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# **How to Sustain Entrepreneurial Performance during the Current Financial Crisis**

by

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## **Abstract**

In a debt-ridden society that badly needs to grow economically, policies controlling the flows of economic accounts (revenues and expenditures) should be consistent with an efficient “asset and liability management”. The extra money obtained from immediate sales of idle or low-productive government properties can boost economic growth if lent to innovative entrepreneurial firms.

**Keywords:** Entrepreneurial performance, debt finance, financial crisis, Ricardian (non)equivalence proposition

**JEL Classification codes:** G1, G2, G3, H12, H2, H3, H4, H5, H6, H81

## **1. Introduction**

The current phase of the financial crisis seems to pose problems to companies as well as policy makers, and academicians alike. It requires profound re-thinking and reorganization of strategies, actions and instruments. Companies need to reformulate their programmes and financial setting in order to overcome their difficulties in the short run and meet new opportunities of growth. It is for this reason that we have felt the need to express our understanding of these problems and suggest possible solutions.

A number of aspects of the present crisis are still not clear. It is obvious that during the great recession many countries, even the “virtuous” ones, have found it impossible to keep their budgets under control. Governments appear to refer conventional thinking based on traditional approaches inherited from the past rather than the new and radical ideas. The following questions seem to remain unanswered: why are their actions counterproductive with respect to the twin goals of cleaning up their finances and fostering economic growth and employment? How should growth-oriented entrepreneurial firms best navigate in the rough waters of a new credit crunch? What possible solutions could be given by the academic research and policy counsellors?

Great confusion still remains in the economic interpretation of problems that we are facing today. For example, what is the type of economic system that is established across the globe? Is globalisation really at an advanced stage or there are obstacles and fragmentation of the markets that contribute to the current problems? To what degree is the present banking system responsible for the turbulence of the financial markets? Finally, in the present course of events, what should single governments and firms do in order to reorganize their plans and actions particularly from the financial point of view?

In this article, we shall try to address some of these questions in the best of our knowledge. We are aware that they could be neither exhaustive nor completely flawless from many points of view.

## **2. Debt-based “capitalisms”**

We start from the observation that today there is not one single type of “free” market economy. Many types of capitalism and capitalistic systems have been and are in operation around the world. Advanced economies have evolved from “merchant capitalism” in the eighteenth century to “entrepreneurial capitalism” in the nineteenth century, “managerial and

state capitalism” in the twentieth century, and “global financial capitalism” during the last three decades. All these kinds of capitalism coexist in other parts of the world while a variety of national characteristics further enrich the panorama of market regimes.

The evolution of the present financial crisis has unveiled the nature of contemporary global economy. The present crisis seems to be different from those experienced so far. In a recent guide to capitalism published by Oxford University Press, James Fulcher (2004) wrote:

*Capitalism transformed the world but has itself been transformed. We are now in a quite distinct era in its development, one that began in the latest transformation during the 1970s and 1980s. To understand where we are now, we do need, however, to set this new era in historical context.*

How much economies have changed since the so-called “Age of Capital” of the nineteenth century is clearly synthesized in the words of the historian Hobsbawm (1975, p. 252),

*[T]he characteristic enterprise of the first half of the [nineteenth] century had been financed privately – e.g. from family assets – and expanded by reinvesting profits, though this might well mean that, with most capital tied up in this way, the firm might rely a good deal on credit for its current operations.*

The acquisition of the so-called “fixed capital” (used to purchase machinery and equipment, means of transportation, and buildings) was financed mainly with the entrepreneurs’ own resources as well as reinvested profits. The “variable” capital (used to acquire intermediate inputs and labour services) was primarily financed with short-term debt.

In the type of capitalism that Marx thought to exist in his time, the entrepreneur was envisioned as the owner of almost all financial capitals invested in his or her firm. In the classical Marxian view, firms were being run by capitalist-entrepreneurs who *exploited* labour to accumulate additional owned capital through retained profits. Surprisingly enough, this is still the vision that many left-wing academicians have of the present day capitalism (see, for example, the description of the current financial crisis by Luigi Pasinetti, 2010).

In the course of time, however, industrial growth required heavy investments in public infrastructures (railroads, postal services, telecommunications, colonial expansions, and, by the turn of the century, electrification), required new banking initiatives capable of driving national savings into “joint-stock” rather than “privately financed activities”. In France, during the second part of the nineteenth century, *credits mobiliers* (followed soon by the Rothschilds in Germany) were specifically targeted to industrial financing. By the end of the century, investment banks or *banques d'affaires* had become well established channels bringing private savings directly to industrial firms. At the same time, equity capital was open to public participation through stock exchange markets where shares were traded.

The turn of the century was characterized by increasing shares of “external” financial resources on the firms’ capital. This evolution marked a profound change in the working of the advanced economic systems where the aims of entrepreneurial projects became more and more distinct from (and contrasted by) the maximization of the financiers’ returns (and even more distant from the Marxian description of the “capitalist-entrepreneur” operating as a mere “functionary of capital”). During the first decade of the twentieth century, the productive and

financial conditions in both the U.S.A. and western Europe had evolved into a kind of capitalism operating with distinct roles of workers, entrepreneurs, and “capitalists” who in turn comprised savers, investors, intermediaries, banks, and so-called shadow banks. This distinction was so evident that, even in the Marxist camp, it became necessary to fill the analytical gap by examining the use and investment of financial resources as in the famous Marxist analysis in Rudolf Hilferding’s (1910) *Finance Capital* (whether this new contribution was sufficient to remedy the classical economists’ “fallacies” repeatedly pointed out by Paul A. Samuelson is, however, another story).

It became increasingly wrong to define the entrepreneurs as capitalists for a number of reasons: 1) in the later stages of the firms’ life cycle, the relative amount of entrepreneurs’ own financial capital invested in the firm became relatively very small; 2) the aims of the entrepreneurs generally did not coincide with the maximization of returns sought by the external financiers as they were rather focused on their “professional” and personal interests which were often non-financial in nature; 3) the activities performed by the entrepreneurs within their firms were more similar to those of high-skilled workers than those of the financiers; 4) the social relationship between successful entrepreneurs and the employees of their firms were generally not “alienated” in the form of market exchange of labour services seen as “fetishist commodities”, but progressively evolved from the Taylor-type mass production towards a form of constructive cooperation in “common” projects (see for example the formalization of this evolution in McGregor’s, 1960 theory of management); 5) the project-related entrepreneurial activities became increasingly in contrast with the old character of capitalist-entrepreneur exploiting the labour force (to be sure, Marx himself had recognized the progressive contribution of the entrepreneurs to the economic and civil development of the society).

Given the evolution and liberation of the entrepreneur from the pure accumulation of capital, Joseph A. Schumpeter (1934) defined the entrepreneurs as the most important revolutionaries in human history for their crucial contribution to technological and organizational innovations which were quintessential factors of economic growth and social transformation. The social revolution brought about by innovative entrepreneurs were also famously analysed earlier by Max Weber (1904-1905). This sociologist and economist reversed the Marxist concept of one-way relationship between the “base” (production conditions) and “superstructure” (culture in broad sense) by claiming that the “spirit of capitalism” was motivated in Europe by the particular ethic of Protestantism rather than the other way round. Entrepreneurs, living frugally like “monks in monasteries” but motivated by a call for proper contribution to this world, fulfilled their mission of bringing innovative projects to the economic life of their society. Other authors, like Trevor Roper (1967), have complemented this interpretation by attributing great importance to the higher social tolerance that have been established in northern European countries relative to the rest of the continent as a pre-condition for flourishing human activities.

During the twentieth century, further accelerations took place in the structural and sectoral composition of the advanced economies. The sectoral share of agricultural employment, for example, has been reduced more than tenfold while increasing significantly the volume and variety of agricultural production. At the same time, the secondary sector of manufacturing and construction industries entered in a more mature stage with the important presence of large firms while small- and middle-sized firms continued to play a very important role also in terms of economic growth and employment. Moreover, national economies continued to change their sectoral composition of production adjusting to post-

industrial and service-oriented consumption. This transformation, however, did not happen without tensions and social stress as adjusting supply to various internal and external shocks and changes in social habits and demand entailed continuous industrial restructuring and mismatch phenomena in the labour markets.

The actual distribution of income between factors of production did not allow accumulating volumes of pure profits that would be sufficient for self-financed growth of production. In carrying out their growth-oriented projects, the entrepreneurs had therefore to deal with uncertainty under the constraints posed by management as well as external financiers. A new type capitalism, the so-called “managerial capitalism” based on entrepreneur-managers using “external” capital, emerged from the ashes of the old system of self-financed enterprises. Industrial relations played a key role in engaging the employees productively and effectively. However, not always and not everywhere has the entrepreneur’s mission been clearly understood and recognized. “Phantoms” of the past and anachronistic interpretations based on a reality that no longer existed or even never existed still lingered in the working places. To be sure, the theory of contracts reminds us that each individual has distinct objectives and interests which do not necessarily coincide with those of their counterparts. But the working relationships between the employers and the employees were often seen in conflict. This contrasted the fact that the various types of labour (including those of the entrepreneurs and managers) had become inseparable. Productivity gains within the firms are now seen as a joint outcome to be distributed through negotiation rather than conflict.

Nowadays, however, the distributional problem is shifted from inside to outside the firms as financial capital is provided not by the entrepreneurs (as it was more frequent in the nineteenth century) but by external financiers conveying money from savers located elsewhere. As the ultimate financiers became located in other parts of the world, another type of capitalism emerged: the “global financial capitalism”, where the capitalists are in a large part the proletarians working in the emerging economies of the Middle East and Eastern Asian countries. The micro-savings of workers of those countries, once collected and concentrated in sovereign funds, are in turn converted in the only international currency available, the U.S. dollar, and deposited in the treasure chest of the US Federal Reserve (those U.S. dollars never left the American soil). These financial deposits allow an implicit monetary “quantitative easing” in the hosting economy. They are part of the dramatic financial imbalances that have accumulated over the years during the last decades through international trade and other current account flows.

By counterbalancing capital movements in the opposite direction, these flows have contributed to feed a mounting debt also in other advanced countries. In the U.S.A the ratio between the stock of total (private plus public) debt and GDP has reached the magnitude of three times. The service of external debt has reached a non-trivial share of the value of domestic production thus drawing resources that would otherwise be destined to maintain (and even increase) the standard of living of domestic population. But also in this context, it is wrong to see such unfavourable imbalances in terms of conflict of interests. In an interdependent world, the debt could be serviced only if production activities can strive so that sufficient revenues can be gained. Here, again, the “exploitation” paradigm does not have any explanatory power since the gains from production-revenue-income circular relationship is arising from a non-separable global joint adventure.

An orderly shift towards a more balanced (and advanced) global economy is possible by undertaking a development of the emerging countries towards an “intensive” rather than “extensive” growth. A change in the typology of growth is needed in order to transform these emerging countries from the “factories” of the advanced economies into truly independent realities where an autonomous internal demand could represent the main engine of the domestic production growth. This transformation is in the interest of the external world as well as of the domestic population and government. Global financial imbalances would be greatly alleviated and the developing economies would become less exposed to the contingency of the business cycles in other parts of the world.

In the present situation, the creditors of the mounting sovereign debts could now realize heavy losses from a possible default of their debtors similarly (but in greater measure) to what happened in the aftermath of the first-oil shock occurred in 1973-1974. In that event, the oil-producing countries realized that their immediate high gains from the sudden fourfold increase in the reference price of crude oil were soon counterbalanced by the losses in value of their assets located in the western economies. A coordinated global strategy for a more balanced growth, coupled with a workable plan for a fast restructuring of demand and supply across all regions of the world, is the key for eliminating the endemic causes of such crises.

Restructuring economic growth in various areas of the world is not only a matter of good will, however. It is a matter of necessary conditions that are in part independent of economic policy. Giving power to domestic demand as an autonomous engine of growth entails raising the standard of living of local population. This, in turn, requires a sufficient level of (total factor) productivity, which is presently still relatively low and slow-growing even in the most fast-growing emerging economies. How to get out of this impasse? Cooperation between national governments rather than conflict appears to be the only viable and efficient solution to accelerate this process.

Opponents to globalization of the economy should also realize that the global interdependence of the economies is not *per se* a new phenomenon. Consider, for example, the following description given by Cicero more than two thousand years ago accounting for the negative effects in Rome deriving from a financial crisis occurred in Asia about twenty years before:

*For, coinciding with the loss by many people of large fortunes in Asia, we know that there was a collapse of credit at Rome owing to suspension of payments. It is, indeed, impossible for many individuals in a single State to lose their property and fortunes without involving still greater numbers in their ruin. Do you defend the commonwealth from this danger; and believe me when I tell you—what you see for yourselves—that this system of credit and finance which operates at Rome in the Forum, is bound up in, and depends on capital invested in Asia; the loss of the one inevitably undermines the other and causes its collapse. Cicero (66 B.C.E., emphasis added).*

Inconsistencies in the institutional design of the international monetary and financial system are not the primary causes of the crisis, but they concur to it significantly by representing the “fault lines” on which the forces of financial movements discharge their weight. An “intelligent design” should be negotiated among the counterparts, non-conflicting contractors. The “original sin” is allegedly that of the establishment of one single national currency (the U.S. dollar) as *the* international currency. This was instrumental in making possible persistent

balance of payment deficits of the U.S.A. after the WWII. More importantly, without these persistent deficits, the dollar could never become an international currency.

### **3. Learning from the past**

At this point, it is useful to pause for a moment to see where we are in order to see the alternative scenarios which are open to our constrained choices. From the past experience, we have learned the following facts:

(i) Relatively free markets have been subject to historical changes. The capitalistic regime based on self-financed industrial firms passed away at the end of the nineteenth century. Its offspring based on entrepreneurial companies funded directly or indirectly by popular savings through financial intermediaries had taken over by the turn of the century.

(ii) Technological and organizational changes have virtually swept away the proletariat class from the advanced economies by reducing dramatically the “blue-collar” working positions during the second part of last century. This has happened mainly through the delocalization of factories to emerging economies where low-cost labour was available.

(iii) The pulverized savings among billion of workers distributed in all regions of the world have found global investment opportunities in the advanced countries, especially in the U.S., through their concentration in sovereign funds moved across a liberalized world-wide financial system.

(iv) International movements of financial capitals have been made possible by technological and institutional innovations in at least two interconnected areas: 1) information and communication technologies (ICT) made it possible to communicate and transfer funds electronically all over the world in real time; 2) financial innovation based on securitization of credits and multilevel special purpose investment vehicles have increased the distribution of risk on much wider basis relative to the traditional instruments available in the past (although at the cost of reducing substantially the transparency of the actual level of risks).

(v) Different market conditions and different types of capitalism with their own logic and economic and institutional laws in various parts of the world, across and within the regions, have complicated the panorama of possible investment choices.

(vi) The first decade of the twenty-first century has been characterized by another profound transformation due to the interaction of sovereign funds and sovereign debt obeying their own logic and priorities in a global climate of excess liquidity and depressed real rates of return. These massive entities affect (but are also affected by) the global and local economic conditions giving rise to strong turbulence in the markets.

(vii) All financial operators are far from operating under rational expectations and perfect foresight. There are continuous rebound effects between their behaviour and the more or less grounded analyses reported by the media.



(viii) Self-contradictory economic policies based on austerity measures aimed at avoiding government financial defaults trigger further imbalances in a vicious circle between recessionary effects on the economy and worsening public deficits. This outcome reveals a flawed economic reasoning of the policy makers derived from conventional economic thinking inherited from the past.

(ix) A contradiction, seldom noted by financial commentators even today, is in the fact that austerity measures operate directly on the government economic account concerning the flows of tax revenues and expenditures, rather than the stocks of assets and debts registered in the government (asset and liability) balance sheet. This neglect is in contrast with the fact that financial investors (and credit ratings) are equally concerned about *both* accounts regarding the asset & debt stocks (determining the so-called solvability) as well as revenue & expenditure flows (determining the so-called liquidity) of the country's sovereign debt.

(x) In an inter-temporal framework, it is also important to consider the debt/GDP ratio as we shall see in more detail below. In practice, however, contemporary policies are ineffectively aimed at the numerator and denominator of this ratio by addressing them separately.

#### 4. The Ricardian (non)equivalence proposition

Absolute debt, once accumulated, has its own life with the flows of inescapable costs of debt services which add up to the functioning costs of the debtor activities. In the case of governments, any action they take to modify their debt exposure does not leave the external operators unaffected as it would happen with an individual or a small firm. Austerity measures will inevitably sterilize aggregate demand causing deflationary effects and inhibiting innovation activities. A vicious circle of adverse effects on debt and GDP will cause a further increase, rather than the desired decrease, in the ratio between these two variables.

There must be a way out. This could be found in the logic itself of the theory of public debt. Let us briefly recall the basic elements of this logic as clearly shown by Spaventa (1987)(1994). We define the following variables expressed in nominal terms at period  $t$ :

$G_t$ : public expenditure

$T_t$ : tax revenue

$I_t$ : interests on debt bonds sold on the market ( $I_t = i_t B_{t-1}$ )

$B_t$ : stock of debt

$i_t \equiv I_t/B_{t-1}$ : average rate of interest actually paid on debt bonds sold on the market

$H_t$ : Monetary base created with passivity of the Treasury with central bank

Therefore the following accounting differential equation holds:

$$(1) \quad (B_t - B_{t-1}) = (G_t - T_t) + i_t B_{t-1} - (H_t - H_{t-1})$$

Change in	Primary	Interests	Emission of new
public debt	public deficit	on debt	monetary base
			financing the Treasury

A comparison between the public debts of two economies of different size or an economy in two different periods of time, the debt relative level with respect to national production (GDP, for example) is more significant. Let us define the following additional variables:

$Y_t$ : nominal gross domestic product (*GDP*)  
 $g_t \equiv G_t/Y_t$ : public expenditure/GDP ratio  
 $\tau_t \equiv T_t/Y_t$ : tax revenues/GDP ratio  
 $b_t \equiv B_t/Y_t$ : public debt/GDP ratio

and the following rates of change:

$\sigma_t \equiv (Y_t - Y_{t-1})/Y_{t-1}$ : rate of change in nominal GDP  
 $n_t$ : rate of change of the real GDP  
 $\pi_t \equiv (1 + \sigma_t)/(1 + n_t) - 1$ : rate of change of the GDP implicit deflator (price index)  
 $r_t \equiv (1 + i_t)/(1 + \pi_t) - 1 = (i_t - \pi_t)/(1 + \pi_t)$ : real interest rate

Dividing equation (1) through by  $Y_t$  and subtracting  $b_{t-1}$  from both sides, after rearranging terms, yields:

$$(2) \quad (b_t - b_{t-1}) = (g_t - \tau_t) + \frac{i_t - \sigma_t}{1 + \sigma_t} b_{t-1} - \frac{H_t - H_{t-1}}{Y_t}$$

$$= (g_t - \tau_t) + \frac{r_t - n_t}{1 + n_t} b_{t-1} - \frac{H_t - H_{t-1}}{Y_t}$$

Equation (2) shows that the primary deficit (the first right-side element) increases the debt/GDP ratio, whereas the central bank financing (the last right-hand side term) decreases the debt/GDP ratio. Depending on the real rate of interest being greater than or less than the rate of growth of real GDP, the debt of previous year is a factor of increase or decrease of the debt itself.

Adding  $b_{t-1}$  to both sides of (2) and rearranging terms yield

$$(3) \quad b_t = (g_t - \tau_t) + \frac{1 + r_t}{1 + n_t} b_{t-1} + \frac{H_t - H_{t-1}}{Y_t}$$

The debt/GDP ratio at period  $T$  is a function of an initial level  $b_0$  and all the primary public deficits occurred in the intermediate periods, that is (cumulating  $b_t$  over time and the assuming, for simplicity, no monetary borrowing from the central bank and constant real rate of interest and rate of growth of real GDP):

$$\begin{aligned}
(4) \quad b_T &= g_T - \tau_T + (g_{T-1} - \tau_{T-1}) \left( \frac{1+r}{1+n} \right) + \dots + (g_1 - \tau_1) \left( \frac{1+r}{1+n} \right)^{T-1} + b_0 \left( \frac{1+r}{1+n} \right)^T \\
&= \sum_{t=1}^T (g_t - \tau_t) \left( \frac{1+r}{1+n} \right)^{T-t} + b_0 \left( \frac{1+r}{1+n} \right)^T
\end{aligned}$$

The intertemporal constraint is that  $b_T = 0$ . Hence, after imposing this zero-budgeting constraint, the solution in  $b_0$  of the foregoing equation is

$$(5) \quad b_0 = \sum_{t=1}^T (\tau_t - g_t) \left( \frac{1+n}{1+r} \right)^t$$

where  $(\tau_t - g_t)$  can be also seen as the primary surplus that is set aside at time  $t$  to cover the cost of debt service at time  $t$ .

We can also see that, at the present time, an increase in public expenditure ( $\Delta g$ ) could be indifferently financed by a corresponding increase in taxation ( $\Delta \tau$ ) or by an increase in debt. In fact, under the assumptions made, the wealth of the country is not affected whether an increase in public expenditure is funded with capital withdrawn from the hands of the taxpayers or is funded with a debt that should be repaid with future periodic flows of tax revenues. This concept of equivalence was considered by David Ricardo (1817), who however was not in favour of it. Ricardo's analysis was "complex" and, in fact, enunciated a non-equivalence theorem (see, for example, O'Driscoll, 1977). At one point of his analysis, he acknowledged the "equivalence" concept:

Whether the interest be or be not paid, the country will neither be richer nor poorer. *Government might at once have required the twenty millions in the shape of taxes; in which case it would not have been necessary to raise annual taxes to the amount of a million. This, however, would not have changed the nature of the transaction.* (Ricardo, 1817, Ch. 17, Fn. 3, emphasis added.)

and few years later he reiterated this proposition:

[...] *in point of economy, there is no real difference in either of the modes.* (Ricardo, 1820).

We shall see that, with reference to the economic reality, Ricardo's position was quite the opposite being against what we now call "fiscal illusion".

In equation (5), the inter-temporal constraint implies flows of relatively small balances of primary economic accounts if  $n > r$  and the time horizon is sufficiently long. However, the case of scoring growth rates in real GDP higher than the real interest rate for a long period of time is unlikely. Normally,  $n < r$  and, therefore, the intertemporal constraint could be respected with higher surpluses in the future primary balances, implying non-negligible future taxation. Increasing additional public expenditures financed with new debt, as those entertained in the periods of war, overburden the future incomes excessively.

The irrelevance of fiscal policy and the neutrality of the choice between debt (with future taxation) and (one-off immediate) taxation has been revisited by the economists of the Italian school, especially by De Viti De Marco (1898), who claimed that “the state is not debtor of the nation, since it will pay the same interests received from the nation returning them back to it”. This interpretation rests on the extreme assumptions of infinite time horizon with generations linked through bequests. Griziotti (1917) criticized the Ricardian equivalence on the ground that individuals have finite time horizons (see also Pantaleoni, 1891), Puviani, 1903, and Borgatta, 1918).

More recently, Barro (1974)(1978)(1979)(1981) (independently from Ricardo’s proposition) concluded that, under relatively strong assumptions, fiscal policy is completely irrelevant in a model of overlapping generations with altruism. In the real world, however, alternative investments produce different returns due to imperfections of markets and inefficient allocation of resources.

Critical remarks that could be made on this type of reasoning even if the assumptions of the equivalence do hold. A critique of financing an increase in public expenditure with debt was already made by Jean-Baptist Say (1803), in his *Traité d’économie politique*. He seems to have come pragmatically close to the concept of “crowding out” effect of public deficit on private (productive) investments in the following passage:

*There is this grand distinction between an individual borrower and a borrowing government, that, in general, the former borrows capital for the purpose of beneficial employment, the latter for the purpose of barren consumption and expenditure. A nation borrows, either to satisfy an unlooked-for demand, or to meet an extraordinary emergency; to which ends, the loan may prove effectual or ineffectual: but, in either case, the whole sum borrowed is so much value consumed and lost, and the public revenue remains burthened with the interest upon it.*

*Melou maintains that a national debt is no more than a debt from the right hand to the left, which nowise enfeebles the body politic. But he is mistaken; the state is enfeebled, inasmuch as the capital lent to its government, having been destroyed in the consumption of it by the government, can no longer yield anybody the profit, or in other words, the interest, it might earn, in the character of a productive means. Wherewith, then, is the government to pay the interest of its debt? Why, with a portion of the revenue arising from some other source, which it must transfer from the tax-payer to the public creditor for the purpose. (Say, 1803, Book III, Ch. IX, Section I).*

Moreover, what if the rate of interest used for discounting future tax revenues is lower than the rate of return that producers would obtain from employing those financial resources in their own activities? In that case, the present value of the opportunity costs of the flows of debt service could be higher than the nominal value of the debt. In this case, a cost-benefit analysis would signal that a net loss is incurred by the country by not having invested the capital now covering the debt in more productive and socially profitable uses. Let us consider the following equation:

$$(6) \quad b_0 = \sum_{t=1}^T (\tau_t - g_t) \left( \frac{1+n}{1+r} \right)^t = \sum_{t=1}^T e_t \left( \frac{1+n^*}{1+\rho} \right)^t$$

where  $e_t$  is the return relative to GDP originated at period  $t$  by an alternative (productive) investment,  $\rho_t$  is the rate of discount (rate of return) and  $n^*$  ( $> n$ ) is the rate of growth of GDP, which is enhanced somewhat by the alternative investment. Note that, for a given level of  $b_0$ ,

$$(7) \quad l_t = e_t - (\tau_t - g_t) > 0 \quad \text{if} \quad r < \rho \quad \text{and} \quad r - n < \rho - n^*$$

where  $l_t$  approximates the opportunity additional cost relative to GDP at time  $t$  for not having devoted the financial resources on an alternative more productive investments. It is equal to the loss relative to GDP of the residual that would remain of the higher income ( $e_t$ ) from an alternative more productive investment after the deduction of debt service cost (equal to  $\tau_t - g_t$ ).

### **5. Squaring the circle: reducing debt and enhancing growth with an *Asset & Liability Management***

The objective of reducing the debt/GDP ratio is very difficult to achieve if the policy instruments are confined to the flows of revenues and expenditures of the economic accounts of the private and public institutions. This is, however, the conventional approach followed by governments when they try to downsize this indicator. But the results obtained are necessarily very small in the short run since the outcome could at best affect only marginal changes in the stock of debt and the absolute level of aggregate production.

Ricardo was aware of the problem of excessive level of public debt becoming a burden for the productive economy.

*A country whose financial situation has become extremely artificial by the mischievous policy of accumulating a large national debt, and a consequently enormous taxation, is particularly exposed to the inconvenience attendant on this mode of raising taxes. After visiting with a tax the whole round of luxuries; after laying horses, carriages, wine, servants, and all the other enjoyments of the rich, under contribution; a minister is induced to have recourse to more direct taxes, such as income and property taxes, neglecting the golden maxim of M. Say, "that the very best of all plans of finance is to spend little, and the best of all taxes is that which is the least in amount" (Ricardo, 1817, Ch. 16, Fn. 45).*

If the conditions of the financial markets are such that the expected interest rate actually paid for the debt service becomes consistently higher over the years, then an additional problem arise, since the new intertemporal constraint may become too severe for taxpayers. Equations similar to (6) and (7) could be used, *mutatis mutandis*, to describe the situation where  $\rho$  represents now the new (higher) interest rate and  $e_t$  represents the new (higher) primary surplus of the government economic account at time  $t$ .

With reference to the unfavourable debt situation, Ricardo made the following consideration concerning the solution of a possible government default:

*Justice and good faith demand that the interest of the national debt should continue to be paid, and that those who have advanced their capitals for the*

*general benefit, should not be required to forego their equitable claims, on the plea of expediency* (Ricardo, 1817, Ch. 17, Fn. 3).

Ricardo emphasized that a public deficit, independently from its financing by debt or immediate taxation, is useful only if it is conveniently productive and respects the principle of equity:

*[...] it does by no means follow, that the party exonerated from the payment of the interest of the national debt would employ it more productively than those to whom indisputably it is due [...] every measure, therefore, which is calculated to promote public and private economy, will relieve the public distress; but it is error and delusion to suppose, that a real national difficulty can be removed, by shifting it from the shoulders of one class of the community, who justly ought to bear it, to the shoulders of another class, who, upon every principle of equity, ought to bear no more than their share.* (Ricardo, 1817, Ch. 17, Par. 4).

Ricardo's judgement is, however, conditional on public debt from both efficiency and equity points of view. In any case, high public debt should always be avoided in order to eliminate public distress and unproductive misallocation of taxpayers' resources. Instead of embarking on an increase in taxation to reduce debt, a more comprehensive approach could be set within what, in the terminology of our time, is defined as *Asset and Liability Management (ALM)* (see, for example, Cassard and Folkerts-Landau, 2000, Bohn, 2002, IMF and World Bank, 2003, Adam, 2007, Chan-Lau and Santos, 2009). This is an approach that could find better criteria for privatization and divestment than those followed during the 1990s and early 2000s in many advanced economies. We may recall that, in many countries, those interventions actually reduced the debt/GDP ratio significantly in a very short time (in some cases by more than 20 per cent). Today, these policy measures are practically the only route available if the present austerity policies are to be abandoned.

The *ALM* could help design an optimal discriminatory thinning out of government portfolio assets. In this approach, both sides of the *government asset and liability statement* (balance sheet) would be taken into account. A comparison of the present value of each actual asset revenues with the respective existing market value would help identify a potential financial convenience of the divestment. Other non-financial considerations regarding, for example, the productivity and technical necessity of the assets would concur to divestment decisions.

The balance sheet of a firm or any other (public or private) institution regards the level and composition of capital stock. This can be seen from two different sides: from the side of the assets, mainly physical capital goods, and their composition are those directly related to the use of technology and organizational needs; from the side of funds and liabilities, constituting the financial capital used to acquire the assets and to finance the working of the entire organization, are derived from financial sources. Until now, for historical reasons, fiscal policy has been focused on the economic account rather the asset and liability balance sheet. A more complete analytical framework is needed to address issues regarding economic growth, total factor productivity, and debt sustainability.

In order to focus on growth and productivity accounting, the EU KLEMS database has been recently financed by the EU Commission within the Sixth Framework Research Program in order to integrate the national accounts with the information concerning the assets side of the balance sheet of each European country, the U.S.A. and Japan. An extension to a World KLEMS database covering the global economy is now in progress. This work has been

formalized in a recent proposal for a new architecture of national accounts covering the productive use of assets at industry in the U.S.A. (see Jorgenson et al., 2006).

We now claim that, as for debt sustainability and fiscal policy orientation, the new architecture of national accounts should include not only the asset side but also the financial side of the national balance sheet. This would greatly help define an encompassing fiscal policy that is focused on tax and expenditure flows as well as on the management of assets and liability at sectoral levels.

Astonishingly still valid today are Ricardo's words in this direction:

*A country which has accumulated a large debt, is placed in a most artificial situation; and although the amount of taxes, and the increased price of labour, may not, and I believe does not, place it under any other disadvantage with respect to foreign countries, except the unavoidable one of paying those taxes, yet it becomes the interest of every contributor to withdraw his shoulder from the burthen, and to shift this payment from himself to another; and the temptation to remove himself and his capital to another country, where he will be exempted from such burdens, becomes at last irresistible, and overcomes the natural reluctance which every man feels to quit the place of his birth, and the scene of his early associations. A country which has involved itself in the difficulties attending this artificial system, would act wisely by ransoming itself from them, at the sacrifice of any portion of its property which might be necessary to redeem its debt. That which is wise in an individual, is wise also in a nation. (Ricardo, 1817, Ch. 17, Fn. 6, emphasis added.)*

As Ricardo said, solving almost instantly the problem of unsustainable debt could entail "sacrifices" on the part of the government authorities. This is why

*[...] it would be difficult to set limits to the powers of a great nation; but assuredly there are limits to the price which, in the form of perpetual taxation, individuals will submit to pay for the privilege merely of living in their native country. (Ricardo, 1817, Ch. 17, Fn. 7, emphasis added.)*

## **6. Channelling financial capital to growth-oriented projects**

Divestment of public assets can allow reducing public debt and setting aside financial resources for productive investments almost instantaneously. But this solution is only half way towards the goal of achieving a higher and more remunerative economic growth. The reduction of public debt implies greater opportunities to reduce the level of tax incidence and improve both equity and dynamic efficiency of fiscal policy. The experience of the past is not encouraging as most governments that have partially privatised state-owned firms in 1990s and early 2000s have diverted the earnings to further consumption expenditures rather than productive investments. Part of the incomes deriving from selling public assets should instead be invested in strategic sectors such as education, health, R&D as well as in public infrastructures and services.

Another important channel for achieving the highest rates of growth is to foster the formation of the entrepreneurial firms and sustain their early stages of development. These firms are notoriously created on the basis of growth-committed projects and actually make up the most dynamic component of the industrial systems. These are, however, banned from a wide range of potential financial resources mainly for asymmetric information reasons and are

traditionally forced to rely on their own (very limited) financial resources. Even discounting the high risk incurred by the entrepreneurial projects, their contribution to raising the speed of economic growth can be substantial.

The various sources of entrepreneurial finance (venture capital (VC) and other forms of private equity (PE) *in primis*) dry out during economic crisis and recession as the institutional funds, like pension funds, restructure their portfolios towards less risky investments. For this reason, part of the government financial capital derived from restructuring public assets as those recommended in this article could be channelled to funds devoted to entrepreneurial finance. The existing instruments regulating VC and PE could ensure that competition across the industries will not be distorted.

The thematic issue of Wiley's journal *Strategic Change: Briefings in Entrepreneurial Finance* hosts contributions on specific areas where the government ALM policy could be applied and the entrepreneurial finance could be sustained. The article by Kostas Karamanis (2012) analyses the Hellenic Telecommunication Organization privatisation programme and its effects on the corporate structure and its economic performance. This is a subject that is not only timely with the present Euro-related problems in Greece, but is also connected with the new questions that usually concern the relationships between privatization and efficiency under a particular market regime.

Biagio Ciao's (2012) article regards how to address value creation with knowledge-based changes in turbulent environments. Dynamic and continuous changes within a firm create value if they are organised with heterogeneous competences whereas episodic changes are expensive and dangerous.

Stace, Courtney, and Holtham's (2012) article draws our attention on the role of information and communication technologies (ICT) on the strategy of an entrepreneurial firm. The ICT infrastructures should be strongly supported and kept updated by the government. The questions of ICT up-take are not of "whether", but of "when" and "how".

The article by Dhir and Mital (2012) focuses on the role of agency issues in decision making for mergers and acquisitions. Diversifying acquisitions are linked to the agency costs since it may benefit managers in the framework of the typical principal-agent relationship. This could be applied also to the privatization policies.

Finally, Ashta (2012) addresses the importance of co-creation for "impact investments" in microfinance. The poor person who aspires to become entrepreneur does not only require microcredit, but also micro-insurance and health check-ups. In a more encompassing concept of microfinance, the traditional venture capital approach to co-creation of value could be usefully applied here. Growth-oriented policy makers should take note.

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