

Failures on the market and market failures: a complementary currency for bankruptcy procedures

Massimo Amato and Luca Fantacci*

One of the most widespread implications of the Great Financial Crisis has been the increase in bankruptcies across advanced economies. The traditional approach to the problem of insolvencies is constrained by deeply ingrained concepts of money and credit and by the institutions in which those concepts are embodied, according to which the only way to discharge a debt is a payment in money. This paper deals with a peculiar project elaborated within the Italian Ministry of Justice to address the problem of the growing amount of uncollectibles involved in bankruptcy procedures. The project entails a new form of articulation between money and credit, which overturns the traditional logic of liquidation by transforming creditors of bankruptcy procedures, passively waiting to be paid, into active operators, capable of sustaining demand. This goal is pursued by converting part of their credits into purchasing power that can be immediately spent in the auctions for the assets of bankrupt companies, thereby increasing the efficiency of bankruptcy procedures, accelerating the reallocation of assets and maximising the satisfaction of creditors. The projects may be seen as a complementary currency characterised by a functional, and not by a territorial, delimitation. It incorporates some of the features that have been recently experimented with, with varying degree of success, within both the official and alternative monetary systems: endogenous money creation, targeted loans and demurrage. The present paper aims at illustrating the theoretical underpinnings of the project and its implication for the question of devising an alternative to current financial institutions.

Key words: Bankruptcies, Complementary currencies, Clearing, Liquidity preference
JEL classifications: E12, E42, G33

1. Introduction

One of the most widespread implications of the Great Financial Crisis has been the increase in bankruptcies across advanced economies (OECD, 2014, pp. 8–9). The evolution of bankruptcy procedures is paradigmatic of the monetary and financial features involved in explaining the onset and progression of the crisis itself. As we shall argue, the surge in bankruptcies may be regarded not merely as a symptom and consequence of the crisis, but as evidence of its monetary nature and self-enforcing character.

Manuscript received 23 June 2015; final version received 18 May 2016.

Address for correspondence: Luca Fantacci, Bocconi University, via Roentgen, 1, 20136, Milan, Italy; email: luca.fantacci@unibocconi.it

* Bocconi University, Italy. The authors wish to thank Danilo Galletti, Pasquale Liccardo, Marcello Tarabusi and two anonymous referees for their precious comments on previous versions of this paper. The usual disclaimer applies.

In fact, the traditional approach to the problem of insolvencies is constrained by deeply ingrained concepts of money and credit and by the structure of the monetary and financial institutions in which those concepts are embodied. Within such an approach, credit is narrowly understood as an entitlement to a predetermined quantity of money. However, credit does not necessarily entail a monetary settlement: in its more comprehensive and original meaning, credit is any anticipation (of goods as of money) in view of a payment (which in turn may be in money or in kind).¹ In fact, most juridical systems admit non-monetary settlements under certain circumstances and assuming the willingness of the creditor to accept payment in kind.² Yet, the narrower conception of credit as the right to receive payment in money underpins the juridical treatment of creditor–debtor relations, particularly within the regulation of bankruptcy procedures, where the right of the creditor to be paid in money is ultimately guaranteed by the liquidation on the market of the insolvent company’s assets. This approach, however, has precipitated the creation of bankruptcy cascades, with liquidation driving down prices and deflation increasing the burden of debts and aggravating insolvencies (Battiston *et al.*, 2012; Tedeschi *et al.*, 2012).

The ordinary way to deal with the increase of insolvencies within the existing framework is the securitisation of bad loans, which are only part of the uncollectibles, and the systematic intervention of central banks as ‘dealers of last resort’ (Mehrling, 2011). However, within the current institutional setting, even extremely expansionary monetary policies and sustained programmes of ‘quantitative easing’ have proved to be ineffective in bringing money where it is needed, to support the recovery of economic activity. In fact, the expansion of the monetary base has served essentially the purpose of sustaining the value and liquidity of financial assets.³

Unconventional monetary policies have been devised and implemented in an effort to overcome the shortcomings of traditional measures. Some involve, more or less explicitly, a radical institutional innovation based on principles that can be traced back to certain ideas of Keynes and his ‘army of brave heretics’. For example, the introduction of negative interest rates on excess reserves held by private banks at the European Central Bank was admittedly inspired by the concept of printed money elaborated by Silvio Gesell in the late nineteenth century (Cœuré, 2014). To date, however, similar measures have proved to be equally ineffective in funnelling money towards productive purposes.⁴

In fact, banks continue to destroy money, rather than creating it, by hoarding excess reserves (Fantacci, 2013A). Lending to businesses has declined in the wake of the financial crisis, as banks struggle with a huge overhang of impaired assets and non-performing loans. This has led to the quest for sources of finance outside the banking sector, through new and old forms of credit institutions, and to the development of complementary currencies and local exchange schemes (Amato and Fantacci, 2014A; Gobbi and Lucarelli, 2015; Ingham *et al.*, 2016).

¹ See Amato and Fantacci (2012, pp. 25–34). This meaning of credit underlies also the approach of the so-called Monetary Circuit Theory (see Gnos, 2006; Lucarelli and Passarella, 2012).

² This possibility is envisaged by the Romanist institution of ‘*datio in solutum*’, which, according to some interpretations, ‘corresponds nearly to the accord and satisfaction of common law’ (Bouvier, 1848, p. 402).

³ See Toporowski (2000, p. 33), Bernanke (2009) and Varoufakis and Tserkezis (2014).

⁴ In fact, in the euro area, bank loans to businesses are still well below their pre-crisis levels for all maturities (ECB, 2016).

This paper deals with a peculiar project, which draws on the ideas and practices developed within similar approaches. The project has been elaborated within the Italian Ministry of Justice specifically to address the problem of the growing amount of uncollectibles involved in ever more numerous and lengthy bankruptcy procedures.⁵ The project entails a new form of articulation between money and credit, which overturns the traditional logic of liquidation. Within the established approach, bankruptcy procedures aim at the liquidation of the assets of the insolvent company, in an effort to earn the liquidity necessary to maximise the satisfaction of the creditors. However, in a situation of protracted lack of liquidity, the forced sale of assets only succeeds in reducing their prices, contributing to the general deflationary pressures. These, in turn, result in a still lower satisfaction of creditors and in an increase in insolvencies.

The project aims at overturning similar dynamics, by transforming creditors of bankruptcy procedures, passively waiting to be paid, into active operators, capable of sustaining demand. This goal is pursued by converting part of their credits—the part with a reasonable expectation of satisfaction—into purchasing power that can be immediately spent in the auctions for the assets of bankrupt companies. The supplementary purchasing power thus created responds to the purpose of increasing the efficiency of bankruptcy procedures, with the dual effect of accelerating the reallocation of assets and maximising the satisfaction of creditors.

A peculiar aspect of the project concerns banks, which represent major creditors in bankruptcy procedures. Certainly, it is difficult to imagine that banks would be interested in using the purchasing power to buy goods. However, they would be allowed to lend the purchasing power they receive, thus transforming part of their non-performing loans into new performing loans. The project would thus respond to the further purpose of reviving bank lending.

The theoretical underpinning of the project refers essentially to three, separate but partially overlapping, strands of literature concerning endogenous money, complementary currency systems and negative interest rates:

- (i) The project involves the creation of a purchasing power, which is proportionate to the amount of assets available on the market in the form of assets sold through auctions by insolvent businesses involved in bankruptcy procedures. In this sense, it entails a peculiar form of endogenous money.⁶
- (ii) As in complementary currency schemes, the purchasing power created circulates within a specific exchange community, which, however, is characterised by a functional, and not by a territorial, delimitation.⁷ The project is designed, more specifically, on the model of those complementary currencies, which function as multilateral barter systems or, in other words, as clearing houses for the exchange of goods and services.⁸

⁵ The project stems from an idea of Pasquale Liccardo, former President of the Bankruptcy Court of Bologna, and was discussed and developed by a special Commission created by the Minister of Justice in August 2014. The authors of this paper were among the proponents of the project and members of the Commission. This paper aims to present and discuss the theoretical foundations of the project.

⁶ According to the foundations of the theory of endogenous money as outlined in [Graziani \(2003\)](#) and [Schmitt \(1984\)](#).

⁷ As in the case of local currencies described by [Naqvi and Southgate \(2013\)](#).

⁸ See the schemes described in [City of London \(2011\)](#).

- (iii) The project aims at involving the creditors in the adjustment process, by creating a form of currency that is not endowed with the function of a store of value. Here, the reference is to the literature concerned with the possibility of overcoming the liquidity trap through forms of negative interest rates, artificial carrying costs for money or other, more elaborate, articulations of basic monetary functions.⁹

The project thus incorporates some of the features that have been recently theorised and experimented with, with varying degree of success, within both the official and alternative monetary systems: endogenous money creation, targeted loans and demurrage.

However, the project draws inspiration more directly from what may be regarded as a common root for all three strands of thought: namely, Keynes's theory of money and his proposal for an international clearing union. In fact, all three features may be clearly recognised in *bancor*, which is an endogenous money created according to the needs of international trade, a complementary currency neatly dividing domestic and foreign circulation and a pure unit of account deprived of the store-of-value function.¹⁰

As a concrete proposal for a viable and coherent alternative, it necessarily involves a confrontation with the concepts, powers and privileges that govern the existing institutional framework of money, banking and finance. As in other cases, the sturdiest resistance comes more from established ideas than from vested interests—in particular, from established ideas concerning the nature of money and credit. The implicit assumption that is shared by most approaches to the problem of debt repayment is that the latter requires a payment in money, even when, in a liquidity trap, this requirement reduces the likelihood and the expected amount of the repayment itself.

The present paper aims at providing theoretical arguments to address similar objections. We start by discussing the relationship between bankruptcy procedures and the functioning (and failure) of the market (Section 2). We then contextualise the problem of uncollectibles in the current situation of the Italian bankruptcy system (Section 3). In the following section, we provide a brief description of the main features of the project and highlight their theoretical implications (Section 4). Moreover, we discuss how alternative approaches to the settlement of debts are reconciled within the project (Section 4). Finally, in the last section, we summarise the main features of the project (Section 5).

2. Failures, markets and market failures

Bankruptcy and the procedures set in motion to deal with it represent a privileged scenario for understanding the workings and the limits of the present way of handling the relationship between debtor and creditor in a market economy. The project discussed in this paper is specifically related to the Italian bankruptcy system. However, aside from the differences with other judicial systems, it fully embodies both the general principle that we intend to describe and the systemic problem that we aim to bring to the fore. In this hypothesis, the solution described here is conceptually independent of the judicial particularities of the case being studied.

In theory, it would seem that in case of bankruptcy, nothing should change with respect to the ordinary relationships existing between still-active entities: credits

⁹ See Goodfriend (2000) and Buiter (2009).

¹⁰ Along the lines sketched out in Fantacci (2005) and Fantacci (2013B).

represent the right of the creditor to receive in payment a sum of money equivalent to the nominal value of the debt. The underlying principle is *pacta sunt servanda*; therefore, the obligations should be fulfilled for the nominal value at which they were undertaken. Once payment has been made, the obligation ceases and the money received by the creditor may be spent by the latter at any place and time, or simply retained and hoarded.

In case of bankruptcy, the only, but essential, limitation to the principle of *pacta sunt servanda* is the fact that the bankrupt debtor is, *by definition*, no longer an active entity, i.e. an entity able at present to produce an adequate *flow of income* to fully cover her obligations as a debtor. The general principle, incorporated into Italian law, is that then the debtor is called to answer for her debts in the amount of her *assets*.¹¹ The obligation to repay debts stops before the person and is limited to the things, the assets, at her disposal. The debtor is made to coincide with her *real* assets; the creditor with the sum of his *nominal* claims (Guglielmucci, 2015, p. 61).

The situation of insolvency, sanctioned by the judicial declaration of bankruptcy, limits and modifies the possibility of a resolution of the debtor–creditor relationship through the ordinary channel of the market. The market is in fact involved, not as the place where the debtor will obtain an income on the basis of his economic activity, but as the place where his assets are to be ‘liquidated’, i.e. converted into money, with a view to settling his debts (Guglielmucci, 2015, p. 242).

This passage through the market has a dual function: on the one hand, it is a matter of determining, in a socially recognised manner, the debtor’s actual possibilities of payment; on the other hand, the assets are returned to their proper economic use. The production factors, combined in a suboptimal manner by the insolvent entrepreneur, are returned to the market for use by other entrepreneurs, on the assumption that the latter know how to put them to better use. The market price is an indicator of the capacity of these same factors, differently combined, to produce a higher return compared with that derived from a suboptimal combination.

The liquidation of the assets on the market is the condition for the maximum fulfilment of the credits in money terms. Auction mechanisms are adopted to this end. Nonetheless, the limitation to the debtor’s assets in fact makes possible, and indeed entirely probable, a situation where, following liquidation, the amount of money actually available for the payment of the credits is less than the nominal value of the credits themselves.¹²

However, this is the fundamental fact implied by the declaration of bankruptcy: a declared insolvency is the declaration of the need for a restructuring of the debts, i.e. ultimately a redefinition of the terms of the debtor–creditor relationship. It is not therefore an abandonment of the principle *pacta sunt servanda*, but an adaptation of its application to the *de facto* situation. In the words of Keynes, ‘nothing can preserve the integrity of contract between individuals except a discretionary authority in the State to revise what has become intolerable’ (Keynes, 1923, p. 67).

¹¹ A recent reform of bankruptcy procedures (legislative decree n. 5, 9 January 2006) has broadened the scope for an agreement between debtor and creditors with a view to maximising satisfaction of creditors through alternative forms of crisis resolution and debt restructuring. The liquidation of the assets of the debtor remains, however, the default option in the absence of alternative agreements.

¹² According to the most recent figures published by the Italian National Statistics Institute, the value of the assets in 2007 was on average approximately equal to 19% of liabilities (Istat, 2009, Table 15). Periodical statistical surveys of bankruptcy procedures have been discontinued thereafter. However, it is fair to assume that the proportion of assets to liabilities of insolvent firms has not increased in the wake of the global financial crisis, since the sale prices of assets have suffered from the general lack of demand.

Indeed, it is precisely in the case of insolvency proceedings that the principle highlighted by Adam Smith is fully applicable:

A positive law may render a shilling legal tender for a guinea, because it may direct the courts of justice to discharge the debtor who has made that tender. (Smith, 1776, book II, ch. 2, §100)

The judge called upon to manage the relationship between the debtor and his creditors may declare that the debtor has fulfilled her obligation with a sum of money well below the nominal value of the credit. Thus, a credit of £1000 to be paid by a bankrupt entity may, if the sale of the assets has made only £50 available, be *definitively* paid off with £50.

The economic validity of this tender, certified by the judge, results from the fact that the money with which the debtor pays is derived from his putting his assets for sale on the market, i.e. at a price which, *in given conditions*, reflects their general economic utility.

Bankruptcy proceedings assume an inclusion in the market of the relations between debtors and creditors. There, the active economic entities together reabsorb the poorly combined factors, by buying them at an equilibrium price, thus enabling the payment, partial or total but in any case definitive and fair, of the credits involved in the insolvency. The market is called on to fulfil *efficiently* an allocative and reallocative function.

However, the market price is ‘fair’ *only in given conditions*. Again in the words of Smith, on the market:

no positive law can oblige a person who sells goods, and who is at liberty to sell or not to sell as he pleases, to accept a shilling as equivalent to a guinea in the price of them. (Smith, 1776, book II, ch. 2, §100)

The market can be assumed to have an efficient allocative function when not only the buyer but also the seller is ‘at liberty’ to transact or not to transact. The process of negotiation is then balanced and the convergence towards an equilibrium price is the result of symmetric centripetal forces, where producers react to a decrease in prices by curtailing supply, just as consumers reduce demand in the face of rising prices. However, bankruptcy sales are not free-market exchanges; in fact, by definition, they are *forced* sales, i.e. sales in which the seller is obliged to sell at any price, without being able to set a ‘reserve price’. Auction mechanisms can mitigate this dissymmetry by putting buyers in competition, but a general deflationary tendency can be supposed. This is the case with the auction mechanism adopted by Italian bankruptcy procedures, which consists in an ascending (‘English’) auction mechanism, but with a minimum price fixed by the judge. If the maximum bid is below the minimum price, the judge has to organise a second auction with a lower minimum price. If there are widespread expectations of declining prices, this can lead prospective buyers to adopt a wait-and-see strategy, thereby contributing to further price declines.

In order to assume the efficiency of that particular market (the bankruptcy sales market), one must make the hypothesis that the market as a whole is actually efficient, i.e. that its allocative capacity is not in turn jeopardised by a more general shortage of demand. Only in this hypothesis the market as a whole is capable of ensuring an absorption of bankruptcy sales at a fair price. The economic failure represented by the bankruptcy has to be made absorbable by the functioning of market that is not prey to a more general failure.

To the degree that they are embedded in an efficient market, bankruptcy proceedings operate effectively as a moment of natural and salutary selection of entrepreneurial forces.

We are dealing, in other words, not with failures *of* the market but with failures *within* the market, which are resolved in failures *in favour of* the market and its efficiency.

All's well that ends well. The redistribution of the costs of the adjustment is achieved through a determination of market prices. There is undoubtedly a sharing out of the costs linked to the restructuring of the debts and therefore to the need for the creditors to accept the entry of losses in the balance sheet. But the remainder of the credits is effectively paid off to a degree that can be deemed optimal. All considered, although not free of pain and suffering, the crisis of a business acts systemically as a Darwinian factor of health for the system.

However, this liquidatory logic depends on the allocative efficiency of the market, which in turn depends on a very precise monetary hypothesis: the *neutrality of money*. In the context of this assumption, the market can experience sectoral crises and the sectors can experience crises of their individual operators, but there is the idea that partial imbalances can be reabsorbed precisely thanks to the functioning of the market system as a whole.

The problem is different if, and when, an economic system comes up against a general crisis, i.e. not just a crisis bigger than sectoral crises, but a crisis that cannot be reabsorbed through simple adjustments across sectors.

Where money is not just a numéraire and a neutral means of exchange but also a store of value, the crisis can be amplified in its effects and duration by strictly monetary phenomena. In other words, the liquidity preference can, after the crisis has broken out, set off 'a competitive struggle for liquidity' (Keynes, 1932), which resolves itself ultimately in a liquidity trap: the financial players prefer to hold their assets in liquid form and no rate of return offered can take them away from this microeconomically rational, but macroeconomically inefficient, choice.

The financial crisis that broke out in 2007, and the real depression that it triggered, made it difficult to get round this fundamental teaching of Keynes by simple adjustments to models that do not envisage the crisis.

The liquidity trap has real effects: the depression of consumption triggered by the increase in the propensity to save in liquid form depresses the expectation of future demand and therefore also the marginal efficiency of capital and therefore, finally, investment decisions. We can add to this a further depressive factor, which takes the form of a tendency to restrict credit for business activities.

But what happens to the bankruptcy sales market when also the general market falls prey to a depression of economic activity and at the same time to a deflationary trend?

3. The structural problem of uncollectible debts

The protraction of the economic crisis has led to an increase in insolvencies across Europe (Fig. 1):

As is to be expected, most countries experienced an increase in the number of enterprise bankruptcies as the financial crisis hit its darkest moment in early 2009. From then onwards, different economies behaved in different ways, with the UK progressively normalising, France stabilising

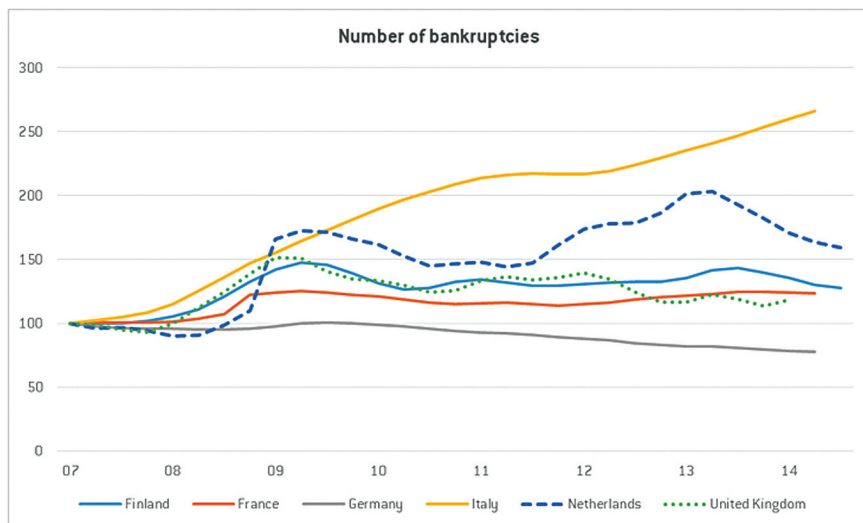


Fig. 1. Number of bankruptcies (2007=100).
Source: Terzi (2015).

at higher levels, and the Netherlands experiencing a second bout in 2012–13. Germany's firm mortality was not significantly affected throughout the time period analysed, possibly also thanks to its flexible working part-time arrangements. Italy stands out of the crowd as a country where enterprise bankruptcy has now more than doubled (266% in Q2 2014) with respect to the pre-crisis period, and we still see no sign of a reversal in this trend. (Terzi, 2015)

In Italy, the number of businesses that each year face bankruptcy or other insolvency proceedings continues to grow. In 2014 there were 17,605 bankruptcies (with a cumulative annual growth rate of 16.3% from 2007). At the end of 2014, ongoing bankruptcy procedures reached 90,350. This reflects the fact that the length of bankruptcy procedures in Italy is 2,709 days on average throughout the country, with peaks of over 5,000 days in the southern provinces (DGStat, 2015).

Corresponding to the anomalous increase in the number of bankruptcies is also an increase in the volume of uncollectibles involved in the procedures and a corresponding fall in the value of assets sold. The most recent estimates give a range of 170–240 billion euros for credits and a decreasing trend in the average ratio between assets and liabilities of individual procedures, which stands between 10% and 15% as against 20% in the years immediately preceding the crisis (DGStat, 2015). It is entirely realistic to suppose that the fall in the level of activity is influenced by a fall in liquidation prices following an increase in the actual quantity of assets put on sale.

Consequently, the percentage of credits liquidated is constantly falling, with an average of 14%. In the case of state credits, the percentage stands at 2.5%.

If this is the severity of the situation, we must see its implications for the economic system as a whole: the deterioration of bankruptcy proceedings is no longer a mere consequence of the economic crisis but becomes, in turn, a factor in its worsening. The arrival on the market of a large quantity of assets (in particular real estate) through bankruptcy sales contributes to depressing prices. On the other hand, the depression of prices in the face of a growing quantity of credits in increasingly lengthy proceedings produces a substantial devaluation of these credits. This devaluation weighs on the

balance sheet of the creditors—whether they are businesses, workers, banks or public administrations—making it increasingly difficult for them to pay their debts and feeding the phenomena of chain insolvency and contagion.

In normal times, bankruptcy proceedings can rely on the market to perform an essential, physiological economic function. In times of crisis, they cannot. The structural dependency of the bankruptcy sales market on the general market exposes the entire system of bankruptcy proceedings to the risk of seizing up.

The entire sector is therefore prey to a downward spiral, fed by the very structure of the auctions. As auctions are involved that envisage a lowering of the upset price in case of failure to sell, the operators are induced to develop ‘playing for time’ attitudes, which contribute to fulfilling the expectations of a downward trend that justifies them, in a potentially implosive vicious circle.

Never as in this sector has it been possible to see first-hand the divergence between micro expectations and macro effects. And never as in this sector has the need been more evident for a new form of articulation between money and credit and between real economy and finance.

4. A complementary currency for bankruptcy procedures

4.1 *A paradigm shift*

As we have shown, in the ordinary conduct of bankruptcy proceedings, the disposal of the liability is logically and temporally subsequent to the liquidation of the assets. From a macroeconomic viewpoint, this succession implies that the closure of the proceedings depends on the actual availability of liquidity; only to the degree that the liquidity actually flows from the economic and financial system onto the bankruptcy sales market, transforming itself into demand for the assets offered for sale by the proceedings, can the assets be liquidated and at not excessively low prices, so as to be able to pay the creditors and minimise the losses. Yet, in a situation of crisis of liquidity and demand, this line of action can transform itself into a vicious circle that risks aggravating the insolvency chain.

If, however, at least the best part of the credits—the part with a reasonable expectation of satisfaction—are made immediately spendable *within* the bankruptcy sales circuit, through their transformation into a targeted purchasing power, the vicious circle can be broken.

One can imagine numerous cases where an encounter could occur between the demand potentially expressed by the creditor of one procedure and the offer of an asset by *another procedure*. Think of the case of an artisan, privileged creditor in a bankruptcy procedure, who could spend his credit to purchase productive assets from another bankruptcy procedure; of a professional, who might buy a car from a bankruptcy procedure, paying for it with his credit towards another insolvency; of an employee, who could use his credits for retribution and severance to buy a house or, perhaps in association with other workers, to take over a business and set up on his own.

These are only hypotheses, but they serve to illustrate the principle at the basis of the project elaborated by the Italian Ministry of Justice: the principle of *multilateral compensation* applied to bankruptcy procedures. The purpose is to enable the uncollectibles in each procedure to be transformed into purchasing power, denominated in a complementary unit of account, called ‘*com.mon*’, spendable directly and unambiguously

through a clearing house, *by all creditors* for the purchase of the assets put on sale *by all bankruptcy procedures*.

The effect of such a conversion would be, to the widest degree possible, to enable compensation between the assets and liabilities of all the bankruptcy procedures, thus increasing the probability of sale and the expected market price of the assets.

The reference model for the clearing house is the *clearing union* proposed by Keynes at Bretton Woods as a system for regulating international payments (Amato and Fantacci, 2014B). Based on this economic logic is also *corporate barter*, a term used to describe commercial circuits between businesses exchanging goods and services through a mutual credit system (including Wir, Sardex and the other systems surveyed by the City of London, 2011).

In both cases, the clearing is operating among active economic entities, which are at liberty to buy and sell. Under this presupposition, the clearing mechanism makes it possible for each actor to offset her debts with her credits, both intended as debts and credits towards the clearing house. Debts and credits are the result of buying and selling goods. The overall effect is that operator A can buy from operator B, contracting a debt that will be repaid by selling to operator C. In the case of the *com.mon* project, clearing happens as a partial offset between assets and liabilities of each procedure *vis-à-vis* all other procedures. Creditors of procedure A receive as a partial anticipation of the payment a purchasing power that they can use to buy goods from any other procedure. While the logic of compensation remains the same, the difference with a clearing union is that supply is given and not adjustable. The effect is that the offsetting of credits and debts can be only partial; hence the need for a backstop fund (see below, Section 4.5).

4.2 *A targeted complementary currency for bankruptcy proceedings*

An overdraft facility, denominated in *com.mons*, is assigned by the clearing house to the individual procedures, on the basis of an assessment of the market price of the goods present among their assets and hence of the value of the credits that are expected to be satisfied. At all times, the value of the *com.mons* issued is equal to the value of the certified assets.

The *com.mons* are assigned by the procedure to its creditors according to their respective entitlements, i.e. in proportion to the amount of credits that can reasonably expect satisfaction. The corresponding amount is entered at the same time as an asset of the single creditor and as a liability of the respective bankruptcy procedure in their accounts with the clearing house. The algebraic sum of all entries in *com.mons* in the clearing house is therefore always identical to zero.

From the systemic point of view of the clearing house, the *com.mon* is the accounting unit (anchored to legal tender by a fixed parity 1:1) that permits the recording of credits and debts, of all the creditors and of all the bankruptcy procedures, with a view to multilateral compensation.

From the point of view of the individual creditor, the *com.mons* present as an asset on his account can be conceived of as a *targeted* instrument of payment, i.e. as a *special right of settlement* usable in a closed circuit for the purchase of a limited class of assets.

The *com.mon* is spendable on the marketplace dedicated to the assets put on sale by bankruptcy procedures (henceforth simply ‘marketplace’). On the marketplace, the assets are sold against *com.mon* and money at the discretion of the buyer. At any

moment, the overall value of the *com.mons* circulating is equal to the value of the certified assets for sale on the marketplace.

After a period of three years, if the *com.mon* has not been spent, it expires and is converted either into money (to the extent that the underlying certified assets have been sold on the marketplace against money), or otherwise into shares of a backstop fund to which the unsold certified assets are transferred, with a view to their sale on the marketplace over longer times. At each moment, the total value of *com.mons* expired and converted into shares of the fund is equal to the certified value of the assets present in the fund.

The overall effect is that the credits that normally wait to be paid in money in an uncertain proportion and at an uncertain time are paid off partially in *com.mon*, i.e. in a purchasing power that is immediately available and that is transformed, within a time span of three years, in variable proportions into goods, money and shares of an investment fund.

4.3 Certification of credits

A public certification body has the responsibility of certifying the value of the credits of each procedure on the basis of the value of the assets that can be expected to be realised by liquidation on the market. Access to the conversion of credits into *com.mons* is therefore not obligatory, but takes place on a voluntary basis. The exchange value of the *com.mons* issued on behalf of each single proceeding is equivalent to the value of the certified assets.

The certification is to be reserved for assets that have a lasting value (such as buildings, businesses and credits towards public administrations). Since the certified assets form the ultimate collateral for the *com.mons* issued, it is important that they should not be subject to deterioration, obsolescence or depreciation.

It is also important to underline that the certified value is a minimum value, well below the estimated market value that forms the upset price of the first auction. The certified value must be set at the plausible level not for the first but for the last auction. In other words, it corresponds to a threshold below which it is economically legitimate to talk of market failure, i.e. of the inability of the market to give an appropriate price to the asset in question.

The certification does not therefore aim to substitute itself for the market in the evaluation of the assets of the bankruptcy proceedings. The certified assets are sold on the market and find their evaluation through competitive auction, independently of the certified value. Only in the case where the assets are unsold after the three-year period, and after a lowering of the upset price to the certified minimum price, will they be transferred to the fund for a value corresponding to the certification value. In other words, the certification substitutes the market only where that market has proved *not to function* (analogously with trading curbs on the stock exchange and with the suspension of the application of the mark-to-market principle envisaged by international accounting standards).

The process of certification ensures that credits, which are inhomogeneous in terms of the counterparty and of the underlying assets, may be considered fungible. This is the basis for the possibility of treating them as currency, endowed with universal acceptability within a specific exchange circuit, and hence for their conversion into *com.mons*.

4.4 The clearing house

On the basis of the certification, the clearing house opens an account denominated in *com.mons* to the admitted bankruptcy procedures and their creditors. The account of

the bankruptcy procedure obtains an overdraft facility equal to the value of the certified assets and guaranteed by the latter.

At the time of assignment of the *com.mons* to the creditors, the clearing house debits the account of the procedure and credits the account of the creditors in a corresponding amount: the sum of the credit balances is always equal to the sum of the debit balances in *com.mons*.

Once the assignment of the *com.mons* has been obtained, each single procedure may place its assets for sale on the marketplace. The assets are put on sale firstly against money and only subsequently against money and *com.mons*. The priority of sales against money is established in the interest of the creditors, under the hypothesis that their satisfaction is greater in the case of a realisation of the assets in money, given its wider spendability. On the other hand, however, the existing auction mechanism, in case of a deserted auction, provides for a significant reduction in the upset price, to the detriment of the level of satisfaction of the creditor.

Faced with the effective situation of massive and repeated desertion of the auctions, it may be rational for the single creditor to accept immediate payment of an amount in *com.mons* rather than wait for the assets to be sold in money at an uncertain date and for an uncertain but certainly lower value.

To the degree that the assets of a procedure are sold (whether for money or *com.mons*), the procedure's debt in *com.mons* is reduced by the same amount. Analogously, the more the creditors spend the *com.mons* assigned to them, the more their credits are reduced. In this way, the accounts, both of the procedures and of their creditors, converge *symmetrically* towards zero. If all the assets of a procedure are sold against *com.mons* and all the credits converted into *com.mons* are spent, the part of the procedure relating to certified assets is closed entirely by compensation, without any need for an inflow of liquidity on the marketplace from the economic and financial system as a whole.¹³

To the degree that they are not spent, the *com.mons* are subject to a negative rate of interest (demurrage). The rate of demurrage, commensurate to the average rate of depreciation of the certified assets, has the dual effect of incentivising the circulation of the *com.mons* and of maintaining parity between the value of the *com.mons* circulating and the value of the certified assets on the marketplace.

4.5 The backstop fund

All the creditors holding *com.mons* have three years at their disposal to spend them before they expire. Similarly, the bankruptcy procedures have three years available in which to sell the certified assets.

On expiry, the unspent *com.mons* are transformed partly into money (for the percentage of assets sold for money on the market place), and partly into shares of the backstop fund. Full conversion into money at the time of expiry cannot be guaranteed, and even less before expiry, as this would entail the clearing house undertaking a financial risk, since it might not have earned enough money from the sales to fulfil such an obligation.

¹³ As capital losses are not allowed (the certified value is a *minimum value*), the capital gains, in money and *com.mons*, will be assigned to the procedures. In cases where the sale prices exceed the certified value, the excess amount collected by the procedure is apportioned among the creditors in respect of the rights held by each of them, after payment of a part to the clearing house (to cover the handling and certification costs).

To the degree that the certified assets are unsold on expiry, they are transferred to the backstop fund, whose shares are assigned in payment to the possessors of unspent *com.mons* that have reached their expiry date. The assets of the fund comprise all the unsold assets, calculating the latter at the certification value. The liabilities of the fund are equal, on the other hand, to the amount in *com.mons* not spent by the creditors, taking into account the demurrage.

The fund acts as a *buffer stock*, taking possession of the unsold assets with a view to selling them subsequently against money, when the liquidity conditions of the market are such as to be able to absorb them.

The fund may be listed on the stock exchange, in order to grant liquidity to the shares. The market price of the shares can be lower or higher than their nominal value. Therefore, the creditors who convert certified credits into *com.mons* and unspent *com.mons* into shares can eventually obtain more *or less* money than the amount implied by the original certified credit. Thus, the remaining credits are virtually securitised. With a view to sustaining the market price, it is possible to envisage a ‘buyer of last resort’, of a public nature, which socialises the losses.

4.6 *A not so bad bank*

The banks are a large systemic creditor in bankruptcy proceedings. In Italy, they hold about a third of the credits (DGStat, 2015). By their transformation into complementary currency, the credits of the banks involved in bankruptcy procedures are made liquid.

This would contribute to relaunching the bank credit. Indeed, bank lending has decreased over the past years also because of their growing impaired loans; the transformation of those impaired loans into a form of cash, immediately available to be spent or lent, can contribute to reducing the tensions on their balance sheets and induce them to increase investments.

The *com.mons* in possession of the banking system could in fact be used to finance whoever may be interested in buying assets on the marketplace. This would have positive economic effects on both the system and the banks’ balance sheets.

The effects on the system are evident: the conversion of non-performing credits into *com.mons* increases liquidity and demand on the marketplace by letting the *com.mons* reach entities external to the bankruptcy procedure, but interested in the assets put on sale in the marketplace.

As far as the banks’ balance sheets are concerned, the provision of loans in *com.mons* amounts to a transformation of *non-performing loans* into *performing loans*. Indeed, to the degree that the *com.mons* are used to concede a new financing, this is entered in the balance sheet as a new performing loan, denominated in legal tender. According to current banking regulations, the new position entails a smaller absorption of capital than the old one. Since loans in *com.mons* are repaid in money, *com.mons* appear only temporarily on the balance sheets of the bank, to allow the transformation of uncollectibles into fresh loans.

The banks would thus benefit from a normalisation of their lending activity and a partial reduction in the capital absorbed by the loans, other conditions being equal. Unlike the case of normal bad banks, the cleansing of the banks’ balance sheets would be subordinated to their commitment to an immediate and proportionate increase in the provision of credit.

The purpose of the project is to introduce a new form of complementary currency, which forces banks to get back to their lending activity, recognising the cooperative nature of credit relationships. The particular case of the banks illustrates well a general characteristic of the *com.mon*: ‘a mere intermediary, without significance in itself, which flows from one hand to another, is received and is dispensed, and disappears when its work is done’ (Keynes, 1923, p. 124).

5. The question of the alternative

The ‘*com.mon* project’ provides much food for thought around the delicate subject of monetary reform, which, let us remember, is at the heart of Keynes’s entire theoretical work. Keynes in fact does describe the workings of capitalism moving from the point of view of ‘money as we know it’, but is able to do so effectively and with his characteristic sharpness precisely because he subjects it to the critical assessment of a different concept of money: ‘money as it ought to be’, which is perfectly described by the famous sentence quoted at the end of Section 4.6. In other words, he subjects his critique of capitalism to the formulation of a possible alternative. Such an alternative is not at all unrealistic, but this does not mean that it is easy to accomplish. In fact, it depends on fundamental decisions of an economic, political and anthropological order. Therefore, the fact that the alternative is not only possible but *likeable* does not make it *ipso facto likely*.

The highly problematic feature of money as we know it is that it reinforces and stiffens a basic *pre-existing* tendency that cannot be explained mechanically as an effect of the present monetary architecture, but rather as the basic reason for the capacity of such architecture to impose itself *in spite of the inefficiencies that it produces*. This tendency is, precisely, the *liquidity preference*:

The desire to hold money as a store of wealth ... is an element that operates, so to speak, at a deeper level of our motivation. It takes charge at the moments when the higher, more precarious conventions have weakened. The possession of actual money lulls our disquietude. (Keynes, 1937, p. 116)

Often depicted as a cautious reformer of capitalism, pushed to reform it by the desire to *preserve* it, Keynes is far more radical than the revolutionary critics of capitalism, precisely because his radicalism consists in *not* underestimating the *deep roots* of economic behaviour and in not representing them as pure effects of a mechanism of calculation, easily modifiable by decree.

As long as we remain on a purely abstract level, the policy recommendations arising from a criticism of the negative effects of money as a store of wealth appear simple: *if* the problem is money’s character as a store of wealth, *then* the solution is the eradication of this function. It is the solution of Gesell, who according to Keynes (1936) goes in the right direction, but is guided by the ‘abstract furies’ that often characterise the improvised theoreticians transforming ‘brave heretics’ into ‘monetary cranks’ and thinkers into dogmatists of whatever confession.

Now, where a real transformation of the state of things is at stake, we must learn to distinguish between the true need for sharp theoretical distinctions and the only apparent need to deduce mechanical and mechanistic reform programmes from them.

The economic alternative that is at present highly required is not the substitution of one mechanism with another, but the passage from an unduly mechanical view of the economy to a view that *is no longer such*.

The *com.mon* project lends itself well to providing a concrete exemplification of how the passage can be realistically conceived. Faced with a malfunctioning of the bankruptcy sales market due to a lack of demand and deflationary mechanisms induced by the liquidity preference, it endeavours to foster an alternative that presents itself as a preferable and viable solution to a practical impasse.¹⁴

What is at stake is the possibility to make room for an alternative principle for the repayment of debts: debts are repaid by giving creditors a targeted purchasing power by which they may buy goods instead of expecting a payment in legal tender. This means of payment is more liquid than the credits from which it is originated, since it may be immediately spent for the purchase of actual goods, but it is less liquid than money, since it may be spent only on a restricted marketplace.

In this spirit, the transformation *on a voluntary basis* of uncollectibles into *com.mons* and their use as a means of settlement within the clearing house *is interposed* between the ordinary functioning of the market (sales in money on the marketplace and settlement of loans in money) and the ordinary way of dealing with its failure (securitisation of the credits and their liquidation on a secondary market).

Thanks to the compensation made possible by the clearing house, the amount of unsold assets and of unpaid credits is minimised. The compensation, whether small or large, amounts to a net advantage for both the creditors and the bankruptcy procedures.

The securitisation of uncollectable loans, i.e. the ordinary financial solution, is not abolished but *postponed*, thanks to the *interposition* of a compensatory and collaborative logic aimed at widening the margins of the functioning of the market by compensating the deflationary effects of the preference for liquidity. In turn, the postponement of the securitisation can limit both its weight and its risk.

It is particularly in relation to the question of risk that we can measure the significance of the project, i.e. the fact that it does not claim to abolish the liquidity preference but to create an institutional framework, which prevents it from producing destructive effects for the system as a whole.

The fact that the project is compatible with the structure of micropreferences is apparent from a comparison with the possible alternatives to the transformation of the credits into *com.mons*.

The first alternative could be to limit the *com.mon* project to a certification of the credits, leaving the banks free to discount the certified credits. However, this would imply rather high discount rates to take into account the credit risk and, particularly, would in no way facilitate the sale of certified assets, because the money obtained by the creditors, unlike the *com.mons*, could be spent also outside the marketplace, or simply hoarded, perpetuating the state of depression of the bankruptcy sales market and not contributing to the satisfaction of the creditors.

Another tempting option, in line with the prevailing tendency of banks to operate as traders (Fantacci, 2013A), would be to allow to sell *com.mons* for money. However, the free conversion on the market of *com.mons* into money would contravene the basic logic governing the systems of compensation as complementary currency systems. It is not by chance that the same prohibition holds within systems of corporate barter,

¹⁴ In the terms of our previous works (Amato and Fantacci, 2012, 2014B), what is at stake is the possibility to make room for the principle of clearing (where debts are ultimately paid in kind) and to remove the monopoly of the principle of liquidity (where debts are indefinitely floated on the market). It is not a matter of substituting one with the other, nor even of putting the two principles into competition with each other, but to establish a complementarity between them.

which exclude the convertibility of complementary currency into official money, and within Keynes's clearing union, which excluded the convertibility of bancors into gold. This point is crucial because free convertibility between currencies would configure not a system of complementary currencies but a system of concurrent currencies in competition with one another (in the form advocated, e.g., by Hayek, 1976).

In ordinary financial logic, the negotiability of *com.mons* would respond to the need to diminish the resistance of creditors to accepting *com.mons*. However, precisely the liquidity of the *com.mon* would leave its value at the mercy of expectations that are potentially highly unstable and not necessarily correlated with the value of the underlying assets. In other words, if the *com.mon* is expected to be reliable, it is accepted and exchanged at par; if on the other hand, for whatever reason, the expectation should arise that the *com.mon* might devalue, it would begin to be sold also below par, which would engender further expectations of devaluation. The expectations would be self-fulfilling.

Furthermore, if the *com.mon* were exchanged below par on the secondary market, it would become difficult to keep it unvaried within the system: the selling bankruptcy procedures would be penalised as would their creditors, forced to accept *com.mons* at par, with a loss quantified by the discount applied on the secondary market. In this way, the devaluation of the *com.mon* would be translated into a devaluation of the assets of the bankruptcy procedures, setting off a perverse trend in which it would be the financial value of the securities (*com.mons*) that would affect the value of the underlying real assets (certified assets).

Apparently, a similar problem is posed also in the case of systematic lending activity by the banks of the *com.mons* received from the bankruptcy procedures. In fact, an implicit devaluation of the *com.mon* could be incorporated into the conditions applied by the banks to their loans in *com.mons*. For example, if, on the basis of their expectations on the future value of the shares of the fund, the banks gave 100 *com.mons* a value of 70 euros, they might be willing to lend 100 *com.mons* and accept repayment of 70 euros plus the interest on 70 euros. Also, in this case there would be an implicit devaluation of the *com.mon* with respect to the euro on the basis of the expectations of the market. However, in this case a possible devaluation linked to the expectation of the banks holding *com.mons* would not give rise to centrifugal forces with respect to the exchange at par, as in the case of self-fulfilling expectations on a secondary speculative market. In fact, while on the latter market *com.mons* would be bought with the sole purpose of reselling them, on the market of loans *com.mons* would be borrowed only to be spent on the marketplace. Thus, unlike a true secondary market, the market for loans in *com.mons* would remain anchored to the real economy. Consequently, on this market the implicit euro/*com.mon* price would converge towards par, instead of risking diverging: if the loans in *com.mons* are very cheap, the favourable conditions will attract a greater number of borrowers and the loans will rise in price until they approach the conditions of loans in euros and annul the implicit devaluation. In this way, also through the activity of the banks, the *com.mon* ensures an anchorage between financial interests and support for real economic activity.

The negotiability of the *com.mon* on a secondary market would instead entail a wholesale preventive securitisation of all certified credits, according to the logic that typically underlies the creation of bad banks. A similar approach, however, leads inevitably to a dilemma: either the credits are transferred to the fund at their presumable realisation value, and hence the loss is sustained by the creditors; or at a higher value, but then the probable loss is sustained by the fund and therefore by the public guarantor of the

bad bank and ultimately by the taxpayer. In any case, a bad bank would not modify the conditions of sale of the assets and therefore the conditions of payment of the credits, but simply defer the moment of verification: it would ‘buy time’, remaining prisoner of the alternative between immediate privatisation and a subsequent socialisation of the insolvency risks. The clearing house, instead escapes from the alternative between privatisation and socialisation, by mutualising the sustainment of the risk. Creditors and debtors are placed in a condition of cooperation, in the sense that the possibility for each of them to obtain benefits is conditioned by the willingness of each of them to allow the ‘counterparty’ to gain benefits.

Mutualisation is perfectly inscribed in the spirit characterising Keynes’s proposals for reform, always seeking ‘a middle course between unfettered competition under laissez-faire conditions and planned controls which try to freeze commerce into a fixed mould’ (Keynes, 1942, p. 111). In the *com.mon* project, this middle course takes precisely the form of an intermediate passage between the ordinary course of bankruptcy proceedings, represented by the marketplace, and the securitisation implicit in the constitution of the fund.

Mutualising the risk does not at all mean abolition of uncertainty; on the contrary, it implies its radical recognition. At the same time, it modifies its social significance: no longer a ‘hot potato’ to be passed around pretending that ‘the market’ is always able to calculate the conditions of that passage, but a problem that cannot be dealt with only by cold calculation but with a certain, if moderate, dose of ‘human warmth’. The possibility that the payment of a loan, and therefore the peace deriving from it, is not made to coincide solely with the handover of the money, but with a ‘bundle’, of uncertain composition, of assets, money and negotiable shares, modifies the social significance of insolvency risk, with a view to a conception of the economy as an encounter and not as a clash between debtors and creditors.

6. Conclusions

This paper aims to make the theoretical case for a scheme being considered in Italy for a clearing-house arrangement for reallocating assets in the case of bankruptcy. It is argued that the crisis has caused the rate of bankruptcy to increase, but the requirement for assets to be liquidated in the event of bankruptcy at a time of high liquidity preference puts further downward pressure on asset prices, which increases deflationary pressures. The proposed solution is to hold back from liquidation or securitisation by encouraging a kind of multilateral barter arrangement between creditors and debtors in aggregate within a clearing arrangement, creating liquidity, promoting a sharing of risk and mitigating the damaging effect of large-scale liquidation on asset prices. The ‘complementary currency’ provided to creditors *in lieu* of regular money would increase the range of available liquid assets relative to demand, reducing deflationary pressures, while a three-year time limit on them would introduce an element of demurrage, boosting demand. The overall aim of the project is to avoid creditors remaining passive, by creating a convergence of interest between debtors and creditors towards the payment of debts and the reallocation of productive assets.

Bibliography

- Amato, M. and Fantacci, L. 2012. *The End of Finance*, Cambridge, UK, Polity Press
 Amato, M. and Fantacci, L. 2014A. *Saving the Market from Capitalism*, Cambridge, UK, Polity Press

- Amato, M. and Fantacci, L. 2014B. Back to which Bretton Woods? Liquidity and clearing as alternative principles for reforming international money, *Cambridge Journal of Economics*, vol. 38, no. 6, 1431–52
- Battiston, S., Delli Gatti, D., Gallegati, M., Greenwald, B. and Stiglitz, J. E. 2012. Default cascades: when does risk diversification increase stability?, *Journal of Financial Stability*, vol. 8, no. 3, 138–49
- Bernanke, B. 2009. *The Crisis and the Policy Response*, Federal Reserve, <http://www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm> [date last accessed: 23 June 2015]
- Bouvier, J. 1848. *A Law Dictionary: Adapted to the Constitution and Laws of the United States of America, and of the Several States of the American Union; with References to the Civil and Other Systems of Foreign Law*, Philadelphia, T. & J.W. Johnson
- Buiter, W. 2009. *Negative Interest Rates: When Are They Coming to a Central Bank Near You?* <http://blogs.ft.com/maverecon/2009/05/negative-interest-rates-when-are-they-coming-to-a-central-bank-near-you/#axzz48w2pZvpX> [date last accessed: 16 May 2016]
- City of London. 2011. *Capacity Trade and Credit: Emerging Architectures for Commerce and Money*, report prepared for the City of London Corporation, ESRC and Recipco, December, City of London Economic Development, London, <http://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Pages/Capacity-Trade-and-Credit.aspx> [date last accessed: 23 June 2015]
- Cœuré, B. 2014. *Life Below Zero: Learning About Negative Interest Rates*, presentation at the annual dinner of the ECB's Money Market Contact Group, Frankfurt am Main, 9 September 2014, <https://www.ecb.europa.eu/press/key/date/2014/html/sp140909.en.html> [date last accessed: 23 June 2015]
- DGStat (Directory General of Statistics, Italian Ministry of Justice). 2015. 'Analisi statistica del settore fallimentare. Dati al 2014', Internal report
- ECB (European Central Bank). 2016. *Statistical Data Warehouse*, MFI Balance sheets Online, Loans to non-financial corporations, last updated on 27 April, <http://sdw.ecb.europa.eu> [date last accessed: 16 May 2016]
- Fantacci, L. 2005. Complementary currencies: a prospect on money from a retrospect on pre-modern practices, *Financial History Review*, vol. 12, no. 1, 43–61
- Fantacci, L. 2013A. Why banks do what they do: how the monetary system affects banking activity, *Accounting, Economics and Law*, vol. 3, no. 3, 333–56
- Fantacci, L. 2013B. Reforming money to exit the crisis: examples of non-capitalist monetary systems in theory and practice, pp. 124–47 in Pixley, J. and Harcourt, J. (eds), *Financial Crises and the Nature of Capitalist Money: Mutual Developments from the Work of Geoffrey Ingham*, Palgrave Macmillan, London
- Gnos, C. 2006. French circuit theory, pp. 87–104 in Arestis, P. and Sawyer, M. (eds), *A Handbook of Alternative Monetary Economics*, Cheltenham, Edward Elgar
- Gobbi, L. and Lucarelli, S. 2015. 'Local Clearing Union as Stabilizers of Local Economic Systems: A Stock Flow-Consistent Perspective', in this volume
- Goodfriend, M. 2000. 'Overcoming the Zero Bound on Interest Rate Policy', Working Paper no. 00-3, Federal Reserve Bank of Richmond, https://www.richmondfed.org/publications/research/working_papers/2000/wp_00-3 [date last accessed: 16 May 2016]
- Graziani, A. 2003. *The Monetary Theory of Production*, Cambridge, UK, Cambridge University Press
- Guglielmucci, L. 2015. *Diritto fallimentare*, Turin, Giappichelli
- Hayek, F. A. 1976. *Denationalization of Money: An Analysis of the Theory and Practice of Concurrent Currencies*, London, Institute of Economic Affairs
- Ingham, G., Coutts, K. and Konzelmann, S. 2016. 'Introduction: 'cranks' and 'brave heretics': rethinking money and banking after the Great Financial Crisis', *Cambridge Journal of Economics*, vol. 40, no. 5
- Istat. 2009. *Fallimenti dichiarati, fallimenti chiusi e protesti*, 19 March 2009, <http://www.istat.it/it/archivio/14186> [date last accessed: 16 May 2016]
- Keynes, J. M. 1923. A tract on monetary reform, vol. 4 in Robinson, E. A. G. and Moggridge, D. (eds.), *The Collected Writings of John Maynard Keynes*, Macmillan, London, 1971–89
- Keynes, J. M. 1932. 'The Economic Prospects 1932', lecture presented to the International Economic Society of Hamburg, 8 January 1932, vol. 21, pp. 39–48 in Robinson, E. A. G. and

- Moggridge, D. (eds.), *The Collected Writings of John Maynard Keynes*, Macmillan, London, 1971–89
- Keynes, J. M. 1936. The general theory of employment, interest and money, vol. 7 in Robinson, E. A. G. and Moggridge, D. (eds.), *The Collected Writings of John Maynard Keynes*, Macmillan, London, 1971–89
- Keynes, J. M. 1937. 'The General Theory of Employment', *Quarterly Journal of Economics*, vol. 14 in Robinson, E. A. G. and Moggridge, D. (eds.), *The Collected Writings of John Maynard Keynes*, Macmillan, London, 1971–89
- Keynes, J. M. 1942. The international control of raw materials, vol. 27, pp. 112–66 in Robinson, E. A. G. and Moggridge, D. (eds.), *The Collected Writings of John Maynard Keynes*, Macmillan, London, 1971–89
- Lucarelli, S. and Passarella, M. (eds) 2012. *New Research Perspectives in the Monetary Theory of Production*, Bergamo, Bergamo University Press
- Mehrling, P. 2011. *The New Lombard Street: How the Fed Became the Dealer of Last Resort*, Princeton, Princeton University Press
- Naqvi, M. and Southgate, J. 2013. Banknotes, local currencies and central bank objectives, *Bank of England Quarterly Bulletin*, vol. 53, no. 4, 317–25
- OECD (Organization for Economic Cooperation and Development). 2014. *Entrepreneurship at a Glance 2014*, OECD Publishing, http://dx.doi.org/10.1787/entrepreneur_aag-2014-en [date last accessed: 12 July 2016]
- Schmitt, B. 1984. *Inflation, chômage et malformations du capital*, Paris, Economica et Castella
- Smith, A. 1776. *An Inquiry into the Nature and the Causes of the Wealth of Nations*, London, W. Strahan and T. Cadell
- Tedeschi, G., Mazlounian, A., Gallegati, M. and Helbing, D. 2012. Bankruptcy cascades in interbank markets, *PLoS ONE*, vol. 7, no. 12, e52749
- Terzi, A. 2015. The Italian malaise, *Bruegel*, 29 January, <http://bruegel.org/2015/01/the-italian-malaise/> [date last accessed: 16 May 2016]
- Toporowski, J. 2000. *The End of Finance: The Theory of Capital Market Inflation, Financial Derivatives and Pension Fund Capitalism*, London, Routledge
- Varoufakis, Y. and Tserkezis, L. 2014. 'Financialization and the Financial and Economic Crises: The Case of Greece', FESSUD Working Paper no. 25, http://www.fessud.eu/wp-content/uploads/2012/08/FESSUD_studies-in-financial-systems_Greece_final_Study25.pdf [date last accessed: 12 July 2016]