

Balance-sheet restructuring in Italy: an empirical analysis based on monetary circuit theory

Marcello Spanò*

Department of Economics, University of Insubria, Varese, Italy

Based on 25 years (1995–2019) of fully integrated sectoral data, this study builds on monetary circuit theory to examine the Italian experience of growing private debt followed by a long recession with balance-sheet restructuring. It is argued that this process cannot be identified as a typical balance-sheet recession. After the global financial crisis of 2007–2008, Italian firms increased financial sources from economic activities by retaining earnings, lowering wages, and disinvesting. Their deleverage, however, rested largely on the overall financial wealth reallocation that occurred after 2012, which was induced by monetary and fiscal policy, creating the conditions for households to increase net saving and to channel cumulated wealth from government securities and money balances towards equities.

Keywords: *sources of finance, debt, sectoral analysis, money reflux, economic policy*

JEL codes: *E12, E20, E63*

1 INTRODUCTION

The global recession following the 2007–2008 global financial crisis is often described as the consequence of a painful process of debt deleveraging occurring at the initiative of an overindebted private domestic sector (firms and households) as soon as the stock market collapsed. The recession is generated by the desire to increase private net saving to pay back the debt, no matter how low the interest rate goes and how much liquidity the central banks pump into the banks' assets (Koo 2008; Keen 2009; Lavoie 2014: 229; Seccareccia/Lavoie 2016). Not all the cases of tentative deleverage through net saving, however, can be ascribed to this 'balance-sheet recession' type of mechanism. Italy, as we will argue throughout this study, does not fit this description.

This study – in line with the stock–flow accounting tradition (Godley/Lavoie 2007; Bezemer 2010; Spanò 2019) – builds on a fully integrated data set reporting economic transactions and financial transactions of sectors in Italy over 25 years, from 1995 to 2019, and analyses how real and financial transactions have interacted with each other in Italy and what role was played by the economic policy before and after the global

* Email: marcello.spano@uninsubria.it. The author is very grateful to Hervé Baron for his comments on an earlier version of the manuscript, to Marco Veronese Passarella and the other participants of the 2021 STOREP conference session on 'Money, Finance and Distribution', and to the two anonymous referees, for valuable comments and suggestions on improving the quality of the paper. He accepts sole responsibility for any remaining errors.

Received 20 October 2021, accepted 27 April 2022

financial crisis. The focus on Italy is particularly relevant for two reasons: firstly, the country is frequently considered a case study by both economists from the mainstream tradition, who are concerned by the level of public debt, even when they might recognise that sovereign debt was not at the root of the 2007–2008 financial crisis (Daveri/Tabellini 2000; Mundell 2012; Baldwin/Giavazzi 2015), and critical economists, who are concerned by the eurozone's dysfunctional set of rules (Giacché 2017; Cesaratto/Zezza 2018; Fazi 2018; Baccaro/D'Antoni 2020; Spanò 2022); secondly, the Italian economic difficulties are a potential source of distress for the whole global economy, especially for the eurozone itself, as a restructuring of the public debt in Italy potentially brings about systemic consequences.

The methodology developed is inspired by the theory of the monetary circuit (TMC), which has been integrated into the post-Keynesian theory of endogenous money (Rochon 2016). The TMC, here considered in the version of Graziani (2003), is a logical scheme conceived at a very high level of abstraction to analyse the function of money in the capitalistic process of production and income distribution. The strength of the TMC is to underline the crucial role of credit-driven bank-money creation, circulation and reflux, the latter being possible through two channels: the decision to spend the disposable income (wages) to purchase goods produced by domestic firms, and the decision to allocate the financial wealth to acquire securities issued by firms. Depending on the hypotheses we make, the closure of the monetary circuit can lead to different outcomes.

The empirical analysis carried out in this study adapts the logic of the monetary circuit to the historically and institutionally specific case of the Italian economy over 25 years (pre-pandemic). To this end, it separates flows derived from bank-loan liabilities from those derived from other sources. By examining the changes in the composition of the aforementioned types of flows and the way they have been collected and used by households and firms, this work identifies the different scopes for changing debt exposure and balance-sheet items in Italy over the period considered. Subsequently, the analysis focuses on the role played by fiscal and monetary policy and by the foreign sector in influencing the financial structure of the private domestic sector.

The remainder of this paper is organised as follows: section 2 presents the methodology and derives a taxonomy to identify the scope for increasing or decreasing bank loans and to carry out economic diagnoses; section 3 describes the development of households and firms in Italy in the light of section 2's taxonomy; section 4 analyses how these two sectors obtained non-bank sources of finance; section 5 examines the role of fiscal and monetary policy and the role of the foreign sector; and section 6 concludes.

2 SOURCES OF FINANCE: THEORY AND METHOD OF ANALYSIS

In this section we build a generally valid theoretical set, inspired by the TMC, where all possible connections between the net saving of a sector and the change in its bank-loan liabilities can be observed.

According to the TMC, money is initially created by the banks, which open a line of credit in favour of the firms to activate the production process (initial finance); subsequently, firms transfer new money to the workers in the form of wages, and, finally, after the production is completed, money is transferred back to the firms (final finance), either because workers purchase the goods and services produced (non-financial transactions), or because, with saved income, they purchase firms' non-bank liabilities, such as equities or obligations (financial transactions). This reflux thus takes a twofold stream,

and the two flows are registered in two different sectoral accounts: the consumption of the workers, which generates financial flows arising from non-financial transactions, enters into the disposable income and net worth from transactions of the firms, whereas the purchase of securities issued by the firms, which generate a pure financial (portfolio) transaction, is registered as a financial liability for the issuer and a financial asset for the holder. At this higher level of abstraction, where the economy is divided into three sectors (banks, firms and workers), the only case in which money is not transferred back to the firms is when workers decide to keep part of their saving in bank deposits instead of securities, in which case the circuit does not close, and the firms are not able to pay back part of their initial debt to the banks. The implication is that any reduction of the money balances allows the firms to reduce their debt exposure to the banks (Graziani 2003; Rochon 2016).¹

The strength of the TMC is to underline the crucial role of credit-driven bank-money creation, circulation and reflux, the latter being possible through two channels: the decision to spend the disposable income (wages) to purchase goods produced by the firms, and the decision to allocate the financial wealth to acquire securities issued by firms. Depending on the hypotheses we make, the closure of the monetary circuit can lead to different outcomes. This is why the TMC should not be considered as a rigid model, but as a logical scheme that is open to history and to different institutional arrangements and that is applicable to different theoretical and practical enquiries which are not treated in the most abstract scheme of Graziani (2003), including typical Keynesian objects of analysis, such as financial crises, low income equilibria, the role of economic policy, and so on.

In this study, to represent liquidity creation, circulation and destruction in the light of the TMC framework, we aggregate the two streams of money reflux that are separate in the sectoral accounts: we build a variable summing up the change in net worth from non-financial transactions and the incurrence of non-bank liabilities in a single period (one year). We label this variable *non-bank sources of finance*, which is meant to represent all the liquidity that a single sector is able to collect from different sources except banks. This is systematically compared with loan liabilities arising from bank relationships within the same period.

Representing the sources of finance in this way has a manifold advantage. Firstly, it allows us to focus on finance in a non-confusing way, as equities and debt securities in national accounting are registered as liabilities for their issuer, whereas they are, in a financial sense, equivalent to 'positive' cash payments (liquidity sources in the sense of final finance). Secondly, it makes it possible to (temporarily) overlook the distinction between sectors in surplus and sectors in deficit, which limits the attention to the flows generated within non-financial transactions. Thirdly, it makes it possible to treat debt towards the banking system as a particular source of liabilities, which logically comes before any real economic and financial actions. Fourthly, it is consistent with the TMC and, more generally, with the theory of endogenous money.

The method of analysis is based on this simple sectoral accounting identity:

$$a - b = c - d_{NB} - d_B. \quad (1)$$

The left-hand side registers the net saving from non-financial transactions, defined as the difference between the change in net worth from non-financial transactions (a) and the investment in real goods (b). This balance is identically equal to net financial transaction

1. The theoretical origins of the TMC can be traced back – among other places – to Schumpeter (1912) and to the writings of Keynes before and after *The General Theory* (Keynes 1930; 1937).

flows, on the right-hand side, defined as the difference between net financial asset acquisitions (c) and net incurrence of liabilities, the latter being divided into non-bank liabilities (d_{NB}) and bank-loan liabilities (d_B). Non-bank liabilities include equities, debt securities, insurance, pension funds, and all financial liabilities that are not bank loans.

Our definition of non-bank sources of finance is thus given by

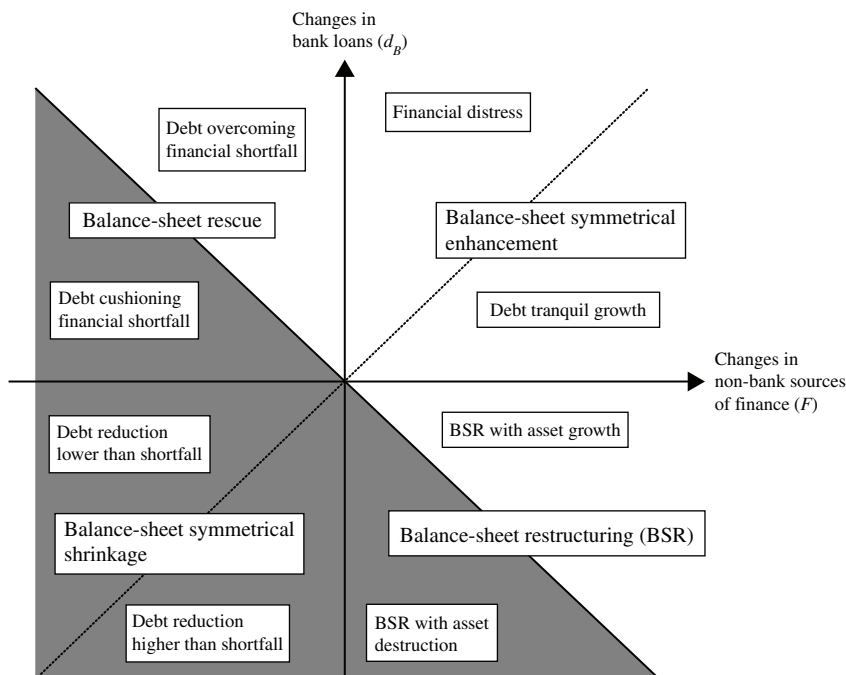
$$F = a + d_{NB}.$$

Rearranging (1), we obtain:

$$F + d_B = c + b. \quad (2)$$

All possible combinations of the two sources of finance F and d_B can be represented in a bidimensional space, as in Figure 1. The figure allows us to distinguish between different areas, implying different scopes for changing debt exposure.

The balance-sheet symmetric enhancement is verified when both sources of finance increase. This can be separated into two sub-areas: ‘debt tranquil growth’ and ‘financial distress’. In the debt tranquil growth zone, the reflux is facilitated as the rise in the debt level is more than offset by non-bank sources of finance. However, this should not be unequivocally interpreted as a zone of stability or financial sustainability. As the analysis of Minsky underlines, it is precisely during periods of apparent stability that financial fragility is built: the erosion of the margins of safety creates the conditions for distress borrowing to meet cash commitments, even in the presence of a small departure of



Note: Shaded area: asset destruction (change in the sum of real and financial assets lower than zero).

Figure 1 Bank loans and non-bank sources of finance

realisations from expectations (Minsky 1975; Kregel 2008). In the financial distress area, bank debt increases more than the financial flows arising from real economic activity or from non-bank financial liabilities.

The balance-sheet restructuring (BSR) is verified when positive non-bank sources are used to reduce debt exposure. This quadrant can also be divided into two sub-areas: a less uncomfortable one, where new non-bank sources raised are only partially used to repay overhanging debt, and a more uncomfortable one, where debt repayment is higher than newly raised sources, which in turn implies some destruction of total assets.

The balance-sheet symmetric shrinkage is the case of full crisis and sectoral bankruptcy, where the sector verifies a shortfall in both non-bank and bank-loan sources and, obviously, total asset destruction.

The balance-sheet rescue is the case where the sector raises debt to offset non-bank sources shortfall. New bank-loan liabilities could only partially offset the financial shortfall, in which case the scope for raising debt is to cushion the fall, or they could more than offset financial shortfall, in which case the scope for raising debt, besides cushioning, is also to increase (real or financial) assets.

The TMC framework, from which the above methodology is inspired, is usually considered not suitable for exercises of applied economics for two reasons: firstly, in sectoral accounting it is not possible to distinguish between initial and final finance, and, secondly, the TMC scheme moves at a high level of abstraction.²

The first limitation is unsolvable. In the accounting item reporting changes in loan liabilities, all liabilities increased and reduced within the year are balanced; by simply looking at the balancing value, it is not possible to establish whether, for example, a rise in sectoral debt is the result of insufficient liquidity collection, making it impossible to reduce the debt exposure (final finance) or is the result of some additional credit-driven money issued by banks (initial finance) which is still circulating in the economy. This limitation will be partially overcome, and the interpretation will be eased, in this work, by considering the change in loan liability flows not in isolation, but in connection with changes in other sources of finance as defined and described above.

As far as the second limitation is concerned, the highly abstract scheme of the circuit needs to be adjusted to include some crucial characteristics of a complex modern economy. In this study, the following characteristics of all advanced market economies will be taken into account: firms are not the only security issuers; securities can be of different types (equities, bonds, and other categories); there are financial corporations that are not banks and do not create money; banks are not pure money creators but they supply a wide range of financial services; banks do not issue credit to firms only, but they generate credit directly to households or to other sectors, especially in financialised economies (Seccareccia 2012; Passarella Veronese 2014; Sawyer/Passarella Veronese 2017); the household sector is only a proxy for workers; the non-financial corporation sector is only a proxy for firms; and the foreign sector and the government sector interact with the private domestic sectors.

The presence of a foreign and a government sector, in particular, brings about two important consequences. The first one is that these sectors are responsible for additional sources of money creation, circulation and destruction that can be considered external to the monetary circuit based on bank credit: the public expenditure not covered by taxes

2. A recent empirical assessment based on the TMC is the study of Forges Davanzati/Traficante (2018), which investigates credit restriction in Italy compared to Germany and France, in connection with monetary and fiscal policy.

and the balance of payments.³ The second consequence is that money balances are not the only ‘sink’ preventing money from returning to the firms. The reflux can also be interrupted when workers purchase debt securities issued by the national government or any financial asset issued by some foreign resident.

The empirical analysis is based on a fully integrated data set reporting non-financial transactions and financial transactions in Italy on a sector-by-sector basis over 25 years (1995–2019). Data are consolidated, thus they exclude inter-sectoral financial flows, to focus on the relationship across sectors taken as aggregate units. Data have been collected from Eurostat annual sector accounts (ESA2010).⁴

3 NON-BANK SOURCES OF FINANCE AND BANK-LOAN LIABILITIES: THE ITALIAN ECONOMY

This section comments on the development of the sources of finance available for the real private domestic sectors, the households (HH) and the non-financial corporations (NFC), whose path is illustrated in Figure 2.

The HH sector has always generated non-bank sources of finance, mainly from saving,⁵ consistent with its typical role in the economy, as well as with the role of the ‘workers’ in the TMC. From 1995 to 2010, the sector lay within the area that in the last section (Figure 1) was classified as ‘debt tranquil growth’, where the bank-loan liabilities are lower than non-bank sources of finance. However, it can be clearly observed that the sector slipped progressively towards a more leveraged position, by increasingly raising debt towards banks until the beginning of the global financial crisis, in 2007, both in absolute terms (the yearly addition went from around 1.5 per cent of GDP in 1995–1998 to around 4 per cent in 2004–2007) and in relative terms (the ratio between bank-loan and non-bank sources increased constantly). Also contributing to the rise of the leverage was the sharp fall of HH saving, which halved in a couple of years, from around 12 per cent in 1995 to around 6 per cent in 1998 – due to fiscal restrictions, labour reforms, and exchange-rate pegging policies carried out to enter the European Economic and Monetary Union (EMU) – and which was sharply reduced again after the global financial crisis, from around 6 per cent in 2007 to around 2 per cent in 2011 (Figure 3).

The initial reaction of the HH sector to the global financial crisis, from 2007 to 2011, was to reduce the additional debt added every year, not to decrease the debt exposure. The active debt reduction was carried out between 2012 and 2015, when the sector moved into the area that we have classified as ‘BSR with asset growth’. It should be underlined, therefore, that households in Italy did not follow the typical path of a balance-sheet recession, in that their bank-loan deleverage was not carried out spontaneously as the crisis

3. The role of the state as money creator is heavily emphasised by modern money theory (MMT) (Nersisyan/Wray 2016; Wray 2019). Not by chance, as Parguez (2002) – among others – observed, MMT extends the monetary circuit logic to government spending, taxation, and bond issuance. As a matter of fact, the circuit of state money is identically described by both neo-Chartalists (Tymoigne/Wray 2013) and circuitists (Passarella Veronese/Sawyer 2014).

4. Non-financial transactions (*nasa_10_nf_tr*), financial transactions (*nasa_10_f_tr*), and financial balance sheets (*nasa_10_f_bs*).

5. The label ‘saving’ referred to sectors and adopted throughout this paper is equivalent to the accounting definition of ‘changes in net worth due to saving and capital transfers’. This, in turn, is given by disposable income *less* consumption of fixed capital *less* final consumption expenditure *plus* changes in pension fund reserves *plus* net capital transfers.

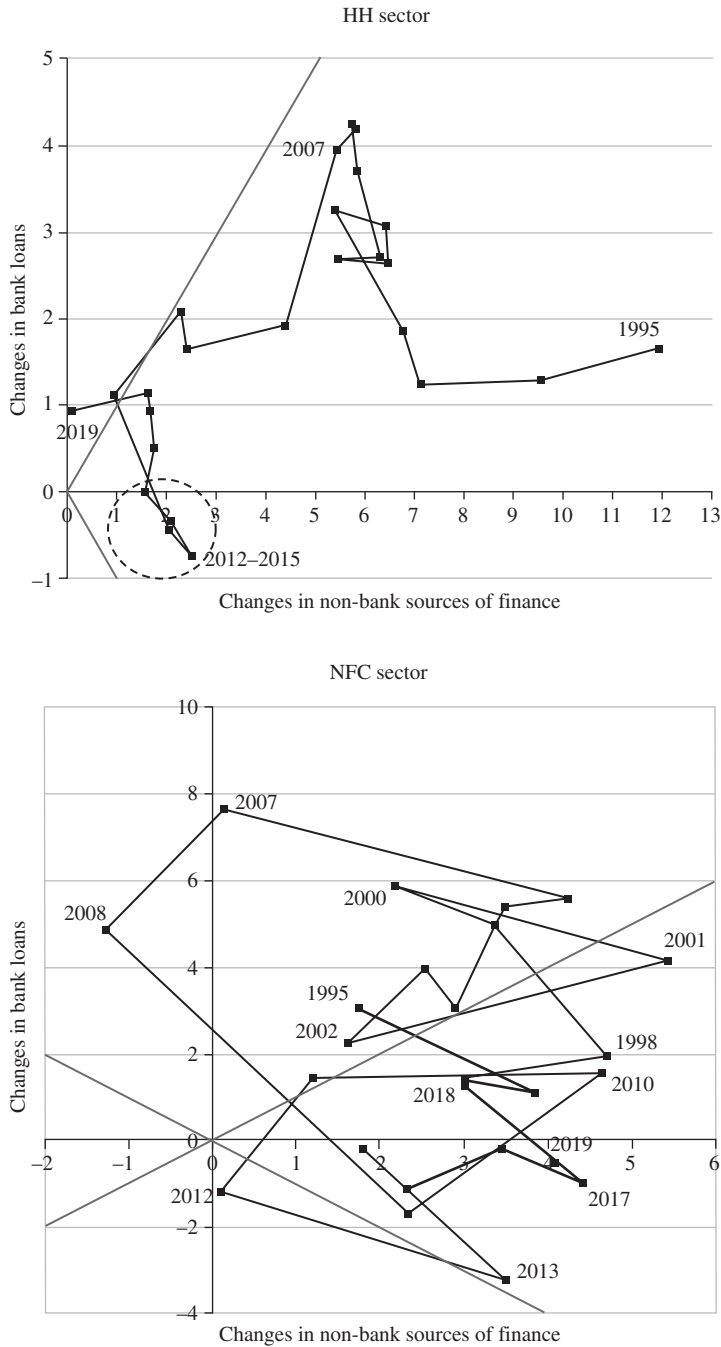


Figure 2 Changes in non-bank sources and bank-loan liabilities (percentage of GDP)

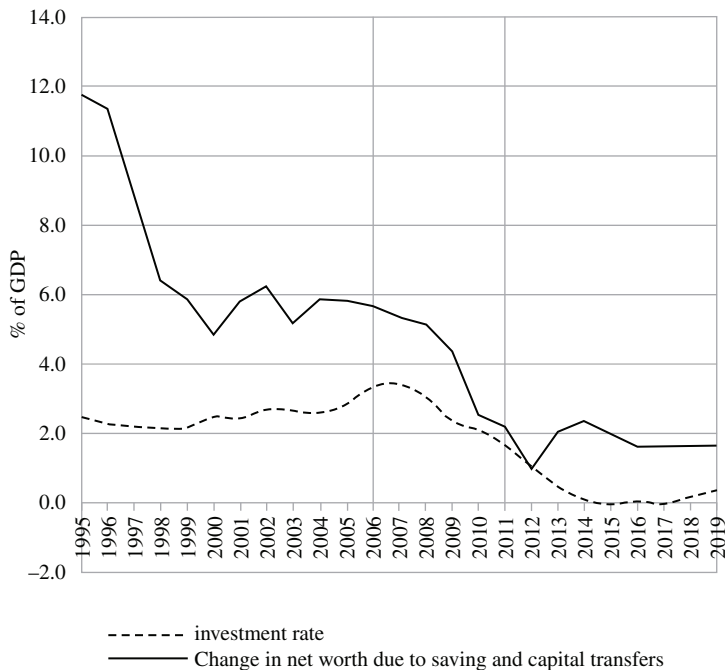


Figure 3 Saving and investment of the HH sector

started (and stock prices fell), but started at the same time as the heavy fiscal contraction in 2012, which was only partially softened in the following years. Despite its saving being at a historic low, the Italian HH sector generated surplus with the purpose of reducing its debt exposure only after 2013, mainly through cutting the expenditure on investment.

The NFC sector, as we have underlined, raises non-bank finance from both non-financial and financial transactions. From Figure 2 we can observe that, before the global financial crisis, NFC fluctuated across the two areas of ‘debt tranquil growth’ (1996–1998 and 2001) and ‘financial distress’ (1995, 1999–2000 and 2002–2007). From 2002 to 2006, the growth of bank debt was more than proportional but quantitatively comparable with the growth of non-bank sources (equities). The latter fell in 2007, leaving the financial distress condition of NFC much more evident.

The years following the global financial crisis were turbulent. In 2008, NFC increased bank-loan exposure to keep increasing assets despite the non-bank sources shortfall. 2009 was a single year of debt reduction (with positive non-bank sources) followed by two other years of increasing debt. The BSR for the NFC sector started in 2012, as well as for the HH sector, and it can be considered to last until 2019, with the only exception being the year 2018, when debt exposure increased. Therefore, for the NFC sector too it is possible to identify two different post-crisis periods: a first one, where the sector simply seems to struggle for survival, trying to cushion temporary shortfalls and restore economic activity, and for this purpose it does not hesitate to increase bank debt, although to a lesser extent compared to the previous years; and a second one (2012–2019), where the sector uses financial sources obtained from either its economic activity or the financial market to reduce its debt exposure to the banking sector.

4 NON-BANK LIABILITIES: THE REAL ECONOMY AND FINANCIAL ASSET ALLOCATION

This section focuses on the non-bank sources of finance by assessing, firstly, the sectoral strategies generating sources out of economic transactions and, secondly, the changes in financial wealth allocation of both the HH and NFC sectors. Average quantities of financial sources and uses, identified by equations (1) and (2), are reported in Table 1, where the acquisition of financial assets is disaggregated into two components: money balances and (non-money) financial assets.

The change in net worth from non-financial transactions is strictly connected to the set of real income components and real spending decisions of the private domestic sectors, therefore it is crucial to assess the impact of financial issues on the real economy.

Table 2 is a synthesis of three sectoral accounts (generation of income, allocation of primary income, and secondary distribution of income) detailing the sources at the origin of the gross disposable income (GDI). The disposable income of the NFC sector is derived by subtracting, out of the NFC gross value added (GVA), all items that are redistributed to other sectors of the economy, that is, the government sector (taxes and employers' social contributions), the HH sector, the financial corporations, and the foreign sector (distributed dividends, interest, wages and salaries). The disposable income of the HH sector is derived by adding the items that different domestic residents receive as they are owners of real and financial assets (distributed dividends, interest), workers (wages and salaries, mixed income) and non-corporate firms (operating surplus), as well as recipients of net government expenditure (current transfers less taxes).

The global financial crisis hit the Italian real sectors in 2008 and, more severely, in 2009. However, the GDI of the NFC sector started to decrease after 2006. At the root of this decline there was a change in fiscal policy. The new centre-left government elected in 2006 was much more proactive than the previous one (centre-right) in complying with the European Stability and Growth Pact. To this end, the government's greater efforts were concentrated in fighting tax evasion and avoidance, recovering revenues equal to €23 billion, way above the forecast of €17.9 billion by the end of 2007 (Paolucci/Newell 2008). As registered in sectoral accounting, in 2007, taxes on the income of the NFC sector were 63 per cent higher than in 2005, whereas the gross value added was only 3 per cent higher and the disposable income was 21 per cent lower. Paradoxically, the fall in GDI reached the minimum level in 2008 (see Figure 4) and then it grew during the first period following the global financial crisis (from 2009 to 2011), while GVA declined. This result is mainly due to the strategy, on the part of the NFC sector, to reduce the share of profits distributed to the HH sector. In other terms, the NFC sector reacted to the fall in the demand for its output by increasing the proportion of retained earnings as a source of liquidity. The distributed dividends component of the HH sector's disposable income kept decreasing throughout the following decade. The wages and salaries paid by NFC also declined during 2009–2014. Overall, by observing the income formation, we can conclude that there was a distributional conflict across sectors. The government increased fiscal pressure upon the NFC sector from 2006 to 2008, while the NFC sector appropriated a growing share of domestic income at the expense of the HH sector in the following decade.

Figure 4 illustrates the main accounting items leading from the disposable income to the net financial balance (net saving) of the NFC sector. The NFC sector's consumption of fixed capital exceeded the GDI in 2007, one year after the aforementioned fiscal restriction, thereby bringing the sectoral change in net worth from non-financial transactions below zero even before the global financial crisis spread to the real economy. The yearly change in net worth remained negative for a nine-year-long period, until 2015.

Table 1 Sources and uses of financial flows (yearly average as percentage of GDP)

HH sector	1995–1998	1999–2001	2002–2006	2007–2011	2012–2014	2015–2019
Non-bank sources (<i>F</i>)	8.86	6.10	5.84	3.10	2.23	1.35
Change in net worth from tr. (<i>a</i>)	8.10	5.62	5.58	3.04	2.12	1.30
Change in non-bank liab. (<i>d_{NB}</i>)	0.75	0.48	0.27	0.06	0.11	0.05
Change in bank loans (<i>d_B</i>)	1.51	2.98	3.50	2.14	-0.51	0.70
Investment (<i>b</i>)	2.27	2.35	2.82	2.53	0.52	0.09
Financial asset acquisitions (<i>c</i>)	8.10	6.74	6.52	2.71	1.20	1.96
Change in money balances	0.54	1.61	3.14	1.57	2.30	2.40
Change in other financial assets	7.55	5.12	3.38	1.13	-1.10	-0.44
Total flows of finance	10.36	9.08	9.34	5.24	1.72	2.05
Sectoral surplus (<i>a - b</i>)	5.84	3.28	2.75	0.51	1.60	1.21
NFC sector	1995–1998	1999–2001	2002–2006	2007–2011	2012–2014	2015–2019
Non-bank sources (<i>F</i>)	3.33	3.66	2.95	1.40	1.80	3.46
Change in net worth from tr. (<i>a</i>)	1.17	1.26	1.04	-0.85	-0.73	1.04
Change in non-bank liab. (<i>d_{NB}</i>)	2.16	2.40	1.91	2.25	2.53	2.42
Change in bank loans (<i>d_B</i>)	1.86	4.99	4.04	2.74	-1.56	-0.34
Investment (<i>b</i>)	1.87	2.89	2.45	1.02	-1.09	0.50
Financial asset acquisitions (<i>c</i>)	3.32	5.76	4.54	3.13	1.33	2.62
Change in money balances	0.26	0.77	1.40	0.10	0.92	1.38
Change in other financial assets	3.06	5.00	3.14	3.03	0.41	1.24
Total flows of finance	5.19	8.65	6.99	4.15	0.24	3.12
Sectoral surplus (<i>a - b</i>)	-0.70	-1.63	-1.41	-1.86	0.36	0.54

Table 2 Changes in income accounts components: average yearly gain (+)/loss (-) in sectoral income accounts (million € at 2015 c.p.)

NFC sector	1996-1998	1999-2001	2002-2005	2006-2007	2008-2009	2010-2011	2012-2014	2015-2019
GVA	42 100	20 717	19 762	13 676	-33 713	2 704	-19 835	17 770
Interest	6 880	13	820	-8 312	7 702	3 350	1 756	944
Distributed corporate profits	-9 729	-4 451	-2 580	872	12 854	3 286	6 286	-906
Wages and salaries	-15 052	-8 681	-11 391	-8 587	3 305	-110	5 224	-8 440
Employers' social contributions	-3 587	-1 616	-2 950	-1 626	1 024	1 002	2 807	-3 057
Current transfers less taxes	-7 694	-3 923	-1 354	-15 532	10 156	3 085	977	2 046
Disposable income	-17 537	-645	2 031	-16 351	-1 228	11 623	-1 290	6 961
HH sector	1996-1998	1999-2001	2002-2005	2006-2007	2008-2009	2010-2011	2012-2014	2015-2019
Operating surplus	6 653	5 742	5 850	4 943	3 595	-465	-5 270	3 124
Mixed income	12 200	4 716	-1 352	-127	-10 189	-3 300	-3 305	-656
Interest	-12 686	-6 158	-2 946	4 689	-7 752	-4 709	-1 904	-4 075
Distributed corporate profits	9 571	4 971	-880	2 910	-17 281	-1 948	-7 113	664
Other property	4 092	1 249	-1 438	1 313	-3 810	-78	1 062	215
Wages and salaries	23 375	12 020	8 559	11 540	-4 712	-4 202	-9 895	8 856
Current transfers less taxes	9 171	6 637	6 103	-5 224	13 186	-4 260	3 194	-1 663
Disposable income	52 462	29 088	14 232	20 242	-26 732	-19 479	-23 431	6 456

Note: Numbers shown within squares underline that the transfer of income from HH to NFC occurred during seven years following the global financial crisis of 2007-2008.

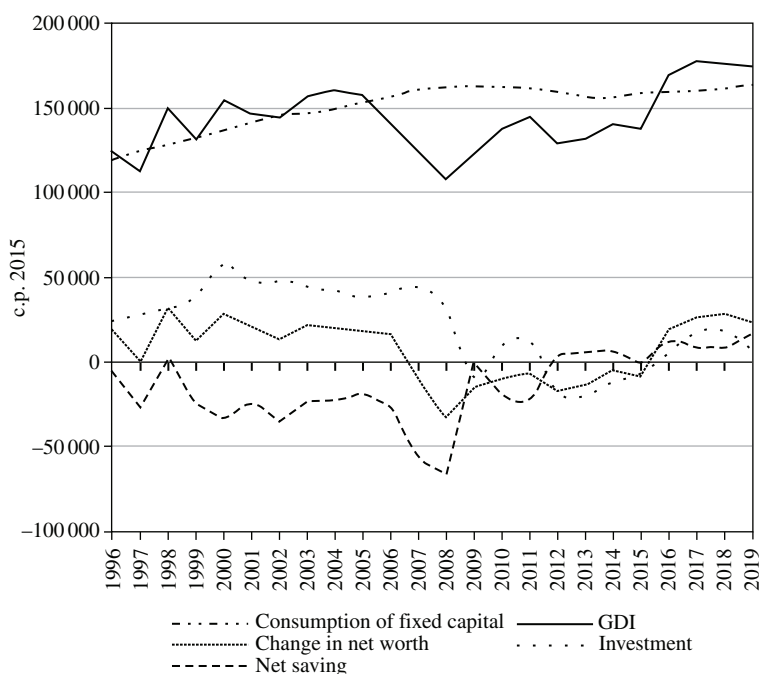


Figure 4 NFC expenditure and surplus

The sector refrained from investing in new capital goods: its net investment declined in 2008–2011 and became negative from 2012 to 2015 (see also Table 1), causing a four-year-long downsizing of the productive capacity. The negative investment exceeded the negative change in net worth, thereby turning the NFC from being a net spender, as would typically happen to a healthy NFC sector, to being a net saver. The sector maintained an anomalous surplus position throughout eight years, from 2012 to 2019.

Clearly, firms have not seen the real investment as a reliable strategy to increase their profitability. This is, on the one hand, a result of the enhanced fiscal austerity, which generates a stagnating demand for goods and services after 2012. On the other hand, this result could be ascribed to the specialisation of the Italian productive system in low research intensity sectors, which ‘locks the country into a quasi-permanent position of structural weakness’ (Storm 2019: 38).⁶ What is less agreed is the role played by the external constraint, self-imposed by entering the EMU, in creating this structural weakness.⁷

In addition to and in substitution for the financial sources from real economic activities, NFC increased financial sources from liabilities to non-bank subjects. These sources were mainly channelled through new equity issues, which, after 2012, have benefited from a general revitalisation of the stock market, increasing their amount and reducing their variability (see the next section). Generally speaking, the non-bank liabilities of

6. Carnevali et al. (2020) find precisely that current investment in the peripheral countries of the eurozone is uncorrelated to the labour productivity of manufacturing industries.

7. For a recent summary of the debate on this issue, see Seccareccia (2017) and Storm (2019). For a recent analysis on the external constraint, see Baccaro/D’Antoni (2020).

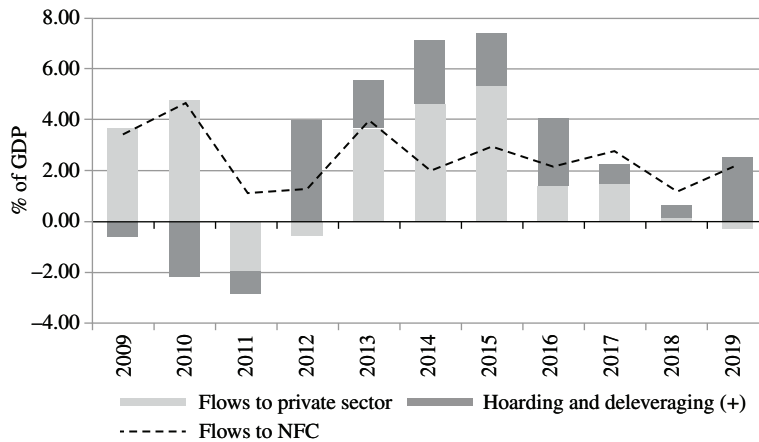


Figure 5 Destination of HH sector's debt security net sales (+) or purchases (-)

the NFC sector offset the shortfall in net worth from transactions for a decade after the crisis (Table 1).

To assess how HH portfolio choices have affected non-bank sources of finance available to the NFC, Figure 5 reports the flows associated with changes in debt security assets of the HH sector after the global financial crisis. The sum between the two components of the histogram (dark and light grey) gives the value of net debt security sales of the HH sector. The revenues from debt security sales can be channelled into other types of financial assets, thereby to the private sector (light grey).⁸ Alternatively, they can be used either to increase money balances or to repay bank debt, in which case the sources are channelled away from the private sector (dark grey).

Before 2012, the HH sector, hit by the crisis, raised money balances by selling debt security assets (2009–2010) (mainly to the banks), but also by increasing its debt exposure to the banks. The financial flows generated from these sources are transmitted to the NFC sector, which increases the issuing of equities, after two years of stagnation (dashed line), to a higher extent than HH debt security reduction.

In the year 2011 the HH sector acquired debt securities (mainly government debt) equal to 2.91 per cent of GDP. The money sources were obtained partially through new leverage (less new money balances), and partially by selling other types of assets. The asset swap was equal to 1.96 per cent of GDP sources, drained from private sectors and transferred to the public sector. At the same time, the overall NFC sources of non-bank liabilities fell from 4.66 to 1.16 per cent.

The sectoral behaviour changed radically after 2012. The HH sector started to sell debt securities again, in growing and persistent amounts (from 3.41 per cent of GDP in 2012 to 7.14 per cent in 2015). Although only a minor part of the financial flows generated through debt security sales re-entered the circuit of the private sector (as a share of it is now devoted to increasing hoardings and to reducing the HH debt burden), the NFC

8. Financial assets could also be issued by foreigners, therefore part of the revenues from HH selling debt securities could not generate non-bank sources of finance for domestic companies (see the next section).

sector, from 2013, was able to ensure a fairly long-lasting, positive amount of financial flow from securities equivalent to around 2–3 per cent of GDP. This, in turn, was used to reduce the bank debt exposure.

Increasing money balances of the HH sector was thus carried out simultaneously with the decreasing of the bank debt of the NFC sector. Although this conclusion, from the viewpoint of the TMC in the most abstract scheme, is rather counter-intuitive, it is easily explained, as we have argued in section 2, once we consider the existence of a buffer stock of government debt securities accumulated in past periods on the HH sector's balance sheet. Debt securities, massively substituted with equities, were initially transferred to private financial corporations, from 2012 to 2014, and subsequently to the European Central Bank (ECB), which carried out a quantitative easing (QE) programme, purchasing almost €337 billion of Italian government bonds from 2015 to 2019.

5 THE ROLE OF ECONOMIC POLICY AND THE FOREIGN SECTOR

After having examined bank-loan and non-bank sources of finance available for the HH and NFC, we now examine the external sources of finance, defined as the monetary inflows (outflows) that are generated (drained) by either the government sector or the foreign sector. We argue, in this section, that the monetary and fiscal policy played an indispensable role in carrying out the deleverage of the private sector and thereby the closure of the monetary circuit after 2012.

When dealing with external sources of finance, it is not possible, with the data available, to identify the sources flowing to the HH and the NFC sectors. It is possible, however, to distinguish between an overall measure of the overseas sources of finance available for the whole domestic economy, which is well represented by the current and capital account, and a measure of the overseas sources of finance available, more specifically, to the non-banking sector of the domestic economy. To this end, the balance-of-payments accounting identity can be expressed as follows:

$$CA + FDI + PI = \Delta NFP_B, \quad (3)$$

where CA is the current and capital account balance, FDI is the net foreign direct investment, PI is the net portfolio investment, and ΔNFP_B is the change in the net foreign asset position of the banking system (commercial banks and central bank). The sum of FDI and PI gives the autonomous capital inflows (reported in Table 3) accounted in the financial account and excludes both the inter-bank lending components (other investments), which adjust endogenously, and the change in the official international reserves, which are set by the monetary authority (Chaundy 1999; Lavoie 2014: ch. 7). The sum of the current and capital account and the net autonomous capital inflows, that is, the left-hand side of (3), can be considered a proxy for net overseas financial sources which are available to the non-banking sector of the domestic economy.⁹ This measure is reported in Table 3.

The fundamental identity of the economy linking the financial balances of the private domestic sector, the foreign sector and the government is given by:

$$(S - I) = CA + (G - T), \quad (4)$$

9. The reason why the left-hand side of (3) should be considered a proxy, and not a precise measure, of the monetary inflows available to non-bank sectors is that part of the autonomous overseas investments are carried out by commercial banks.

Table 3 Sectoral balances and external sources of finance: yearly average in million € at 2015 constant prices and as percentage of GDP

	1995–1998	1999–2001	2002–2006	2007–2011	2012–2014	2015–2019
(1) Government net borrowing	72.207	41.393	57.324	59.167	47.640	38.131
(2) Current and capital account	4.95	2.46	3.27	3.37	2.92	2.24
(3) Autonomous foreign financial inflows	36.056	6.876	-8.821	-42.233	16.617	41.416
Portfolio investments	2.40	0.42	-0.49	-2.39	1.02	2.42
Foreign direct investments	-	-11.059	20.863	-14.929	4.955	-74.599
Net saving of private sector: (1) + (2)	-	-0.67	1.17	-0.84	0.30	-4.40
Financial sources from foreign sector available for non-banks: (2) + (3)	-	-16.575	17.517	11.380	7.746	-76.894
Total external financial sources available for non-banks: (1) + (2) + (3)	-	-1.01	0.97	0.62	0.47	-4.54
Net saving of private sector: (1) + (2)	108.263	48.269	48.503	16.934	64.257	79.547
Financial sources from foreign sector available for non-banks: (2) + (3)	7.35	2.88	2.77	0.98	3.94	4.66
Total external financial sources available for non-banks: (1) + (2) + (3)	-	-4.184	12.042	-57.163	21.572	-33.183
	-	-0.25	0.68	-3.23	1.32	-1.98
	-	37.209	69.366	2.005	69.212	4.948
	-	2.21	3.95	0.14	4.24	0.26

where $(S - I)$ is the net saving of the private domestic sector and $(G - T)$ is the fiscal deficit. Using (3), this identity can be re-expressed as follows:

$$(S - I) + (FDI + PI) = \Delta NFP_B + (G - T). \quad (5)$$

The left-hand side of (5) represents the total external sources of finance available to the non-bank domestic private sector, reported in the bottom line of Table 3. The right-hand side divides this quantity into the two channels responsible for its creation: the foreign sector (ΔNFP_B) and the government ($G - T$). Equation (5), therefore, can be useful to assess how the non-bank sources of finance created externally could have helped or hindered the non-bank domestic private sector when it came to reducing its debt exposure.

As Table 3 reports and as other studies have emphasised (Lapavitsas et al. 2012; Macquarie Research 2017; Mody 2018; Storm 2019), before the crisis of 2007–2008, overseas autonomous financial inflows in Italy were relatively abundant and more than offset the deficit in the current account, providing the non-bank sector with a yearly average net financial inflow of 0.68 per cent of GDP between 2002 and 2006. As we saw in section 4, the government during the same period was not troubled by fulfilling European Commission recommendations. As a result, the total external financial sources available to the non-bank domestic private sector were equal to 3.95 per cent on average. As we have seen, however, these sources did not prevent either the HH or NFC sectors from increasing their debt exposure to the banks. From 2007 to 2011, the outflows of the autonomous overseas financial capital (due to the foreign direct investments component) added to the current account deficit and generated a financial drain through the foreign channel (–3.23 per cent), which was just offset by the public sector's deficit. The net effect was a fall in the total external financial sources from 3.95 per cent in 2002–2006 to 0.14 per cent in 2007–2011, which certainly did not encourage the HH and NFC sectors to pay back the debt.

The deleverage of both the HH and NFC sectors started only from 2012, simultaneously with a changed approach to economic policy. Member countries of the eurozone signed a commitment (the Fiscal Compact) to carry out more severe fiscal austerity, whereas the ECB actively engaged in actions aimed at lowering the interest rates of government securities. This approach was adopted throughout the period 2012–2019, although it can be divided into two sub-periods, that is, before and after the QE. In this policy change we can distinguish two factors that contributed to triggering the deleverage that the private sector was reluctant to carry out.

The first factor is the lowering level of the interest rates on government debt securities. The ECB announced the decision to lower the policy rate in November 2011. It carried out liquidity injection through large long-term refinancing operations (LTROs) in December 2011 and February 2012, but they were insufficient to bring the long-term bond yield spreads with the German bund under control. Spreads across the eurozone started to lower only from July 2012, when the ECB announced the Outright Monetary Transactions programme and made it clear, with Mario Draghi's famous speech in July 2012, that it would have played a leading role in the design and implementation of the economic policy of the eurozone (cf. ECB 2012; Febrero et al. 2018). The perception of a lower risk of default on (or redenomination of) government debt induced the private financial sector to purchase government debt securities. The rising prices of the outstanding stock of debt securities, on the other hand, incentivised an intensive selling by the HH sector. With the liquidity obtained, the HH initially paid back part of its debt and, again, increased money balances (Figure 5). The liquidation of the stock of debt securities on the part of the HH sector started to flow towards the NFC only when households substituted equities for debt securities, after 2013. The recovery of the stock market was precisely the result of the economic policy aimed at

lowering the interest rates and can be interpreted, in the light of the TMC, as one important channel driving the reflux from previously accumulated ‘buffer stock’ of wealth (money balances and government debt securities) to the NFC sector, which in turn received a new injection of non-bank sources of finance to pay back its debt.

A second factor helping to facilitate the closure of the circuit was the severe fiscal contraction that occurred in 2012 and persisted in the following years. As Table 3 reports, the yearly average net borrowing of the government dropped by nearly €11.5 billion (measured at 2015 constant prices), that is, in 2012–2014 it was 19 per cent less than in 2007–2011. This fiscal austerity has determined a fall in the disposable income equal to nearly €23.4 billion for the HH sector and to only €1.3 billion for the NFC sector (see Table 2). At first glance, the statement that the fiscal restriction helps the private sector to deleverage is quite counter-intuitive. Let us recall that, when the private sector seeks to deleverage, the less painful strategy for a government should rather be to offset a long-term falling demand by carrying out a proactive fiscal policy enhancing deficit spending (Koo 2008; Seccareccia/Lavoie 2016). Given the constraints of the EMU, which prevent such a policy being carried out without incurring punishment in the financial market while the central bank stands still (Lavoie 2014: 500; 2015; Mitchell 2016; Mody 2018), in Italy rather the opposite strategy was adopted.

As argued in Spanò (2022), the fiscal contraction which started in 2012 had the consequence of breaking the line of resistance that, from the beginning of the global financial crisis, induced households to keep their consumption levels as unchanged as possible, reducing their surplus and postponing debt repayment. From 2012, the HH sector contracted the expenditure significantly, and its surplus started to rise after 2013 (Figure 3). Not surprisingly, from 2012 to 2014, the NFC sector benefited from an average annual rise in non-bank liabilities (equities, debt securities, and pension funds) equal to 2.53 per cent of GDP (Table 1). This source of non-bank finance was significantly higher than the surplus that the NFC sector generated through the disposable income redistribution and through the falling investment (0.35 per cent).

As far as the foreign sector is concerned, after the fall in GDP that occurred in 2012, the current account turned from a decade-long source of money drain to a source of money injection: 1.02 per cent in 2012–2014, increasing to 2.42 per cent in 2015–2019. The contribution of the foreign sector to generating financial sources for the non-bank private sector, however, can be ascribed more to the fiscal austerity, which generated a contraction in the demand for imports, than to a renewed trust in the Italian assets. The foreign direct investment remained negative from 2012 to 2014 and turned to a positive balance only in 2015–2019.

Regarding the QE period, from 2015 to 2018, we can hardly say that it was a turning point from the point of view of the monetary circuit, as the economic policy remained based on low interest rates on debt securities, and on fiscal austerity. From 2015 to 2018, the ECB drained debt securities massively, at an annual average of 2.94 per cent of GDP. This, besides inundating the banking sector with bank reserves, induced the non-banking financial sector to substitute equities and other assets for debt securities in its balance sheet (2.32 per cent annual average). As a result, as Figure 6 illustrates, from 2016 to 2019, equities issued by the NFC sector (annual average of 1.57 per cent) were higher than equities accounted as directly purchased by HH (0.21 per cent). But considering that non-bank financial corporations are intermediaries for households’ portfolio decisions, the final result, from the perspective of the monetary circuit, is the same as before the QE, that is, a positive and stable flow of finance from the HH to the NFC sector.

Overall, during the period of debt security shrinking (2015–2018), the non-bank liabilities of the NFC sector increased by 2.34 per cent of GDP annually on average.

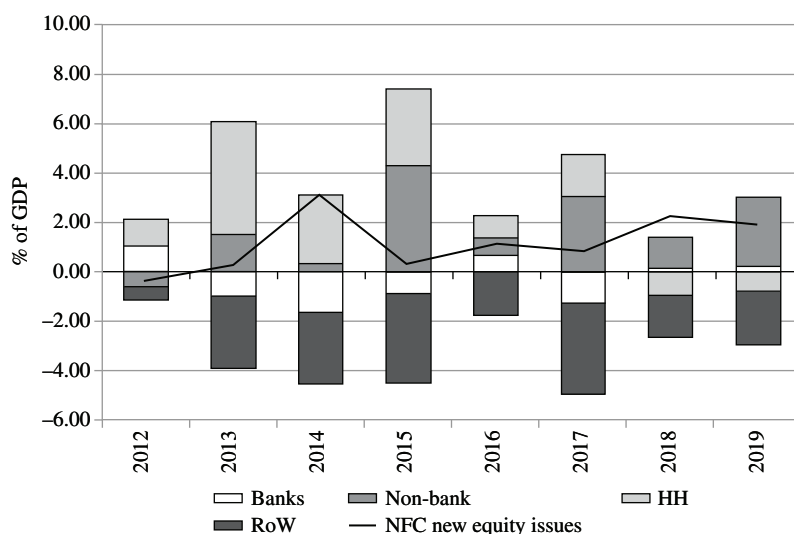


Figure 6 Net equity asset acquisitions vs NFC new equity liabilities

This was, once again, the major source of finance that allowed the NFC to deleverage, as the net worth generated from economic transactions in the same period was equal to 0.94 per cent only.

During the years of QE, the external sources of finance generated by the foreign sector turned again to negative values (-1.98 per cent on average). The outflow of the autonomous financial capital (-4.40 per cent) was due to two main factors: foreigners selling Italian debt securities and domestic residents purchasing foreign equities. The first factor was simply the effect of the ECB draining Italian debt securities from the financial market. The second factor is illustrated in Figure 6 and is not peculiar to the QE period, but occurred throughout the whole period of BSR, from 2012 to 2019. The negative value of the net equity asset acquisitions of the foreign sector is a measure of a sink in the domestic reflux (which adds to the accumulation of money balances and government debt securities already examined), as it implies that an important share of the equity purchased by the domestic economy was issued by foreign companies.

In the light of this assessment of the economic policy, we should now be able to establish clearly that the recession associated with BSR which occurred in Italy after 2012 was different from a typical balance-sheet recession in at least three respects: firstly, it was not carried out at the initiative of an overindebted private sector, but was heavily induced by both fiscal and monetary policy; secondly, it was not triggered by asset-price collapse, but was made possible by (policy-induced) asset-price recovery; and, thirdly, it was based more on financial wealth reallocation than on increasing net saving (Spanò 2022).

6 CONCLUSION

This study has examined the Italian experience of growing private debt followed by a long recession with a balance-sheet restructuring by assessing, firstly, how the flows of finance

were collected and used by the real domestic sectors (households and firms), and, secondly, what the role played by the political economy and by the foreign sector was. The assessment was based on the empirical observation of 25 years of fully integrated sectoral data reporting economic and financial transaction flows and stocks.

The method of analysis, inspired by the monetary circuit theory, has built on a separation between bank loans and non-bank sources of finance, the latter aggregating all the liquidity that a single sector is able to collect from all sources except banks, that is, either real economic activities (changes in net worth from non-financial transactions) or financial transactions (changes in equity or debt security liabilities). Based on this separation, a complete taxonomy of financial and economic conditions affecting the sectoral balance sheet has been established (roughly: balance-sheet symmetrical enhancement, rescue, symmetrical shrinkage, restructuring), implying different scopes for increasing or decreasing bank-loan liabilities. This method allows us to analyse the money reflux not in the purely abstract logic of the TMC, where domestic firms' indebtedness should be exactly equal to the money wage bill, but in a more realistic economy, where domestic firms' indebtedness can be the consequence of households holding cash balances or securities issued by other sectors of the economy, such as the government or foreign companies or institutions (Graziani 2003: 31–32 and 70; Rochon 2016: 89).

From the empirical evidence it has been possible to identify two different post-crisis periods in Italy: a first one (2009–2011) where both firms and households kept increasing bank loans in order to cushion shortfalls expected to be temporary, to restore economic activity and to keep expenditure as similar as possible to pre-crisis levels; and a second one (2012–2019) where both firms and households reduced debt exposure to the banking sector, the firms by using financial resources drained from either economic activity or the financial market, the households by reducing expenditure, mainly investment, and by selling financial assets, mainly debt securities, from the existing stock.

The main strategy of the firms to increase financial sources from economic activities was based on retained earnings and lower wages rather than on increasing revenues from transactions. They reached anomalous surplus positions that continued even after the year 2016, when sectoral disposable income and net worth recovered to pre-crisis levels. This attitude, which extended the period of economic stagnation, looks hardly justifiable from an accounting viewpoint, whereas it can be explained by the productive specialisation in low and low-medium technology activities coupled with GDP stagnation induced by fiscal austerity. In addition to draining disposable income from households, firms increased financial flows through issuing new equities. The latter was, indeed, the main source of finance, allowing the non-financial corporations to reduce their debt exposure to banks.

After 2012, the joint fiscal and monetary policy can be interpreted as the attempt to ease the closure of the monetary circuit by triggering the deleverage that the private sector was reluctant to carry out spontaneously. Given the eurozone's frame of rules that prevent the governments from increasing deficit spending, the monetary reflux was not based on stimulation of aggregate demand and real productive capacity, but on channelling cumulated financial wealth from government securities and money hoards towards equities while forcing real expenditure contraction or stagnation. This result was also pursued by shrinking government debt securities during the period dominated by the QE monetary policy (2015–2018).

The foreign sector is a source of finance, besides the fiscal deficit, which is external to domestic bank credit, thereby potentially easing the domestic reflux. This source, however, was never abundant during the period considered. Before the 2007–2008 crisis, autonomous overseas capital inflows were largely offset by deficits in the current account.

From 2007 to 2011, the foreign sector drained money in both current and financial accounts. After 2012, while, on the one hand, the recession brought the current account to a positive balance, on the other hand, the financial wealth reallocation was partially directed towards equities issued by foreigners.

Overall, despite some similarities, the Italian recession coupled with balance-sheet restructuring, which occurred after 2012, differs from the balance-sheet recession observed elsewhere in three respects. Firstly, in Italy, the sources of money reflux relied more on portfolio reallocation of the existing wealth than on revenues and saving from economic transactions. Secondly, the debt deleverage was not carried out at the initiative of the private sector, but was entirely induced by both fiscal and monetary policy. Thirdly, it was not triggered by asset-price collapse, but was made possible by (policy-induced) asset-price recovery. In short, in Italy it was the recession that caused the deleverage, rather than the other way round.

REFERENCES

- Baccaro, L., D'Antoni, M. (2020): Has the 'external constraint' contributed to Italy's stagnation? A critical event analysis, MPIfG Discussion Paper, No 20/9.
- Baldwin, R., Giavazzi, F. (eds) (2015): *The Eurozone Crisis: A Consensus View of the Causes and a Few Possible Solutions*, London: CEPR Press.
- Bezemer, D.J. (2010): Understanding financial crisis through accounting models, in: *Accounting, Organizations and Society*, 35, 676–688.
- Carnevali, E., Godin, A., Lucarelli, S., Veronese Passarella, M. (2020): Productivity growth, Smith effects and Ricardo effects in Euro Area's manufacturing industries, in: *Metroeconomica*, 71, 129–155.
- Cesaratto, S., Zezza, G. (2018): What went wrong with Italy, and what the country should now fight for in Europe, FMM Working Paper, No 37.
- Chaundy, D. (1999): What is the accommodating item in the balance of payments?, ESRC Centre for Business Research, University of Cambridge, Working Paper No 122
- Daveri, F., Tabellini, G. (2000): Unemployment, growth and taxation in industrial countries, in: *Economic Policy*, 30, 47–104.
- ECB (European Central Bank) (2012): Verbatim of the remarks made by Mario Draghi, 26 July, URL: <https://www.ecb.europa.eu/press/key/date/2012/html/sp120726.en.html>.
- Fazi, T. (2018): Italy's organic crisis, in: *American Affairs Journal*, 20 May, URL: <https://american-affairsjournal.org/2018/05/italys-organic-crisis/>.
- Febrero, E., Uxò, J., Bermejo, F. (2018): The financial crisis in the Euro Zone: a balance of payments crisis with a single currency?, in: *Review of Keynesian Economics*, 6, 221–239.
- Forges Davanzati, G., Traficante, G. (2018): La restrizione del credito in uno schema di teoria monetaria della produzione: il caso italiano, in: *Moneta e Credito*, 71, 221–233.
- Giacchè, V. (2017): The real cause of the Italian bank bailouts and Euro banking troubles, *Institute for New Economic Thinking blog*, 19 July, URL: <https://www.ineteconomics.org/perspectives/blog/the-real-cause-of-the-italian-bank-bailouts-and-euro-banking-troubles>.
- Godley, W., Lavoie, M. (2007): *Monetary Economics: An Integrated Approach to Credit, Money, Income, Production and Wealth*, London: Palgrave Macmillan.
- Graziani, A. (2003): *The Monetary Theory of Production*, Cambridge, UK: Cambridge University Press.
- Keen, S. (2009): The global financial crisis, credit crunches and deleveraging, in: *Journal of Australian Political Economy*, 64, 22–36.
- Keynes, J.M. (1930): The treatise on money, in: *Collected Writings*, 5 and 6, London: Macmillan.
- Keynes, J.M. (1937): Alternative theories of the rate of interest, in: *Collected Writings*, 14, London: Macmillan, 210–215.
- Koo, R.C. (2008): *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, Singapore: Wiley.

- Kregel, J. (2008): Minsky's cushions of safety: systemic risk and the crisis in the U.S. subprime mortgage market, Levy Economics Institute, Public Policy Brief No 93.
- Lapavistas, C., Kaltenbrunner, A., Labrinidis, G., Lindo, D., Meadway, J., Michell, J., Painera, J.P., Pires, E., Powell, J., Stenfors, A., Teles, N., Vatikiotis, L. (2012): *Crisis in the Euro Zone*, London: Verso.
- Lavoie, M. (2014): *Post-Keynesian Economics: New Foundations*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.
- Lavoie, M. (2015): The Eurozone: similarities and differences from Keynes's plan, in: *International Journal of Political Economy*, 44, 3–17.
- Macquarie Research (2017): Eurozone's achilles' heel: what caught my eye? No 70, 10 January, URL: http://pg.jrj.com.cn/acc/Res/CN_RES/INVEST/2017/1/19/0fad8928-467c-4101-bc4d-caede21c92f7.pdf.
- Minsky, H.P. (1975): *John Maynard Keynes*, New York: Columbia University Press.
- Mitchell, W. (2016): *Eurozone Dystopia: Groupthinking and Denial on a Grand Scale*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.
- Mody, A. (2018): *Eurotragedy: A Drama in Nine Acts*, New York: Oxford University Press.
- Mundell, R. (2012): The European fiscal reform and the plight of the euro, in: *Global Finance Journal*, 23, 65–76.
- Nersisyan, Y., Wray, L.R. (2016): Modern Money Theory and the facts of experience, in: *Cambridge Journal of Economics*, 40, 1297–1316.
- Paolucci, C., Newell, J.L. (2008): The Prodi government of 2006 and 2007: a retrospective look, in: *Modern Italy*, 13, 281–289.
- Parguez, A. (2002): A monetary theory of public finance: the new fiscal orthodoxy: from plummeting deficits to planned fiscal surpluses, in: *International Journal of Political Economy*, 32, 80–97.
- Passarella Veronese, M. (2014): Financialization and the monetary circuit: a macro-accounting approach, in: *Review of Political Economy*, 26, 128–148.
- Passarella Veronese, M., Sawyer, M. (2014): Financialisation in the circuit, Financialisation, Economy, Society and Sustainable Development (FESSUD): Working Paper Series No 18.
- Rochon, L.-P. (2016): Monetary economies of production, in: Rochon, L.-P., Rossi, S. (eds), *An Introduction to Macroeconomics: A Heterodox Approach to Economic Analysis*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 76–96.
- Sawyer, M., Passarella Veronese, M. (2017): The monetary circuit in the age of financialisation: a stock-flow consistent model with a twofold banking sector, in: *Metroeconomica*, 68, 321–353.
- Schumpeter, J.A. (1912 [1949]): *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*, Cambridge, MA: Harvard University Press.
- Seccareccia, M. (2012): Financialization and the transformation of commercial banking: understanding the recent Canadian experience before and during the international financial crisis, in: *Journal of Post Keynesian Economics*, 35, 277–300.
- Seccareccia, M. (2017): Is high employment in the eurozone possible? Some reflections on the institutional structure of the eurozone and its crisis, in: *European Journal of Economics and Economic Policies: Intervention*, 14, 351–371.
- Seccareccia, M., Lavoie, M. (2016): Understanding the great recession: some fundamental Keynesian and Post-Keynesian insights, with an analysis of possible mechanisms to achieve a sustained recovery, Institute for New Economic Thinking, Working Paper No 37.
- Spanò, M. (2019): Measuring finance for the economy and finance for finance, in: Rochon, L.-P., Monvoisin, V. (eds), *Finance, Growth and Inequality: Post-Keynesian Perspectives*, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 12–35.
- Spanò, M. (2022): Deleverage, balance sheet restructuring, and economic policy in Italy, in: *Journal of Economic Issues*, 56, 225–243.
- Storm, S. (2019): Lost in deflation: why Italy's woes are a warning to the whole Eurozone, Institute for New Economic Thinking, Working Paper No 94.
- Tymoigne, É., Wray, L.R. (2013): Modern money theory 101: a reply to critics, Levy Economics Institute, Working Paper No 778.
- Wray, L.R. (2019): Alternative path to modern money theory, in: *Real-World Economics Review*, 89, 5–22.