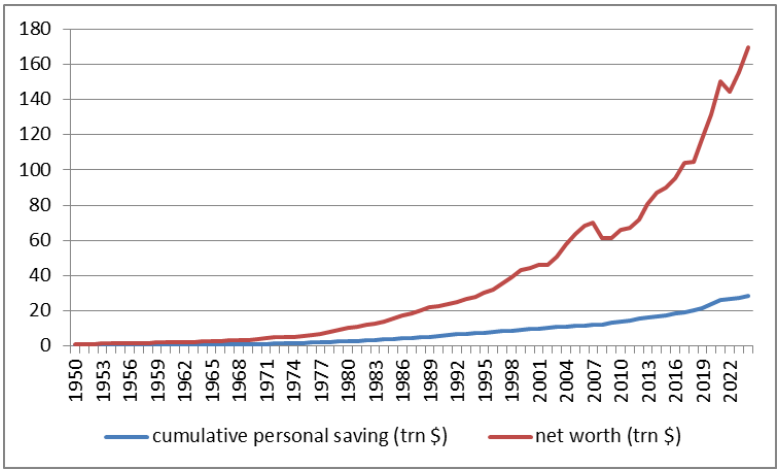
Macrofinancial slippage means that increasingly, liquidity - often, created by borrowing - has been flowing into asset markets, rather than into spending on goods and services. In the conventional conception of the economic system, one would expect the two flows to be proportional. As Adam Smith (1776:275) put it, writing at a time when land was the major asset class, "every improvement in the circumstances of the society tends either directly or indirectly to … increase the real wealth of the landlord…". In this view the growth of asset values (saving plus capital gains) results from the growth of economic activity, leading to value-added that is capitalized via saving into asset values. This suggests that economic activity and asset wealth should rise in tandem.

But that is not how the monetary production economy has functioned in recent decades. One way to visualize how macrofinancial slippage breaks this correspondence is to trace the rise in net asset values against the rise in saving out of income. In contemporary statistics, asset values ultimately redound to households. No country except the US has maintained long-term time series statistics on the aggregate of personal wealth. Figure 1 shows the increase in US households' net wealth against the accumulation of personal saving out of income, including property income such as dividend and interest.

The Figure shows that measured in nominal dollars, US households' cumulated aggregate savings rose from 0.3 to 29 trillion from 1950 to 2024, while their aggregate net wealth rose from 1.2 to 169 trillion. Gross wealth, of course, is larger still, but the net value is what should be traced. Liability growth (borrowing) creates corresponding financial assets such as bonds and securitized loans, and these form the financial structure which supposedly supports economic activity, from which saving and net wealth then result. In this view, growth of assets net of borrowing (net worth) strictly result from economic activity, income and saving – that is, assuming there is no macrofinancial slippage.

But Figure 1 shows that net wealth (or net worth) rose much faster than saving. Overwhelmingly, net wealth is 'non-produced' financial and property assets. The difference of the net wealth graph with the savings line does not show the accumulation of productive capacity, but the increase in the volume of financial and property assets, beyond what was saved out of income.

Figure 1: net worth rose faster than saving out of income: the US, 1950-2024



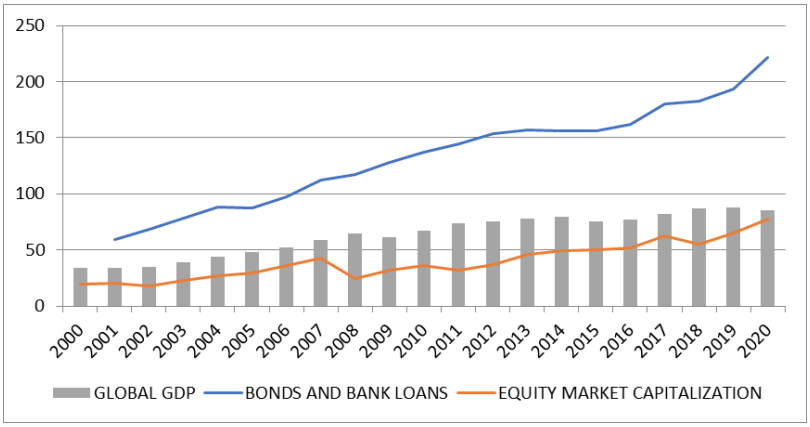
Sources: National Income and Product Accounts tables 2.9 and 2.1 (personal saving); Integrated Macroeconomic Accounts, Table S.3.a (holding gains and other changes);. Integrated Macroeconomic Accounts, Table 5.3 (net worth; also, Federal Reserve Financial Accounts Table B.101). Notes: Dollar figures are nominal. Accumulation is computed from the start of the data in 1947. Thanks to Steve Roth for compiling the data.

This macrofinancial slippage needs to be understood as historically specific, rather than a fixture of capitalism in some timeless sense. The underlying data for the Figure imply that the ratio of net wealth to cumulative saving was continuously falling in the post-war decades, down to a low of 3 in 1974. This means that in those decades, the part of net wealth growth that was related to activity (income and saving) was increasing over time. But after the trend turned, increasingly wealth was built in other ways; the ratio doubled from the mid 1970s to the current value of 6. This periodisation tallies with the various explanations discussed above, which often locate their start in the 1970s for the U.S. It also fits in with the financialisation literature, which identifies fundamental changes to global capitalism starting in the 1970s in the US.

Like financialisation, macrofinancial slippage has been pervasive also beyond the US. Figure 2 tracks the growth in debt liabilities as lending (by banks and through bond markets), the growth of global equity markets (the market capitalisation of the nine biggest equity indices), and the global GDP, all in nominal dollars. Figure 2 shows that the total nominal value of both bond and loan liabilities and equity assets rose about 50 per cent faster than global incomes. The multiples over 2001-2020 are 3.7 for both debt and equity, and 2.5 for global GDP - just as reported in Woetzel et al (2021), which additionally includes another asset class, property.

The figure 2 data imply that globally, 162 trillion dollars in loans and bonds were added to global debt over 2000-2020, and 57 trillion dollar to equity values. Yet incomes rose by 52 trillion. In an (erroneous) loanable-funds view (see below), this begs the question how the world can borrow more than it earned and saved. But even moving beyond the loanable-funds fallacy, the question is why debt and equity finance was rising continuously, if it was not to support proportional income growth - which evidently it did not. What should replace the logic of finance for investment and income formation, given that this logic appears inconsistent with the data?

Figure 2: Global debt, equity and income (2000-2020, nominal trillion dollars)



Sources: Bank for International Settlements (bonds and bank loans), International Monetary Fund (global GDP) and individual websites of Euronext, the Hong Kong Exchanges and Clearing, Japan Exchange Group, LSE Group, Nasdaq - US NYSE, Shanghai Stock Exchange, Shenzhen Stock Exchange and TMX Group (equities). Notes: GDP coverage is global, while bond and bank loans coverage is restricted to those countries reporting to the (Bank for International Settlements) countries. For 200-2002 there are no observations for the Shanghai and Shenzhen Stock Exchanges (which account for 2 per cent of the total in 2003). All data available on request. Thanks to Maurits Roorda for compiling the data.

The start of Figure 2 in 2000 is due to data availability; macrofinancial slippage itself precedes it, since about the 1970s. For instance, Kuvshinov and Zimmermann (2015) show that across 17 major economies since 1870, the aggregate of their stock market capitalisations was stable at around 30% of their aggregate GDP for over a century, until around 1980. After that, it rose to steeply to around 100% at the turn of the century, then fluctuating between 70% and 120% until the latest observation in 2014. These and similar outcomes are the end result of many and multifarious processes of asset and liabilities creation beyond growth in incomes and spending.

This excess of financial asset and liabilities growth over income growth, or macrofinancial slippage, is a key feature of contemporary capitalism. And yet any theoretical significance of macrofinancial

slippage is largely ignored in the conventional macroeconomics literature. If events such as the great financial crisis force the unproductive growth of finance to the foreground, this has typically been treated as an aberration (e.g. Taleb, 2010). With the rise of climate finance as the dominant theme in the literature on financial development, the 'finance for (green) investment' discourse has again assumed hegemonic proportions and the reality of macrofinancial slippage remains neglected.

In contrast, the point of departure for the present paper is that growth of assets and liabilities in excess of income growth matters to macroeconomic outcomes. Growth of liabilities diverts income into debt service and other commitments, diminishing effective demand. Rising asset prices and more asset ownership mean more wealth to asset owners but also higher costs of using assets – such as land and housing – to households and the productive sector. There are political economy implications of the rising wealth inequality that is implied. There are also behavioural incentives due to rising asset prices, such as the pursuit of capital gains rather than activity. And there are behavioural consequences of growth of liabilities, such as attention to liability management more than production and consumption.

Macrofinancial slippage also has implications for international finance. For instance, rising values of U.S. corporate equity liabilities, which are asset values to the rest of the world, are the main cause for the steep decline of the U.S. net foreign asset position since 2007 from minus 5 per cent of U.S. GDP to minus 87 percent at this writing (Atkeson et al; BEA 2025; Federal Reserve 2025). Clearly, this has consequences for the behaviour of both foreign investors and U.S. policymakers.

These and other implications of macrofinancial slippage motivate this paper, but they are not its focus. This paper seeks to explore how macrofinancial slippage can be understood in terms of post-Keynesian macro-monetary theory – that is, in terms of features of money and finance at a fundamental level and the monetary (and financial) circuit in which these features matter to macroeconomic outcomes.

This paper asks and answers two questions. Why is macrofinancial slippage, though well documented, not part of the dominant analytical discourse on finance and investment, but rather, is routinely neglected? The answer to this question lies in the loanable-funds and savings-gap complementary literatures, the theoretical foundations which guide the dominant analytical discourse on finance and investment. Here money and finance are presumed to be exogenous (to the real sector), undifferentiated, static and private (section 2). These features imply that

macrofinancial slippage should not occur in the long term or if it does, must be an aberration without analytical significance.

A second question is how, given the evidence to the contrary, should macrofinancial slippage be understood? For Keynes, a central monetary problem was 'hoarding': investors holding money rather than less liquid securities that support investment. The reason is that wealth owners in a monetary production economy are torn between two uses of their money. There is the 'inducement to invest' on one hand and the 'propensity to hoard' on the other hand, driven by both speculative and precautionary motives (Keynes 1936, ch 12). The constant threat was that the 'propensity to hoard' would dominate and undermine the monetary production economy, due to the 'love of money as a possession' rather than investment in realizing 'the enjoyments and realities of life' (Keynes 1930).

The parallel today is that equities, bonds and other financial assets have come to play the role that Keynes feared for cash money: to replace and forestall productive investment. In Keynes' days, securities investment could still be treated as tantamount to capital goods investment. Also for the post-Keynesian theorist Hyman Minsky (e.g., 1978), what characterized the dynamics of capitalism was the presence of 'long-lived capital assets' and securities that could be treated as representing those productive assets.

Both Keynes and Minsky started from a tight link between securities and capital goods, but recognized that the monetary form that investment must take, and the nature of money and finance, threatens to derail the monetary production economy. Today a different starting point is required, since financial assets no longer unquestionably represent the productive capital stock. The present paper starts with macrofinancial slippage as characterizing today's monetary production economy. This breaks the link between financial assets and productive assets – not just with tangible productive assets, as in the 'capitalism without capital' rise of production with intangibles (Haskel and Westlake, 2018), but with production and value-added as such.

Still, the analysis of macrofinancial slippage will follow very much in Keynes' and Minsky's footsteps. Macrofinancial slippage is the hallmark of the 'money manager capitalism' which Minsky (1988b) observed towards the end of his career, and it benefits the rentiers (Christophers 2019) whom Keynes (1936, ch 24) viewed as so harmful that he wanted them euthanized. Neither Keynes nor Minsky saw these dangers as incidental, resulting from mistaken policies only. Both intuited that a tendency towards the dominance of financial value over real values is innate in capitalism,

and breaks free if policy and institutions allow it. They shared this intuition with heterodox macroeconomists from Marx (1894) to Veblen (1904) and Schumpeter (1934).

The present paper takes up this theme. The goal is to explain macrofinancial slippage in terms of recent scholarship on money and finance in the Schumpeter-Keynes-Minsky 'critical macrofinance' tradition. The need for this is that macrofinancial slippage is neglected in conventional macroeconomics. That itself first requires an explanation, creating the intellectual space for an alternative.

3. Macrofinancial slippage neglected: theoretical roots

In the policy and business discourses as well as academic literature, the tacit assumption is often that 'financial assets and liabilities steer expenditures' (F.A.L.S.E., for short). For example, pension funds often communicate that pension premiums are a necessary input into sustainable investment expenditures, for instance by financing solar panels and social projects (e.g., Better Society Capital, 2022). Implicitly, the financial assets which pension funds invest in, are presumed to steer expenditures on green and social investments.

This is problematic if in reality, a share of the invested pension premium ultimately becomes financial and real estate assets and nothing else; or if the necessary expenditures were made without any need for prior saving; or if the pension fund cannot know what real investment, if any, will be funded by the pension premium. These are three ways in which the F.A.L.S.E. assumption may fail, as explored below. And yet that assumption continues to dominate in policy, academia and business. Why?

The F.A.L.S.E. assumption is grounded in two strands of literatures: a theoretical literature on saving, loanable funds and investment (going back to Robertson, 1934; Ohlin, 1937) and empirically, a literature on finance and growth (starting with Schumpeter, 1934, Gurley and Shaw, 1967 and Goldsmith, 1969). These twin strands have also motivated applied literatures - on development finance where a funding gap is supposed to exist (Cressy, 2002; Ingram and Mosbacher, 2018), on capital flows which may cause GDP growth (Rajan et al, 2005) and on sustainable finance which causes also other types of change than only economic growth, including material and social change consistent with ESG aims (Sachs et al 2019). In each of these literatures, economic growth and other physical (e.g., climate-related) and social change is expected to result from the addition or injection of money by savers through domestic banks, markets, donors or

foreign investors and financiers, which loosens a constraint. This constraint is thought to be insufficient money for investment expenditures.

Underlying these literatures is a theoretical view of money and finance which sees all money as created equal, monolithically referred to as 'savings', 'liquidity' or 'funds'. Credit, in this view, is the availability of loanable funds supplied by savers to productive firms, as if '[t]he purpose of the global financial system is to allocate the world's savings' (Sachs et al., 2019:3). In well-working markets, credit is supposed to find its way to the most profitable projects circumscribed by economic fundamentals (technology, tastes and demography), so that financial development and real development map onto each other: the real-sector fundamentals guide the financial-sector flows. This view, although contested for over a century, is very much alive and dominant. Most readers of this journal will be familiar with that debate. For the arguments and their refutation, see for instance Bertocco (2009), Lindner (2015) and Werner (2016).

Importantly, the policy implication of this view is that problems around finance are always viewed as problems of missing or malfunctioning financial markets, leading to frictions. Always, financial-market expansion is the solution. For instance, all major policy initiatives on the financial sector by the World Bank (e.g., 2015, 2017) are expansive in private finance and not restrictive – from the 'Financial Inclusion Global Initiative' to 'Financial Deepening' country market programs, to the 'Billions to Trillions' private-public development finance initiative (Wilson, 2015).

The view that is implied is that money and finance are *exogenous* (to the real sector), *undifferentiated, static* and *private*. It is exogenous to the real sector, since the sector's lack of finance is a constraint that can only be relaxed starting from outside the real sector, in the private financial sector or the central bank. It is undifferentiated and static, since finance is represented as a generic asset, or as amorphous 'liquidity' or 'money' that has no qualities that change over time. It is also static in and of itself quantitatively, since all dynamics that might increase or decrease the volume of finance are in the real sector, by saving - with money and finance passive and accommodating.

Finally, finance in this view is private finance, because its supply is viewed as originating with private-sector saving, mediated by private sector banks and markets. As to the demand side of finance, also investment is conceived as a private-sector activity. Money and finance are therefore viewed as a-political in nature, subject to the private profit motive which permeates all of capitalism, and which may be frustrated by financial frictions. This perspective circumscribes the scope for states to act. The only proper role for state 'interference' is market-fixing policies

(Mazzucato and Ryan-Collins, 2022) that address market failures by introducing a carbon tax, developing and enforcing green finance standards, facilitating financial innovations and de-risking investments by blended finance (Prasad et al 2022), as treasuries and central banks take on their balance sheets transition risks, reducing the private investment hurdle for private finance (Gabor, 2020, 2021).

The F.A.L.S.E. assumption is situated on one side of a divide in theoretical thinking about finance and production. Post-Keynesians have characterized the money supply as endogenously emerging between banks and their nonbank clients (Moore, 1979; Lavoie, 1984; Dow, 1988; Chick and Dow, 2002). Schumpeter (1912[1934]) emphasized that credit and finance *is* not an input into production; it may *finance* inputs into production. But the subsequent literature (summarized in Levine, 2005) which treated finance as a 'financial service' paved the way to treat it - like other goods and services - as an input into production. From there, it is only a short step to take an exogenous-money view, where finance (like other inputs) is a causal factor in the change of output, and by extension of social and material reality –as if economic reality is not monetary and financial itself.

Credit creation and money growth are then supposed to be causing (other) investments, productivity gains and income growth. In this view, macrofinancial slippage should not exist. It is an anomaly that an input should rapidly become so much less efficient in producing an output, as has been observed (e.g. Arcand et al 2015) for bank credit (as input) and GDP growth (as output); their correlation across dozens of economies dropped from robustly positive until the 1980s to zero in the 1990s and 2000s (Bezemer et al, 2016:653).

The anomaly is resolved by taking a different starting point than this input-output frame. In the Schumpeterian and Keynesian vision, money and finance do not function in an economic system that is just about production, but in monetary and financial capitalism (Schumpeter, 1954; Keynes, 1933; Dillard, 1948; Chick, 1983), as we explore in section 5. First, to understand how money and finance function within that system, we must leave behind the notion, as in the F.A.L.S.E. assumption, that money and finance are some exogenous, amorphous and unchanging mass of private liquidity.

4. Money and finance as endogenous, hierarchical, hybrid and dynamic

Rather than viewing finance and money as exogenous, undifferentiated, static and private, it is more helpful to conceptualize finance and money as endogenously created in the interaction of financial-sector and real-sector actors, rather than as an exogenous injection of liquidity. It is more helpful to conceptualize it as hybrid (both private and public) rather than private, as hierarchical (with different assets and liabilities) rather than undifferentiated, and as dynamic (changing qualitatively and quantitatively over time) rather than static.

These features follow from post-Keynesian theory and, more broadly, 'critical macrofinance' (Dutta et al, 2020; Gabor, 2020; Tooze, 2018) which includes post-Keynesian macroeconomics (Dafermos et al, 2022, Lavoie, 2014; Bonizzi and Kaltenbrunner, 2020) and the politics of money (Koddenbrock, 2019; Braun, 2020). The challenge here is to connect 'macro' to 'finance', addressing the linkages between the monetary-financial system and real-sector macroeconomic outcomes in terms of investment, income and distribution – topics which were central to the economics of Keynes, Kalecki, Schumpeter and Minsky. Approaches building on these seminal thinkers notably include 'circuit theory' and the 'monetary theory of production' (Graziani 1989, 2003), 'modern monetary theory' (Wray, 2015, Kelton, 2020), 'financial keynesianism' (Whalen 1999) and 'money view' research (Mehrling, 2013; Neilson 2019; Bezemer 2021).

In post-Keynesian and critical macrofinance, capitalism is monetary and financial capitalism. It is monetary because all transactions and goals are expressed in money units, so that its logic must be formulated in a 'monetary theory of production' (Keynes, 1933). And capitalism is financial because *money* (payment medium) is part of *finance* (balance sheets). The economy is a system of actors with balance sheets (Schumpeter, 1954:717) and balance-sheet dynamics are drivers of macroeconomic dynamics, not to be reduced to real factors. This is the context within which money and finance are *endogenous, hybrid, hierarchical* and *dynamic*. Consider each of these features in turn.

First, since money growth is an increase in bank liabilities extended to nonbanks, money is *endogenous* to real-economy conditions (Dow, 1988; Bonizzi and Kaltenbrunner, 2020). Money loans are not pre-existing savings channeled to borrowers, but endogenous money created by (shadow) banks for counterparties that are perceived as creditworthy, with those perceptions expressed in liquidity preferences When banks lend to creditworthy borrowers, private credit-money creation responds to economic conditions and central bank reserves policy responds to banking and financial market conditions.

Both private and public creditworthiness perceptions, like other social variables, change over time. Both tiers of the banking system function, therefore, in a reactive and accommodative manner, rather than 'injecting' money or reserves exogenously in the economy. Attempts to do so, treating money as exogenous, may lead to money reflux (loan repayment rather than new investment; Lavoie, 1999) and portfolio shifts (Tobin, 1969).

Second, finance (and therefore, money) is *hierarchical.* In the F.A.L.S.E. model, liquidity is undifferentiated and assets are identical with (or strictly proportional to) real, productive assets. In Post-Keynesian macrofinance, not all finance is created equal. Liquidity is differentiated into reserves and money; and assets are financial assets, with prices and returns which vary and which are determined in the financial markets, not by productivity (Kregel, 1982). There is at least a three-tiered system (reserves-money-priced assets) ranked in a hierarchy according to their liquidity and returns (Mehrling, 2013).

The ranking exists because financial assets are credit (promise of payment) on one level of the hierarchy, and money (means of payment) on the next. Repos are promises to pay bonds, which are promises to pay bank deposits, which are promises to pay currency, which are promises to pay central bank reserves. Moving down the hierarchy from cash to deposits to bonds to shares to derivatives, liquidity decreases as risk and returns are increasing. At the top are those assets with maximum settlement-medium quality ('moneyness') and zero risk; at the bottom are the high-risk/high-return, most illiquid assets. Interbank settlement medium (reserves, typically in the form of sovereign bonds) are the most liquid within the financial sector, with low returns. Likewise nonbank settlement medium (cash money) is the most liquid and the lowest (zero) return asset that nonbanks can hold. Each form of settlement medium buys assets with higher return and lower liquidity.

This 'hierarchy of money' tiered system is not accidental or devised, but logically necessary and evolving. Any monetary production economy must be at least two-tiered, with investment assets for production and settlement medium to pay money debts. Likewise, any financial system within a monetary production economy must have both money as liability to nonbanks, and reserve assets used to settle in the financial sector. An undifferentiated F.A.L.S.E.-type money-and-real-assets system is logically impossible in a monetary production economy.

Third, the money hierarchy is *dynamic.* Because financial assets are also liabilities, they are defined by the formation and dissolution of credit relations (Ingham, 2010). Financial assets are contracts, which are created and destroyed (just like money) based on expectations. So the layers in the

hierarchy constantly change in volume, while new layers emerge ('financial innovation') and disappear at the bottom moving with the 'credit cycle' (Bezemer , 2012).

Not only non-money assets are qualitatively dynamic, also money is. Within the real sector there is no fixed 'real' money-form (such as gold); what is real money changes over time. When liquidity preference falls, the liquidity and moneyness of assets lower in the hierarchy decreases: their ability to be used as settlement medium lessens. The boundaries of which liabilities count as money and which do not, are constantly shifting.

Dynamics also resides in the fact that the hierarchy, and the risk-return differences that it implies, induces a structural tendency to financial innovations, financial expansion and instability, all in pursuit of total returns (Minsky, 1986, ch. 4, 10). This is an important link to macroeconomic dynamics, which is also driven by total returns (yields plus capital gains), as I explore in the next section. Financial innovations create new liquidity, debt, yield and capital gains; and the financial stress or instability that is implied in the innovations destroys liquidity, debt, yield and capital gains. This shapes profits and returns in the 'real' sector – which is therefore deeply financial (Kregel, 2008; Hayes, 2019; Minsky, 1975)

Fourth, state-bank-market interactions imply that money is 'essentially *hybrid*' (Mehrling 2013), at once public and private. Purely private money is not stable; purely public money is not money (general settlement medium), if it is not used in the private sector. The money hierarchy is hybrid (both private and public) for three sets of reasons. First, the state creates and maintains the groundwork for the financial system. It determines what counts as legal tender for the private sector by setting the unit of account and issuing coins and notes. Second, the state also provides the safe-asset sovereign bonds which act as reserves, so that banks can settle. They are hybrid: publicly issued and privately used. Third, money and other financial assets are also hybrid since they are, on one hand, subject to profit and private expectation dynamics that guide investment. But on the other hand, these expectations are publicly managed by central bank communications and management of inflation and the currency's external value, as well as treasury deficit spending, and through financial policies that constrain or liberate the financial sector and asset markets.

Such public management (fiscal, monetary and financial) is distributional and therefore deeply political. This is widely understood for treasury spending, and politics also comes in very visibly in financial system crunch times. In crises, the Treasury and the central bank in coordination with the major commercial banks ('Big Banks and Big Government', as Minsky (1986) put it) stabilize the financial system. Recent instances of this have been the great financial crisis fallout during 2007-

2009, the eurocrisis (2010-2015) and the spring 2020 Covid lockdowns. Such interventions, e.g. asset purchase programs, and the way they are financed ex post (for instance by taxation and austerity) are clearly distributional and therefore political. But equally, also in stable times interest rate decisions and financial liberalisation policies have distributional implications by reallocating returns and wealth between asset owners and workers (Kappes and Rochon, 2025). For all these reasons, money and finance are hybrid, private-public constructs.

If these are four key features of money and finance, in what macroeconomic process do they find expression, so that they can have impacts such as macrofinancial slippage? This process is the macrofinancial circuit.

5. Money and finance in the macrofinancial circuit

We add structure to the four features of money and finance by embedding them in a financial-monetary circuit in the post-Keynesian tradition. Keynes (1933) and Kalecki (1943) envisioned a monetary production economy, a view developed into circuit theory by Graziani (1989; 2003), Parguez (e.g. Parguez and Seccareccia, 2000), Schmitt (1972; 1984) and others. The Keynes-Schumpeter-Minsky macrofinancial circuit is widely used in both institutional and formal analyses (see e.g. Dosi et al, 2010; Mazzucato and Wray, 2015; Burlamaqui 2015; Bertocco and Kalajzic 2024; Botta et al, 2024; Rossi 2025).

The concept of a macroeconomic circuit is grounded in the Physiocrats' depiction of the macroeconomy and intimately connected to Schumpeter's (1934) approach to the economy as a circular flow. The Keynesian circuit is that expectations and money creation lead aggregate business investment, which (jointly with public spending) creates the aggregate demand, via wages and consumption, for aggregate profit levels that animate the capitalist economy, shaping expectations in the next round of this circular flow. Or, moving backwards in this sequence, profit in aggregate is driven by private and public investment; aggregate private investment results from economy-wide expectations – Keynes' 'state of confidence' - regarding effective demand (the level of future sales). These expectations about money profits are not random; they are carefully managed by central banks and governments.

This causal, temporal sequence (from expectations to investment, employment and wages, then onto consumption out of wages, creating profit and more consumption, leading to new expectations), is the Keynesian 'investment theory of the business cycle' (Minsky, 1975). Minsky (a student of Schumpeter at Harvard) added to this the 'financial theory of investment' which brings in many Schumpeterian elements (Mehrling, 1999). Minsky observed that in this monetary circuit, money and finance are positioned in between expectations (which shape liquidity preference and therefore borrowing and asset trade) and investment. Investment can be financed internally, depending on liquidity preference which allows retained profit to be committed to illiquid investments; and it can be financed externally, from bank borrowing and the issuing of bonds and equity, depending on investors' liquidity preferences.

In this monetary circuit with finance and balance sheet included, the four key features of money and finance are expressed and have impact. Figure 3 provides an overview. This prepares the ground to examine in the next section how each of these features helps explain macrofinancial slippage. It also serves to highlight its political nature (part of hybridity) and the key role of asset prices in the process.

Figure 3: Four features of money and finance in the financial-monetary circuit

Features of money and finance	***How they appear in the financial and monetary circuit***
endogenous	Money and near-moneys are created and destroyed as contracts between financial and nonfinancial actors. This accommodates the state of confidence, given financial technology. It shapes asset yields and long interest rates. Reserves accommodate financial actors' need to settle. Creation and destruction of money and near moneys increases and decreases asset values and so the state of confidence.
hierarchical, dynamic	There is a tiered asset hierarchy of reserves, money and tradable assets. All tiers, especially tradable assets, contract and expand with the state of confidence, given financial (de)regulation. This creates and destroys demand for (near-)money and new assets (financial innovation). Both require growth and contraction of debt and other liabilities. Reserves expansion is accommodative.
hybrid	Effective demand is managed by the Treasury.

(public/ private)	Yields and asset prices are managed by the central bank, through interest policy, reserve accommodation, asset purchases, collateral frameworks and management of expectations.

Source: author's own.

Much of Figure 3 will be self-explanatory at this stage of the exposition. We now link macrofinancial slippage (section 2) to the nature of money and finance as endogenous, hierarchical, dynamic and hybrid (section 4), as expressed in the macrofinancial process (Figure 3). First we do this generically in this section, then specifically in four macrofinancial processes, in the next section.

To highlight the central role of asset markets in this, let us move again through the monetary circuit, now concentrating on its financial-sector mechanics. This starts with banks and central banks creating the liquidity that supports asset values in financial markets (Murau and Pforr, 2020), in pervasive interdependence with these markets in 'market-based banking' (Hardie and Howarth 2012) and with monetary policies hinging on repo transactions and asset purchase programs (Gabor, 2016; Gorton and Metrick 2012). Some of the new liquidity comes as bank loans and Treasury spending that directly supports goods and services transactions. But most liquidity first and foremost supports financial asset volumes and values, which may or may not stimulate business investment into the productive process. Sources of liquidity for business investment include markets (or 'final finance', in circuit theory terms), retained profit and bank lending ('initial finance', in circuit theory).

The endogeneity of money creation implies that this liquidity by itself does not cause business investment, contra the F.A.L.S.E assumption; that would be 'pushing on a string'. Market finance, profit and bank lending may all be bottlenecks to real investment, but they cannot by themselves cause real investment. Instead, private investment is driven by the state of confidence ('sentiment') which shapes expectations and the inducement to invest. That is, liquidity creation and expansion of finance (growth in assets and liabilities) may be exclusively tied to financial asset markets and *move without necessary connection to productive investment*. In this way, the potential for macrofinancial slippage is located in the system's ability to generate ex nihilo liquidity through liability creation, in order for the liquidity to be used in asset purchases.

Therefore asset markets are central in understanding macrofinancial slippage; recall that most of the growth in net wealth beyond saving is capital gains, i.e. increase in asset values (Figure 1). To understand macrofinancial slippage requires understanding the creation of capital gains. This is because modern capitalism is a 'two-price' system (Minsky 1975) where financial asset prices drive

the dynamics as much as goods prices do. The two are not neatly separated. Profit feeds into yields and asset prices, which are therefore viewed as indicators of the economy's health, and are the basis for private investor sentiment. But in reality (and contra textbook asset pricing models), asset prices are not determined by profitability. As just discussed, any liquidity flowing into asset markets will increase asset prices (see also Toporowski 2000; 2010; Gabaix and Koijen, 2021) – be it as bank loans, pension savings, or foreign inflows.

Note how this connects to the Schumpeter-Keynes-Minsky analysis. The overriding Keynesian concern was the inherent tendency to hoarding and spending declines due to leakage of purchasing power as saving - either business saving through lower wages and higher profit distribution, or household saving. Minsky's concern on the other hand was the inherent tendency to financial instability during tranquil episodes, which would derail expectations and undermine investment. The key concern in the present paper is grounded in both theories; it is the accumulation of liquidity into assets. Macrofinancial slippage is Keynesian 'hoarding' again, now in pursuit of capital gains. It is also another implication of the Minskyan concern: the asset boom that may lead to instability is in fact macrofinancial slippage, but it has become a permanent feature rather than episodic.

In summary, while capitalism is often said to be driven by the pursuit of profit, in the macrofinancial circuit the linking pin between 'macro' and 'finance' is private investment in pursuit of *total returns*, not profit. The difference is capital gains. Private finance leads macroeconomic dynamics (investment, profit, employment and output), but private finance itself follows total returns: dividends, interest and, notably, capital gains. Capital gains are driven by liquidity and balance-sheet dynamics rather than businesses' profit and loss statements. Public policy, by central banks and treasuries, comes in at every step and it shapes capital gains as much as effective demand. Previewing the more detailed explanation of macrofinancial slippage in the next section, it follows that when policy allows or supports the process of liquidity creation for asset markets, macrofinancial slippage must necessarily be the result. The monetary production economy, then, really is a monetary-and-financial production economy. Its path is determined in its capital account as much as in the current account.

6. Explaining macrofinancial slippage

Beyond this generic account centered on asset markets, the features of money and finance (and given financial liberalisation and its supporting policies), lead to four processes that cause macrofinancial slippage. Figure 4, extending Figure 3, privies a summary.

First, there is an innate tendency for finance to expand on its own, rather than a tendency to stability, or expansion based on nonfinancial business productivity or profit (as implied in the F.A.L.S.E. framework). Second, this expansion has a built-in tendency to outgrow spending, rather than being randomly smaller, larger or equal to spending. This already is macrofinancial slippage. The process then calls forth two more developments which lock in more macrofinancial slippage. Third, in the process the complexity of the financial sector necessarily increases. This hinders investment and it fosters more hoarding. And fourth, expanding financial markets and rising financial fragilities invite Treasury and central bank policies that stimulate more macrofinancial slippage. Below I consider each of these four processes in turn.

At the heart of this explanation of macrofinancial slippage is Minsky's contribution. His financial instability hypothesis is well-known, but as noted this paper's central point is that Minsky's theory also implies secular expansion of financial assets and liabilities, beyond spending. And while Minsky's warnings for financial instability are well-recognized in Post-Keynesian macrofinance, their grounding in fundamental features of money and finance have been less developed.

Figure 4: Explaining macrofinancial slippage

How features of money and finance appear in the financial and monetary circuit	***How they explain macrofinancial slippage: four processes***
Money and near-moneys are created and destroyed as contracts between financial and nonfinancial actors. This accommodates the state of confidence, given financial technology. It shapes asset yields and long interest rates. Reserves accommodate financial actors' need to settle. Creation and destruction of money and near moneys increases and decreases asset values and so the state of confidence.	-Expansion of liquidity is driven by expectations not fundamentals. -There is a positive feedback loop between liquidity and asset values. => (1) Finance is inherently expansive.
There is a tiered asset hierarchy of reserves, money and tradable assets. All tiers, especially tradable assets, contract and expand with the state of confidence, given financial (de)regulation.	-In optimistic times, the volume and diversity of assets rise endogenously given their increasing yields and capital gains, financed by endogenous growth of (near-)money.

This creates and destroys demand for (near-)money and new assets (financial innovation). Both require growth and contraction of debt and other liabilities. Reserves expansion is accommodative.	=> (2) Liquidity and asset value growth exceed investment growth and other spending. => (3) The financial system becomes more complex so that savers and asset allocators cannot know the link, if any, to real investment.
Effective demand is managed by the Treasury. Yields and asset prices are managed by the central bank, through interest policy, reserve accommodation, asset purchases, collateral frameworks and management of expectations.	-Treasury and central bank policies encourage asset expansion in normal times and prevent their shrinking after crisis times. => (4) Each cycle starts at a higher level of debt and asset values; macrofinancial slippage is secular rather than episodic.

Source: author's own.

(1) Finance is inherently expansive. Schumpeter (1934), Minsky (1980) and Perez (2002), among others, theorized the relation between financial and real dynamics. Aggregate money investments, they explained, occurs in waves linked to technological innovations that are clustered in time due to network and scale effects, increasing profit expectations and creditworthiness. Credit creation is endogenous to perceptions of creditworthiness so that the rising returns attract financing. Next, this growth of assets and liabilities becomes self-sustaining, by generating the liquidity that increases asset valuations and financial returns, so that total returns (yields plus capital gains) rise. This validates further increases in debt and in risk-taking. During this upswing in sentiment, borrowing and risk-taking, the economy's balance sheets are travelling down the hierarchy of money as 'financial innovations', new assets and instruments, are invented and traded. At the same time, there are typically also rising real investments; financial booms also have some positive real-sector consequences.

The increase in the liquidity needed to trade a larger volume of financial assets is possible because of endogenous bank credit creation and because of the dynamics in the hierarchy of money, where non-money assets can come to function as settlement medium during bouts of optimism, expanding effective liquidity. In this way, the boom is increasingly driven by financing rather than by money proper, let alone real factors (Minsky, 1986, chapter XX). This may set off a dynamic of rising asset prices and rising private creation of financial assets and liabilities (including debt growth) but not necessarily rising investment. Saving by high-income households out of distributed profit and other

capital income may create a positive feedback loop from the growth of finance to the growth of finance, fueled by capital gains.

Of course, the process requires that public policies allow this to happen. As returns rise in the boom, the pressure increases to enact and implement financial liberalisation policies allowing and encouraging more debt creation (e.g., by removing interest ceilings and geographical barriers to banking). This in turn invites financial 'innovations' that expand financial liquidity, by making more assets tradable (e.g. in securitisation) and by creating new money substitutes (e.g. in repurchase operations).

(2) Financial investments outstrip real investment. This throws up the question why growth of finance does not translate into corresponding growth of money spent on real investment and, more broadly, spending on goods and services? If it did, macrofinancial slippage would not occur. Yet recall that the economy is a 'two price' system (Minsky 1975) of asset prices which drive financial markets, and output prices which shape goods and services markets. The monetary nature of capitalism implies that investors pursue monetary total returns. Whether the returns are based on productivity growth and profit, or on capital gains made possible by increased borrowing, is not something the investor can know –especially not in large, liquid and impersonal markets. Thus, there is no reason why financial investments should move in sync with real-sector investment and productivity gains.

In fact, there are compelling reasons why liquidity, both savings and money creation, would be re-invested in the financial and property markets, rather than into capital goods investments leading to productivity gains. One reason is that self-propelled financial investment will soon outgrow the economy's capacity to absorb finance productively; the 'instability of capitalism is upward', i.e. expansionary (Minsky 1980). There is only so much additional demand for output even with vigorous advertising. There are limits to the availability of inputs. Also, production is a time-consuming process with modest returns. Production will run up against these limits in a boom.

But in contrast, there is no reason why financial investments, generated by borrowing in expectations of high returns, would falter. If productive investment opportunities diminish, they will start flowing into real estate and financial markets, the only alternative to investment in productive capital goods. Here the expected total returns can be realized since, unlike in production processes, there are no limits to how fast and how high asset prices can rise. That this happens is not accidental but built into the process: optimistic expectations that are expressed in endogenous liquidity creation lead to rising asset prices.

This leads to financial investments that do not produce profit cash flows from which the debt and equity liabilities can be served. The result of this dynamic is Minsky' famous Financial Instability Hypothesis, which explains why instability is no accident but inherent in capitalism. But equally, this dynamic is an explanation of the inherent rise of finance for non-productive investment, or macrofinancial slippage.

The divergence is further increased because the rate of real investment is likely to fall over time, since investors compare the returns on real investments against the return on financial investments, and allocate liquidity accordingly. This is not incompatible with low interest rates. In Keynes' framework, (1936, ch 12), low interest rates (yield) imply more investment and less 'hoarding'. But adding capital gains into the equation brings in the Keynesian logic on asset pricing. Among the factors driving an asset's 'own rate of return' (Keynes 1936, ch 17) are valuation changes (i.e. capital gains and losses). This makes it entirely possible that total returns on (leveraged) 'hoarding' may be the more attractive option when borrowing rates are low and asset markets extensive. Translated to today's capital-gains economy, the Keynesian logic in fact implies macrofinancial slippage.

(3) There is rising complexity. There is a third implication that helps explain macrofinancial slippage, this time about the ecology of the financial system. Historically, as 'assetisation' (Birch and Muniesa 2020) dynamics gathered pace, producing macrofinancial slippage, financial markets have become increasingly complex (Bookstaber 2007). Also this is no accident. Financial complexity is implied in the process of increasing financial investments beyond productive investment. As issues in 'plain vanilla' share markets and corporate bond markets are not large enough to absorb the self-sustaining flow of liquidity driven by return expectations, this evokes new investible asset classes, such as funds of funds, derivatives, securitized loans and other new financial instruments.

The result is an increasingly complex system where no single actor can link savings to what they finance (Braun and Koddenbrock 2022:8). This undermines attempts by savers (and institutional investors acting on behalf of savers) to 'engage' with asset allocators and investors. Typically the engagement officer can see no further than the financial investment. The real investment (if any) remains hidden behind the complexity of the financial value chain, and so does the investment's impact, or lack of impact (Arjaliès et al 2017).

So while the sheer quantity of finance already indicates that this cannot possibly lead to comparable expansions of investment, another reason why this cannot be ascertained is complexity. In addition to the innate quantitative expansion of finance, its increasing complexity

makes it more likely that macrofinancial slippage occurs. Increasingly, finance comes to finance finance.

It is generically attractive to recycle savings multiple times within the global financial ecosystem, driving up the credit intermediation index (Greenwood and Scharfstein 2013), for a number of reasons. These include profit from securitisation and collateralisation, risk management by slicing and dicing, the operations of funds of funds, and transactions-based remuneration policies. These are all part of the logic of financial profit generation which bear no relation to real-sector investment.

There are positive feedbacks between complexity and macrofinancial slippage. At the point of finance mobilisation - say, as workers pay pension contributions – the fiction of direct correspondence between the new assets and their real-sector impacts (the F.A.L.S.E. assumption) must be upheld if pension funds are to credibly pose as sustainable investors. Macrofinancial slippage so requires a narrative that obfuscates it, so that investment can still be rationalized in terms of material impacts (perhaps even sustainability-enhancing impacts). It is then helpful if an instrument is more complex, or part of a more complex environment, so that the narrative cannot be dispelled so easily. It is harder to ascertain the final use of more complex products or chains of investment vehicles.

And so the narrative around a financial instrument (such as a pension claim) refers to its presumed real-sector uses, even as on the system level it becomes increasingly unlikely that the rising volume of global finance can in fact be absorbed in the real sector, and even as the complexity of instruments and markets makes it ever harder to even know. Going beyond obfuscation, even fraud is inherent in every financial boom, as Black (2005) has documented, and 'innocent frauds' – a system's consensus beliefs which, even though untrue, support the system – are pervasive (Galbraith 2004). All business schools teach that finance supports investment and productivity, and that invested money must axiomatically find its way to the real sector, ultimately. In doing so, they all embrace the F.A.L.S.E. assumption, perhaps unwittingly but not coincidentally. For it is the F.A.L.S.E. assumption that lends coherence to what otherwise is a contradictory system. Each new financial product is launched with reference to profit, production, health, sustainability and other good real-sector outcomes. The bigger the boom, the more enthusiastic such innocent frauds are embraced. This makes sense: the need to do so is larger, the more macrofinancial slippage there is. The opportunity to do is also larger, the more market complexity there is; and the two go hand in

hand. Markets are not always in a boom, but complexity supported by innocent frauds tends to persist from one cycle to the next.

(4) Public finance becomes aligned to private finance and reinforces its growth and complexity. Finally, in addition to finance's (1) inherent expansion tendency (2) beyond real investment growth and (3) with increasing complexity, a fourth part of the explanation of macrofinancial slippage is the hybrid nature of money. Not only private parties create money and near-monies; also treasuries and central banks do. In the F.A.L.S.E. assumption, it is as if investment spending is fully done by the private sector. In reality, public deficit spending is a sizeable contribution to investment and to its profitability (e.g. Kelton 2020). Treasuries may or may not spend sufficiently into the real sector to maintain real investment levels. This is not only about public investment creating physical and legal infrastructures that support markets (though also that). It is also the case that aggregate private investments are spurred by expected profits which are supported by public spending, per Kalecki (1943) and Keynes (1936). Private profitability is not determined by private investment only. Aggregate profit results from aggregate (public and private) spending, with private investment resulting from expected effective demand, supported by public spending.

The implication is that private finance may be impotent to effect investment if public spending falls short of the level required to maintain profit expectations. This is a quantitative problem of sufficient public spending to monetize profit, but also a qualitative challenge of creating and maintaining stable profit expectations – e.g. by formulating long-term strategic investment programs (Mazzucato 2014; Mazzucato and Wray 2015). If public finance is aligned to private investor demand for austerity and for asset market support, then in both ways, it reinforces macrofinancial slippage.

In addition to this monetary (spending) argument, there is also a financial (balance sheet) side to the role of public spending. The balance sheets of public (fiscal) and semi-public (e.g. development banks) institutions form the architecture that enables spending, risk management, and the crowding in of private funds. That capitalism is both monetary and financial capitalism, and that money and finance are hybrid (both public and private), is apparent in the large role that the balance sheets of states and their 'off-balance sheet fiscal agencies' (OBFAs) play in the implementation of targeted spending (Murau et al, 2023).

Conversely, lack of fiscal spending and absence of public balance sheets and OBFAs in public policy arenas helps explain why the self-sustained creation of privately owned assets and liabilities may

not (or not proportionally) result in private investment expenditures. The public balance sheet may also aid macrofinancial slippage, by adopting corporate liabilities (such as bonds and ABS) as collateral in monetary policy operations. Central banks' demand so makes the liabilities more liquid and their creation more attractive, expanding the hierarchy of money and supporting market sentiment about financial investments (Van 't Klooster 2022) – without necessarily doing much for real capital good investments.

With larger and more fragile financial markets, this role for the central banks tends to become permanent. Minsky (1978) explained how the interplay of sentiment, leverage, financial innovations, and public interventions imply an innate tendency to financial instability in economies with sophisticated financial markets. Fragility is then the rationale for central bank policies to target interest rates, liquidity, asset prices and returns through repo transactions and quantitative easing and tightening, in a bid to maintain positive sentiment and thereby financial stability. Provided that financial liquidity is free to expand and flow (i.e. provided financial markets are liberalized, and that money creation is endogenous), this may quell instability amidst plentiful liquidity. But the snag is that if successful, the money hierarchy implies that this policy attracts new private-sector liquidity (bank lending, dividends, business and household saving into financial markets, without necessarily much benefit to investment.

In sum, savers' funds or new loans may go into the financial ecosystem earmarked for spending, for instance by pension funds pursuing ESG-consistent outcomes. But at the point where actual investment decisions are made, the absence of state spending and hospitable public balance sheets and the liquidity support of central bank balance sheets, may prevent the translation of such assets and liabilities into investment expenditures. Instead, there is nothing to prevent the finance to be 'reinvested' in the financial ecology. The result is increasing financial complexity and macrofinancial slippage.

Here, then, are four reasons why macrofinancial slippage is a logical outcome of the macrofinancial process. Note how the features of money and finance are preconditions for these processes to occur. If money was not endogenous, then its volume could not expand in response to changing private sector expectations. If money was not dynamic, changing qualitatively over time, all the liquidity expansion and contraction would have to be in currency and deposit money, without involvement of nonbank financial intermediaries and with large international barriers between currencies. This is unthinkable. Central bank and commercial bank balance sheets with only money and reserves on them only could never support the kind of dynamics that we see in a world where

money and finance are, in fact, qualitatively dynamic. Rising complexity also is impossible without qualitative dynamism in asset markets.

Third, if money and finance were not hierarchical, there would not be the option for monetary policymakers to flood the system with 'safe haven' highly liquid assets to calm it, and maintain macrofinancial slippage. Finally, if money was not hybrid, there was no role for Treasuries and central banks to encourage financial expansions without investment expansions - for instance by quantitative easing and by making corporate repo positions into near-money by lowering the bar in central banks collateral frameworks (Buessing-Loercks et al., 2020).

In these ways, macrofinancial slippage continually transforms the pursuit of profit from operations in a monetary production economy into the pursuit of capital gains on assets in a financialized monetary production economy. Macrofinancial slippage is not an unfortunate byproduct of unwise policies, just as financialisation is not an aberration but a logical outcome of unrestrained financial capitalism (Botta et al 2024).

7. Summary, reflections and future work

This paper started with the dominant narrative on the role of finance in social and economic development. It compiled and surveyed evidence that questions the narrative, on 'macrofinancial slippage': the growth of assets and liabilities in excess of the growth in economic activity and saving. The paper offered an explanation of the curious neglect of macrofinancial slippage. Financial development is conventionally viewed as mobilizing money in a world where scarce private finance is a bottleneck in socio-economic development. But there is weak evidence for the assumption that more private finance implies more money for real investment leading to real (as distinct from financial) change. This assumption is grounded theoretically in textbook macroeconomics and empirically in finance-and-growth regression analysis.

An alternative framework was developed, based on four fundamental features of money and finance in the Schumpeter-Keynes-Minsky view of the economy as a monetary-financial circuit, a circular-flow system of balance sheets evolving in historical time. Capitalism is monetary and financial capitalism and money is endogenous, hierarchical, dynamic and hybrid. Tracing the consequences in the context of the post-Keynesian financial-monetary circuit, four process were identified that jointly lead to and lock in macrofinancial slippage: an innate tendency for finance to expand: a tendency for this expansion to go beyond the spending that it is supposed to support;

growing complexity of the financial sector; and Treasury and central bank policies that stimulate more macrofinancial slippage.

It follows that more finance does not as a rule lead to more investment. Its dynamics do not necessarily follow the economy's fundamentals. The bottleneck problem is not a finance gap. There is plausibly too much rather than too little private finance. Combined with insufficient public investment and balance sheet space to enable private profit and investment, this leads to macrofinancial slippage.

As noted in the Introduction, this explanation is at a high level of generality. It abstracts from institutional and political-economy specifics, which must add flesh on the bones in any real-world application of the theory offered here. The explanation is also to a degree a-historical, even though its domain of application was restricted to financialized capitalism since the 1970s. Again, any application to specific instances and episodes of macrofinancial slippage must take into account how different the growth of global growth of assets and liabilities was in, say, the pre-2008 years compare to the era of quantitative easing since about 2014.

The paper invites scrutiny of the concrete forms in which assets and liabilities increase beyond spending growth. Here one promising avenue is to explore the role of capital gains, which constitute the larger part of the growth of assets over time (Figure 1). This raises questions on how to observe and measure capital gains, what the drivers of capital gains are, where they accumulate, and how they matter to macroeconomic outcomes such as productivity, investment and inequality.

This analysis suggests several policy implications. Actual bottleneck factors in socio-economic development are unlikely to be insufficient saving or financial markets that are not deep enough, as is commonly thought. In a world of endogenous money, supportive public finance, stable long-term expectations and solutions to coordination problems are likely to induce investment and innovation. In an economy that is a system of hierarchical and dynamic balance sheets, macrofinancial slippage is plausibly curtailed by aligning control over financial expansion with control over investment. Institutionally, this calls for shorter intermediation chains as well as on- and off-balance sheet public finance, crowding in private resources. These implications suggest novel research questions in corporate finance and sustainable finance.

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