

Subprime crisis : analysis using financial-sector balances

Max MAURIN¹

Abstract. This article analyses the role played by budget deficits along path of the American economy that led to the subprime crisis, using financial-sector balances. Firstly it shows that budget deficits are a consequence of the private sectors behavior in the context of the monetary theory of production, and secondly it illustrates the negative consequences of maintaining a policy of reducing government's deficit with the American example.

Introduction

Keynes was back in fashion with the 2007 financial subprime crisis, thus confirming what Robertson (1956, p. 81) said :

Highbrow opinion is like a hunted hare : if you stand in the same place, or nearly the same place, it can be relied upon to come round to you in a circle.

Thus Krugman uses the term "Keynesian moment" in 2008 to show that :

[Keynes] analysis remained as valid as ever, under the right conditions. Those conditions reappeared first in Japan during the 90s ; now they're everywhere. And in the long run, it turns out, Keynes is anything but dead.²

1. LAREFI, Université Montesquieu-Bordeaux IV, Avenue Léon Duguit, 33608 Pessac Cedex, France, max.maurin@u-bordeaux4.fr

2. The Keynesian moment, The Conscience of a Liberal, The New York Times, November 29, 2008.

The subprime debacle and its consequences on the real economy implied massive government interventions. But it is dangerous to limit Keynesian economics to this aspect because large deficits resulting from increased government purchases lead to a revival of economic orthodoxy. In a neoclassical world in which the equilibrium interest rate is determined in the loanable funds market, any increase in government spending comes with higher interest rates which involve a reduction in private consumption or investment (crowding out effect). Moreover it will entail later inflation if deficits are totally or partly financed by selling treasury bonds. Budget deficits grow and reach an unsustainable level. Therefore neoclassical economists ask for austerity. As an example a recent survey from OECD (2010) advises United States to restrain expenditure, to adopt a strong fiscal framework and to reduce public health spending in the future.

However Keynesian analysis has a different approach to deal with budget deficits. Domar (1944) summarized main features of this analysis saying that budget deficit issue is linked to economic growth issue. The most important issue is the second one, the first one resolving then itself. Subsequently Tobin (1963) paved the way for accounting identities use in economic analysis. Eisner (1986) and Vickrey (2000) show that financial-sector balances allow us to understand budget deficit issue. Indeed the sum of the government-sector balance, the private-sector balance, and the current account balance must be zero. Therefore a budget deficit will be reflected by a private-sector surplus provided that current account is zero. Post Keynesian contributors criticize austerity policies [Arestis and Skuse (1989), Arestis and Bain (1994), Eisner (1994), Wray (1989)]. Davidson (2009, p. 63) summarizes this point of view saying that :

We have nothing to fear about running big government deficits when government is the only spender that can increase market demand for the products of our industries and thereby maintain a profitable entrepreneurial system.

As well the monetary theory of production gives a proper framework for a budget deficits issue. This theory has been particularly developed in France, Italy and Canada since the early 1970s³. It takes root in Keynes' work who said in 1933 (1973a, p. 276) :

In my opinion the main reason why the problem of crises is unsolved, or at any rate why [economic] theory is so unsatisfactory, is to be found in the lack of what might be termed a *monetary theory of production*.

3. Deleplace and Nell (1996), Gnos (2006), Graziani (2003), Parguez (1996), Realfonzo (2006) and Rochon (1999) synthesize this theory.

In Keynes' work, the construction of monetary theory of production leans particularly on his *Treatise on Money* (1930 (CW 1971)), on his fundamental discovery that "investment always drags saving along with it at an equal place" (1973a, p. 276) and on four articles he published in the *Economic Journal* between 1937 and 1939 (1973a)⁴. Monetary theory of production takes also a leaf out of works of Quesnay, Tooke, Marx, Wicksell, Kalecki and Schumpeter. The discovery of 1932 highlights the monetary circuit by introducing *power*, *money* and *time* in economic theory.

- It reveals a hierarchy between agents. Banks come first and firms who invest come before households who consume (and save).
- Money is at the core of the theory because production which cannot be financed by saving needs to be financed by *ex nihilo* creation of credit money by banks (initial finance).
- After its creation, money circulates between agents (making a circuit) before being destroyed when firms pay back their debts. The monetary circuit follows several steps (TABLE 1) and each circuit is linked to the previous one.

By explicitly introducing the State in this framework, financial-sector balances correspond to the investment-saving relation (Keynes-Kalecki identity). This relation shows that an increase in the budget deficit, *ceteris paribus*, would raise the business saving [Parguez (1989), Seccaracia et Sharpe (1994)]. So austerity has been widely criticized by circuitists [Parguez (1989), Poulon (1989), Seccaracia and Sharpe (1994)].

Recently, Leclaire (2008) used financial-sector balances to deal with the American budget deficit until 2007 (i.e. before subprime crisis). She showed that every time the budget deficit is reduced, private-sector (household and business) wealth also falls. But her analysis raises two questions which structure the paper :

- How should the financial-sector balances be interpreted ?
- How should it be used to understand the subprime crisis ?

1 Circuitist approach of financial-sector balances

Tobin (1963) and Eisner (1986) have shown the usefulness of financial-sector balances to deal with budget deficit issue. Considering that the econo-

4. "The ex ante theory of the rate of interest" (1973b, pp. 215-223), "Alternative theory of the rate of interest" (1973b, pp. 201-215), "Mr Keynes 'finance'" (1973b, pp. 229-233), "The process of capital formation" (1973b, pp. 278-285).

	Step 1	Step 2	Step 3	Step 4	Step 5
Realfonzo (2006)	Banks grant the financing requested by firms, creating money.	Firms buy inputs (total wage bill).	Firms carry out production.	Workers purchase consumer goods and make a choice about how to use their savings.	Firms repay the banks.
Graziani (2003)	Banks decision to grant credit to firms.	Firms decision concerning production and expenditure.	Money flows back to firms, who can use it to repay their bank debt.	Firms financial choices and determination of money stock.	Firms pay interest in kind to banks.
Rochon (1999)	Production and investment decision.	Initial finance and the ex nihilo creation of money.	A theory of banking decisions.	The creation of income flows and the efflux principle.	Monetary reflux, the creation of profits, and the destruction of money.
Parguez (1996)	Firms bets on the future whose stake is the profit flow.	Banks provide firms with the quantity of money they need to carry out their bets.	Repayment of their debts is the outcome of firms effective ability to generate an income by carrying out their bets.	Firms pay back their debts by an amount equal to their gross income.	

TABLE 1 – Steps of Monetary Circuit

my's financial flows are a closed system (i.e. one sector's deficit is another's surplus), the sum of the government-sector balance, the private-sector balance, and the current account balance must be zero.

$$\begin{aligned}
 & \textit{Governmentsectorbalance} \\
 & + \textit{Privatesectorbalance} \\
 & + \textit{Currentaccount} = 0
 \end{aligned} \tag{1}$$

Leclaire (2008) offers the following analysis : "general government surpluses reduced private-sector wealth" (p. 148) provided that current account is zero. Two problems arise from this interpretation :

- First the private sector maximal degree of aggregation hides the sub-sector heterogeneity. The private sector consists of two sub-sectors : households (consumption) and business (production). The second problem can illustrate this first aggregation problem.
- Leclaire (2008) uses the term "net lending" as synonymous with "wealth" : net lending reduction of private sector is equivalent to wealth reduction of this sector. Using it with regards to business goes against the monetary theory of production. In the monetary theory of production, the monetary circuit begins with the decision taken by the banks to grant credit to firms. Then firms decide upon the level of employment and amount of goods produced. Goods produced are put on sale and wage earners buy them. Finally firms use this money to repay their bank debt. The monetary circuit is closed when the money is destroyed. So a net lending position for business cannot be interpreted as wealth. The same difficulty arises with regard to households. At the macroeconomic level, if households keep savings, firms are unable to repay the total amount of their bank debt.

It would seem wise to prefer talking about "spending capacity". It means that the more the net borrowing position of a sector is high, the more its spending capacity is important. Conversely a high net lender position reveals a poor spending capacity. Now we have to introduce a crisis situation to understand the budget deficit role. By definition capitalism is in crisis when capital is unable to grow. In other words crisis comes from firms' incapacity to earn profits. Two types of crisis are identified in the monetary theory of production (Graziani, 2003). The first one is relating to the phase of opening phase of the circuit and can be associated with low investment. The second one is relating to the phase of closure and can be associated with low

consumption. In both cases economic crisis arises from weak private demand (investment or consumption).

- *Crisis relating to the opening phase.* Realization of profits may be threatened before the production process begins if granted credits do not allow sufficient scale of production to be profitable. This can happen if banks refuse to lend money to firms or if firms want to reduce their activity levels. It emphasizes the importance of entrepreneurs' state of confidence. If the state of confidence is not strong and entrepreneurs are pessimistic about expected future profits, the amount of granted credit will not be sufficient to earn profits. Crises relating to the opening phase correspond to low net borrowing of business.
- *Crisis relating to the phase of closure.* If households decide to increase their liquid holdings, reflux destination for firms is reduced. So firms' bank debt is increased just as much. If banks ask to be repaid, firms are compelled to file for bankruptcy. So crisis relating to the phase of closure happens when spending capacity of households is too low (i.e. when their net lending position is too high).

Finally both origins hold the private sector's insufficient capacity of spending responsible for economic crisis. State intervention is necessary to avoid economic crisis. Public spending capacity offsets insufficient private capacity of spending. State intervention relaxes monetary constraint of repayment by increasing monetary flux destination for the firms. So state intervention allows the readjustment of spending for the whole society to a level that is compatible with business profits.

This result is well-known as the Keynes-Kalecki identity which explains the saving-investment relationship. On the supposition that trade balance shows a deficit, the Keynes-Kalecki identity can be written as :

$$S_m + \Pi = I + D - BC \Leftrightarrow \Pi = I - S_m + D - BC \quad (2)$$

- S_m : *households' saving*
- Π : *firm's saving (i.e. business profit)*
- I : *firm's investment*
- D : *budget deficit*
- BC : *trade balance*

This equation allows us to understand that :

- households' saving and investment financing constraints obstruct the realization of profits.
- budget deficit has a positive impact on business profit.

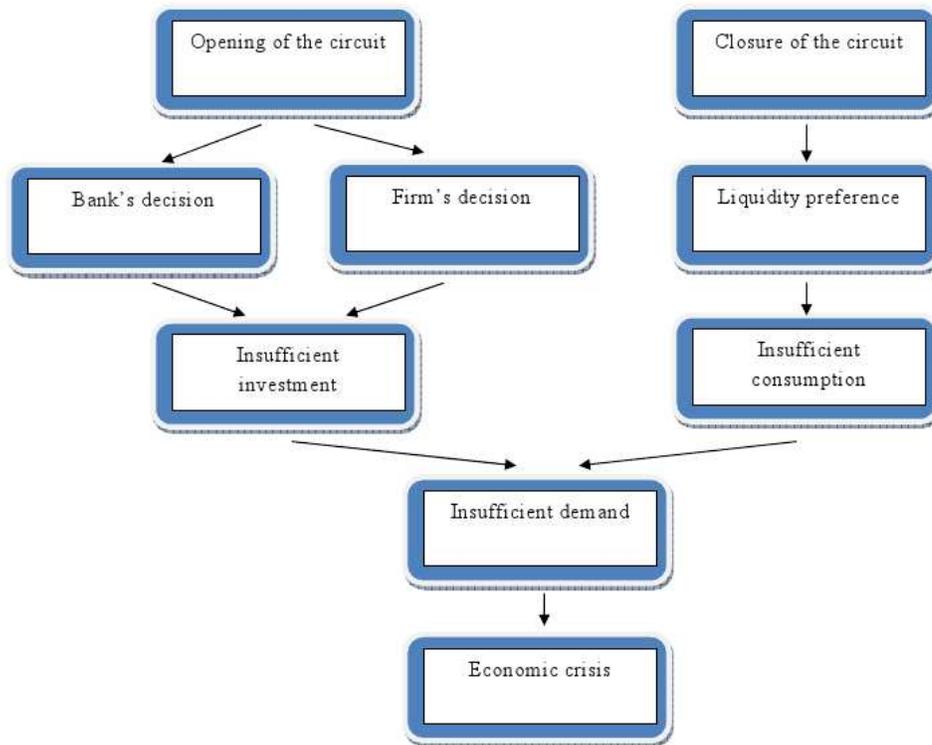


FIGURE 1 – Mechanism of economic crisis

We can easily use national accounting to value financial-sector balances. This allows us to explain the path of the American economy path from 1980 to 2008. So we can evaluate public deficit involvement in financial crisis.

2 Subprime crisis explanation

Leclaire (2008) studies the consequences of American congresses' and presidencies' efforts to reduce federal budget deficits. But his study does not include the recent financial crisis. However, this is now possible because of more recent US Bureau of Economic Analysis (BEA) data. This allows a connection to be made between reduction of budget deficit policies and the subprime crisis.

We will consider trade balance to be exogenous which is like a constraint on public and private domestic agents. Figure 2 shows that the external deficit has been increased since the 90's. The rest of the world financing capacity has risen from 44.8 billions dollars in 1992 to 706.8 in 2008 and

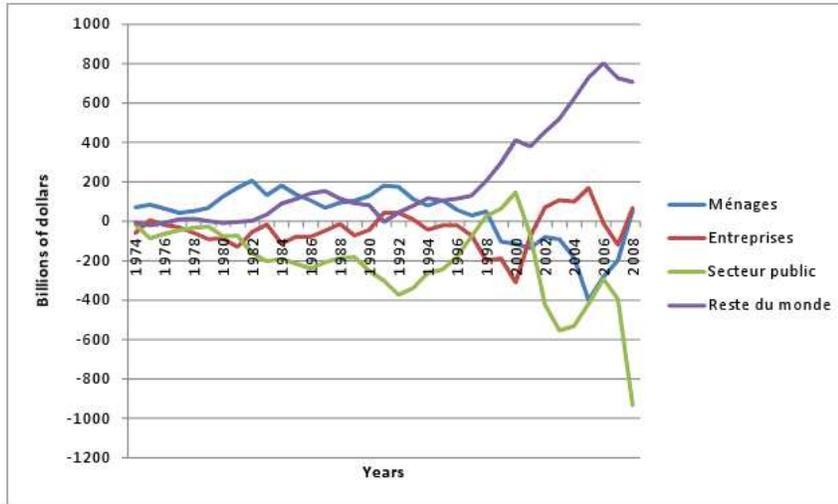


FIGURE 2 – Financial-sector balances (sources : Bureau of Economic Analysis (BEA) and author’s calculations)

peaked in 2006 (802.6). This implies that the economy as a whole has to be net borrowing. With this constraint, American government has consistently worked to reduce budget deficits with legislative support since 1974⁵.

This situation (pursuit of net lending position by government, or at least a reduction of net borrowing, and high net lending position from the rest of the world) has led to a private sector adjustment which had been detrimental to the whole economy. Households’ net lending position reduced between 1992-2000 as a result of substantial reductions of budget deficits which became budget surpluses between 1998-2000. Reduction in households’ net lending position is traditionally seen as a better spending capacity and as a good sign for the economy. But in this case, American households characterized by low savings rates became net lending from the year 1999. In other words, policy to reduce American national debt reached its height : by reducing public spending, this policy has led to change from households’ spending capacity to indebtteness. The policy of deficit reduction has created an unsustainable situation in which households get into debt. The result has been a growing competition in financial system which results in more complex financial innovations.

After 2000, households maintained their level of indebtteness despite the disappearance in budget surpluses and a rise in the budget deficits. The

5. These measures are summarized in Leclaire (2008).

spending capacity reintroduced by government did not allow for a decline in the households' spending capacity. Households didn't become financially sound leaving the other group of the private sector (business) making the adjustment which had been again detrimental to the whole economy. Business became net lending between 2003-2005 as a result of growing budget deficits. This situation is contrary to a traditional one. In the monetary theory of production, firms are in net borrowing position. A net lending position is absurd behaviour for firms. It means that firms change their behaviour to adopt a "rentier" behaviour preferring to invest profits in the stock market rather than engage in productive activities. This change in firm behaviour is contrary to lessons learned from the "keynesian revolution". Saving comes at the end of the circuit (Graziani (1987), Rochon (1997)) and the logic of "rentier" behaviour means to neglect productive activities which create jobs and to prefer financial activities of saving profitability.

The Subprime crisis is the result of pressure from the real economy on research and development of more and more complex and risky financial instruments. This crisis has emphasized the risks of reducing public spending capacity and rising at an unsustainable level of private spending capacity.

Conclusion

The Keynesian framework and particularly the monetary theory of production provides solid basis for criticizing austerity which seems to be the disastrous destiny of countries with lax policies. According to financial-sector balances - provided equilibrium trade balance - crisis is caused by a lack of private spending capacity and has the effect of increasing public spending. More generally, budget deficits are involved in supporting economic growth. So one cannot but agree with Domar (1944, p. 823) :

If all the people and organizations who work and study, write articles and make speeches, worry and spend sleepless nights - all because of fear of the debt - could forget about it for a while and spend even half their efforts trying to find ways of achieving a growing national income, their contribution to the benefit and welfare of humanity - and to the solution of the debt problem - would be immeasurable.

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