Can indebted Europe afford Climate Policy? Can it bail out its debt without Climate Policy?

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Let us start with an unpleasant diagnosis for environmentalists. Many symptoms suggest that climate policies, although repeatedly reaffirmed by the European political institutions, might lose political support in many quarters of public opinions; criticisms against the European Climate Roadmap, alerts of industry against the adverse effects of tight carbon constraints on industrial employment, cuts in public subsidies to 'green' energies, low electoral success of "green" parties compared with the rise of populist movements fueled by unemployment and the feeling of downgrading in middle classes.

This headwind is not surprising. Public opinions are troubled by two concomitant alerts launched in the form of tragic prophecies on the public debt which puts us in the inexorable hands of financial markets and on the climate risks which will be bequeathed to our children. These alerts arouse a "no way out" feeling. How can salary reductions, meager retirement pensions and slimmed down public services prevent globalised markets from reproducing what they have created? The revolt against a feeling of powerlessness has always fueled populisms; it currently threatens the European political coherence and, ultimately, climate policies which have historically been iconic of the European world leadership (C. Jaeger et al. 1998).

How can we navigate between the Charybdis of the financial debt and the Scylla of the climate debt? Just as for the Odyssean sailors, we need a mental map of the traps lying in wait. The first reflex might be to forget the Climatic Scylla for, at least, a while. This paper explains why this reflex is inadequate and why a precise map of the traps conversely lead to see climate policies as one of the way out the vicious circle described by Irvin Fisher in the thirties: "the more the debtor pays, the more he owes"(I. Fisher …..). Recently, M. Draghi, president of the European Central Bank just alerted on the necessity of complementing the current European *fiscal compact* by a *growth compact*. This paper explains why climate policies can be a central piece of such a compact.

Behind the debt crisis, the tensions caused by non sustainable development patterns

The debt crisis does not result from the sole laxity in public finance. Since the Eighties, accounting and financial innovation had allowed for the creation of assets in part composed of debt. Unprecedented debt facilities were given to private lenders, especially non-bank banks (Krugman 2008) not subject to the prudential rules imposed on the banks. Both banks and non-bank banks were attracted by leveraged buy-outs and by what proved to be a trap – property speculation. The increase of real estate values first and foremost in the USA, imitated in several European countries, owed nothing to chance; it was allowed for, if not encouraged, by explicit policies. In the film 'Inside Job' G. Bush junior said: *"You don't have to have a lousy home, the low-income home-buyer can have just as nice a house as anybody else!."*

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Beneath the surface indeed, there was the political necessity, which also explains Greenspan's laxity at the head of the Fed, to hide the stagnation, indeed the drop, of the purchasing power of American households. This stagnation was caused by a pattern of economic globalization that confronted the wage/labor productivity ratios in the US industry against foreign countries, amongst which a Chinese industry boosted by the Teng Siao Ping reforms.

The Commerce of promises was thus unleashed carelessly. It benefited from the Internet bubble and crashed with the burst of the real estate bubble. Because the basic principle of monetary economy is that credits create deposits and because financial intermediaries have become tightly intertwined worldwide, the accumulation of "bad debts" in the United States and in some European countries spilled over throughout the world. A systemic shock in 2008 forced nation states to take over private debts, to bail out failing banks and to support collapsing economies. Subsequently public indebtedness has risen to heights comparable to those provoked by wars. The US experience following WWII shows that debt levels corresponding to 120% of GDP can be absorbed over time without major trauma with a growth rate consistently higher than the average real interest rate paid on the debt. This is the difference between both variable that matters for orderly debt consolidation. It is what the US did after World War II: long-term stable inflation rates (around 3%) and a monetary policy targeted to produce negative real interest rates as much as possible. The first lesson is that, in the aftermath of a major shock on the public finances, monetary policy cannot be separated from fiscal policy. The second lesson is that growth is not *manna from heaven*; it requires specific financial conditions. This is aim of Ben Bernanke's current policy of to get round Congress's paralysis: close to zero short term interest rates for two more years and the purchase of as many Treasury bonds as necessary to cramp down long-run rates on government bonds so as to induce private investors to buy private assets.

Conversely history tells us what should not be done. In-between the two world wars, three waves of bank failures in the US destroyed capital, triggering outflows of US deposits from banks in central Europe. Credit crunches plunged the US economy and Germany in depression, sealing the fate of the Weimar Republic and propelling Nazis into power. In contemporary time, Japan has given an example of a vicious cycle since the nineties, with a premature budget austerity plan plunging the country into never ending stagflation. When the private sector reduces its indebtedness through investments cuts, growth becomes crucially dependent on public investment or on public support to investment.

The Eurozone, grounded on the principle of independency between budget policies (conducted by member states) and monetary policy (conducted by an independent ECB) kept the separation between its doctrine of monetary policy on the one hand, and lender-of-last-resort operations to replace the failed interbank money markets on the other. However, the European crisis worsened markedly in the second half of 2011. Faced with very high interests rate on bonds in Italy and Spain, with the devaluation of sovereign debts in bank balance sheets and the risk of an acute *'credit crunch'* in the fall of 2011 the ECB injected around €1000bns in two auctions of long-term refinancing operations (LTRO) at 1% interest rate over a three year period.

Thanks to this injection, tensions of the sovereign bond markets in Italy and Spain were transitorily loosened, but the respite did not last long. Credit has not recovered in the private sector and the Euro zone as a whole drifts slowly into recession, threatening the pursued public finance consolidation.

So far the dominant vision of the *growth austerity* in Europe was to couple restrictive fiscal policy with so-called structural policies in the labor markets in order to give confidence to financial markets. Lower long-term interest rates would thus trigger investments and enhance growth. This doctrine is

based upon flimsy empirical evidence, that of small and very open economies enjoying the leeway of massively devaluing their currencies under conditions of supportive foreign demand. It is at odds with the euro zone' context: a very big and relatively close economy in the whole, shackled by generalized austerity, a private sector deleveraging and overcautious to invest in industry, while the world economy is not supportive.

Therefore it is not surprising that the mood is changing. Calls for active induction of growth momentum are no longer restricted to 'heterodox' economists; it now comes from official circles, not least the ECB itself. But to instill a dose of Keynesian compact avoid a collapse of final demand confronts nowadays two limits; it cannot, by itself reverse the polarization of industrial activities that has created the deep balance of payment problems within the euro zone and avoid reviving a development pattern of which the crisis just revealed the deadlocks.

Over the past decades indeed the easy access to credit facilitated the negligence of caveats, sometimes exaggerated, but containing several pieces of truth, of the "ecological critique" launched since the seventies: tensions on energy confirmed by repeated oil shocks and on raw materials, dangers of an agricultural modernization pathway based on industrial intensification entailing numerous regions to escheat, urban sprawl leading to socially exclusive cities with areas disconnected from dense public infrastructures, technological risks, of which the deepwater horizon (BP) offshore oilspill in the Caribbean and the Fukushima accident are the most recent examples.

Therefore the challenge is to trigger a short term economic recovery and to redirect the growth engine in order to safeguard a sustainable development, avoiding heedless expansion phases regularly collapsing in socially costly crises.

Economic recovery a necessary but insufficient condition to debt bail-out

Over the very short term, boosting growth through conventional credit facilities is problematic because public debt is contaminated by unrealized losses on the bank's balance sheets, whilst the banks are vulnerable to deterioration in public finances. A restructuring of the public debt and a recapitalization of the banks in certain countries are inescapable. It must be traded against reinforced prudential regulation, in order to prevent banks' hazardous risk–taking when they gamble with their capital reserves in order to increase shareholder profits.

Beyond, history suggests that a credible economic recovery in Europe implies revisiting the absolute separation between budgetary and monetary policies. We do not ignore the deep differences of cultural attitudes in Europe in this respect. They have deep historical roots that cannot be eradicated overnight. A thin pathway exists however for a non-purely rhetorical compromise, which would restore confidence and stop the risks of social splits and political crisis in many European countries.

The recently adopted *fiscal compact* marks some form of consensus that budgetary cooperation must be enforced in the Eurozone in order to heel deviant management. Organizing the convergence of fiscal systems is also desirable to regulate a fiscal competition which potentially distorts the conditions of a "fair" concurrence. It is political out of reach in a few years but our role of professional economists is to remind public opinion of this basic principle. Less politically constrained is the creation of a European independent agency to assess government medium-term projections of public finances in the cooperative procedure of the European Semesters. As aside products the agency could provide independent ratings backed by much better analysis than the three US private rating agencies.

More controversial for the time being is the issuing of Eurobonds to attract investors worldwide and to allow for a significant decrease of interest rates where they are highest. Safety guarantees of repayment must be provided to do so.

On paper, the setting of a European Finance Notation Agency should calm the concerns about the Eurobonds. As its ratings translate judgments about the public sector's value production, sovereign countries would have every interest in being rigorous in their investment choices and in adopting the most efficient fiscal structures. If bonds finance independently-assessed investment projects, these would have a high probability to pay for themselves and a higher long term growth would yield supplementary revenues for the states. These revenues would be sufficient to guarantee solvency of the bonds with low Eurobond interest rates and avoid the creation of fiscal deficit over time.

But governments are not always virtuous and long-sighted. So isn't all this so much pie in the sky? Eurobonds need to be backed by strong European governance at the very moment when the reactions to the Greek crisis show all too clearly the depth of suspicions between EU members. For the most 'virtuous' countries concerned about the capacity of other member states to make optimal use of the allocated funds, the Eurobonds would open the way to laxity that escapes from discipline. The distrust is such that strong guarantees are needed to convince the skeptics that the money will be invested in an efficient manner, in particular to reassure Germany caught between its desire for drastic policies and its fears of a collapse of its neighbors and their markets.

Beyond the problem posed by this distrust cycle, it matters also to consider the risks of reviving a growth model based on over-consumption fuelled by credit, on competition over salaries, on an agricultural transformation pathway which marginalizes remote rural areas, wastes scarce water resources and destroys arable land, on contempt for environmental conservation, on rent-seeking in real estates, land and raw materials and on an energy security dependent on instable and costly geopolitical and military balances of power. A growth recovery launched on this basis would very quickly confront oil shocks, speculative bubbles and splits in the social fabric.

This is why it is so important to deal jointly with the financial and the environmental debts instead of opposing them.

Debt Consolidation, 'green growth' and the Buridan Donkey's syndrom

Genuine rigor consists in seizing the necessary debt consolidation as an opportunity to transform environmental alerts into a long term development project and to redirect savings and investments towards energy transition and an in-depth reshaping of the EU industry: energy efficiency and low carbon energies, housing renovation, transport infrastructures, health policies prioritizing prevention, biotechnologies to underpin the ecological intensification of agriculture and the revival of remote rural areas, material recycling, infrastructures adapted to climate change, life-long investment in human resources.

Let us first recognize that there is nothing self-evident and that our contention might remain a litany of pious sentiments. The creation of 'green jobs' may come at the expense of the destruction of 'non-green jobs. They can be slowed down by lack of training in the new skills, by a deterioration of the commercial balance due to the importation of technologies 'not made in Europe', and be stalled by controversies as to what is 'clean' and what is 'dirty'. The nuclear energy is an exacerbated form of such controversial options to which biotechnologies and carbon sequestration can be added.

The mutation towards a sustainable development (Brundtland, 1987) cannot be delivered by a benevolent planner alone. Neither can it result from the manna from heaven dispensed by R&D investments, nor from the magic of the "market". It requires an iterative process of 'trial and error' in multiple public and private initiatives. But this iterative process will never been launched in a context of fear of unemployment and social disruption due to intolerable inequalities, and with decisions-makers under the hypnosis of short-term myopia.

This is why there will not be any "green growth" without coherent reforms of the fiscal and financial systems to jointly launch appropriate economic signals, in order to redirect decisions and lubricate the inevitable frictions of any transition. Environmental tax reforms, including carbon taxes, are necessary in such a context. However, taxes depend almost entirely on decisions that have to be negotiated at the national level to account for the specifics of local conditions and their empowerment cannot but be slow[3]. This is not the case for the adaptation of the financial system, which depends on global coordination and is critical for short term economic recovery.

There is urgent need to overhaul the structure of risk and returns on investment. During the last twenty years, fiscal policy has pursued a single objective: reduction in the levels of taxation of capital with the aim of favoring short-term financial gains. At the same time, the business environment has led more and more industrial sectors to prioritize the short-term shareholder value against the conventional maximization of the long-term firm value. They indulged in such practice at the very moment when innovations in market finance led to an under-valuation of risk and a lack of transparency for savers. This resulted in a strong incentive to re-orient savings away from investments in industry and agriculture. The channeling of saving in the pursuit of capital gains explains the real estate bubble with unsold buildings in Spain and many other countries. This is the main driver of the paradox of a mountain of debt in a world with high savings (45% of GDP in China, petrol revenues, pension and sovereign funds).

These mechanisms created a *Buridan's donkey*[4] effect: as one does not know where to invest in production with high risk-adjusted returns, one refrains and speculates. The Buridan's donkey dies hesitating between oats and the pail of water. A non-directed inflow of money comes to add more oats and water in front of it without breaking its hypnosis by a false calculus.

Carbon value, reforms of the financial system and economic recovery

Responding to the challenge of energy transition under climate objectives provides a lever to breaking the Buridan's donkey syndrom by indicating where to invest. This lever is potentially strong because the sectors that are critical for climate change mitigation represent a dominant share of investments in our economies and are critical for social welfare: energy, transport, building, agriculture and basic industries. Providing that sufficient precautions are taken to avoid sacrificing other facets of

[3] Significant carbon taxes pose problems for a few energy intensive and exposed industries which make useful a harmonization at the EU level. However, if the product of a carbon tax is recycled in lower labor taxes, this problem concerns a very minor part of the EU value added. This part is currently totally covered by the EU-ETS. Most important obstacles to carbon taxes are thus country specific: the nature of the pre-existing fiscal systems and the adverse redistributive effects of higher energy prices.

[4] This legend is a caricature of Jean Buridan, a theologian at the Sorbonne in the 14th century, who argued that a wise conduct is to postpone decisions up to the availability of all the necessary information.

environmental security[5], the low-carbon energy transition has the advantage that its operational planning can be articulated around a common metric, the carbon.

Carbon prices, be they in the form of taxes or of carbon-trading systems, have to play a role in this transition. But they cannot suffice in breaking the Buridan's Donkey syndrome. They will stay low in the short term. The Durban Conference just confirmed that an agreement with emission quotas for each country and market setting a carbon price worldwide is out of reach in the forthcoming decade. This is why the Cancun agreement[6] called for a paradigm shift with finance at its heart.

Here lies the operational link between debt policy and a renewed climate policy. The only way of not losing the race against the cumulative effect of increased atmospheric concentration of greenhouse gases is an immediate reduction in the investment risk associated with low carbon projects. To do so an agreement around the social value of non-emitted carbon could be the cornerstone of a mechanism apt to reinforce the attractiveness of low carbon investments with respect to other investments, including financial investments.

Low carbon projects currently present, in addition to the usual risks, those associated with less mature technologies, high capital costs and the uncertainties as to the price of carbon. Let us then imagine a political agreement in Europe concerning a carbon value evolving with time. This value could be used to overcome the handicaps associated with low carbon projects by enhancing their returns on investment and ensuring the necessary liquidities. The evaluation, the selection and the follow-up of such projects should be ensured by an independent entity, as is the case for the Clean Development Mechanism of the Climate Convention.

A new class of assets, carbon assets, could be created by the European Central Bank. Their value would be the agreed carbon value, and carbon certificates could be emitted that could be used by development and investment banks to provide loans at preferential rates to low carbon projects. These carbon certificates would then progressively be accepted by the central bank as a reserve asset (like gold), depending on the state of project completion as certified by the independent authority. Banks could in parallel issue 'carbon' financial products, aimed at attracting domestic savers, thanks to a strong public guarantee, a return on investment slightly above that of usual safe deposits and, for some quarters of population by the 'ethical' objective of the investment. They thus would be interested in using the credit facilities provided by the ECB to fund the economy instead of using them to restore their balance sheet.

Such schemes would obviate the risk associated with blind liquidity injection as the growth of carbon-based reserves would be concomitant with controlled wealth production (low carbon infrastructures) and with the attraction of a portion of public savings away from speculative products[7]. Henceforth the *commerce of promises* would continue but would be directed towards precise objectives. It cannot be suspected to cause 'a carbon bubble', as the value of carbon would be fixed by convention and not by

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[5] For example too much risk-taking on nuclear security or on bio-energy; all these risks can hardly be signaled only by prices mechanisms and have to be tackled by adequate institutions and regulation.

[6] Cancun hosted the Conference of the Parties to the Climate Convention in 2010. The Climate Convention was adopted by the United Nations in Rio in 1992; it contains the legal basis of climate negotiations.

[7] Especially if we seize this opportunity to control the access of hedge funds to the markets of petrol and basic commodities.

the markets. The European Central Bank would pilot the system by deciding the quantity of carbon assets as a function of climatic objectives of the governments and of the validation of ongoing projects advancement.

There remains the problem associated with the initial injection of liquidity and of the contribution of institutional investors (mutual funds, life insurers, pension funds) who are by far the largest collectors of savings. This monetary mechanism needs to be articulated with non-banking intermediation through the setting up of a European Ecological Fund (EEF), perhaps under the European Investment Bank, which would issue bonds aimed at institutional investors. These would be *Eurobonds* that could be launched even in the absence of political agreement on 'non-colored' Eurobonds. The EEF would invest the revenues produced by these sales in a portfolio of 'project bonds' and loans to banks to finance projects. To secure a triple A rating the EEF would need to have a public capital guarantee. Such capital could be raised at the European level through a small tax on financial transactions, justified on the basis that financial entities would *in fine* benefit from the system, as well as through a small European carbon tax.

European Unity and European Leadership in Environmental Affairs

In the current destabilizing context, tying consistent links between its macroeconomic and environmental policy would help Europe to recover its unity. Germany indeed has made the climate issue a major priority based on a strong political compromise. For historical reasons, it is far more sensitive than many of its neighbors to the laxity of monetary policies. It can thus find palatable a system submitted to a double-checking (control of the money inflow through prices and volumes of carbon assets, physical reality of collateral of the credits controlled by an independent body).

Reviving the economy through such a device would indeed be economically sounder than repeated inflows of money to rescue the banking system with no incentive to invest. Moreover the small European carbon tax could represent a share of domestically recycled carbon taxes set up by member states). These carbon taxes could be progressively matched between countries as a first step towards environmentally oriented fiscal harmonization in the Euro zone.

This climate-friendly financial architecture would help find the thin pathway between extreme rigor which would freeze economic growth and extreme laxity which would push the burden of debts onto future generations. It would transform the climate challenge into a lever for sustainable growth backed by a *'green'* content

Responding to its short term challenges, this link between climate policy and reforms of the financial system would place Europe to make a credible offer to the Climate Convention for extending this system worldwide (with optional joining) and for meeting its Copenhagen's commitment to feed a Climate Fund. The natural allies of such a proposal are the emerging economies. Beyond their concerns about climate change damages, they have a long term interest in avoiding the trap of energy dependence through appropriate planning of their infrastructures and in limiting the possibilities of speculative bubbles that threaten them in turn. These countries account for a dominant share (60%) of the infrastructure markets over the coming decades. If generalized, this system would help them to redirect part of their own saving towards endogenous growth that would be less export orientated. It would also help them in diversifying their foreign exchange reserves, which they view as one major source of fragility in their current growth strategy. One can think, indeed, that the carbon

assets could be transformed in international reserve money[8] entering the calculation of the SDRs.

The last paragraph traces avenues which might look currently premature to open, including because the geopolitical environment is critically dependent upon the result of the future US elections. Priority is indeed to deal with fears and distrusts in the Eurozone. However, to mobilize European along this safe route between the Charybdis of the financial debt and the Scylla of the climate debt, it might be useful to keep in mind more positive and long term objectives.

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[8] This was suggested by Governor Zhou of the People's Bank of China in a web-based article just before the April 2009 G20 meeting. Recalling the vulnerabilities and systemic risks in the existing international monetary system, calls for worldwide reflection on an international reserve currency anchored to a stable benchmark, and argues in favor of reformed SDRs. About the link between the reform of the IMF and the climate affair, see Brendenkamp and Patillo (2010)