IIPPE Fourth Annual Conference

"Political Economy, Activism, and Alternative Economic Strategies"

July 9-11, 2013. International Institute for Social Studies, The Hague, Netherlands

Davide Gualerzi

davide.gualerzi@unipd.it

Crisis and the role of Government

(PRELIMINARY DRAFT)

ABSTRACT

The paper addresses one of the questions indicated by in the IIPPE Political Economy of Institutions Working Group, the role of institutions and organisations in causing as well as overcoming the crisis. It begins to address the problem of a change in the role of government called for by current trends of structural transformation.

The economic crisis that started in the US sub-prime market is far from being concluded. After the financial crisis and the 2008-2009 recession, growth rates are modest in most industrialized economies and many elements of uncertainty persist. We can observe a tendency towards unqualified support by economists of different inclinations for a resumption of growth based on new technologies. These have, it is argued, the potential to reestablish expansion, therefore resolving both the debt problem and high and persistent rates of unemployment. However, this discourse says little about how growth would come about. Most 'structural reforms' have at their core cutting welfare and wages – which will tend to weaken the prospect of a strong recovery.

Leading technology sectors such as ICTs and Biotech show striking technological innovation, considerable market development, and widespread publicity. Both are definitely undergoing development. The point is that their potential for expansion is often predicated in the externalities they create and the possibility of increasing returns. It is however open to question whether this potential can be exploited by private incentives to investment only. For industrialized economies to move towards a full employment boom there must be changes in the agenda of government, or in the distribution of income, or both.

The paper argues that this change implies a re-thinking in the role of government and a new perspective for policy.

1. Introduction

Financial crisis and recession(s) are closely intertwined. In the US the financial crisis prompted a massive public intervention combined with a strongly expansionary monetary policy. We have then observed a discussion of economic policy and fiscal policy in particular following somewhat different paths in the US and in Europe. The crisis however raises questions that go beyond those customarily discussed within monetary and fiscal policy. The crisis in advanced industrial economies raises the problem of a rethinking of the growth perspective that appears indispensable to re-establish reasonable prospects of growth. A clear sense of the problem arises from an appreciation of the characteristics of the expansion of the 1990s and the industrial dynamics that accompanied the boom and the bust. (Gualerzi, 2010)[1]

Despite being “technically” over the recession, which lasted in the US from the last quarter 2007 to the third quarter 2009, was not cured by the weak recovery. Unemployment rates are high throughout the industrialized economies with little sign of being reabsorbed. In the absence of a strong upturn, financial markets remain volatile and marked by much uncertainty.

This is the background against which we ought to discuss the problem of the difficulties of a strong recovery led by private investment. This raises the question of the directions of the expansion and the possibility of a new growth pattern. The persistent weaknesses in the macro-economy, growth and employment in particular, require a fresh look at these issues and a focus on industrial dynamics. Technology development and innovation must be fit into a new perspective on the possible patterns of long-term economic development. That calls for a fundamental re-thinking of the role of government also. It should be analyzed with respect to the barriers to private investment in the possible areas of expansion. That in turn requires reconsidering also the stimulation policy to get out of the crisis.

The main question is whether innovative industries can be the key factor to overcome the crisis. Would they work to re-establish the conditions for long run growth? This calls for an examination of two closely related research questions: the changes in consumption that innovation induces; the type of externalities these industries tend to create.

In the paper they are examined showing the link to the role of government: Precisely because of the characteristics of the innovation sectors and the externalities they tend to create it must change. We focus in particular on the patterns of development of the ICTs, although the interest for innovation and a new pattern of growth would lead to consider also biotech and green technologies. The analysis in the paper is just a beginning; clearly these questions should be investigated much further.

2. Crisis: Three phases

The background for these questions is the pattern of the crisis and the way it sets up the problem of private investment and then that of the changing role of government.

By and large there have been three phases to the ongoing crisis. At the beginning the crisis was mainly financial. Although starting in 2007 with sub-prime crisis it did not explode until the late summer 2008 and especially with the collapse of Lehman Brothers in September 2008. The downturn was marked by the collapse of the stock market that reached its lowest point around March 2009. The main problem appeared to be saving the banking system from a complete collapse. Meanwhile the credit crunch began. That appears to be the channel though which the crisis propagated into the real sector.

The generalized debt and liquidity crisis originating in the private financial sector prompted the Federal Reserve, together with other central banks, and US Treasury to intervene on a massive scale, setting aside worries about deficit and inflation. We have observed a dramatic reversal of the policy stance that had argued against government intervention and supported an increasing deregulation of financial markets.

At the peak of the crisis in 2009 it was unclear the amount of toxic assets, as potentially worthless securities and bonds have been called, in the portfolio of financial institutions.

[1] *The coming of age of Information Technologies and the path of Transformational Growth*. Routledge

Nobody knew exactly the value of the portfolios they held. Uncertainty and a collapse of confidence determined a situation in which nobody was willing to lend, while internal resource were drained by decreasing sales and worsening outlook. That brought to a virtual halt the private sector.

The Fed made money easily available lowering interest rates at unprecedented levels. That did not prevent the economy to enter a severe recession. It did avoid however the collapse of the financial system. Indeed, we have observed a recovery of financial markets (although in the middle of persistent uncertainties and periodical corrections). The influx of government money saved the financial institutions that rather than lending to the private sector have returned to speculate on financial markets recreating the profit margins of financial institutions. We have seen also an effort at regulating the sector, much more dubious in its capacity to prevent another financial crisis. What went on was also dramatic consolidation of the banking and financial sector with the few major player becoming even fewer.

Faced by this turn of events the priority became to support to a failing economy by means of a fiscal stimulus to avoid a collapse of investment and employment. In Europe, where the financial crisis hit a little later, there was a similar call for government intervention directed to save the financial system and also to support the real economy. In the US such a policy was more clearly articulated.

The last act of the Bush administration, the Paulson plan to save the banks (September 2008, approximately 750 billion) had not contributed to restart the real economy. In January 2009 the news of the “Obama New Deal” (the president himself drawing a parallel with Roosevelt) referred to the new administration plan to get the economy out of the recession. Worth approximately 800 billion the American Recovery and Reinvestment Plan was a combination of tax cuts (for households and companies) and Government (public sector) investment. Broadly defined the areas of spending were energy, health and education, with a focus on public works in infrastructures. We will examine it further below. Here we can simply note that its implementation may have contributed to end the recession, but certainly not of the crisis, as the recovery was weak and uncertain.

The crisis did enter a new phase in 2010. It became the crisis of public debt. In the presence of a massive government intervention, including the fiscal stimulus, the problem became the rising deficits of governments. Obviously not just more spending but largely the standstill of the real economy drove the debt crisis. Indeed, despite positive growth rates the crisis continued through what was at best a weak recovery.

In Europe the crisis of sovereign debt became the common currency crisis. Indeed the circumstances were all there to encourage a wave of speculation. Financial markets more aggressively targeted, with almost unlimited liquidity, the countries worse hit by the crisis of the real economy, indeed the periphery of the Euro zone. The so-called PIGS are indeed the weakest economies of the Euro zone and had large deficits. They also had a large public debt.[2] In July 2011 the crisis in the Euro-zone appeared deadlocked. Not only speculation continued unabated but is fueled by the slow and uncertain response by the European institutions. That in turn reflected the conflicting interest of national economies manifested in the lack of agreement between national governments. The point appears to be that the common currency, praised as the decisive step into integration and economic success, became the strait jacket making the PIGS countries a perfect target for

[2] One could notice however that similar deficits and deteriorating economic growth, for example in the UK, did not have the same consequences.

speculation. If they were to stay within the common currency they had to cut deficits and debt, otherwise they would be punished by the international financial markets.

It became increasingly clear that European institutions lacked the means or the political will to address the question, entangled as they were in the underlying conflicts of national government. At the same time it became clear that getting out of the common currency was an event that nobody had considered for which there were not even clear rules or institutional arrangements. Thus the uncertainty and the postponement of decisions while PIGS country further precipitated into the crisis. For that it was not sufficient the liquidity pumped into the system by the ECB. While pursuing the same kind of monetary policy of the Fed, it became apparent that it had not the same power and effects, because the Euro zone had no political unity behind it. That called into question the very existence of the common currency with an up and down of crises and rebounds as the EU asked for austerity measures as a condition to have access to European rescue funds.[3]

The conflicting interests and inter-governments confrontation is a matter that needs not to be examined here.[4] What matters is that all EU governments rapidly moved from stimulation policies to fiscal austerity, cutting public debt, with the usual corollary of structural adjustment policies. A well-known scenario often advocated for developing economies by the IMF during the 1990s was finally landing into "developed" Europe. However, this can be hardly a strategy for the resumption of economic growth. It simply started what we can call the debt trap and that can have long-term consequences.[5]

The speculative attacks on sovereign debt and the common currency shifted the focus for a time from the US to Europe and from private to public debt. But the issue of the government deficit was making a rapid comeback in the US.

In June 2010 the US government expressed its concern that austerity may result in a new depression.[6] The administration was however faced by the mounting pressure to reduce the deficit brought by the new Republicans-led House. What is noticeable in the US is the commitment of the Federal Reserve to fight persisting high employment.[7] The Chairman and other top officials defended a strong and continuing expansionary monetary policy in the face of the fears of inflation. If indeed the worst enemy is unemployment more stimulation might be in order. The US appeared to be the "Keynesian of last resort", a somewhat unexpected role considering the tax and welfare regimes in Europe, but then not really, considering the activism of the Fed compared to ECB. Still much less that what was needed, as Paul Krugman repeatedly pointed out. Even less the discussion could

[3] After Greece and Ireland, in April 2011 also Portugal asked the EU for aid. This was after the Prime Minister Socrates resigned over the difficulties to pass severe budget cuts. In June 2012 also Spain asked for European support in the effort to address the financial fragility of its banks.

[4] The leading position occupied by Germany, reinforced by an exports-led recovery, creates a divide with the weak growth of other EU economies, which feeds back on the willingness to rescue the countries with large public debt.

[5] The debt trap has two sides. On the one hand weak growth inflates deficits calling for rescue efforts: these come at the price of reinforced austerity measures; on the other hand, speculation can easily anticipate that austerity measures will have a negative effects on the economy, at least in the short run. Thus the difficulty at facing financial commitments and pay back the debt. Consequently the downgrading of debt and further burden imposed on the economy.

[6] President Obama's letter to the European leaders before the G20 meeting (June 18, 2010).

[7] "…On its current economic trajectory the United States runs the risk of seeing millions of workers unemployed for many years …As a society, we should find that outcome unacceptable:" [since] "the ultimate purpose of economic growth is to deliver higher living standards at home" (Federal Reserve Chairman Ben S. Bernanke, The New York Times, November 19, 2010, p. B1-B2)

reach into the question of a change in the role of government and a serious discussion of how public investment can restart the economy.

Amid timid signs of recovery, and some positive data about employment, in April 2011 the confrontation over the government budget led to a last minute deal averting a government shut down. Severe cuts were part of the agreement and that called into question also the prospects for a new fiscal stimulus. The tentative budget compromise, cutting 38 billions was sharply criticized by the IMF.[8] It sealed for a time a precarious balance of power while the presidential campaign was approaching.

The overall situation is that of a US weak recovery, an almost stagnation in Europe, except for Germany, a very modest if non-existent improvement in unemployment. To that we must add the deteriorating picture of the periphery of the Euro zone, with negative growth rates in the PIGS countries where unemployment had grown rapidly together with bitter social conflicts.[9]

We reach then in 2012 a third phase: The debt crisis is developing into a deflationary scenario. In July 2012 it was unclear whether after growth rates around 2% in 2010 and 2011 the US recovery was consolidating or loosing steam.[10] In Europe the simultaneous austerity measures of European governments were creating the conditions for a new downturn.[11] In the summer of 2012 the worst of the speculative attacks on sovereign debt were stopped and financial speculation somewhat tamed by the European Central Bank determination to save the common currency. At the same time the severe austerity measures determined an improvement of public finances.[12] All of which it can be argued at the expenses of growth prospects. Austerity was combined with renewed calls for revamping economic growth. But with stagnant private consumption and investment where is growth coming from? [13]

In a deflationary scenario the real economy is unlikely to recover, while financial markets themselves have little else to bet on except speculating against sovereign debt to maintain their profits. How far that can go is very serious question. The budget cuts are unlikely to succeed in bringing down debt, even less to re-start growth. But they might be effective in doing away with the welfare state, which seems to be the only achievable goal of austerity policy. The end of what we can loosely refer to as the European economic and social model would then appear to be the main result of austerity, rather than the preliminary step for a robust recovery.

[8] “The US lacks credibility on debt, says the IMF” (*Financial Times*, April 13, 2011). The IMF argued “the US was the only advanced economy to be increasing its underlying budget deficit in 2011 at a time when its economy was growing fast enough to reduce borrowing.” The same day the President delivered a radio message stating that budget cut will not break the “basic social contract” underlying programs such as Medicaid and Medicare, that are being cut under the budget deal, and will have to combined with a rise of taxes for the rich.

[9] We can note also a slowdown in the emerging economies (China, India and Brazil), but that would require more analysis. In 2009 China also had a stimulation program.

[10] See the comments on July 17th of the Fed Chairman Bernanke.

[11] The European economies decelerated, including Germany with forecasts pointing at the possibility of a new recession and a further rise of unemployment.

[12] Such a policies were put in place in several rounds in the PIGS country, and again in 2012 in Italy and Spain, but they are in fact the dominant trait of economic policy in the entire Euro-zone.

[13] One could infer, for instance from the comments by Italian Prime Minister in the summer of 2012, that it was understood that the immediate effect would be deflationary, but expansion would soon follow.

The dead end road ahead can be highlighted by the mechanism by which aid has been granted. Aid comes in the form of loans at high interest. That appears more a way to safeguard banks holding a large share of PIGS' sovereign debt than a support to weakening economy. Since loans are granted on the basis of severe public spending cuts, the "markets" anticipate a worsening of the economy. That is swiftly mirrored in debt rating. Rating agencies have consistently downgraded the debt of the countries receiving European emergency loans. The above bail out formula was applied already to Greece and Ireland, where severe measures to cut public spending were first enacted. The result is that rather than revitalizing the economy austerity is paralyzing it. Meanwhile we have observed a return to the tensions between the North and the South of Europe, between the "cigade-states" and the "ant-states".

3. The stimulus and the nature of the crisis

This admittedly sketchy rendering of the crisis in the US and the EU serves the purpose of setting up the framework against which we ought to discuss the role of government. It highlights in particular: a) the difficulties of a strong recovery led by private investment; b) the prominent role played in the discussion of policy by the fiscal stimulus.

With respect to the stimulation policy enacted in the US, a first issue concerns the size of the stimulus, in absolute terms and compared with the support given to the banking system; a second concerns the split between lower taxes and public investment, given the modest expansive effects of the former, especially on private investment (more sensitive to demand conditions). Even more important is where public investment is directed. Prominent Keynesian such as Paul Krugman repeatedly argued for a much stronger stimulus. Underneath is the question of how public investment can restart the economy and what government should do in these difficult circumstances.

The American Recovery and Reinvestment Plan focuses on public works (roads, bridges, sewage systems), health and education buildings, that is, infrastructures in a broad sense of the term. It also aims at expanding access of schools and hospitals to Internet. Investment in the broad band and the development of the network are therefore also part of the picture. Energy, health and new infrastructures are seen as condition to improve long-term competitiveness. There are a number of intersections and feed back effects between these lines of investment. Energy implies production of hardware and systems for alternative, natural sources. But it calls also for an energy efficiency restructuring of the public buildings. Broadband Internet access may improve considerably health and education services, not to mention access to government services.

The general strategy behind the plan was summarized by the President in five objectives: doubling the production of renewable energies, rebuild infrastructures, bring informatics to hospital, modernize schools, cut taxes on household payrolls. A central position is assigned the US auto industry. Saving the industry can conceivably serve the recovery better than abandoning it, while offering an opportunity for technological innovation aimed at more energy efficient transportation and/or alternatives for private transportation.

Only a detailed analysis could establish the effects of the fiscal stimulus and whether there is going to be further stimulation. The problem is that fiscal austerity is becoming a priority in the US also. Budget cuts to reduce the deficit are likely to continue and that might not help the recovery, especially the much needed creation of jobs.

Gerald Epstein (2011) has argued that the policy for job creation is primarily based on the stimulus coming from lower taxes and the plan to increase exports. Exports do have a positive impact, he says, but the policy of free trade agreements pursued by the administration more than exports favors further outsourcing - via investment abroad of Us companies. Outsourcing severely damaged employment at home. The key point, he notices, is domestic demand. That is why the Federal policy towards infrastructures – with the creation of a National Bank for infrastructures – and clean technologies, aiming at one million electric cars in 2015, offers better hopes for employment.

The point is: is this policy-mix capable of sustaining a decisive turn in the recovery? Can it contribute to restarting private investment on a large scale? It might be well the case that quantitative easing prevented an even worse unemployment. But it appears insufficient for a sustained recovery. Public investment has a role to play, but restarting the economy on an acceptable growth path cannot be based on public investment only, especially under the pressure to cut the deficit.

More in general it can be argued that public policy centered on the idea of a fiscal stimulus restarting the private economy appears based on a misunderstanding of the nature of the crisis. The seriousness of the downturn and the persisting uncertainties strongly suggests that this is not just another cycle in an otherwise positive long-term growth trend. Even if we assume that the short-term crisis is overcome, the question is really the new pattern it will settle in, thus the characteristics of a new expansion phase.

The question of the size of such a fiscal stimulus is therefore only one of those to be addressed. To sustain a recovery and provide a reasonable approach to the unemployment problem, we need to re-think the growth perspective and examine the questions of policy in the absence of clear growth scenario driven by private investment. That calls for a fundamental re-thinking of the role of government also. It should be analyzed with respect to the barriers to private investment in the possible areas of expansion.

In such a serious downturn, private investment should have a role promoting innovation. New investment spending must be justified by the expectation of strong private returns. Such expectations have to be based on good reasons, for example, that there are inventions or innovations that might lower costs, that there are new products that must be developed, or that there are new markets emerging. To answer this question we need to focus on the industries that are more likely to be the backbone of a private investment driven recovery. In other words, if private investment is the key to the resumption of sustained growth we need to focus on 1) the prospects of a well defined set of technologies and markets; 2) the barriers these industries they may encounter to become carriers of growth.

This is a first step in a sequence that should lead to industrial policy in a strict sense, i.e. sector-targeted policies, thus moving to the micro-meso level of analysis typical of industrial economics.

4. Leading innovation sectors

The focus on innovation opens the way to consider leading technology sectors. In particular, we ought to consider the possibilities in regard to the sectors that have been touted as offering the greatest potential for growth and innovation at the present time. These are ICTs and Bio-Tech, although a separate case can be made also for green technologies. In each case there has been striking technological innovation, considerable market development, and widespread publicity. Each is definitely undergoing development. Their potential for expansion is often predicated in the externalities they create and the possibility of increasing returns. In general what matters are the features that might be thought to promote or limit expansion.

We also have to take into account the industrial structure and an industrial economics perspective. Big incumbents dominate these sectors. Large companies might be preventing technically feasible and socially desirable solutions and the entry of new companies. We should not be naïve in this respect. The industrial dynamics is influenced by these interests and that might effects choices in terms of technologies and in general the patterns of innovation, in this way contributing to the general question of the conditions under which the private sector can operate as an engine of growth.

ICTs

The technologically driven boom of the 1990s compares favorably to the slow growth of the 1980s. Indeed one can argue that the 1990s witnessed a coming of age of information technologies, so that they were finally felt in a massive way, creating an investment boom, together with (admittedly overblown) expectations of a large transformation leading to new markets. But the 1990s illustrates also the fundamental problem: at first it looks good - the pace of technological change was not slow; indeed, it actually accelerated considerably in those years, and it did stimulate a boom. Yet the boom lasted only a short time, and it fed right into the current crisis.

In the 2000s the sector has continued to evolve as computerization has spread to new areas and the Internet has expanded. New products continue to be developed, despite the end of the boom. But we have not seen a new phase of expansion; rather the process has been one of consolidation, as the sector has structured itself as a science-research-industrial complex. But restructuring and consolidation are not generally favorable to expansion and employment.

Bio-Tech

After ICTs, this may be the most advanced of the sectors that might trigger a boom. There is a great deal of R & D, and a large amount of investment by venture capital, so that new company formation is high. A little reflection suggests fantastic possibilities: a cure for cancer or diabetes? Regenerating the heart? Growing replacement organs? Repairing arthritic joints? Staving off old age, perhaps by genetic engineering? Surely the markets would be endless…Nor is bio-tech only medical; there are new seeds, new pesticides, new crops, new or at least improved animals. There may even be biological computers, faster than anything we have now.

Unfortunately a little more reflection brings up huge and, given our present institutions, perhaps intractable problems. Life-saving, life-enhancing and life-lengthening procedures (all involving externalities) will surely be very costly and they will also very likely be available in limited supply, at least initially, but perhaps for a long time; will they only be available to those who can afford them? If not, how will they be rationed, and who will pay to provide them to the poor and middle classes? Public opinion would not accept a market solution - they go only to those who can pay the price – but it is also unlikely to accept that you and I pay for 'them'. But if not decided by markets, then who will decide, and on what grounds? And who pays when it turns out that a new product or procedure fails to work and causes widespread damage? Are the risks insurable? These are potentially very divisive questions. Solutions will have to involve a large public debate and there will almost certainly be a substantial but controversial public sector role in providing the services in question.

Restructuring of manufacturing

There is another aspect of industrial transformation that is worth investigating, it concerns the trends of restructuring in manufacturing. Especially the drive to automatized production and robotics do suggest a repositioning of US manufacturing sector in the world economy, but even in the event of a revitalization of manufacturing there would be little positive effects on employment. Similarly we should investigate another trend that could vastly change the landscape of production, consumption and domestic activities. So-called 3D printing is becoming sufficiently advanced that it might be close to becoming a mass phenomenon. Even in this case however, though effects might be difficult to forecast, the consequences for employment appear to be negative.

5. Externalities

Leading technology sectors such as ICTs and Biotech raise a not easy question: why do they bear a different relationship to "markets" and private sector; why are externalities so more deeply important; how externalities relate to "increasing returns"? We will refer here mostly to ICTs and ICTs-centered development.

The problem is that the discussion of these externalities requires a theoretical framework and it is not what we find in mainstream theory. Notoriously the discussion of externalities is associated with that of public goods. Both are defined and examined within a specific theoretical framework. Private goods are rivalrous and appropriable. By contrast public goods are neither rivalrous nor appropriable. If nobody can charge a fee, or that might be done only in specific circumstances, the market incentives will not drive the production of that particular good. From that the customary conclusion that it will not be produced in a sufficient quantity or it may not be produced at all. That may happen even if the good is useful and desired. Market supply will then tend to be inferior to that which would be desirable from a social point of view. Indeed, the analysis of public goods and externalities sets up the problem of "market failure". These however are microeconomic issues, whereas we need a macroeconomic perspective.

We can start by observing that the distinction between public and private goods is not the only way to approach the problem of externalities. A different distinction between public and private can be drawn separating what we can call collective or jointly consumed goods from private or individual goods. The examples can be many, from a telephone call to an education class, a theatre show and a concert.

As per capita income increases basic subsistence goods take up less of households budgets and new goods/services enter those budgets. These new goods/services are in the areas of communication, information, education, entertainment, travel and tourism. These new goods/services characterize modern consumption, whereas in early capitalism basic consumption goods were more important.

Communication and information goods/services are typical of this process of innovation in consumption and that clearly establishes a link with the development of a major innovative sector, ICTs. They belong to the category of collective goods, that is, they deal in services that are jointly or collectively consumed, and therefore require co-ordination and regulation. In these areas there are not only significant economies of scale but also what are called 'network externalities'. Note also that the increases in benefits are not additive, they are in general multiplicative. We conclude that on the one hand, these kind of goods make up a growing part of household budgets and total consumption, and therefore represents the areas where more likely there are opportunities for private investment; on the other hand, collective or joint consumed goods and services offer externalities and call for regulation and that gives additional force to the argument about a larger and different role of government in economic development. A general argument can be made that in the process of development the impact of externalities – as the paradigmatic example of the environment and green technologies suggests – is greater.

Collective goods as opposed to individual goods have therefore a specific relation to market and market production, because they have externalities and may have increasing returns.

6. Re-thinking the role of government

It has been said above that to go from stimulus to long run recovery a crucial role is played by private investment and that the hi-tech sectors and ICTs in particular are the leading technology sectors where one could expect a rise of private investment.

Focusing the discussion of policy, and therefore of the role of government, on the fiscal stimulus, controlling the debt, and sustain aggregate demand by public investment is therefore a partial view of such a role, precisely for the characteristics of the sectors that could lead long-term development, that is the new growth pattern that may emerge from them.

Slowly reducing the debt by means of an adequate mix of policies, instead of pursuing some shock therapy, appears to be a possible, together with some redistribution policies. Public investment in infrastructures is strategic for growth and provides a long-term stimulus. But we need to add to the engine of growth private investment. The latter may not be able to exert all its positive effects due to the collective nature of these new goods and services unless the government devises the appropriate policies.

This is why the crisis poses the problem of a change in the role of government beyond the traditional regulatory functions and countercyclical policies.

In particular the government policy should address two problems.

Based on the understanding that:

a) innovative sectors through new goods/services may motivate private investment and sustain long-run development;

b) a fundamental aspect of these development are the externalities associated with the collective character of the services produced;

a government concerned with economic welfare should consider policies that could maximize some index of net positive effects by subsidizing, regulating and taxing these services so to encourage the positive and discourage the negative aspects. In other words, specific spending and taxing policies should be developed to encourage the positive externalities.

At the same time we can note that, although now discussing the problem at the macro level, this approach to the problem remains largely within a cost-benefit framework.

Turning to the patterns of incentives we ought to face another problem. At any given time there will be only a number of good investment opportunities. Beyond that there will be risky investment opportunities, basically untried technologies, and new products designed for uncertain new markets. Some of these may pay off, but not all, some will also fail. So a boom can develop but can also easily falter, as the example of ICTs and Internet services in the 1990s, and the further development of the ICTs research-industrial complex in the 2000s suggests.(Gualerzi, 2010)[14] That adds a further dimension to the role of

[14] *The coming of age of Information technologies and the path of Transformational Growth*. Routledge.

government in promoting long run development and therefore overcoming the current crisis.

Concluding remarks and research questions

The analysis above is a very first step into how the role of government should change to respond to the current crisis. It highlights an approach that clearly requires much more work, establishing some of the lines of this research. It must be seen as a warning to any simplifying understanding of such a role when the question is that of a sustained recovery and a resumption of long-term economic development. In particular it argues that focusing only on the question of the stimulus might be misleading. A new pattern of growth is an essential aspect of the problem, but for that to materialize markets and market incentives might not be sufficient.