

The 2007–9 financial crisis: an endogenous-money view

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This paper addresses two structural failings underlying the development of the situation that led to the 2007–9 financial crisis, that is to say, the absence (i) of a structural divide concerning banking activities, and (ii) of an institution for the international settlement of cross-border transactions. The huge crisis of finance-dominated capitalism that resulted thereby calls for all banks to departmentalize their operations in order to be transparent, according to the object of those payments that they carry out for their own sake or their clients'. The source of inspiration in this regard is the “Bank Act” (1844) requiring the Bank of England to separate all of its activities into an issue department and a financial department. In the spirit of Keynes’s Plan (1942), this paper also calls for the creation of an institution issuing an international currency, requiring that any country, including the United States, finally pays for all its net commercial imports in disposing of claims that provide their holders with the right to withdraw a part of current or future output of the surrendering country. The result of these monetary-structural reforms will be a domestic and an international payments system whose workings are in line with the (endogenous) nature of bank money.

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Introduction*

The slowdown observed in the world economy at the end of 2008, which in a number of countries has even turned into a (deep) recession – as a result of the dramatic financial crisis that began in the United States in the summer 2007 and that has then spread quite rapidly to “globalized” financial markets all over the world – is the result of structural flaws in the design and working of both domestic and international payments systems.

At the domestic level, the loans-to-deposits causality pointed out by adherents to money endogeneity in banks’ double-entry book-keeping is not enough in order to prevent that the emission of money gives rise to macroeconomic imbalances between total output on sale on product markets and the total amount of bank deposits recorded in the banking system.

At the international level, utilization of any national currency as means of payment for foreign transactions denatures bank money into an object of trade, which further lacks an international settlement institution through which cross-border transactions can be finally paid as regards countries defined each as the set of its own residents.

In particular, with respect to international monetary problems, both the Bretton Woods regime and the “post-Bretton-Woods” non-system that replaced it in March 1973, when President Nixon declared that the US dollar abandoned the fixed exchange rate regime, are structurally flawed: the “post-Bretton-Woods” international monetary regime is the source of the huge and threatening global imbalances in current account transactions. It is also at the origin of massive capital flows across the borders of American, European, or Asian countries whose economic systems are affected, in a way or another, by the use of a national currency (that is, the US dollar) as international reserve asset.

The next section points out the structural flaws that originated the 2007–9 big financial crisis and all the ensuing negative effects for the world economy. In the third section we put to the fore a proposal for a structural reform of the way banks enter the settlement of economic transactions in their books, the aim of this reform being to avoid the “creative destructions” by the shadow banking system that is the result of financial engineering as well as the banks’ off-balance-sheet operations. The fourth section offers some policy-oriented remarks in order to control “global finance” better, through supranational rules and regulations whose actual contents will have to be discussed, and strictly defined, in an intergovernmental conference gathering (at least) the G-20 leaders. The last section concludes briefly.

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The “post-Bretton-Woods” financialization of monetary circuits

In spite of the breakdown of the Bretton Woods international monetary regime, the US dollar has continued to be used as reference and settlement currency at the international level. This originated a “non-system” for international payments as no national currency has settlement power beyond the borders of the banking system issuing it. This disorder at the international monetary level allows the recording of US deficits “without tears” as Rueff (1963, p. 322) pointed out cogently. It is also at the origin of global imbalances as it gives rise to payment deficits for those countries whose currency is used as if it were a reserve asset at the international level (Machlup, 1963, p. 256; but see also Williamson, 1977, p. 73, Carabelli and Cedrini, 2008, and Rossi, 2009). As Guttman (2008, p. 11) points out in this regard, “[h]aving to supply other countries with dollars for their cross-border payments, the United States must run chronic balance-of-payments deficits in order to maintain steady outflows of dollars to the rest of the world.”

Now, it would be wrong to believe that those dollars that the US disposes of in payment of its imports leave the US banking system: owing to the (book-entry) nature of money, no single money unit can logically and in point of fact leave the banking system which issues it in payment of any economic transactions.¹ The (payment) deficits without tears pointed out by Machlup (1963) and Rueff (1963) are nothing but a confirmation of this matter of fact: the rest of the world is not paid finally when the US just transfers to the rest of the world (the image of) its own acknowledgement of debt, as its object – a bank deposit denominated in US dollars – remains necessarily recorded in the books of the bank through which the US importer settles his/her debt to the exporter.² Although the owner of a bank deposit (in the US banking system, for instance) is a non-resident, it is a matter of fact that this deposit cannot but be in the banking system that gave rise to it.³ While exporters are always finally paid by their counterparties residing in the rest of the world, this is not (yet) the case for countries defined each as the set of its own residents, as bank deposits can never leave the monetary space defined by the banking system in which they are recorded (see Rossi, 2009, for analytical elaboration on this point).

Now, independently of this international monetary problem, whose solution requires the setting up of a settlement institution issuing a supranational money unit (see below), one has also to observe the existence of a structural flaw within every country so far, notably in the book-entry structure that banks use in order for them to carry out and record their operations daily. As Fischer (1983, p. 4) has recognized, “[b]anks do two things in this economy. First, they act as financial intermediaries. [...] Second, they provide

¹ See Spahn (2006, pp. 261–3) and Rossi (2007b, pp. 313–16) for analytical elaboration on this point.

² As Goodhart (1989, p. 26, our emphasis) explains, a payment is final when “a seller of a good, or service, or another asset, receives something of equal value from the purchaser, *which leaves the seller with no further claim on the buyer.*”

³ This point is confirmed by empirical evidence concerning so-called xenocurrencies, like those eurodollars that have been recorded in European banks when the Soviet Union decided to stockpile foreign currencies for its own commercial and strategic goals. The eurodollars thus recorded in a number of European banks are the image of those US dollars recorded in the US banking system that their owners want to keep outside that very banking system for a number of reasons, among which tax evasion features prominently. As Guttman (2008, p. 5) notes, “the Eurocurrency market made it easy to move funds in and out of countries and currencies as a conduit for currency speculation. It also enabled banks and their clients to circumvent many domestic regulations like America’s controls on capital outflows and interest-rate ceilings.”

transactions services, making payments as demanded by the households”. Clearly, every (central or commercial) bank issues a number of money units in those payments that it carries out (let us call it the monetary function of banks). Also, every bank has a number of deposits to manage, and in light of which it decides the amount of credit lines that it opens to its (creditworthy) clients (this is the financial-intermediary function of banks, although in the real world causality may go from loans to deposits and not just the other way around) (see Rossi, 2007a, pp. 32–52, for elaboration on this point).

Now, already before the US Congress passed the Financial Services Modernization Act in 1999, which legally abolished any separations between commercial banks’ activities and those of investment banks – thereby disposing of the Glass–Steagall Act that during the Great Depression of the 1930s allowed an orderly working of the US banking sector –, the monetary and financial intermediary functions of banks in the US, and beyond it, were blurred in the books of banking institutions.⁴ This is tantamount to saying that any bank was and is still able to lend, *for purely speculative activities*, an amount that it has not recorded in its books yet:⁵ all it has to do, in this respect, is to create the number of money units whose expenditure *on the financial market* gives rise to new bank deposits, possibly in the same bank and, in any case, within the banking system issuing the same local currency. Indeed, those payments that banks are called upon to monetize can occur either in disposing of any pre-existent bank deposits (which corresponds to the financial intermediation function of banks) or in creating the number of money units necessary in order for these payments to occur (this is the characteristic of banks with respect to non-bank financial institutions, which do not have this possibility, as they lack the monetary function defined above).

This structural flaw, that is, the lacking of any book-entry distinction between the two functions of banks, is at the origin of excessive money creation with respect to available income, which results from the working of a monetary economy of production. In other words, the monetary circuits of produced income (which has purchasing power because of the underlying production of real goods and services) are supplemented by monetary circuits of bank deposits that have no purchasing power originally, because they are not issued as a result of production. These bank deposits absorb therefore by osmosis a part of purchasing power of produced income. If these deposits are spent on the market for produced goods, the result is an increase in the consumer price level, hence a probable intervention of monetary authorities and an increase in policy interest rates. If, however, these deposits are spent on purchasing real or financial assets, as this has been the case, generally speaking, in the first years of the twenty-first century, the negative outcome of this pathological working of current banking systems cannot be observed in the level of

⁴ See Schmitt (1984a, pp. 192–8) for analytical elaboration on this point.

⁵ Note that the granting of a credit line *ex nihilo* by a bank does not pose a problem at the macroeconomic level, when this occurs for a firm’s payment on the labour market, as the payment of wages associates the newly-created bank deposit(s) with a newly-produced output, thus preserving the money–output relation. By contrast, when the loans-to-deposits causality, which is the hallmark of money endogeneity, occurs on the financial market, on which no value-added process can take place in macroeconomic terms, then there is a creation of bank deposits to which no (newly-produced) output corresponds. As a result, the money-to-output relationship becomes unbalanced, although this may not be observed simply by looking at the consumer price indices that are the focus of current monetary policy strategies. This is so much so when the newly-formed bank deposits are spent in purchasing real or financial assets, rather than consumption goods on the product market.

consumer prices and, as a result, the central bank is not led to intervene, as it targets the rate of increase in these prices only.

In this “financial circulation” (Keynes, 1930, Ch. 15), or when M becomes M' (with $M' > M$) because of banks’ monetary function being used to make purely financial profits, modern financial practices introduced a leverage effect leading global financial players to think that market bubbles could continue, on both real and financial assets (first real-estate objects, then metals, energy raw products, and grains), for a long period of time. As a matter of fact, financial speculation has increased its pace with the possibility to create a series of unregulated non-bank financial institutions (like hedge funds) as well as owing to liberalization of capital flows, both of these activities being strengthened by the huge capacities of modern information technologies. “This triple push has changed our financial system from one that was tightly controlled, nationally organized, and centered on commercial banking (taking deposits, making loans) to one that is self-regulated, global in reach, and centered on investment banking (brokerage, dealing, and underwriting of securities)” (Guttman, 2008, p. 4).

This financial globalization has expanded together with global imbalances, which have reinforced each other. As a result, the risks for a global and systemic crisis have been in fact increased as these imbalances (with respect to the countries’ GDP) have increased and because of the US dollar’s role as invoicing and settlement currency in foreign trade on products, real assets, and financial markets. For example, according to World Bank data, between 2001 and 2007 global imbalances at the world level reached nearly 6 per cent of world GDP, and during the same period the amount of official foreign exchange reserves denominated in US dollars has been multiplied by three. In this framework, the global role of the US dollar is the main factor of global imbalances, which in turn are a fundamental cause of the 2007–9 financial crisis and its bad consequences worldwide.

Now, owing to the purely numerical nature of bank money, it would be wrong to think that the ongoing crisis can be solved by increasing the amount of both Special Drawing Rights and foreign exchange reserves at the International Monetary Fund, as this has in fact been decided at the G-20 meeting in London on 2 April 2009. To be sure, the huge amounts of US dollars that a series of sovereign wealth funds (especially in Asia) have, are already invested in the US economy, as the corresponding bank deposits have never been elsewhere than there, even if their owners reside in the rest of the world. To this, a further point should be added. It concerns the US dollar exchange rate level, which may aggravate the risks of instability for the world economy once the ongoing crisis will be over: when investors reduce their liquidity preference (in the sense of Keynes (1936, Ch. 15)) and therefore abandon (a number of) their assets denominated in US dollars in light of the interest rate differentials between US assets and foreign assets, the exchange rate of the US dollar will be under an enormous downward pressure. This will create a push for another wave of speculative capital flows, looking for the highest return in the shortest period of time around the world.

Principles of structural reform for the globalized financial sector

The systemic crisis of globalized finance and its ensuing negative effects on production and consumption activities around the world show the need of increased transparency in

banking. In particular, the Fischer (1983, p. 4) analytical distinction between monetary- and financial-intermediation functions carried out by banks ought to be translated also in operational terms for any banks operating within and/or across a country's borders. As a matter of principles, one has to make sure that, in the world economy, financial-intermediary activities (whereby bank deposits generate loans) are structurally separated from the so-called "monetization" of economic transactions by banks (what we called the monetary function, see above). As the theory of money emissions shows (see Rossi, 2006), all our monetary systems work according to the following principles:

- a) the national payment system is composed of a two-tier banking system (namely, the central bank and the set of commercial banks), below which are non-bank agents (to wit, households and firms, including the state and non-bank financial institutions);
- b) the central bank operates as settlement institution for all the payment traffic on the interbank market, issuing the means of final payment that commercial banks need in order for them to settle their own debts on this market;
- c) commercial banks issue the instrument of final payment for the settlement of non-bank agents' transactions (both in the private and the public sector), and grant credit lines to these same agents in so far as they allow deficit-spending units to spend the amount saved by banks' depositors;
- d) non-bank financial institutions transfer property rights on fixed capital formed by the macroeconomic investment of saved income for the set of agents residing in the same currency area (see Rossi, 2008).

Now, transparency of both this system and its underlying principles has been essentially reduced in the real world, owing to the worldwide diffusion and implementation of the deregulation and liberalization of financial market activities. Thus, it has become more and more difficult to recognize banks' specific function, that is, the emission of money in payment of their clients' debts: banks, in fact, have been carrying out an increasing number of activities increasingly linked to so-called "financialization" (that is, complex securitization, creation of some special purpose vehicles and off-balance-sheet societies, trading of derivatives and structured financial products, and so on). All these activities, indeed, have been enabled, if not encouraged, by financial deregulation that in particular in the United States has been observed since the Bretton-Woods regime was abandoned in 1973. "While there remain many specialized niche players across the entire spectrum of financial services, the world's leading financial institutions have all become huge conglomerates keen on integrating different types of services, instruments, and markets. Typically they combine several financial functions – commercial banking, investment banking, fund management, private wealth management, and insurance – under one roof, hoping to enjoy significant scope and network economies in the process" (Guttman, 2008, p. 6).

The emergence of these big financial groups working on globalized financial markets, in fact, allowed them to become too big to be supervised by financial market authorities – which is the bottom line of the too-big-to-fail notion that the top management of these groups has exploited over the last thirty years or so, ever since nation-states liberalized and deregulated financial markets in advanced as well as in emerging economies around the world. Failures of prudential supervision by regulators have been accompanied by insufficient controls within these very big financial groups, as it was impossible to keep

a global vision on the variety of financial activities these societies were doing, at a pace that has been increasing in line with the still ongoing advances in both information and communication technologies. The upsurge of financial engineering has also contributed to the acceleration of financial innovation practices and products (derivatives, special purpose vehicles, structured investment vehicles, and so on), together with a mushroom growth of financial actors circumventing traditional financial regulation (that applied to (commercial) banks only).

Hence, the banking sector has rapidly abandoned traditional bank activities (emission of money and financial intermediation) having a close link with production, in order for it to establish an alternative (or a shadow) banking system, within which both actors and objects of financial market transactions have nothing to do with value-added creation – whose measure is provided by total income formed in the whole economy. In the words of Guttman (2008, p. 9), finance-dominated capitalism “has given priority to fictitious capital whose new conduits, such as derivatives or asset-backed securities, are several layers removed from any real economic activity of value creation. In that realm the key objective is to trade paper assets profitably for capital gains, an activity best described as *speculation*.”

Indeed, the principal activity for commercial banks (in fact, the only one for investment banks) boils down to the sale and purchase of financial assets. This shift in banks’ own interest elicited a strong increase in both the prices and volumes of those assets that they exchange on financial markets. This is so much so that, owing to what we called their monetary function, banks have themselves created, by a stroke of the pen, large amounts of money that they injected into these markets, either directly through their own balance sheets or indirectly through their own special purpose vehicles whose opacity seems to be proportional to their expected returns. The ultimate goal of such a multi-tier structure is to increase banks’ profits, putting off-balance-sheet all those risks against which they ought to have enough funds according to either Basle (I or II)-type agreements or their own models of risk management (see Guttman, 2007).

The systemic crisis of finance-dominated capitalism observed as from the end of 2008, in fact, has led non-bankrupt banks to simplify their balance sheets as well as their own operations, reducing the opacity of both considerably. This increased transparency has a sort of endogenous motive with respect to the ongoing crisis: it has led banks’ managers to (re)discover the double nature of their own business within any monetary economy of production (alias capitalism), which consists in issuing the means of final payment for their (non-bank) clients and in granting to the latter credit lines according to the deposits that these clients have in them. The collective understanding of these two natural tasks of any banks will make sure that in the future no further systemic crisis will occur, if the need for transparency in banks’ activities will give rise to a fundamental reform in the book-entry structure of the whole banking sector. Improving and making transparent accounting standards, as decided by G-20 leaders meeting in Washington (15 November 2008), London (2 April 2009) and Pittsburgh (25–26 September 2009), are not enough to avoid another systemic crisis that will have even more dramatic consequences across the whole world. A structural reform is necessary in that perspective. This reform can be informed by an analogous reform introduced by the 1844 Bank Act, through which the Bank of England had to separate in two departments the book-keeping recording of its

money emissions, on the one hand, and its financial intermediations, on the other hand, in order to make sure that its current account operations are not a source of inflation (see Schmitt, 1984a, pp. 306–13, and Bradley, 2001 for analytical elaboration on this point).

Reforming banks' book-keeping structure will enable them to know at any point of time the amount of income that their clients deposit with them, beyond which any financial-market operation by banks will not be possible, as it would rely on a pure creation of money to which no real activity in the production process corresponds. Clearly, owing to money's endogeneity, which has traditionally been explained referring to the famous expression that loans make deposits, banks can create any amount of money: lacking an appropriate book-entry structure, they can issue a number of money units having no link to income and production within the currency area in which they operate. Bank loans, recorded on the assets side of any banks' balance sheets, can thereby correspond to the purchase of financial assets deprived of any real backing in production, against the real bills doctrine that is well known in the history of monetary thinking.⁶ In the own words of Davidson (1988, p. 167), “[a]ny healthy banking system apparatus which meets the needs of trade can be subverted to create an elastic currency of ‘inflation bills’ rather than ‘real bills’”. As a matter of fact, every time a bank grants a credit *ex nihilo*, to wit, that is not grounded in a past or current production (as this is the case in the real bills doctrine), it generates a monetary imbalance, in so far as the bank deposits thus formed add to those bank deposits that are necessary and indeed sufficient to circulate produced output within the currency area into which this bank operates.

The conceptual and structural flaw at the origin of the 2007–9 financial crisis precisely lies in the fact that all payments monetized by banks are not yet separated from financial market operations – allowing banks to “finance” any operation by the simple creation of a sum of money units deprived of any original purchasing power (as these units are not at all linked to a new production of goods or services). The financial crisis that was born on the subprime market has showed to banks as well as financial market regulators that the crucial problem stems from the lack of information on the object of payments that banks and more and more non-bank financial institutions carry out for their own sake or for their clients. To date, the book-entry structure through which banks record and carry out payments does not yet allow separating financial operations stemming from income-generating payments in the whole economic system from those operations that merely transfer a pre-existent income on the financial market. This confusion between the two kinds of payments enables non-bank agents, first and foremost any non-bank financial institutions, to dispose of money amounts that are beyond the savings available in the whole system. This monetary disorder, which is further and increasingly allowed by the shadow banking system referred to earlier, is due to the fact that banks can indeed move forward in step (as Keynes would say) on this terrain, that is to say, each of them can increase its *ex-nihilo* loans at the same rate of growth as any other bank, thus making it

⁶ The real bills doctrine goes back to Adam Smith, who in the *Wealth of Nations* argued that “a real bill of exchange [is] drawn by a real creditor upon a real debtor, and [...] as soon as it becomes due, is really paid by that debtor” (Smith, 1776/1970, p. 402). As Green notes, “echoes of the real bills doctrine reverberate in modern monetary theory” (Green, 1987, p. 101). This is essentially because money emission is traditionally understood as if it were an exchange between a bank's IOU and a non-bank “bill”, which may be backed by “titles to real value or value in the process of creation” (ibid., p. 101), or it might not. See Sargent and Wallace (1982), Hicks (1989, p. 52), and de Boyer (1998, pp. 65–7, 74–5) for analytical elaboration on this point.

impossible to detect any financial problem in this respect through interbank settlements during (or at the end of) the business day. Indeed, if a bank were in a net deficit position on the interbank market owing to the loans that it (too generously) granted over that day to other banks or to non-bank agents, the interbank settlement process would lead this bank, as well as its counterparties on the interbank market, to notice this deficit and to try to avoid it, in order not to limit its activities because of a lack of settlement balances obtained on this market or through the central bank (acting as settlement institution and lender of last resort on the interbank market). By contrast, when all banks move forward in step in granting credit lines independently of their (real or financial) objects, a bank limiting its own credits would lie behind and lose a market share to the benefit of its competitors. This explains why banks, and a fortiori near-banks that are not constrained by the settlement processes supervised by the central bank, have an incentive to increase the credit they grant much beyond available savings. This creates thereby a debt system that is “self-referential”, that is to say, void of any real contents in the form of produced output.

Now, owing to the fact that monetary authorities’ interventions and the instruments that central banks have cannot avoid excess credit granted by banks, also because this kind of intervention occurs after banks exaggerated with their credit lines, the only way one has to avoid such problems to happen is to set up a “precautionary” book-entry structure within banks. Any economic transaction that banks carry out will have to be recorded in their book-entry system, which has to split these operations into two departments owing to the nature and object of the underlying payment: payments whose object is an income newly formed in the economic system must be recorded into a “department for money emission” whose liability side shows the total sum of bank deposits having a purchasing power (as they are the alter ego of a production of goods or services, including all those financial services, like wealth management and advisory business, that every bank does for its own clients). By contrast, all payments that consist in transferring a pre-existent saving and which, therefore, do not create a new bank deposit, must be recorded within a “department for financial intermediation”. Hence, any financial market operation that will not be grounded on a pre-existent bank deposit will be forbidden, because this kind of operations must be recorded in the financial intermediation department and, therefore and logically, can be carried out only if the bank has in its balance sheet the necessary and sufficient amount of income. Any operation entered on the department for financial intermediation without the necessary income (in the form of a pre-existing bank deposit in the relevant bank) being forbidden, and immediately visible in case of non-respect of this structural constraint, the volume and amount of financial market operations will be limited. As a result, financial market activities will become again ancillary with respect to income-generating operations resulting from the monetization by banks of production activities in the so-called “real sphere” of any economic system.

In sum, the systemic crisis of finance-dominated capitalism calls endogenously the two departments in banks’ book-keeping, through which all payments are carried out and are recorded by banks, to preserve the value of income and to guarantee the survival of our capitalist system – whose essence is that of a monetary economy of production, as noted by Keynes (1930, 1936).

The structural rules for the new international financial architecture

Separating in two departments banks' monetary and financial operations will guarantee that any national economic system includes all the regulatory mechanisms necessary to avoid the bursting of speculative bubbles, as observed with the 2007–8 subprime bubble in the United States. This separation, however, can do nothing at all to prevent monetary disorder and global imbalances at the international level. To dispose of these two issues, in fact, the international payments system has to be structurally reformed, along the line that Keynes (1980) worked and elaborated upon during the period preceding the Bretton Woods conference in 1944. "Keynes observed that the logic of bank money implied the hierarchical structure of banking systems. Within countries inter-bank settlements are daily proceeded in central bank money [...]. Keynes thought that the same logic could be forwarded to international settlements, if a third stage was built in linking national banking systems together" (Aglietta, 2004, p. 52).

As recent work has shown (see, in particular, Rossi, 2007c, Alessandrini and Fratianni, 2009, Costabile, 2009, and Piffaretti, 2009), the international monetary structure that the world economy needs has to make sure that its working guarantees the payment finality of all economic transactions between any two currency areas, to dispose of the so-called non-system of international payments that has been existing since 1944 (Bretton Woods agreements). An orderly-working monetary system at the international level implies the existence of a settlement institution between currency areas, which are represented by their respective central banks, for which this international institution (to be set up) must issue the means of final payment as does indeed, in the real world, any central bank for all payments that the latter carries out within the domestic payment system finally (see Schmitt, 1975).

The lack of an international settlement institution, to date, not only impedes the finality of payments between monetary spaces, but also reduces considerably the possibility for international coordination of both macroeconomic policies and financial regulation and supervision. Owing to the creation of a settlement institution for international payments, it will become possible to move (excessive) saving formed in a given currency area into any other monetary space in need of this saving: on the grounds of double-entry book-keeping, the international settlement institution will act as catalyst of all monetary flows across a country's (or a currency area's) borders, which it will monetize in the properly speaking international monetary space with its own money unit (let us call it "unitas", or "bancor" as in Keynes's plan).

Analogously to the structural reform of commercial banks' book-keeping system that is required in order to avoid new systemic crisis as noted in the previous section, there is a strong need to reform the structure of the international monetary regime, by introducing two departments in the central banks' books,⁷ when any of these banks acts in the name of its own country in connection to the international settlement institution (that has to be set up in order to finalize all international payments and to guarantee thereby the orderly working of the international monetary system). Any payment concerning two monetary areas and whose object may be either a product or a (real or financial) asset trespassing

⁷ See Schmitt (1984b, pp. 203–24) for the analytical background of this proposal. See also Cencini (1995, pp. 260–77) for an application of it to Euroland.

the borders of these areas must be monetized by the international settlement institution between these same areas (to wit, in the international monetary arena), and recorded in two separate departments within any central banks involved. The internal department of the relevant central bank will have to record in its national currency any monetary flows concerning international trade (on goods or assets), whilst the external department of the same central bank will have to enter into its own books the same flows denominated in “unitas”, which the international settlement institution must issue acting as a monetary intermediary between its member countries. This will make sure that any international payments will be issued by a settlement institution at international level, thereby in fact replacing the United States as “bankers of the world”⁸ – owing to the problems that this “non-system” induces as discussed above.

Now, if the payment of an international transaction were to be stopped at this stage, any countries would be able to live beyond their earned income, as they could pay for their net imported items (goods, services and/or assets) without disposing of any real items in exchange, the international settlement institution paying in their place and name. In fact, any net import must be paid finally, through an export of goods, services, and/or assets for the same amount logically. This is tantamount to saying that if the current account balance of a country shows a deficit at the end of a given period, this country has to pay for its commercial deficit through a net export of financial claims representing the right for their holders to withdraw a share of this country’s current or future production. Only in this case will the monetization of international settlements (through the institution to be set up) not affect domestic monetary order in any trading country. To this effect, recent developments in domestic settlement systems might inspire international reform, introducing a structural and automatic link between any cross-border transaction and the transfer, between any two monetary spaces, of financial assets via what recent payment systems literature calls a “delivery-versus-payment” (DVP) protocol (see Committee on Payment and Settlement Systems, 2006, p. 48).

If a DVP mechanism were to be introduced for the settlement of international payments within the books of the relevant settlement institution (see above), every time the central bank of an exporting country is credited with a deposit in supranational money, it has to decide either to spend this deposit for purchasing financial assets sold by the country in which the importer resides or to purchase securities that any other country is selling, in order for the latter country to finance its own net imports of goods or services.

In both cases, no country will ever have payment deficits any more – as this is the case, to date, for those countries whose currency is considered as if it were an international reserve asset – because any current account deficit will be settled through a transfer of a set of securities by which the receiving (importing) countries obtain the property right to purchase the relevant share of (current or future) output within the country that disposes of securities in final payment of its own commercial deficit in the period considered.

By the way, the international settlement institution might be called upon to work also as financial intermediary between its member countries. As a financial intermediary, this institution will be able to lend to any deficit countries the amounts saved (in the form of

⁸ See Gourinchas and Rey (2007) for elaboration on the role of world banker that the United States has been playing for more than sixty years at the time of writing.

bank deposits denominated in “unitas”) by any surplus countries. In order to do this, the international settlement institution ought to issue its own securities (or debt certificates), which surplus countries would (be willing to) purchase through the expenditure of the deposits in “unitas” credited to them as a result of the final payment of their net exports. The international settlement institution would thereby obtain a financial capital, which it could lend to any deficit countries, thereby financing in a multilateral way these deficits when the latter countries are unable to find all the needed funds on a bilateral basis (that is to say, by asking surplus countries to borrow these funds directly from them).

When selling its securities or debt certificates on international financial markets, the international settlement institution would obtain private or public capital and invest it in those national economies more in need of capital for their economic development and in which otherwise capital would not flow (see Kalecki and Schumacher, 1943, pp. 30–3). As noted by Stamp (1963, p. 81), “[t]he certificates would end up with the countries which are in over-all surplus – which, therefore, would have automatically lent [...] that surplus to the rest of the world.”

When such an international financial architecture is put into place, it will be necessary to define and then to implement clear and operational rules making sure that financial intermediation activities carried out by the international settlement institution respect all best practices in that matter, including a supervisory authority at supranational level like the International Monetary Fund or the Bank for International Settlements. Indeed, both the emissions of securities and the credit lines granted by the international settlement institution should be limited somehow, and countries obtaining financial assistance by this institution ought to pay interest on the amounts they obtain from it. In particular, the rates of interest that a debtor country has to pay on these amounts should depend on the country’s current account deficit, stock of accumulated debt, and structure of its capital account. The statutes of the international settlement institution will also have to provide limits (for instance, as a percentage of the country’s foreign trade with respect to GDP), beyond which no country will be allowed to finance its foreign deficits through a sale of securities. These limits will then be reached when the stock of debt accumulated by the country is considered too high in order for this country to offer sound guarantees (in the form of collateral) against insolvency. If these limits are reached, the relevant country will be obliged to reduce its imports and/or to increase its exports of goods and services, in order also to make sure that its debt service can be paid (interest and reimbursement of the principal matured).

Conclusion

The double structural reform of the international payment system and the book-keeping of banks’ payments proposed in this paper is necessary but sufficient to avoid systemic risks ensuing from finance-dominated regimes in which financial circulation dominates rather than being ancillary to the real activities of production and consumption of goods and services. This twofold reform of the monetary–structural framework for payments should lead national authorities as well as supranational institutions to propose a series of new rules, replacing those regulations that the 2007–9 financial crisis has shown to be void of any actual effect on the financial market.

In particular, the principles underlying these new rules for the financial architecture are as follows:

- a) Bank specific activities, that is, the granting of credit lines and deposit management, must be structurally separated from those financial market operations consisting in purchasing and selling financial products, whose complexity degree increases over time. Banks must revert to their original core business and make it fully transparent, recording in two distinct departments all transactions they carry out daily, according to the nature and object of the underlying payment.
- b) The international financial architecture has to make sure that all payments between two countries or currency areas are carried out with a truly supranational currency, issued in a purely vehicular way by an international settlement institution and whose purchasing power will be provided by the commercial or financial load transported from the paying to the receiving country.

When the working of the international payment system will be orderly again, no country (including the United States) will be able to purchase without paying finally. This boils down to making sure that the net commercial imports of any country imply, at the same time and for the same country, a net export of securities, if the rest of the world accepts these financial claims – representing the right to withdraw a part of future production of the net commercial importing country – in exchange for the current-period products that residents in the latter country import from the rest of the world.

References

Aglietta, M. (2004), “The International Monetary Fund: Past and Future”, in Desai, M. and Said, Y. (eds), *Global Governance and Financial Crises*, Routledge, London and New York, 43–69.

Alessandrini, P. and Fratianni, M. (2009), “Resurrecting Keynes to Stabilize the International Monetary System”, *Open Economies Review*, 20(3), 339–358.

Bradley, X. (2001), “An Experience in Banking Departmentalisation: the Bank Act of 1844”, Centre for Banking Studies and Research Laboratory of Monetary Economics, *Working Papers*, no. 5.

Carabelli, A. and Cedrini, M. (2008), “Current Global Imbalances: Might Keynes Be of Help?”, paper presented at the “Fourth International Conference on Keynes’s Influence on Modern Economics: The Keynesian Revolution Reassessed”, Sophia University, Tokyo, 19–20 March 2008, mimeo.

Cencini, A. (1995), *Monetary Theory, National and International*, London and New York: Routledge.

Committee on Payment and Settlement Systems (2003), *General Guidance for National Payment System Development*, Bank for International Settlements, Basle.

- Costabile, L. (2009), “Current Global Imbalances and the Keynes Plan: a Keynesian Approach for Reforming the International Monetary System”, *Structural Change and Economic Dynamics*, 20(2), 79–89.
- Davidson, P. (1988), “Endogenous Money, the Production Process, and Inflation Analysis”, *Économie Appliquée*, 41(1), 151–169.
- de Boyer, J. (1998), “Endogenous Money and Shareholders’ Funds in the Classical Theory of Banking”, *European Journal of the History of Economic Thought*, 5(1), 60–84.
- Fischer, S. (1983), “A Framework for Monetary and Banking Analysis”, *Economic Journal*, 93 (conference supplement), 1–16.
- Goodhart, C.A.E. (1989), *Money, Information and Uncertainty*, Macmillan, Basingstoke, second edition (first published 1975).
- Gourinchas, P.-O. and Rey, H. (2007), “From World Banker to World Venture Capitalist: U.S. External Adjustment and the Exorbitant Privilege”, in Clarida, R.H. (ed.), *G7 Current Account Imbalances: Sustainability and Adjustment*, University of Chicago Press: Chicago and London, 11–55.
- Green, R. (1987), “Real Bills Doctrine”, in Eatwell, J., Milgate, M. and Newman, P. (eds), *The New Palgrave: a Dictionary of Economics*, Macmillan, London and Basingstoke, vol. IV, 101–102.
- Guttman, R. (2007), “Basel II: A New Regulatory Framework for Global Banking”, paper presented to the international conference on “Post-Keynesian Economic Policies”, University of Burgundy, 30 November–1 December 2007, mimeo.
- Guttman, R. (2008), “A Primer on Finance-Led Capitalism and Its Crisis”, *Revue de la régulation*, no. 3–4, available online at <http://regulation.revues.org/index5843.html>.
- Hicks, J.R. (1989), *A Market Theory of Money*, Oxford University Press, Oxford.
- Kalecki, M. and Schumacher, E.F. (1943), “International Clearing and Long-Term Lending”, *Bulletin of the Oxford University Institute of Statistics*, 5 (supplement), 29–33.
- Keynes, J.M. (1930), *A Treatise on Money, Vol. 1: The Pure Theory of Money*, Macmillan, London.
- Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, Macmillan, London.
- Keynes, J.M. (1980), *The Collected Writings of John Maynard Keynes, Vol. XXV: Activities 1940–1944. Shaping the Post-War World: the Clearing Union*, Macmillan, London.

Machlup, F. (1963), “Reform of the International Monetary System”, in Grubel, H.G. (ed.), *World Monetary Reform: Plans and Issues*, Stanford University Press and Oxford University Press, Stanford and London, 253–260.

Piffaretti, N.F. (2009), “Reshaping the International Monetary Architecture: Lessons from the Keynes Plan”, *Banks and Bank Systems*, 4(1), 45–54.

Rossi, S. (2006), “The Theory of Money Emissions”, in Arestis, P. and Sawyer, M. (eds), *A Handbook of Alternative Monetary Economics*, Edward Elgar, Cheltenham and Northampton, 121–138.

Rossi, S. (2007a), *Money and Payments in Theory and Practice*, Routledge, London and New York.

Rossi, S. (2007b), “International Capital Flows Within the European Monetary Union: Increasing Economic Divergence Between the Centre and the Periphery”, *Intervention: European Journal of Economics and Economic Policies*, 4(2), 309–329.

Rossi, S. (2007c), “The Monetary-Policy Relevance of an International Settlement Institution: the Keynes Plan 60 Years Later”, in Giacomini, A. and Marcuzzo, M.C. (eds), *Money and Markets: a Doctrinal Approach*, Routledge, London and New York, 96–114.

Rossi, S. (2008), “The Role of Banks in the (Over-)Accumulation of Capital”, *European Journal of Economic and Social Systems*, 21(2), 213–231.

Rossi, S. (2009), “Wechselkursschwankungen als Folge einer Währungsunordnung: Neugestaltung des internationalen Währungssystems im Sinne von Keynes”, in Kromphardt, J. and Spahn, H.-P. (eds), *Die aktuelle Währungsunordnung: Analysen und Reformvorschläge*, Metropolis Verlag, Marburg, 175–208.

Rueff, J. (1963), “Gold Exchange Standard a Danger to the West”, in Grubel, H.G. (ed.), *World Monetary Reform: Plans and Issues*, Stanford University Press and Oxford University Press, Stanford and London, 320–328.

Sargent, T.J. and Wallace, N. (1982), “The Real-Bills Doctrine Versus the Quantity Theory: a Reconsideration”, *Journal of Political Economy*, 90(6), 1212–1236.

Schmitt, B. (1975), *Théorie unitaire de la monnaie, nationale et internationale*, Albeuve: Castella.

Schmitt, B. (1984a), *Inflation, chômage et malformations du capital*, Paris and Albeuve: Economica and Castella.

Schmitt, B. (1984b), *La France souveraine de sa monnaie*, Paris and Albeuve: Economica and Castella.

Smith, A. (1776/1970), *The Wealth of Nations*, Penguin, Harmondsworth.

Spahn, H.-P. (2006), *Geldpolitik: Finanzmärkte, neue Makroökonomie und zinspolitische Strategien*, Franz Vahlen, München.

Stamp, M. (1963), “The Stamp Plan: 1962 Version”, in Grubel, H.G. (ed.), *World Monetary Reform: Plans and Issues*, Stanford University Press and Oxford University Press, Stanford and London, 80–89.

Williamson, J. (1977), *The Failure of World Monetary Reform, 1971–74*, New York University Press, New York.