Are bond net wealth? Financialization and mainstream economics

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Abstract

The crisis has pushed for a rethinking of many aspects of economic theory, particularly for the issue of the public intervention in the economy. Of this debate, we deepen the Barro-Ricardo equivalence, that has played a decisive role to mold the economic policies that fostered the crisis. We argue that, putting all the emphasis on public debt, the equivalence had prevented put the economists to understand modern finance.
Analyzing the equivalence, we conclude that: i) as, it declares but then forgets, the nature (private or public) of the investment is not decisive, ii) the overall amount of debt is important and its increase does have consequences on growth and income distribution, iii) its worst assumption is the representative agent hypothesis that is useless to explain financialization and financial markets.
An alternative path is needed, based on the suggestions of Minsky on financial fragility and the role of government to prevent financial collapses coupled with the revival of the Lerner *functional finance* as a way to address the stabilization policies.

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[1] The views expressed are those of the author and do not involve the responsibility of the Bank of Italy.

Introduction: the meaning of the Barro-Ricardo equivalence

The test of science is prediction – and one should have some skepticism of a model that can't predict the two biggest macroevents of the last 80 years - Stiglitz

The crisis that, with ebb and flows, is plaguing world economy since 2007 has pushed for a rethinking of many aspects of economic theory. Particularly important is the issue of the public intervention in the economy: if and how economic policies can help the economy to grow. Practically speaking, the debate has been largely settled by events: during the crisis the scale of public intervention has been massive, as it is visible from central banks' balance sheets and public debt trend. However, if a series of fact was enough to solve theoretical debates once for all, we would not have laissez-faire conclusions after 1929. Therefore, we think that the 2008 crisis is only a starting point to understand what was wrong with mainstream economics, even if a decisive one.

Of this extensive debate, we will deepen the Barro-Ricardo equivalence (BRE), that has played a decisive role, since the 70s, to mold the economic policies that fostered the 2008 crisis. Hence, in discussing the BRE, we will be able to analyse the trajectory that the economic theory as a whole has took in the last decades.

The original article by Barro (1974) was an attack against counter-cyclical policies. Basically, it explained that is useless to use public money to boost the economy as they are only a transfer among generations. These results were used to build a policy framework where fiscal policy was ruled out and monetary policy was conducted by independent central banks with no regard to growth and income distribution. They had also became state laws (for instance, the Maastricht Treaty or the Fiscal Stability Treaty). At an empirical level, it is easy to show that to hammer laissez-faire conclusions home, the BRE paradigm builds an implausible scenario. However, implausibility is not a problem *per se*: the point is the *direction* of implausibility. In a scene of the Italian movie *Ecce Bombo*, a group of youngsters is sit on the beachside waiting for the sunrise but on the wrong side of the Italian seaside (waiting on the Tyrrhenian instead of on the Adriatic Sea) and the youngsters are took completely by surprise for the sunrise on their back. We argue that, putting all the emphasis on public debt, the BRE put the economists in the same situation, preventing them to understand modern finance. The world and Europe in particular are paying a heavy price for this.

In fact, while the BRE warned that public debt was the danger, financialization, i.e. the growth of private debt and financial leverage as a whole, were totally ignored. The mainstream paradigm does not even has a proper place for money, banks and finance (Freixas and Rochet, 2008) and at the practical level, every development in the field of finance was considered good (securitization, credit derivatives, etc.).

Since at least the 80s, the weight of the financial system on world economy was growing apace. Mainstream economics did not have any viable explanation for this trend and yet this was considered a positive development. When, in the same historical period financial crises started to punctuate world economy, they were explained as caused by not enough finance in the developing world and of course, by too many corporate rules, too high corporates taxes, too much state. Then the crisis struck at the very heart of the world financial system and every dogma felt apart. Although many orthodox economists continued to suggest laissez-faire solutions, central banks and government rushed to rescue the banking system and world economy. Overnight, Minsky moment, financial fragility, and the like were fashionable again.

After the banking collapse of 2008, although much has been said about deleveraging, debt is growing even faster (Dobbs et al., 2015). As for public finance, public debt trajectory is out of control because of the banks bail-out and the crisis itself (Cecchetti, Mohanty, and Zampolli, 2010). However, no one is worried by a possible strong increase of the interest rate, on the contrary, the topic of the day is how to adjust to a world that is cornered in the zero lower bound (Agarwal and Kimball, 2015).

This is because economic agents (states included) have such a high financial leverage that a strong increase in the interest rates is ruled out. Before the crisis, central banks (especially the Fed) had been criticized for keeping the rates too low. Greenspan consented happily because he believed in free-market recipes (Greenspan, 2009), but more importantly, central banks did it because they had no choice. This is even truer now. The critiques of fiscal dominance (Bayoumi et al. 2014) are tantamount to the idea that central banks can forget the $58 trillion in public debt and the $200 trillion in total debt when deciding their policies[2]. In the "new normal" (as the IMF defines the present environment for monetary and fiscal policy), the leverage ratio is so high that monetary policy has lost any real independence. Central banks can be independent from the government political priorities

[2] Figures from Dobbs et al (2015).

but not from the reality. i.e. from financialization. What will be the role of fiscal and monetary policy in the future? This is a most important topic the theory should discuss. An important starting point to do it is to assess the BRE.

The BRE world

The BRE world (Barro, 1974) is a specific kind of a Walrasian market-clearing well-behaving model. For our purposes, it can be summarized by the following aspects:

a) there is the full utilization of productive resources (hence there is no involuntary unemployment);
b) there is a strong representative agent hypothesis (RAH), as people are "identical in terms of tastes and productivity";
c) although the analysis "is not restricted to steady-state situations" the economy is completely immobile: no demographic change, no technological change, everything is the same year after year (a framework similar to the Marx state of "simple reproduction").

On this basis, the BRE concludes that as far as economic growth and interest rates level are concerned, the amount of public debt and deficit is irrelevant. Therefore, fiscal policy cannot help because an increase in public debt today yields higher taxation in the future, and this fact is predicted by taxpayers that will spend less to be ready when taxes will rise, therefore net private wealth remains unchanged and the stimulus effect of the expansionary policy is neutralized (Barro, 2007, Tatom 2009 and Forster, 2009). Moreover, in the BRE world of identical agents, public policies have no wealth effects (Arestis and Sawyer 2003 and 2004, Koo 2008). As for private debt, it cannot destabilize the economy because "in the neoliberal framework whatever the private market decides is by definition "right"" (Stiglitz, 2014).

Of course, these conclusions rest on the assumptions on which the BRE is based (Buiter, 1979) and it is even too simple to observe that we don't live in a Walrasian world (Eisner, 1989) neither it is likely that we ever will. Barro himself (1989) analyses these empirical objections (in particular he deepens five empirical objections: finite horizons, imperfect loan markets, uncertainty about future taxes, non-lump sum taxes and involuntary unemployment) and concludes that the BRE world is like the Modigliani-Miller theorem, literally implausible, but useful to discuss different scenarios. Although we don't necessarily agree with his replies, we pose to the BRE world a different critique: we point out that it pushed economic analysis to ignore the financialization of world economy (i.e. the *total debt* trend) and the difference between private and social wealth. The 2008 crisis has shown that this neglect was not benign at all.

All that is bond does not glitter

In the BRE world, broadly speaking, issuing public bonds means a substitution of other financial assets, i.e. a complete crowding out (Konzelmann, 2014 and Richardson, 2015). The substitutability holds true for bonds but also for stocks because "equity and government bonds [are] perfect substitutes" (Barro, 1974). This is a very dubious conclusion as it is clear from the "flight to quality" episodes, anyway let's take it for granted and see what comes from it. If government bonds and private assets are the same, how can the latter be net wealth but not the former?

How the BRE works:

1) At t an investor has $10 million in stocks. Is this amount net wealth in the BRE world? Nothing shows it is not. At t+1, he sells them to buy public bonds just issued by the government. Has the investor destroyed $10 million of his and overall wealth?

2) The government issues $10 billion of project bond to modernize ports and connected road. At the same time, a big bank issues bonds to buy $10 billion of subprime mortgages that are likely to default dragging the bank with them. According to the BRE, taxpayers understand that they will be called to pay more taxes for the government project bonds but not for subprime mortgages. Overall, net wealth has increased by $10 billion (the bonds issued by the bank).

These examples help to see how the BRE sees finance: the growth of debt (i.e. financialization) is irrelevant as long as is the private debt that is growing. Moreover, more public debt will have no positive effect on the economy, more private debt will. So much for their substitutability.

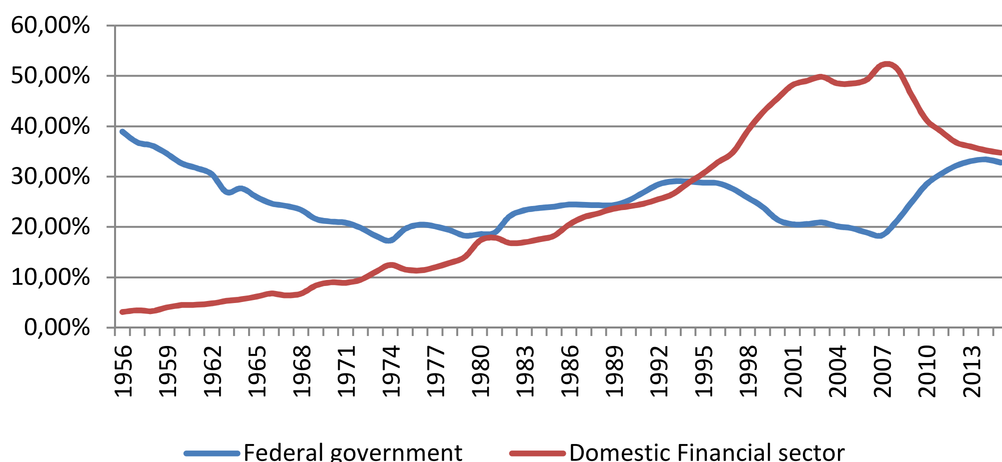
This is true even if in the BRE world public bonds are fully secured because "the amount of bond issue would be limited by the government's collateral, in the sense of its taxing capacity" (Barro, 1974) while private debt can be unsecured as well. In reality, the fact that public debt is fully collateralized by taxes helps to explain why it is easily rolled-over for ever (Caballero and Krishnamurthy, 2005) and yet public debt is dangerous, private debt is not.

In addition, Barro (1974) also objects to the role of government bonds as "safe assets" because "liquidity services can also be provided by private producers". In practice, in the history of financial markets crises this has never happened. We will come back on the issue of liquidity. Here we only come back to the issue of substitution: if public and private bonds are so close substitutes that they can even be used indifferently as safe assets, every conclusion that is true for public bonds must also hold true for private debt. For instance Barro points out that "the future interest payments on the government debt must be financed in some manner". Whatever this means, it is also true for private bonds and if an increase in public bonds implies more taxes in the future, this is also true of an increase in private debt. Unfortunately, this inevitable conclusion never happened in the BRE literature.

Where did the debt come from?

The static inconsistency of the BRE is dangerous, because instructs the economic theory to ignore the private debt dynamic, but it entails an even bigger danger: the wrong explanation for public debt. In the BRE world, public debt grows because the government tries to stimulate the economy in vain. In doing so, it crowds out private assets that are replaced by public bonds. In reality, the replacement takes another form. When public debt grows to much producing financial instability, it becomes public: debt is socialized.

Today it is obvious that, as Reinhart and Rogoff (2011) put it, "private debts become public debts-after the crisis" (see also Praet, 2011), but this is a long run trend where private debt creation has completely outpaced public debt creation (Taylor, 2012). This can be seen in the following graph depicting federal government and domestic financial sector debt as percentage of the US total debt.



Source: Federal Reserve.

The graph is clear. In the 50s and the 60s, public debt shrank, then it started to grow, then it shrank again until the collapse of the banking system forced the state to come to the rescue. On the contrary, the role of the financial sector grew continuously until the 2008 crisis, then it deleveraged, thanks to public bail-out. When the BRE debate started in the 70s, the public debt was less and less important, financial debt more and more so. How is it possible that this fact was ignored? Because private debt is net wealth in the BRE world, while public debt is not.

All in all, public and private bonds are substitutes but in a context of lending (or assets buying) of last resort. Private debt cannot be separated from public debt because facing an economic collapse and a bank panic, governments and central banks are forced to intervene via fiscal and monetary policy. In the mainstream framework, these connections between public and private bonds are reduced to moral hazard and regulatory capture, but the issue is by far bigger. The state cannot forget public debt (basically the situation of the banks) because, among many things, the collapse of the banking system means the collapse of the economy as a whole.

What is striking is that international institutions knew long before 2008 that private debt is a danger and public debt is not. For instance, among the financial soundness indicators utilized by the IMF, many deals with private debt, none with public debt[3]. Unfortunately the BRE did not acknowledged it.

Debt and rates

If the BRE has prevented economic theory to explain financialization, the same it is true for its neoclassical critics. In particular they insisted that an increase of public (but not private) debt pushes interest rates up. A recent re-statement of the idea is the following (Bernanke, 2010): "Increasing levels of government debt relative to the size of the economy can lead to higher interest rates, which inhibit capital formation and productivity growth". Already in the 1976 Barro had replied to this idea explaining that "If government bonds are not perceived as net wealth, then the demand for bonds rises one-to-one with the supply, there is no change in interest rates, and no displaced private borrowers". That the rates do not go up automatically with the debt was known long before the crisis (for instance, Metzler 1951). With the crisis, notwithstanding a massive public debt increase, rates did not went up, quite the contrary: "Interest rates have never been so low for so long…Between December 2014 and end-May 2015, on average around $2 trillion in global long-term sovereign debt, much of it issued by euro area sovereigns, was trading at *negative* yields" (BIS, 2015, p. 7). This is because of the role of the central banks. For instance, Lukasz and Smith (2015) argue for Britain: "In the UK, the Bank of England's £200bn of asset purchases between March 2009 and January 2010 were estimated to have lowered ten-year UK government bond yields by around 100 basis points". Therefore the anti-BRE warning was wrong on the issue of rate rises. However, the BRE was not right either.

What is missing in the neoclassical and BRE frameworks is the dynamic of debt service ratio (i.e. once again financialization). If financial leverage increases, the debt service ratio increases too unless rates go down. It is the financial leverage that decides the maximum rate feasible (before economic collapse). Monetary policy can only follow. That is why "Room for manoeuvre in macroeconomic policy has been narrowing with every passing year" (BIS, 2015, p. 21). Economic growth is negatively influenced by financial leverage not by public bond and the data show that "the aggregate debt service burden is an important link between financial and real developments" (Juselius and Drehmann, 2015). Although public finance have been shaken by the crisis, almost six years after Bernanke observation rates are still going down because central banks are frightened by world financial fragility.

On this issue it is important a last observation. 2008 is only one of many episodes whereas rates declined while public finances were going adrift. Barro (2006) explained this fact as follows: people expect future disasters (like a war) hence the rates collapse. Economic agents therefore are so rational that they predict the effects of a distant war on taxes and rates but not the effects of financialization, a trend that has been going on for decades. How convenient.

The representative agent hypothesis and financialization

As we noted, possible empirical critiques to the BRE are many. Pro-BRE as well as anti-BRE economists know this. Stiglitz (2012) has aptly summed up the issue: "The empirical evidence is overwhelming that the Barro-Ricardo theorem, and my generalization of it, are wrong". For instance, fiscal illusion is widespread (O'Driscoll, 1977) and the BRE cannot work where there are international capital markets (Bulow and Rogoff, 1989). Anyway, although important, all these points can be somewhat bypassed, but there is an hypothesis that drives the BRE towards a senseless path: the representative agent hypothesis (RAH). The RAH means that financialization is not an issue. If every economic agent has the same income, assets and debt and pay the same (lump sum) taxes, how can financialization makes any difference? How can an increase in public or private debt change anything? It is futile to discuss financialization or income distribution in a RAH world and "the representative agent model without financial constraints would suggest that leverage doesn't matter at all" (Stiglitz, 2014). As a consequence, if the BRE holds true, the rate of saving or the household debt service ratio are irrelevant. More generally, is the finance as a whole that is irrelevant in the RAH world as again Stiglitz (2014) points out: "Since all risk is borne by the same (representative) agent, financial structure can't matter".

In the real world, taxes do have effects on income distribution (Konzelmann, 2014) and financialization meant higher inequality and vice versa via a surge in personal debt, a crucial development to foster financial instability

[3] See the documentation on the IMF website (https://www.imf.org/external/np/sta/fsi/eng/fsi.htm). See also Reinhart and Rogoff, 2009 and 2011, and Acharya et al., 2012.

(van Treeck, 2013, see also Atkinson and Morelli, 2010). Debt and debt service ratio give fundamental hints on the future:

"The United States experienced two major economic crises over the past century—the Great Depression starting in 1929 and the Great Recession starting in 2007. Both were preceded by a sharp increase in income and wealth inequality, and by a similarly sharp increase in debt-to-income ratios among lower- and middle-income households. When those debt-to-income ratios started to be perceived as unsustainable, it became a trigger for the crisis" (Kumhof and Rancière, 2010)

Therefore, in the real world the dynamic of public debt has redistributive effects. As Palley (2007) pointed out tax cuts and public debt increase were pursued because they produced upward income distribution. Not only the RAH cannot understand finance, but financialization turned progressively away the world from the BRE. The more unequal is income and wealth distribution the less relevant is the equivalence.

Are racket bonds net wealth? Does the house price dynamic tell something on wealth? The relationship between micro and macro dimension

From the RAH comes another confusion that can be put as follows: what is net wealth? If the economy is made by representative agents, the micro and macro dimensions are identical, therefore "there is no persuasive theoretical case for treating government debt, at the margin, as a net component or perceived household wealth" (Barro, 1974) while private debt is net wealth individually and socially.

Interestingly, in a different context, Barro (1989) made a distinction between what works at micro level (a budget deficit of a small country does not change rates on the international markets) and what works at macro level (a simultaneous budget deficit of every country does change those rates) but this analysis is not used to assess if net wealth is the same at micro and macro level. To deepen this topic we start with an extreme example.

Let's suppose that the mafia boss of a town decides to expand his business (that is forcing shopkeepers to give him a percentage of their revenues for "protection") to another city. To finance the project, he issues debt ("racket bonds") that he successfully sells to investors. Now we can ask whether these racket bonds are net wealth. For investors that bought them (if they are not arrested) they are. But for society as a whole we think they are not. This example could be considered hyperbolic, but what is the difference between the racket bond and a more ordinary bond? The fact that the racked bond is a way to finance an illegal activity? This is irrelevant as many activities are illegal in a country but legal in others or in the same country in different periods. The fact that the activity in itself does not produce wealth? This is true also for more ordinary situations. What about a bank that issues bonds only to pay higher salaries to its top management? Are these bonds net wealth? Again, for investors they are, for the company itself and, above all, for society as a whole they are not. In a RAH world, this distinction does not make sense but in our world it does. In other words, it matters what the bond is for, as we will see.

The discussion is strictly linked to financialization as we can see from the topic of houses as wealth. Before 2008, the real estate bubble was a basic component of the overall international financial bubble. As their home is the bulk of families' wealth for the vast majority of the population, when the houses price go up, so does the wealth of a nation. But this only shows that "the rationale for macroeconomics rests on the fallacy of composition" as Chick (2002) put it. Let's clarify it with another example. In a country there are 1 million households living in similar houses worth $100.000 each. Now during a year, 1% of these houses are bought and sold for $110.000 each. At the end of the year, every household, assessing its wealth, takes the last house price so that the overall wealth of the country is now $110 billion. Is this a real increase? Before the crisis, Debelle (2004) asked aptly: "Do rising house prices increase household welfare?". As for years the house were used as collateral to finance consumption, the increase seemed real. In reality, once again this depended on a colossal confusion between micro and macro dimension. If the country we used as an example is hit by a crisis and many households are forced to sell their house, the will find no buyers for it and the prices would collapse. They will learn rapidly the difference between micro and macro dimension.

What avoids the collapse hence allowing that the micro wealth is validated at the macro level is the role of the state. The state and the central bank assure the good functioning of the market i.e. liquidity. As Keynes (1936 [1973]) put it: "there is no such thing as liquidity of investment for the community as a whole". Private (real estate or financial) wealth exists as long as there are markets where it can be sold and markets exists if there is liquidity. In other words, private bonds are net wealth only as long as the government allows them to be, for instance, issuing public bonds but in general protecting the economy from financial instability.

Financialization, or better the profits that come from it for the banks, are based on the illusion that private is also social wealth that has been kept very real by the state. Every bank looks at the collateral (house price) and decide to lend more so increasing the overall financial leverage. It is rational for the bank but dangerous for society as a whole and looking at the overall picture, "The confusion of microeconomic and macroeconomic arguments becomes immediately obvious" (Jakab and Kumhof, 2015).

The BRE cum RAH ignored financialization as a threat to world economy. On the contrary, this trend is decisive to understand the present situation of world economy. Minsky (1982) explained that "a 'Ponzi' finance unit must increase its outstanding debt in order to meet its financial obligations". This is a micro definition but it has a macro obvious generalization: if the overall financial leverage of a system is increasing this is a proof that the system is a gigantic Ponzi finance unit. Financialization as an historical trend has this meaning. We don't live in a BRE world (where the No Ponzi game condition works) but in a Ponzi world, where the roll-over of the debt is the only way to keep things going.

The consequences of the BRE. What is a productive investment?

The most terrifying words in the English language are: I'm from the government and I'm here to help – Ronald Reagan

Behind the BRE there is the political (and ideological) idea that whatever is public is evil as synthetized in the quotation by President Reagan. In this context, by definition public investment are useless because they are equivalent to private investment that they are crowding out. The BRE debate was intended as the final nail on the coffin of active economic policies. Together with the "rules rather than discretion" issue, it provided the theoretical justification for the destruction of the welfare states in the developed and developing world. (Re)born in the 70s, these theories did not fade away soon after. On the contrary. For instance, the idea that the growth of public debt is a danger while private debt is irrelevant was still going on in 2008, as we can see in the debate on the famous 90% threshold by Reinhart and Rogoff (Herndon, Ash, and Pollin, 2013). Only after the crisis it has been possible to admit that the world is dying for too much finance (Arcand et al., 2012).

The success of these theories had practical consequences in the making of economic policies, especially in Europe. In particular, the Maastricht Treaty framework deals with public debt but not with private debt[4]. Then, all of the sudden, European financial system was shattered by the crisis and public debt in the continent increased by almost 20% due to the banks bail-out (Ejsing e Lemke, 2011, EC, 2011, and Tagkalakis, 2014). After decades spent to destroy the welfare state and to help wealth and income distribution upwards (for instance via financial deregulation, Korinek and Kreamer, 2013), EU, US and other governments used public money to the tune of trillions of dollar to save big banks (Haldane, 2009). The lesson was so overwhelming, one could think, to push European institutions to change course afterwards. Not at all. The policies undertaken after the crisis (the ECB QEs, the Banking Union, austerity and so on) are a restatement of the BRE outlook, that is: private sector is good, the state is bad. This means the implosion of the EU and of the Euro at a later stage.

In the BRE context, public investment cannot revamp economy whatever is their specific deployment. There is no such a thing as a productive public investment. It is interesting that Barro himself, after the crisis, proposed a different story. Attacking once again the use of public deficit to save the day, Barro (2009) explains "the value of the project (counting, say, the whole flow of future benefits from a bridge or a road) has to justify the social cost. I think this perspective, not the supposed macroeconomic benefits from fiscal stimulus, is the right one to apply to the many new and expanded government programs that we are likely to see this year and next". In other terms the composition of investment makes the difference. This is true, of course and this is true for public and private investment alike. The idea that cutting public finances is automatically good is a myth just like deregulation.

In the 1974 paper Barro explains that due to imperfect private capital markets, "the relevant discount rate for tax liabilities will be higher than that for interest payments", but if the 2009 Barro is right and what counts is the specific "value of the project", the outcome of public investment can vary considerably. Therefore the difference in the discount rate is not linked to market imperfections but to the difference in the economic structure induced

[4] As well known, 2 out of 5 criteria of the Maastricht Treaty are about public debt, none about debt as a whole (http://ec.europa.eu/economy_finance/euro/adoption/who_can_join/index_en.htm).

by public investment. The net wealth coming from government bonds will depend on their specific economic function. Not on being public. So much for BRE according to Barro himself.

A non BRE world: functional finance

di fuor torna chi dietro si guata - Dante

What are the lessons that we can draw from what we have discussed so far? First of all, as the BRE declares but then forgets, the nature (private or public) of the investment is not decisive. Debts are debts and private debts easily end as public problems. Therefore, is not public borrowing that has adverse effects on the markets, including labor and financial markets, but the other way round.

Secondly, the overall amount of debt is important and its increase does have consequences on growth and income distribution. The victory of laissez-faire policies in labor as well as in financial markets worsened the situation and accelerated financialization. Central bankers and the governments believed this was sound. Just before the crisis, Greenspan (2007, p. 231) said: “I would tell audiences that we were facing not a bubble but a froth—lots of small, local bubbles that never grew to a scale that could threaten the health of the overall economy.” This is laissez-faire prescience that pushed central banks to scrutinize state expenses for troubles to come while ignoring the build-up of colossal Ponzi schemes in the private financial markets. After the crisis monetary and fiscal policies changed but not in their deepest meaning. Policies that are not able to change income and wealth distribution, cannot tackle seriously the crisis. This is why the QEs succeeded in saving banks but not to put the economy back on a growth path.

Thirdly, on a theoretical ground, the RAH is useless to explain financialization and financial markets. The very same concept of wealth cannot be micro-founded. The BRE has nothing useful to say on a world not based on the representative agent. This is true more generally for the existing economic policy paradigm (Bayoumi et al., 2014). We think the conspicuous task of revamping the world economy requires a new approach. We need to rediscover the suggestions of Minsky on financial fragility and the role of government to prevent financial collapses. In particular, Minsky explained that how big the government intervention should be depends from the financial leverage: the higher the leverage the riskier the situation, hence the stronger the need for public intervention. Financialization means a higher leverage and therefore the structural need for more public intervention. In this sense, the BRE could be an interesting way to look at debt: public or private alike they all end up as a problem to the taxpayers. Unfortunately, the sense of the BRE is very different. It is a theoretical excuse to bury public pensions, public hospitals, public schools and so on while financial markets are growing wild.

If the quantity of state intervention is decided by the increasing financialization, the specific composition should be thoroughly discussed because it matters too, as Barro too suggested. Public investment must be aimed at raising productivity and growth, helping the real economy to expand to rebalance the situation. This is a definite improvement on the original BRE. If how public money are spent does make a difference, then it makes sense to discuss an alternative strategy to austerity based on the active role of the state. As stressed by Mazzucato (2013), public investment sets the general framework in terms of new economic sectors and breakthrough innovation, a long term approach that is the only way to create from scratch new economic sectors, hence stimulating band-wagoning by private firms and investors. In the present situation of a deep and protracted crisis on a world scale, the state must take a leading proactive role to start a new wave of industrial and technological revolution, going far beyond some tax rebates for investment. What is at stake is not an increase of investment in this or that sector but the creation of entire industries.

This new situation, where mainstream conclusions have resoundingly failed, also encouraged a revival of old debates on public finance. In particular, there is a growing debate on *functional finance* that started even before the crisis and now widespread (Mastromatteo and Esposito, 2015 also for the references). The expression was coined by Abba Lerner (1943) reflecting the growing awareness of the policy implications of Keynes' *General Theory*. Lerner believed that the public budget should not only fulfil its traditional allocative tasks but should also address the problem of the stabilization of the economy. According to this theory, public finance should be functional to the long-term development of the system. Fiscal policy is needed because financialization, even before the collapse of the bubble, increases inequality and poverty, so that aggregate demand stabilization is needed to simply get the things going. When the crisis struck, functional finance is needed to cure mass unemployment. Using the weight of the state in the economy, this approach is aimed at reducing financial leverage and to rebalance income and wealth. This is a completely different way to look at the role of the state in the economy a way we consider by far more useful than the BRE in the present situation.

The crisis has shattered many comfortable and mistaken truths, but the policy framework is still intact. The Maastricht Treaty and the like are still there. Public debt is still considered the problem, while private debt is not even mentioned in the chit-chat of the media. Showing the inconsistencies of the BRE framework is a good step in the refusal of the mistakes that brought the world economy to its knees.

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