Routledge
Taylor & Francis Group

Review of Political Economy

ISSN: 0953-8259 (Print) 1465-3982 (Online) Journal homepage: www.tandfonline.com/journals/crpe20

Keynes, Graziani, and Non-Bank Financial Intermediaries: A Stock-Flow Consistent Analysis

Rosa Canelli, Giuseppe Fontana, Riccardo Realfonzo & Marco Veronese Passarella

To cite this article: Rosa Canelli, Giuseppe Fontana, Riccardo Realfonzo & Marco Veronese Passarella (08 Jan 2026): Keynes, Graziani, and Non-Bank Financial Intermediaries: A Stock-Flow Consistent Analysis, Review of Political Economy, DOI: 10.1080/09538259.2025.2601163

To link to this article: https://doi.org/10.1080/09538259.2025.2601163

Published online: 08 Jan 2026.

REVIEW OF POLITICAL ECONOMY
https://doi.org/10.1080/09538259.2025.2601163

Routledge
Taylor & Francis Group

Keynes, Graziani, and Non-Bank Financial Intermediaries: A Stock-Flow Consistent Analysis

Rosa Canelli [a], Giuseppe Fontana [a,b], Riccardo Realfonzo [a] and Marco Veronese Passarella [b,c]

[a]DEMM, Università del Sannio, Benevento, Italy; [b]Economics, LUBS, University of Leeds, Leeds, United Kingdom; [c]University of L'Aquila, L'Aquila, Italy

ABSTRACT

This paper investigates the macroeconomic and distributive implications of Non-Bank Financial Intermediaries (NBFIs) in modern monetary economies. Building on Keynes's Monetary Theory of Production and Graziani's Monetary Circuit Theory, and embedding them within a Stock–Flow Consistent (SFC) framework, the paper focuses on a specific segment of the NBFIs, namely those institutions– such as consumer finance and car-leasing companies– whose lending activities rely primarily on short-term funding. The Financial Stability Board, which classifies NBFIs by their economic functions, has labelled those institutions Economic Function 2 (or EF2). Although EF2 does not create money, as commercial banks do, it nonetheless influences both the channel of creation of money and the channel of circulation and destruction of money within modern economies. The model simulation across alternative scenarios shows that EF2 can support production and employment in the short run, yet tends to exacerbate income and wealth inequality over time.

ARTICLE HISTORY
Received 12 November 2025
Accepted 2 December 2025

KEYWORDS
Economic function 2; non-bank financial intermediaries; monetary circuit theory; post Keynesian economics; Keynes

JEL CODES
E12; E44; G23

1. Introduction

Since the collapse of Lehman Brothers, Non-Bank Financial Intermediaries (NBFIs), formerly referred to as the shadow banking system, have attracted renewed attention from academics and international institutions for their central role in the 2007–2008 global financial crisis. Over the past two decades, NBFIs have further expanded in size and scope, reshaping the functioning of the real economy through their intricate connections with commercial banks, households, and firms.

Building on Keynes's Monetary Theory of Production (MTP) and Graziani's Monetary Circuit Theory (MCT), this paper examines the role of NBFIs in modern monetary economies through a Stock-Flow Consistent (SFC) methodology. The analysis seeks to clarify the mechanisms through which the rise of NBFIs has altered the money supply

CONTACT Giuseppe Fontana g.fontana@lubs.leeds.ac.uk Economics, Leeds University Business School (LUBS), University of Leeds, Leeds, LS2 9JT, UK; Università del Sannio, Benevento, 82100, Italy

process, and how these transformations affect output, distribution, and financial stability. For simplicity, the model focuses on one specific segment of the NBFIs, namely those institutions — such as consumer finance and car leasing companies — whose lending activities rely primarily on short-term funding. According to the Financial Stability Board (FSB 2015, 2020), which classifies NBFIs by their economic functions, these institutions are grouped under the label Economic Function 2 (EF2). Following Canelli, Fontana, and Realfonzo (2025), EF2 does not create money, as commercial banks do, and yet it influences both the channel of creation of money and the channel of circulation and destruction of money within modern economies . By integrating Keynes's and Graziani's theoretical insights with the SFC methodology, the paper contributes to the understanding of how the growing prominence of EF2 shapes the macroeconomic and distributive dynamics in modern economies.

The remainder of the paper is structured as follows. Section Two revisits the theoretical foundations of Keynes's and Graziani's approaches to money and production. Section Three and Section Four present the core structure of the SFC model and its behavioural equations, respectively, emphasising the interactions among commercial banks, EF2, firms, and the two distinct household groups of workers and rentiers. Section Five presents and discusses the simulation results under three alternative scenarios. Finally, Section Six concludes.

2. Theoretical Foundations

2.1. Keynes's Monetary Theory of Production[1]

In October 1932, Keynes began the Michaelmas term at King's College, Cambridge (UK), introducing a new title for his lectures: 'The Monetary Theory of Production'. Around the same period, he also employed the expression as the title of a short essay to a Festschrift for Arthur Spiethoff (Keynes 1933). In that paper, Keynes set out a fundamental distinction between a real-exchange economy and a monetary economy. The key difference, he argued, lies in the fact that only in the latter money performs an essential and active role in determining the overall levels of output and employment. The failure to grasp this non-neutral character of money, according to Keynes, underlies many of the shortcomings of the economics discipline of his time. Specifically, the inability of economics to provide convincing explanations or remedies for phenomena such as economic crises stem from the absence of a coherent analytical framework for a truly monetary economy.

> In my opinion the main reason why the problem of crises is unsolved, or at any rate why this theory is so unsatisfactory, is to be found in the lack of what might be termed *a monetary theory of production*. … An economy, which uses money but uses it merely as a neutral link between transactions in real things and real assets and does not allow it to enter into motives or decisions, might be called … a real exchange economy. The theory which I desiderate would deal, in contradistinction to this, with an economy in which money plays a part of its own and affects motives and decisions and is, in short, one of the operative factors in the situation, so that the course of events cannot be predicted, either in the long period or in the short, without a knowledge of the behaviour of money between the first state

[1]This section draws on Fontana and Realfonzo (2005, Introduction).

> and the last. And it is this which we ought to mean when we speak of *a monetary economy*. (Keynes 1933, pp. 408–409; italics in original)

A similar argument about a Monetary Theory of Production reappears in the surviving early drafts of *The General Theory of Employment, Interest and Money* (Keynes 1979; see also Robertson 1926). There, Keynes elaborated his critique of the classical theory by contrasting three conceptual representations of the economic system: a 'real-wage economy', a 'neutral economy', and a 'money-wage economy' (Realfonzo 1998, Ch. 6; Fontana and Gerrard 2002). A 'real-wage economy' corresponds to a barter system in which factors of production are remunerated through the physical allocation of the joint product of their labour. It is, in this sense, a cooperative economy, with distribution taking place in real terms. If, however, factors receive payment in monetary units rather than in kind, but money remains merely a tool for convenience in exchange, the resulting framework constitutes what Keynes called a 'neutral economy'. In such a setting, the introduction of money does not fundamentally alter behaviours or outcomes: the system functions, in effect, as if it were a barter economy.

Keynes dismissed both theoretical constructs as inadequate for analysing modern capitalist economies. He instead proposed that analysis should focus on what he termed a 'money-wage economy', an economy in which money is constitutive of the production (and exchange) process itself. Drawing on a revealing observation by Karl Marx, Keynes distinguished between two archetypal economic circuits: the *C-M-C* (commodities-money-commodities) and the *M-C-M′* (money-commodities-money) sequences (Keynes, 1979, p. 81). The former, characteristic of a barter or neutral economy, depicts money as a passive intermediary facilitating the exchange of commodities. The latter, by contrast, reflects the logic of a monetary economy, in which production begins and ends with money. In the *M-C-M′* sequence, firms must first obtain finance (bank loans) to initiate the production process, and the entire process is carried out with the explicit aim of generating a monetary surplus (Graziani 1997; see also Bellofiore and Realfonzo 2003).

In the *M-C-M′* economy, the allocation of resources is subordinate to monetary objectives. The production process is a means to an end defined in monetary terms. This conception, Keynes argued, provides a far more realistic depiction of the modern economic system. In a 'money-wage economy', entrepreneurs hire factors of production, above all labour, by offering a money income. Yet there is no automatic mechanism ensuring that the aggregate purchasing power of these money incomes equals the total real value that would correspond to the factors' notional share in a barter economy (Keynes, 1979, p. 78). The divergence between the two arises from fluctuations in effective demand, which become the primary determinant of output and employment levels. Hence Keynes's call for an analytical framework, a MTP, in which money influences behaviours and outcomes throughout the economic process, both in the short and long run.

2.2. Graziani's Monetary Circuit Theory

One of the foremost interpreters of Keynes's *Monetary Theory of Production* was Augusto Graziani [Naples (Italy), 1933–2014]. It is no coincidence that his magnum opus bears the very same title, *The Monetary Theory of Production* (Graziani 2003). Graziani situates Keynes's writings, from the *Treatise on Money* (1930) to *The General Theory* (1936) and

his subsequent post-1937 articles, within a broader intellectual tradition of 'monetary production' economics, unified by the view that money governs the processes of production and accumulation in modern capitalist economies (Fontana and Realfonzo 2005; Veronese Passarella 2017). Within this tradition, Graziani regarded the works of Knut Wicksell and Joseph A. Schumpeter as foundational (Bellofiore 2019). Wicksell (1898) demonstrated that, in a pure credit economy, money is created endogenously by commercial banks when they grant loans to firms and is destroyed when those loans are repaid (Fontana 2007). A few years later, in *The Theory of Economic Development* (1912), Schumpeter similarly argued that banks create money *ex nihilo* by extending credit to entrepreneurs to finance innovations (Realfonzo, 1998, Ch. 6).

Drawing on this broader tradition of 'monetary production' economics, Graziani (1987, 1989, 2003; see also Parguez 1975; Rochon and Seccareccia 2013) developed what became known as the Monetary Circuit Theory. At the core of this framework lies the methodological choice to represent the economy as composed of a few macroeconomic agents, namely firms, commercial banks (banks for short), and households (or workers), each defined by its functional role within the process of production and exchange (Canelli, Fontana, and Realfonzo 2025). Firms produce goods and services and require finance to start the production process. Banks create money through their lending activities. Households supply work and decide how to allocate their wages between consumption and savings. The MCT also adopts a sequential perspective, in which each stage of production and exchange corresponds to a specific monetary flow, beginning with the creation of bank loans and ending with its repayment. Figure 1 below shows the simplest representation of the MCT in a pure credit economy.

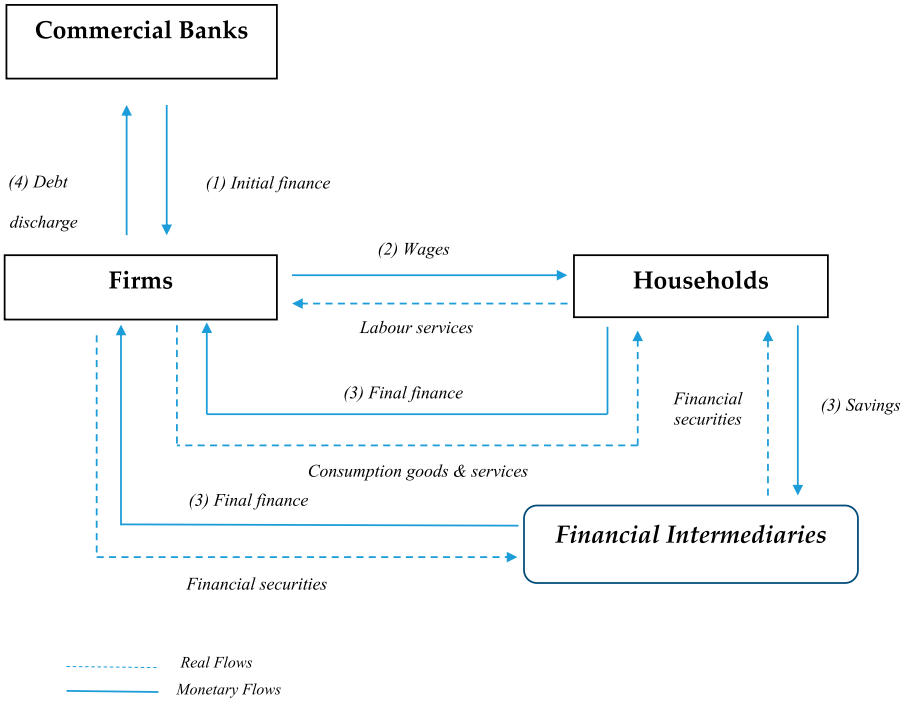

Figure 1. Traditional monetary circuit. Source: Authors' elaboration.

The monetary circuit begins when banks create money *ex nihilo* and provide firms with the so-called *initial finance* needed to start production (stage 1). Disregarding internal transactions among producers, firms then use this entire initial finance to hire households, who receive money in the form of nominal wages (stage 2). Once production is completed, households can choose to allocate their wages either to consumption (of goods and services) or to savings (stage 3), with savings taking the form of liquidity held in bank deposits or investments in financial assets. If households spend all their wages on goods and services and financial assets, so that no portion remains idle in bank deposits, firms are able to recover the entirety of the money initially created, known as *final finance*, and use it to repay their bank loans (stage 4).

As illustrated in Figure 1, within the Monetary Circuit Theory framework, money is created endogenously by banks and extinguished when loans are repaid. The levels of production and employment are determined by firms, while income distribution reflects the relative bargaining power of economic agents and their access to bank loans. Furthermore, the credit market, where banks provide the initial finance necessary to initiate production, is analytically distinct from the financial market, which channels household savings and, together with the goods and services market, supplies firms with the final finance needed to reimburse banks for their initial loans, and hence close the monetary circuit. At this stage, it is also worth emphasising that although money creation is demand-driven, banks accommodate lending requests only from creditworthy borrowers. Therefore, the endogeneity of the money supply operates within institutional and behavioural constraints, most notably the structure of banking competition, regulatory frameworks, and banks' assessment of creditworthiness and expectations regarding loan repayment.

2.3. Modern 'Monetary Production' Analyses of NBFIs

One of the most recent developments within the tradition of MTP has been the application of the MCT concepts of initial finance and final finance (or flux and reflux of money) to the analysis of financialisation, that is the growing influence of financial institutions and markets in the workings of modern economies. Financialisation has emphasised the monetary nature of capitalist economies. Therefore, many scholars thought that Graziani's analysis of the process of creation, circulation and destruction of money represented a sound starting point to study the evolving nature and function of the so-called shadow banking system or Non-Bank Financial Institutions in modern financialised economies.

For instance, Botta, Caverzasi, and Tori (2015, 2020, 2025) and Caverzasi, Botta, and Capelli (2019) draw a clear distinction between a 'real-economy circuit' and a 'financial-economy circuit'. In the former, as originally formalised in Graziani's MCT, the essential relation is between money and production. Money is created *ex nihilo* by commercial banks to finance the production of goods and services by firms. Money then circulates, through the labour market, the commodities market, and the traditional financial market (see Figure 1), among firms, households, and banks, before being destroyed once firms repay their debts. By contrast, those authors argue that the structural transformation of financial systems over the past four decades has profoundly altered this mechanism. The creation of money is now mainly channelled towards households (via

consumer credit) and financial institutions rather than (productive) firms. The result is a 'financial-economy circuit' that operates largely independently of the real economy. Within this circuit, money circulates through an intricate web of NBFIs, such as Special Purpose Vehicles (SPVs), Money Market Funds (MMFs), brokers, and dealers, financing the trade, securitisation, and accumulation of financial assets rather than the production of goods and services.

On the distinction between a 'real-economy circuit' and a 'financial-economy circuit', Veronese Passarella (2024) issues an important warning. The MCT should not be interpreted as a simplified description of a pre-financialised manufacturing economy, but rather as an abstract theoretical framework designed to capture the essential and dominant social relations underpinning capitalism. From this perspective, bank loans extended to firms for wage payments differ fundamentally from bank loans granted to households or financial intermediaries. The former are logically indispensable to the functioning of a capitalist monetary economy, since they enable firms to initiate the production process. For this reason, such loans occupy a primary position in the circuit, what Graziani termed *initial finance*. By contrast, the latter play a different role. For instance, consumer credit serves to stimulate demand for goods and services and thereby assists firms in repaying their existing debts to banks. Loans to households merely allow firms to realise in monetary terms the value already created through the production process. These loans therefore belong to the final phase of the circuit, that is *final finance*, rather than its beginning. From a macroeconomic standpoint, consumer credit operates as an indirect subsidy to firms, effectively transferring part of the debt burden of the production process from firms to households.

Canelli, Fontana, and Realfonzo (2025) bridges the MCT with the contemporary monetary production analyses of NBFIs. It argues that the traditional MCT framework built around the sequence of money creation (i.e., initial finance or flux) and money destruction (i.e., final finance or reflux) remains a powerful analytical tool for understanding modern capitalism, provided that these concepts are interpreted in a broader and more flexible way. While commercial banks remain the sole creators of money, they now lend not only to firms,[2] but also to NBFIs. This expands the circuit of money creation into new, partly non-productive domains and raises questions about financial stability and regulatory oversight. Furthermore, NBFIs such as MMFs, finance companies, broker-dealers, and car leasing companies amplify the velocity and complexity of the circulation of money by intermediating savings between (themselves and) households, firms, and commercial banks. Therefore, the circuit of money destruction now refers to the process through which both firms and NBFIs repay their bank debts which were originally created to finance, respectively, the production of goods and services or complex financial operations. Figure 2 below shows a simple representation of NBFIs in an amended MCT.

Following Canelli, Fontana, and Realfonzo (2025),[3] Figure 2 shows that NBFIs make loans to firms and households, but their mode of operation differs fundamentally from that of commercial banks. Unlike banks, NBFIs do not create money *ex nihilo* but

[2]For simplicity, Canelli, Fontana, and Realfonzo (2025) ignore bank loans to households from their analysis. These will be examined in Section three below.

[3]For further analyses of the relationship between banks and NBFIs, see Michell (2017), Bouguelli (2018, 2019), Kappes (2025a,b), and Sissoko (2025a,b).

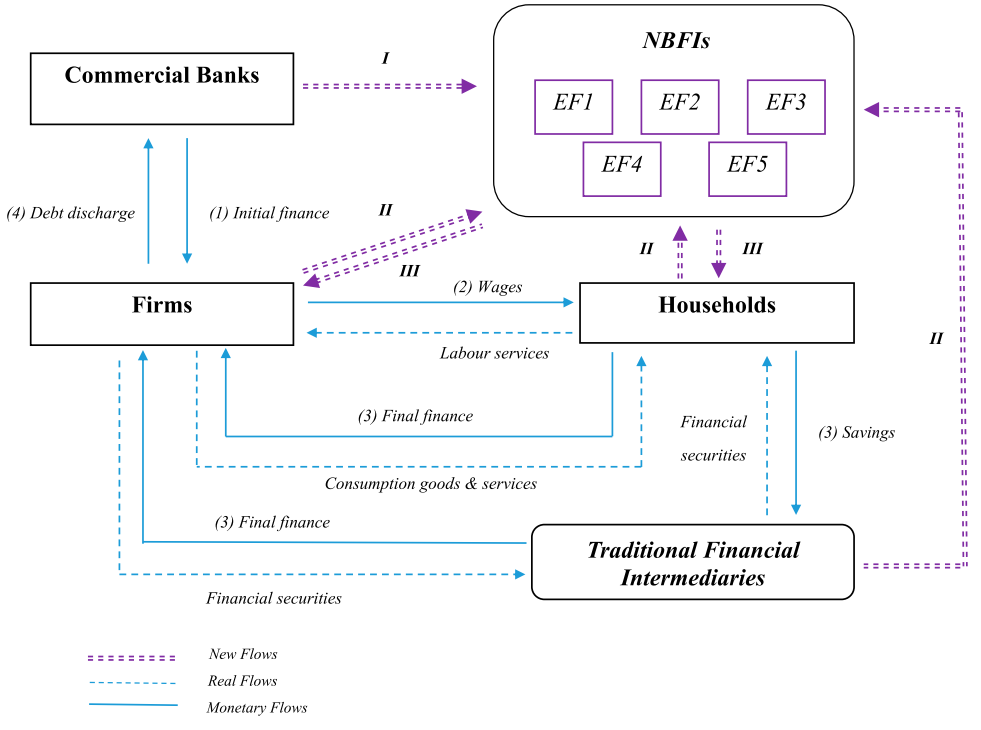

Figure 2. A simple representation of NBFIs in the monetary circuit. Source: Canelli, Fontana, and Realfonzo (2025, 8).

rather they transfer money. Consequently, before they can lend money, NBFIs must first obtain access to it. Two main and separate channels make this possible. First, NBFIs may borrow directly from commercial banks. In this case, commercial banks create new bank deposits by granting loans to NBFIs (Stage I), which subsequently transfer the newly created deposits to other borrowers (Stage III), typically firms or households that fall outside the preferred or regulated lending profiles of banks (FSB 2013). Second, NBFIs may draw upon bank deposits, that already exists within the economy, by borrowing from traditional financial intermediaries (TFIs), firms, or households (Stage II), and then transferring these deposits to firms or households (Stage III) that do not normally have direct access to commercial banks. It is worthy to note that even in this second and indirect channel, the original source of the deposits remains commercial banks, since the already existing bank deposits derive from previously made bank loans.

3. From the MTP to Stock-Flow Consistent Methodology

3.1. Why SFC Methodology?

The previous Section has shown that Keynes's Monetary Theory of Production, along with Graziani's Monetary Circuit Theory version of it, offers a powerful framework for analysing the creation, circulation, and destruction of money in modern economies. Its central insight lies in conceiving money as an endogenous variable, brought into existence *ex nihilo* by commercial banks when making loans to finance the expenditure of

creditworthy borrowers, and withdrawn from circulation once those loans are repaid. This theoretical perspective finds a natural counterpart in the analytical foundations of Godley's (1996, 1999) Stock-Flow Consistent methodology. The SFC approach can, in fact, be regarded as a dynamic, continuation period extension of the MCT, in which the endogeneity of the money supply emerges not as a theoretical postulate, but as a structural feature of the accounting system itself (Godley 2004; see also Lavoie 2004; Zezza 2004, 2012; Godley and Lavoie 2007; Veronese Passarella 2014, 2017, 2024; Sawyer and Veronese Passarella 2014, 2017).[4]

The SFC methodology offers a rigorous monetary accounting framework that enables the continuous tracking of balance sheets across all institutional sectors, including the government and the rest of the world, while ensuring that financial and real transactions remain consistent *ex post*. It provides a comprehensive and internally coherent representation of modern monetary economies by embedding every flow of income, expenditure, and financial transaction within a fully articulated system of interrelated balance sheets. At the core of this construction lies the transactions-flow matrix: each row represents a specific transaction, each column an institutional sector, and the sum of each must equal zero. This enforces the principle that every inflow to one sector corresponds to an outflow from another. Within this framework, sectoral budget constraints describe how flows of spending, income, and transfers systematically translate into changes in the stocks of financial assets and liabilities (Godley and Lavoie 2007).

The SFC methodology thus provides modern theoretical analyses grounded on the MTP, and the MCT in particular, with a formal architecture that guarantees accounting consistency and macroeconomic closure, while explicitly capturing the interdependence between real and financial processes. In doing so, it offers a rigorous and versatile framework for both the theoretical exploration and modelling of modern monetary economies.

3.2. Sectoral Structure

There are six macroeconomic groups in the SFC model of this paper, namely firms, households — now divided in lower-class households (workers for short) and upper-class households (rentiers for short) — commercial banks, the government, the central bank, and Non-Bank Financial Intermediaries.[5] For simplicity, of all NBFIs the model only considers those financial institutions whose lending activities are based on short-term funding, like consumer finance and car leasing companies.[6] According to the Financial Stability Board (FSB 2015, 2020), which has classified NBFIs by their economic functions, those institutions are labelled EF2, that is Economic Functions 2. Following Canelli, Fontana, and Realfonzo (2025), among all NBFIs, EF2 institutions are peculiar since they can influence both the channel of creation of money by banks and the channel of circulation and destruction of money.

[4]The SFC methodology is increasingly employed in empirical research; see, for example, the recent symposium on empirical SFC models published in Zezza and Valdecantos (2025).
[5]For simplicity traditional financial intermediaries are not explicitly modelled.
[6]See Section Two in Canelli, Fontana, and Realfonzo (2025) for a definition of all the components of NBFIs — that is the various EFs — together with some examples of the types of entities engaged in each of these functions.

Figure 3 below presents an overview of the main mechanisms linking the six macro-sectors analysed in the model. The blue lines (plain and dotted) depict the traditional monetary circuit, as illustrated in Figure 2, whereas the double-dotted purple and green lines highlight the additional macroeconomic agents and their interactions.

Starting with the households, workers provide labour to firms in exchange for (monetary) wages (WB), which they then allocate between consumption (C_w) and savings, with the latter used, via traditional financial intermediaries, to buy financial securities of firms (S_w) and government bonds (B_w), or held as bank deposits (M_w). Workers also receive loans from commercial banks ($-L_w$) and EF2 ($-LC_w$) (e.g., car leasing companies). Furthermore, alongside wages and loans, workers receive interests on their holding of firms' securities ($+r_s\, S_w$), government bonds ($+r_b\, B_w$), and on bank deposits ($+r_d\, M_w$). Conversely, they pay interests on their consumer credit to banks ($-r_{lc,w}\, L_w$) and EF2 ($-r_{lc,w}\, LC_w$). On the other hand, rentiers do not receive labour income. They rather own firms, banks, and non-bank financial intermediaries. As such they are the ultimate recipients of distributed profits from those agents, namely ($+Pf_r$), ($+Pb_r$), and ($+Pq_r$). Rentiers allocated these profits between consumption (C_r) and savings, with the latter used to buy financial securities of firms (S_r), of EF2 (Z_r), and government bonds (B_r), or held as bank deposits (M_r).

The distinction between workers and rentiers clarifies the divide between propertyless and property-owning households. Both categories maintain relationships with NBFIs, though the nature of these relationships differs markedly. Workers, whose expenditures are constrained by their labour income, rely on consumer credit extended by EF2 (and banks) to sustain their consumption. Rentiers, by contrast, are recipients of

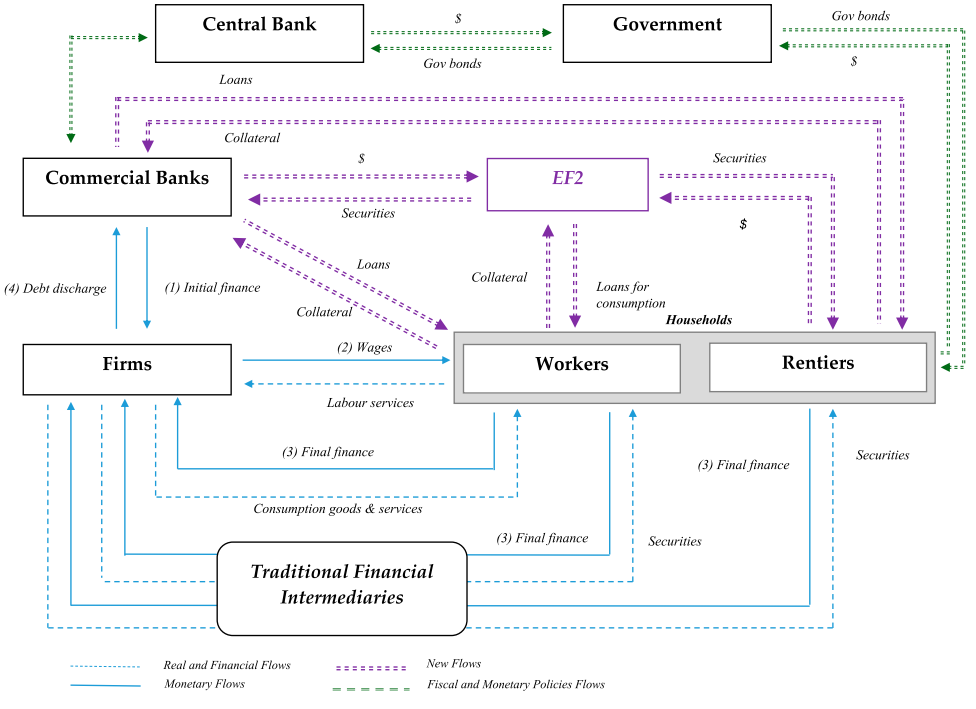

Figure 3. The role of EF2 through the lens of the MCT. Source: Authors' elaboration.

non-labour income and benefit from the expansion and diversification of EF2 (and banks), as these processes tend to increase distributed profits and financial asset-based revenues accruing to them.

Regarding the other macroeconomic agents, firms are indebted to commercial banks. They obtain loans for production purposes ($-L_f$), which enable them to pay wages to workers ($-WB$), distribute profits to rentiers ($-Pf_r$), and pay interest on securities held by both workers ($-r_sS_w$) and rentiers ($-r_sS_r$). On the asset side, firms hold real capital (K). Like in the traditional MCT, commercial banks start the process of creation of money by granting loans to firms ($+L_s$). Figure 3 shows that banks now grant loans also to the household sector ($-L_h$), that is workers and rentiers, and accommodates the liquidity needs of EF2 (Z_b). The figure also incorporates the government sector and the central bank (Rochon and Rossi 2007). The government issues bonds ($-B_s$) that are purchased by workers ($+B_w$), rentiers ($+B_r$), and the central bank ($+B_{cb}$).

Finally, Figure 3 shows the role of EF2 in modern economies. Since for simplicity the role of other NBFIs is ignored in this paper, EF2 only interacts with commercial banks and the household sectors. EF2 provides loans to workers ($+LC_w$), enabling them to finance consumption expenditures that exceed their disposable income and issues securities ($-Z_s$). The lending activity of EF2 is of particular interest. As indicated before, EF2 makes loans to workers, but the mode of operation differs fundamentally from that of commercial banks. Unlike banks, EF2 does not create money *ex nihilo* but rather it transfers already existing liquidity. Consequently, before they can make loans, EF2 must first obtain access to liquidity. It may borrow money directly from commercial banks, and then transfers the newly created bank deposits to workers.[7] It may also draw upon money already existing in the economy. In this case EF2 issues short-term securities ($-Z_s$), which in this simplified model are purchased by rentiers ($+Z_r$) and banks ($+Z_b$).

The balance sheet and the transactions-flow matrix are displayed by Tables 1 and 2 below, respectively.

4. The SFC Model: Behavioural Equations

4.1. Households: Workers and Rentiers

The SFC model distinguishes lower-class households (workers) and upper-class households (rentiers). The subscript 'w' denotes the former, while 'r' refers to the latter. The subscript 'h' represents the household sector as a whole.

4.1.1. Workers (Lower-Class Households)

The disposable income of workers (YD_w) is given by the difference between their inflows and outflows, namely the wage bill (WB) plus interest received on bank deposits ($r_mM_{w,-1}$), on financial securities ($r_sS_{w,-1}$), and on government bonds ($r_bB_{w,-1}$), minus taxes (T_w), interest payments made on bank loans ($r_lL_{w,-1}$), and EF2

[7]For analytical simplicity, the paper models bank loans to EF2 as purchases of EF2 securities by commercial banks. In this setup, banks' demand for EF2 securities constitutes the residual component of EF2's financing, supplementing the funds raised through its primary security issuance. This abstraction omits the more complex mechanisms of modern finance, such as securitisation and the use of Special Purpose Vehicles (SPVs), through which banks transform illiquid loans into marketable securities. From an accounting perspective, however, treating loans as security purchases produces equivalent balance-sheet effects, as both increase banks' assets and EF2's liabilities by the same amount.

Table 1. Balance sheet.

	Households							
	Workers	Rentiers	Firms	Government	Banks	EF2	Central bank	Total
Cash	H_w	H_r					$-H_{cb}$	0
Deposits	M_w	M_r			$-M_s$			0
Government bonds	B_w	B_r		$-B_s$	B_b		B_{cb}	0
Firms securities	S_w	S_r	$-S_s$					0
EF2 securities		Z_r			Z_b	$-Z_s$		0
Bank loans	$-L_w$	$-L_r$	$-L_f$		L_s			0
EF2 loans	$-LC_w$					LC_s		0
Capital stock			K					K
Net financial wealth	$-V_w$	$-V_r$		B_s				$-K$
Total	0	0	0	0	0	0	0	0

Source: Authors' elaboration.

loans ($r_{lc,\,w}LC_{w,-1}$):

$$YD_w = WB + r_{m,-1}M_{w,-1} + r_{s,-1}S_{w,-1} + r_{b,-1}B_{w,-1} - T_w - r_{l,\,-1}L_{w,-1} - r_{lc,\,-1}LC_{w,-1} \tag{1}$$

The wage bill is given by the wage rate (w) multiplied by the level of employment (N_s):

$$WB_s = wN_s \tag{2}$$

The consumption behaviour function is given by the following equation:

$$C_w = \alpha_{1w}\, YD_w + \alpha_{2w}V_{w,-1} \tag{3}$$

The parameter represents the endogenous propensity to consume of workers, which is specified as a function of credit accessibility and of debt-to-income ratio, while α_{2w} is the propensity to consume out of wealth of workers.

$$\alpha_{1w} = \alpha_{10w} + \alpha_{11w}\frac{L_{w,-1} + LC_{w,-1}}{LL_{w,-1}} - \alpha_{12w}\frac{L_{w,-1} + LC_{w,-1}}{YD_{w,-1}} - \alpha_{13w}\,\sigma_{qw}\,r_{lc,-1} \tag{4}$$

The net wealth of workers is determined by their previously accumulated wealth (V_{w-1}) plus current net savings, defined as the difference between disposable income (YD_w) and consumption (C_w).

$$V_w = V_{w-1} + (YD_w - C_w) \tag{5}$$

Workers apply for loans from commercial banks:

$$LL_w = L_{w,-1} + \beta_{1w}YD_w - \rho_w L_{w,-1} \tag{6}$$

where β_{1w} and ρ_w denote, respectively, the ratio of workers' new loan-demand-to-disposable-income and their loan repayment rate.

Workers allocate a share of their wealth across firms' securities, government bonds, and bank deposits. Their portfolio decisions follow the standard Tobinesque principles (Godley and Lavoie 2007). Portfolio composition depends on total wealth, disposable income, and the rates of return on each asset. For consistency within the model, a change in the interest rate on one asset (for instance, securities) alters the proportion

Table 2. Transaction flow matrix.

	Households		Firms						
	Workers	Rentiers	Current	Capital	Government	Banks	EF2	Central bank	Total
Consumption	$-C_w$	$-C_r$	C_s						0
Investment			I	$-I$					0
Government spending			G		$-G$				0
[GDP]			Y						0
Wages	WB		$-WB$						0
Deprec. / Amort.			$-AF$	AF					0
Firms profit		Pf_r	$-P_{ff}$						0
Banks profit		Pb_r				$-Pb_b$			0
EF2 profit		Pq_r					$-Pq_{ef2}$		0
Tax revenue	$-T_w$	$-T_r$			T				0
Interests on deposits	$r_{m(-1)}{}^{*}M_{w(-1)}$	$r_{m(-1)}{}^{*}M_{r(-1)}$				$-r_{m(-1)}{}^{*}M_{s(-1)}$			0
Interests on bank loans	$-r_{l(-1)}{}^{*}L_{w(-1)}$	$-r_{l(-1)}{}^{*}L_{w(-1)}$	$-r_{l(-1)}{}^{*}L_{f(-1)}$			$r_{l(-1)}{}^{*}L_{s(-1)}$			0
Interests on EF2 loans	$-r_{lc(-1)}{}^{*}LC_{w(-1)}$						$r_{lc(-1)}{}^{*}LC_{s(-1)}$		0
Interests on government bonds	$r_{b(-1)}{}^{*}B_{w(-1)}$	$r_{b(-1)}{}^{*}B_{r(-1)}$			$-r_{b(-1)}{}^{*}B_{s(-1)}$	$r_{b(-1)}{}^{*}B_{b(-1)}$		$r_{b(-1)}{}^{*}B_{cb(-1)}$	0
Interests on firms securities	$r_{s(-1)}{}^{*}S_{w(-1)}$	$r_{s(-1)}{}^{*}S_{r(-1)}$	$-r_{s(-1)}{}^{*}S_{s(-1)}$						0
Interests on EF2 securities		$r_{z(-1)}{}^{*}Z_{r(-1)}$				$r_{z(-1)}{}^{*}Z_{b(-1)}$	$-r_{z(-1)}{}^{*}Z_{s(-1)}$		0
Seigniorage income					$r_{b(-1)}{}^{*}b_{cb(-1)}$			$-r_{b(-1)}{}^{*}b_{cb(-1)}$	0
Change in cash	$-\Delta H_w$	$-\Delta H_r$						ΔH_{cb}	0
Change in deposits	$-\Delta M_w$	$-\Delta M_r$				ΔM_s			0
Change in bank loans	ΔL_w	ΔL_r		ΔL_f		$-\Delta L_s$			0
Change in EF2 loans	ΔLC_w						$-\Delta LC_s$		0
Change in government bonds	$-\Delta B_w$	$-\Delta B_r$			ΔB_s	$-\Delta B_b$		$-\Delta B_{cb}$	0
Change in firms securities	$-\Delta S_w$	$-\Delta S_r$		ΔS_s					0
Change in EF2 securities		$-\Delta Z_r$				$-\Delta Z_b$	ΔZ_s		0
Total	0	0	0	0	0	0	0	0	0

Source: Authors' elaboration.

of that asset workers are willing to hold, thereby adjusting the demand for the remaining assets.

The total demand for cash is determined by the expected volume of transactions:

$$H_w = \lambda_{cw} C_{w,-1} \tag{7}$$

The demand for government bonds is:

$$B_w = V_w\left(\lambda_{10l} + \lambda_{11l} r_b - \lambda_{12l} r_m - \lambda_{13l} r_s - \lambda_{14l}\left(YD_w/V_w\right)\right) \tag{8}$$

The demand for firms' securities is:

$$S_w = V_w\left(\lambda_{30l} - \lambda_{31l} r_b - \lambda_{32l} r_m + \lambda_{33l} r_s - \lambda_{34l}\left(YD_w/V_w\right)\right) \tag{9}$$

Bank deposits held by workers are determined as a residual:

$$M_w = V_w + L_w + LC_w - B_w - S_w - H_w \tag{10}$$

Finally, tax payments of workers are given by:

$$\begin{aligned} T_w = {} & \theta_w\,(W + r_{s,-1}\,S_{w,-1} + r_{b,-1}\,B_{w,-1} + r_{m,-1}\,M_{w,-1} \\ & - r_{l,-1} L_{w,-1} - r_{lc,-1} LC_{w,-1} + \theta_w V_{w,-1}) \end{aligned} \tag{11}$$

4.1.2. Rentiers

The disposable income of rentiers (YD_r) is obtained by summing the interest earned on bank deposits ($r_m M_r$), government bonds ($r_b B_r$), firms' securities ($r_s S_r$), and EF2 securities ($r_z Z_r$), together with the profits distributed by firms (Pf_r), commercial banks (Pb_r), and EF2 (Pq_r). From this total, taxes (T_r) and interest payments on bank loans ($r_{l,-1}\,L_{r-1}$) are deducted.

$$\begin{aligned} YD_r = {} & r_{m,-1}\,M_{r,-1} + r_{b,-1} B_{r,-1} + r_{s,-1}\,S_{r,-1} + r_{z,-1}\,Z_{r-1} + Pf_r + Pb_r + Pq_r \\ & - T_r - r_{l,-1}\,L_{r-1} \end{aligned} \tag{12}$$

The consumption of rentiers depends on their disposable income and wealth:

$$C_r = \alpha_{1r} YD_r + \alpha_{2r} V_{r,-1} \tag{13}$$

where α_{1r} and α_{2r} represent the propensity to consume out of disposable income and wealth, respectively.

The wealth of rentiers (V_r) is determined by their previously accumulated wealth (V_{r-1}) plus the difference between disposable income (YD_r) and consumption (C_r):

$$V_r = V_{r-1} + (YD_r - C_r) \tag{14}$$

The rentiers' demand for personal bank loans is:

$$L_r = L_{r,-1} + \beta_r YD_r - \rho_r\,L_{r,-1} \tag{15}$$

where the parameters β_r and ρ_r denote, respectively, the ratio of rentiers' new loan-demand-to-disposable-income and their loan repayment rate.

Rentiers allocate a share of their wealth across different assets, namely government bonds (B_r), firms' securities (S_r), EF2's securities (Z_r), and bank deposits ($M_{,r}$). Like

for workers, their portfolio choice depends on total wealth, disposable income, and the rates of return on each asset. The portfolio composition is then represented by the following equations, which describe their demand for government bonds, firms' securities, and EF2's securities, respectively:

$$B_r = V_r \left(\lambda_{10r} + \lambda_{11r}\, r_B - \lambda_{12r}\, r_m - \lambda_{13r}\, r_s - \lambda_{14r}\, r_z - \lambda_{15r} \left(YD_w/V_w\right)\right) \tag{16}$$

$$S_r = V_r \left(\lambda_{30r} - \lambda_{31r}\, r_B - \lambda_{32r}\, r_m + \lambda_{33r}\, r_s - \lambda_{34r}\, r_z - \lambda_{35r} \left(YD_w/V_w\right)\right) \tag{17}$$

$$Z_r = V_r \left(\lambda_{40r} - \lambda_{41r}\, r_B - \lambda_{42r}\, r_m - \lambda_{43r}\, r_s + \lambda_{44r}\, r_z - \lambda_{45r} \left(YD_w/V_w\right)\right) \tag{18}$$

The total demand for cash is determined by the expected volume of transactions:

$$H_r = \lambda_{cr} C_{r,-1} \tag{19}$$

Following the SFC methodology, bank deposits held by rentiers are treated as a residual variable. They are determined by the net worth (V_r), the demand for consumption loans (L_r), in addition to the demand for government bonds (B_r), firms' securities (S_r) and EF2 securities (Z_r), and cash (H_r). Formally, this relationship is expressed as:

$$M_r = V_r + L_r - B_r - S_r - Z_r - H_r \tag{20}$$

Tax payments of rentiers are given by:

$$\begin{aligned} T_r = {} & \theta_r \left(Pf_r + Pb_r + Pq_r + r_{s,-1} S_{r,-1} + r_{b,-1} B_{r,-1} + r_{z,-1} S_{r,-1}\right. \\ & \left. + r_m M_{r,-1} + r_{l,-1} L_{r,-1}\right) + \theta_r V_{r,-1} \end{aligned} \tag{21}$$

4.2. Firms

The real output of the economy is given by the sum of household consumption ($C_w + C_r$) and investment (I) and government expenditure (G):

$$Y = C_w + C_r + I + G \tag{22}$$

Amortisation funds (AF) represent the resources that firms set aside to replace depreciated capital (K_{-1}), where δ denotes the depreciation rate.

$$AF = \delta\, K_{-1} \tag{23}$$

Firms' demand for bank loans (L_f) is given by:[8]

$$\Delta L_f = I - AF - (S_f - S_{f,-1}) \tag{24}$$

Firms' profits (Pf_f) are defined as a residual, that is the difference between output (Y), and the sum of the wage bill (WB_s), interest payments on loans ($r_l\, L_f$) and securities ($r_s S_f$),

[8]Equation (24) reports the end-of-period stock of loans, which is determined residually: the change in loans over the period equals initial finance minus final finance. In essence, an SFC model can be interpreted as Graziani's MCT framework observed at the end of the period; conversely, Graziani's MCT framework can be viewed as an SFC model observed at the beginning (and throughout the course) of the period. See, for a detailed discussion, Veronese Passarella (2024).

and amortisation funds (AF).

$$Pf_f = Y - WB_s - r_{l,-1} L_{f,-1} - r_s S_{f,-1} - AF \tag{25}$$

Capital accumulation is given by the sum of previously accumulated capital and current investment in fixed capital (I_d) net of the depreciation of existing machinery during the current period (DA):[9]

$$K = K_{-1} + I_d - DA \tag{26}$$

Real investment demand is a positive function of the growth rate of the capital stock and its rate of depreciation:

$$I_d = \gamma (K^T - K_{-1}) + DA \tag{27}$$

In detail, investment in fixed capital I_d is the sum of net investment and the replacement of depreciated machinery. Net investment adjusts to the gap between the targeted capital stock K^T and the capital stock of the previous period K_{-1}, with γ denoting the adjustment rate of investment toward the target. Firms aim to achieve a desired capital stock (K^T) that depends on the level of sales realised in the previous period. In this way, firms seek to maintain a normal rate of capacity utilisation, defined as a fixed proportion of past output.

$$K^T = k_0 Y_{-1} \tag{28}$$

In the model, securities are purchased by both workers and rentiers. Therefore, the supply of firms' securities equals the total demand for securities:

$$S_s = S_w + S_r \tag{29}$$

4.3. Commercial Banks

Commercial banks provide loans to firms (L_f) to finance the production process. They also provide loans to workers (L_w) and rentiers (L_r). The total volume of loans granted by commercial banks is given by:

$$\Delta L_s = (L_f - L_{f,-1}) + (L_w - L_{w,-1}) + (L_r - L_{r,-1}) \tag{30}$$

where L_w and L_r denote the volume of loans granted to workers and rentiers, respectively.

Commercial banks determine the extent to which they accommodate workers' demand for loans. Accordingly, the loans actually granted to workers are defined as:

$$L_w = L_{w,-1} + \sigma_b (LL_w - L_{w,-1}) \tag{31}$$

where (σ_b) represent the share of loan request from workers that banks accommodate.

Total bank deposits correspond to the deposits held by the households sector:

$$M_d = M_w + M_r \tag{32}$$

[9]It should be noted that, by definition, (DA) is equal to (AF).

The total supply of deposits is equal to the demand for deposits:

$$\Delta M_s = \Delta M_d \tag{33}$$

Commercial banks also hold government bonds, defined as:

$$B_b = M_s + Z_b - L_s \tag{34}$$

As discussed in the previous section (see also note 5), commercial banks make loans to EF2 by purchasing its financial securities. EF2 then uses the resulting new liquidity to provide loans to workers and rentiers:

$$Z_b = Z_s - Z_r \tag{35}$$

Commercial banks' profits consist of the net interest received, namely the interest on loans granted to firms, EF2, and the household sector, minus the interest paid on deposits. These profits are distributed to rentiers:

$$Pb_b = r_{lf,-1}L_{f,-1} + r_{z,-1}Z_{b,-1} + r_{lh,-1}L_{h,-1} + r_{b,-1}B_{b,-1} - r_{m,-1}M_{d-1} \tag{36}$$

4.4. Economic Function 2 (EF2) of NBFIs

EF2 extends consumer credit to workers. In order to do this, EF2 can either borrow from commercial banks or drawn upon already existing money within the economy. The total volume of loans granted by EF2 to workers is given by:

$$LC_s = \sigma_z (LL_w - L_w) \tag{37}$$

where σ_z represents the share of additional loan demand that is satisfied by EF2.

The profits of EF2 are determined by the difference between the interest income on consumer loans granted to workers and interest payments on its outstanding financial securities.

$$Pq_{ef2} = r_{lc,-1}LC_{w,-1} - r_{z,-1}Z_{s,-1} \tag{38}$$

4.5. Central Bank

The central bank sets the policy rate, provides cash (H_s) to the system, and purchases government bonds (B_{cb}) issued by the government (B_s). More precisely, the central bank is assumed to intervene in the government bond market by buying the portion of bonds not purchased by workers (B_{cb}), rentiers (B_r), or banks (B_b).

This implies that if, for instance, households modify their portfolio decisions by allocating a larger (or smaller) share of their wealth to government bonds, the central bank will accordingly reduce (or increase) its own demand for government bonds. In this sense, the central bank acts as the residual purchaser in the government bond market (Lavoie 2004). Its demand is defined as:

$$B_{cb} = B_s - B_w - B_r - B_b \tag{39}$$

4.6. Government

The government finance its own expenditures by issuing bonds (B_s) bought by the central bank (B_{cb}), workers (B_w) and rentiers (B_r), and it collects taxes from workers (T_w) and rentiers (T_r):

$$B_s = B_{s-1} + (G + r_{b,-1}B_{s,-1}) - (T + r_{b,-1}B_{cb,-1}) \tag{40}$$

5. SFC Model Simulations and Results

The dynamic properties of the SFC model are explored through numerical simulations.[10] Three scenarios are considered.

The first scenario represents the baseline case. Commercial banks make loans to workers and rentiers (and firms), while EF2 also provides loans to workers. The second scenario introduces a regime of credit exclusion or complete credit rationing for workers, whereby both commercial banks and EF2 cease to make loans to workers. In this scenario, workers are entirely excluded from access to credit. Commercial banks continue to make loans to rentiers (and firms). The third scenario lifts the credit exclusion faced by workers. Commercial banks continue to refuse lending to workers. However, EF2 fully replaces banks loans with their loans. As a result, the total volume of loans to workers returns to its baseline level, but the entire flow of credit now originates from EF2. The results of Scenarios 2 and 3 are presented in Figure 4.

Figure 4 shows the evolution of (real) output, employment, income inequality, wealth inequality, and the profitability of both banks and EF2. Income inequality is measured as the ratio of rentiers' income to workers' income, while wealth inequality is defined as the ratio of rentiers' wealth to workers' wealth. As clarified in the previous Section, the profits earned by banks and EF2 accrue to rentiers and therefore constitute a key component of rentier income. The plain red line and the green dotted line describe Scenario 2 and Scenario 3, respectively. All results are presented as deviations from the baseline scenario.[11]

In Scenario 2 (red plain line), both commercial banks and EF2 cease to make loans to workers, resulting in a regime of complete credit exclusion for workers. This credit exclusion produces a minor contraction in real (and employment), which initially declines and then stabilises at a low (positive) level, displaying a flat dynamic. From a distributive perspective, both income and wealth inequality show a moderate downward trend, reflecting the reduced indebtedness of workers once credit access is fully restricted.

In Scenario 3 (green dotted line), EF2 re-enters the credit market, fully replacing commercial banks in providing loans to workers. Despite the simplifications of the model, where NBFIs are represented solely by EF2, Figure 4 clearly shows that the increased lending activity of EF2 leads to a significant expansion of output and employment. This outcome reflects the relaxation of financing constraints on workers' consumption, which stimulates aggregate demand and production. However, when the distributive implications are examined, the increased lending activity of EF2 tends to exacerbate both income and wealth inequality. This results from the increased indebtedness of

[10]The numerical simulations are calibrated using parameter values that are available at https://github.com/marcoverpas.
[11]Please note that deviations from the baseline scenario are shown in absolute terms for output and employment, whereas percentage changes are reported for income and wealth inequality. The horizontal axis represents time.

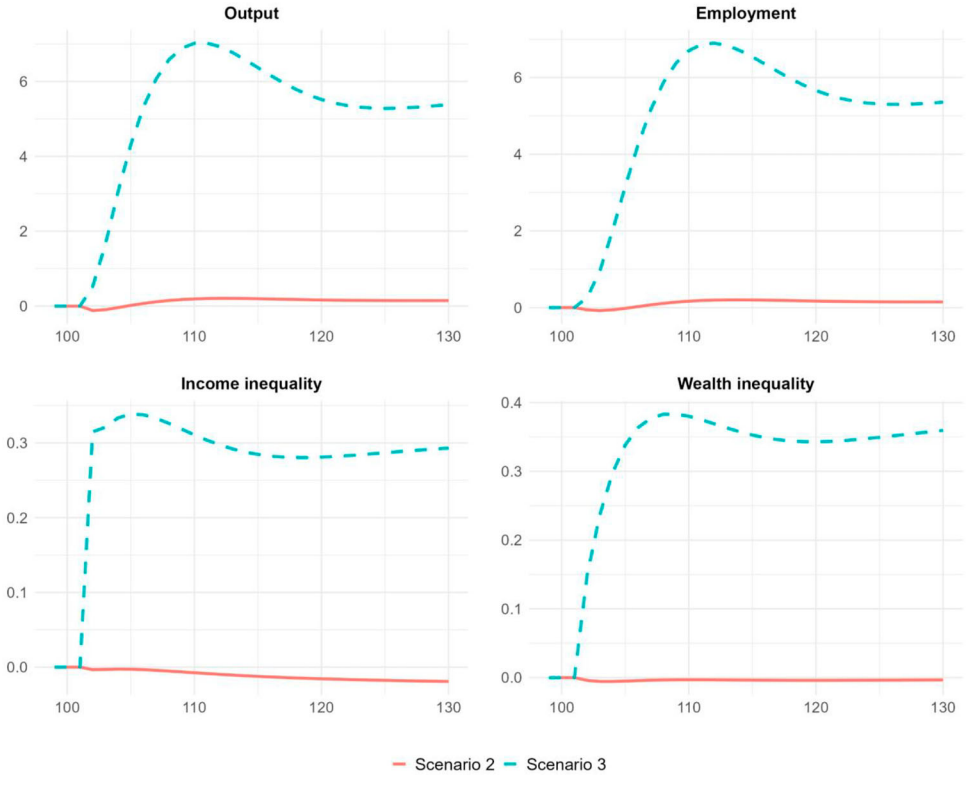

Figure 4. SFC model simulations. Source: Authors' elaboration.

workers, whose higher consumption is financed through borrowing that eventually prove unsustainable. Conversely, rentiers benefit from the profits generated by the expanded lending of EF2 and from the returns on the securities they hold.

Overall, these findings are consistent with recent contributions highlighting the role of EF2, and NBFIs more generally, in the endogenous rise of income and wealth inequality within increasingly rentier-oriented economies (Botta, Caverzasi, and Russo 2020, 2021, 2025). While the expansion of NBFIs and the proliferation of complex financial instruments may stimulate short-term economic growth, they widen distributive disparities.[12]

Taken together, the three scenarios shed light on the process of money creation, circulation and destruction in modern financialised economies. The comparison between the baseline and Scenario 3 is particularly revealing. Although the total volume of credit to workers (and to all other sectors) remains unchanged, the institutional composition of money supply shifts entirely from commercial banks to EF2. This reconfiguration has non-neutral effects: while aggregate output and employment expand as workers' financing constraints are relaxed, the redistribution of financial income toward rentiers leads to rising inequality. The model thus highlights that not only the quantity but also

[12]It is worth highlighting that the short-run results presented in Figure 4 are likely to overestimate the effects on output and employment and underestimate the effects on inequality, because the paper focuses exclusively on EF2 entities, whose core activity remains loan provision based on short-term funding, thereby omitting the broader heterogeneity of functions and mechanisms that characterise the wider universe of NBFIs.

the institutional origin of money creation plays a crucial role in shaping macroeconomic performance and the long-term dynamics of income and wealth distribution.

6. Conclusions

This paper has explored the role of Non-Bank Financial Intermediaries in modern economies by integrating Keynes's Monetary Theory of Production and Graziani's Monetary Circuit Theory within a Stock-Flow Consistent methodology. In particular, it has focused on a specific segment of NBFIs, namely those institutions classified by the Financial Stability Board (FSB 2015, 2020) under the label Economic Function 2 (EF2), whose lending activities rely primarily on short-term funding, such as consumer finance and car leasing companies. Following Canelli, Fontana, and Realfonzo (2025), EF2 does not create money, as commercial banks do, and yet it influences both the channel of creation of money and the channel of circulation and destruction of money within modern economies.

Through the simulation of three alternative scenarios, the paper has examined how the presence and expansion of EF2 affect output, employment, and distributional outcomes. The comparison between the baseline and the scenario of complete credit exclusion (Scenario 2) shows that the absence of credit to workers generates a modest contraction in output and employment, while reducing household indebtedness and thereby moderating inequality. Conversely, the scenario in which EF2 fully replaces commercial banks in providing credit to workers (Scenario 3) reveals a sharp expansion in economic activity driven by the relaxation of workers' financing constraints, yet accompanied by a deterioration in distributive outcomes.

Taken together, the three scenarios highlight the complex and non-neutral effects of money creation, circulation and destruction in modern economies. Even when the total volume of credit remains constant, changes in the institutional configuration of the money supply process, such as the shift from commercial banks to EF2 in making loans to workers, can profoundly alter macroeconomic and distributive dynamics. In particular, the model shows that while EF2 can sustain aggregate demand and employment in the short term, its expansion tends to worsen income and wealth inequality over time. These results reaffirm a central insight of both Keynes's Monetary Theory of Production and Graziani's Monetary Circuit Theory. Money is a constitutive element of modern economies. It defines the environment within which macroeconomic agents operate, and it acts as an operative force shaping the trajectory of the economy. Consequently, neither short-term nor long-term economic outcomes can be explained without understanding the role of money in the intertwined dynamics of production and financialisation.

Acknowledgements

The authors express their gratitude to Louis-Philippe Rochon, Sergio Rossi and two anonymous reviewers of this Review for their insightful and constructive comments and suggestions on previous versions of the paper. Any remaining errors are solely the responsibility of the authors.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

ORCID

Rosa Canelli http://orcid.org/0009-0004-2160-8506
Giuseppe Fontana http://orcid.org/0000-0002-8055-5326
Riccardo Realfonzo http://orcid.org/0000-0003-3773-4545
Marco Veronese Passarella http://orcid.org/0000-0001-7652-5952

References

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* 31 (4): 528–558.

Bellofiore, R. and Realfonzo, R. 2003. 'Money as Finance and Money as Universal Equivalent: Re-reading Marxian Monetary Theory.' In *Modern Theories of Money: The Nature and Role of Money in Capitalist Economies*, edited by L.-P. Rochon and S. Rossi, 198–218. Cheltenham and Northampton: Edward Elgar.

Botta, A., E. Caverzasi, and A. Russo. 2020. 'When Complexity Meets Finance: A Contribution to the Study of the Macroeconomic Effects of Complex Financial Systems.' *Research Policy* 51 (8): 103990.

Botta, A., E. Caverzasi, A. Russo, M. Gallegati, and J. E. Stiglitz. 2021. 'Inequality and Finance in a Rent Economy.' *Journal of Economic Behavior and Organization* 183 (March): 998–1029.

Botta, A., E. Caverzasi, and D. Tori. 2015. 'Financial–Real-Side Interactions in an Extended Monetary Circuit with Shadow Banking.' *International Journal of Political Economy* 44 (3): 196–227.

Botta, A., E. Caverzasi, and D. Tori. 2025. 'The Monetary Circuit in a Financialized Economy from Credit Creation to Profit Realization.' *Review of Political Economy* 1–28. https://doi.org/10.1080/09538259.2025.2527251.

Bouguelli, R. 2018. 'A Note on Rethinking Liquidity Creation: Banks, Shadow Banks and the Elasticity of Finance.' *Journal of Post Keynesian Economics* 41 (4): 648–653.

Bouguelli, R. 2019. 'Is Shadow Banking Really Akin to Banking? A Critical Analysis in Light of Monetary Theory.' *Journal of Post Keynesian Economics* 41 (3): 1–27.

Canelli, R., G. Fontana, and R. Realfonzo. 2025. 'The Monetary Circuit Theory, Financialisation and the Rise of the Non-Bank Financial Intermediaries.' *Review of Political Economy* 1–16. https://doi.org/10.1080/09538259.2025.2456722.

Caverzasi, E., A. Botta, and C. Capelli. 2019. 'Shadow Banking and the Financial Side of Financialisation.' *Cambridge Journal of Economics* 43: 1029–1051.

Fontana, G. 2007. 'Why Money Matters: Wicksell, Keynes, and the new Consensus View on Monetary Policy.' *Journal of Post Keynesian Economics* 30 (1): 43–60.

Fontana, G., and B. Gerrard. 2002. 'The Significance of the Monetary Context of Economic Behavior.' *Review of Social Economy* 60 (2): 243–262.

Fontana, G., and R. Realfonzo. 2005. *The Monetary Theory of Production. Tradition and Perspectives*. Basingstoke: Palgrave MacMillan.

FSB. 2013. 'Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities.' *Consultative Document*, 29 August. https://www.fsb.org/2013/08/r_130829c/

FSB. 2015. 'Global Shadow Banking Monitoring Report 2015.' 12 November. https://www.fsb.org/uploads/global-shadow-banking-monitoring-report-2015.pdf.

FSB. 2020. 'Global Monitoring Report on Non-Bank Financial Intermediation 2020.' 16 December. https://www.fsb.org/2020/12/global-monitoring-report-on-non-bank-financial-intermediation-2020/

Godley, W. 1996. *Money, Finance and National Income Determination: An Integrated Approach, Levy Institute Working Paper No. 167*. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.

Godley, W. 1999. 'Money and Credit in a Keynesian Model of Income Determination.' *Cambridge Journal of Economics* 23 (4): 393–411.

Godley, W. 2004. 'Weaving Cloth from Graziani's Thread. Endogenous Money in a Simple (but complete) Keynesian Model'. In *Money, Credit and the Role of the State: Essays in Honour of Augusto Graziani*, edited by R. Arena, N. Salvadori Money, 127–135. London: Ashgate.
Godley, W., and Lavoie, M. 2007. *Monetary Economics: An Integrated Approach to Credit, Money, Income, Production and Wealth*. New York: Palgrave Macmillan.
Graziani, A. 1987. 'Keynes' Finance Motive.' In *Money and Production*, edited by L. P. Rochon, and M. Seccareccia. Cheltenham: Edward Elgar Publishing.
Graziani, A. 1989. 'The Theory of the Monetary Circuit.' In *The Money Supply in the Economic Process*, edited by M. Musella, and C. Panico. Cambridge: Cambridge University Press.
Graziani, A. 1997. 'The Marxist Theory of Money.' *International Journal of Political Economy* 27 (2): 26–50.
Graziani, A. 2003. *The Monetary Theory of Production*. Cambridge: Cambridge University Press.
Kappes, S. A. 2025. 'Repurchase Agreements and the Paradox of Risk.' *Review of Political Economy*, 1–22. https://doi.org/10.1080/09538259.2025.2567982
Keynes, J. M. 1930 [1971]. 'A Treatise on Money.' In *The Collected Writings of J. M. Keynes,* reprinted in J. M. Keynes, vols, V-VI, London: Macmillan.
Keynes, J. M. 1933. 'A Monetary Theory of Production.' *The Collected Writings of John Maynard Keynes* 13: 408–411.
Keynes, J. M. 1979. 'Towards the General Theory.' In *The Collected Writings of J. M. Keynes*, reprinted in J. M. Keynes, vol. XXIX, 35–160. London: Macmillan.
Lavoie, M. 2004. 'Circuit and Coherent Stock-Flow Accounting.' In *Money, Credit and the Role of the State. Essays in Honour of Augusto Graziani*, edited by R. Arena, and N. Salvadori, 136–151. Aldershot: Ashgate Publishing.
Michell, J. 2017. 'Do Shadow Banks Create Money? 'Financialisation' and the Monetary Circuit.' *Metroeconomica* 68 (2): 354–377.
Parguez, A.1975. *Monnaie et macroéconomie: théorie de la monnaie en déséquilibre*. Paris: Economica.
Realfonzo, R. 1998. *Money and Banking: Theory and Debate (1900–1940)*. Cheltenham: Edward Elgar Publishing.
Robertson, D. H. 1926. *Banking Policy and the Price Level*. London: King.
Rochon, L. P., and S. Rossi. 2007. 'Central Banking and Post-Keynesian Economics.' *Review of Political Economy* 19 (4): 539–554.
Rochon, L. P., and M. Seccareccia. 2013. 'Alain Parguez's Contribution to Political Economy.' In *Monetary Economies of Production*, edited by L. P. Rochon, and M. Seccareccia. Cheltenham: Edward Elgar Publishing.
Sawyer, M., and M. Veronese Passarella. 2014. 'Financialisation in the Circuit.' Fessud Working Paper Series No. 18. https://fessud.org/wp-content/uploads/2013/04/financialisation-and-the-circuit-working-paper-18.pdf.
Sawyer, M., and M. Veronese Passarella. 2017. 'The Monetary Circuit in the Age of Financialisation: A Stock-Flow Consistent Model with a Twofold Banking Sector.' *Metroeconomica* 68 (2): 321–353.
Sissoko, C. 2025a. 'Banks are Different: Why Bank-Based Versus Market-Based Lending is a False Dichotomy.' *European Journal of Economics and Economic Policies* 22 (1): 32–53.
Sissoko, C. 2025b. 'Financial Dominance: Why the 'Market Maker of Last Resort' is a bad Idea and What to do About it.' *Cambridge Journal of Economics*, 675–704. https://doi.org/10.1093/cje/beaf020
Veronese Passarella, M. 2014. 'Financialization and the Monetary Circuit: A Macro-Accounting Approach.' *Review of Political Economy* 26 (1): 128–148.
Veronese Passarella, M. 2017. 'Monetary Theories Of Production.' In *Handbook of Heterodox Economics*, edited by T. Jo, L. Chester, and C. D'Ippoliti, 70–83. London: Routledge.
Veronese Passarella, M. 2024. 'It is Not la Vie en Rose: New Insights from Graziani's Theory of the Monetary Circuit.' *European Journal of Economics and Economic Policies: Intervention* 21 (3): 461–485.

Wicksell, K. 1898 [1965]. *Interest and Prices*. Translated by R.F. Kahn. London: Macmillan. Reprinted New York: Augustus M. Kelley.
Zezza, G. 2004. 'Some Simple, Consistent Models of the Monetary Circuit.' Levy Institute Working Paper no. 405. Annandale-on-Hudson, NY: Levy Economics Institute of Bard College.
Zezza, G. 2012. 'Godley and Graziani: Stock-Flow Consistent Monetary Circuits.' In *Contribution in Stock-Flow Modelling. Essays in Honour of Wynne Godley*, edited by D. B. Papadimitriou, and G. Zezza, 154–72. Basingstoke, NY: Palgrave Macmillan.
Zezza, G., and Valdecantos, S. 2025. 'Empirical Stock-Flow Consistent Models.' *European Journal of Economics and Economic Policies: Intervention* 22 (3): 298–300.