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INEQUALITY AND MACROECONOMIC PERFORMANCE^{*}

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Abstract

This paper argues that although the crisis may have emerged in the financial sector, its roots are much deeper and lie in a structural change in income distribution that has been going on for the past three decades. The widespread increase of inequality depressed aggregate demand and prompted monetary policy to react by maintaining a low level of interest rate which itself allowed private debt to increase beyond sustainable levels. On the other hand the search for high-return investment by those who benefited from the increase in inequalities led to the emergence of bubbles. Net wealth became overvalued, and high asset prices gave the false impression that high levels of debt were sustainable. The crisis revealed itself when the bubbles exploded, and net wealth returned to normal level. We further argue that how the trend of increasing inequality interacted differently with policies and institutions, to yield radically different outcomes in the US and in the large European Union countries before the onset of the crisis.

Keywords: Financial crisis, income inequality, US and EU comparison, debt, aggregate demand

JEL Codes: E21, E44, E63, F41

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1. Introduction

The financial crisis, triggered by a modest number of defaults on subprime mortgages, has evolved into a systemic crisis because of the chain of financial innovations prompted by lax monetary policy and loose regulatory framework, which multiplied the effects of the initial shock. Contagion to the real economy mainly happened through tightening credit constraints for households and firms. In an attempt to recover more reasonable ratios, banks either hoarded liquidity or lent at high rates. On the other hand, firms tended to use their own cash flow to restore more prudential ratios of debt to capital, thus postponing investment. Households suffered from a negative wealth effect, which led to a sharp reduction in private consumption. Furthermore, the contraction in asset values triggered a race to deleveraging and to the accumulation of safe assets by financial institutions, firms and households alike. The most obvious effect of this flight to safety has been a severe tightening of credit conditions, which constituted the main channel for the transmission of the crisis to the real sector. The result was a generalized decrease in aggregate demand.

Thus, the combination of a negative wealth effect and of increasingly tight credit constraints has caused the private expenditure drop and the aggregate demand deficiency that required massive intervention from fiscal authorities to sustain economic activity.

The world as it is, at least the industrialized world, is still, three years after the beginning of the crisis, in a situation of aggregate demand deficiency.

Nevertheless, the deep roots of the current situation do not lie only in the financial meltdown, or in the debt deflation. These are only the events that triggered the crisis.

The problem we are facing is more general, and before analyzing what measures will lift us out of the current situation, we have to ask how we arrived at this point. Some are arguing that the lax monetary policy preceding the crisis together with the deregulation of financial markets is the main suspect. And there are little doubts that these causes have played a role. But something else is needed to explain why the expansion of the financial sector was so out of touch with that of the rest of the economy. And why for example in the US the financial sector represented about 40% of the total profit of the economy.

This chapter will argue that another structural cause of the crisis is an increase in inequalities which depressed aggregate demand and prompted monetary policy to react by maintaining a low level of interest rate which itself allowed private debt to increase beyond sustainable levels. On the other hand the search for high-return investment by those who benefited from the increase in inequalities led to the emergence of bubbles. Net wealth became overvalued, and high asset prices gave the false impression that high levels of debt were sustainable. The crisis revealed itself when the bubbles exploded, and net wealth returned to normal level. So although the crisis may have emerged in the financial sector, its roots are much deeper and lie in a structural change in income distribution that had been going on for the past three decades

Section 2 describes the trend toward increasing inequality in most developed and emerging countries. We will then argue, in section 3 that this has caused a chronic deficiency in aggregate demand. Section 4 analyses how this trend interacted differently with policies and institutions, to yield two radically different outcomes in the US and in the large European Union countries before the onset of the crisis. Section 5 concludes.

2. The Trend towards Increasing Inequality

The increased income inequality during at least the past two decades, in most advanced and emerging economies has been widely documented (see IMF, (2007), OECD, (2008) and Krueger et al., (2010) among the most recent works). In most advanced countries the average wage stagnated, while inequalities surged in favour of the upper quintile of the distribution. The literature also documents that consumption inequality did not increase as much as income inequality.

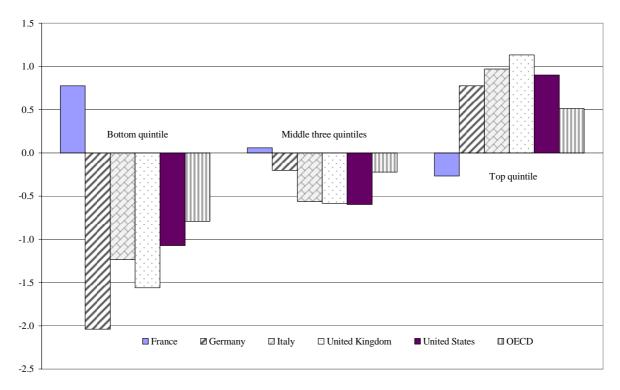


Figure 1 Average yearly growth of income minus growth of average wage. Mid-1980s to mid-2000s. Source:OECD, (2008). Calculations of the authors

Figure 1, taken from data of OECD, (2008), shows the difference between the average growth of real income for each quintile (or group of quintiles) and the growth of average income, over the two decades mid-1980s to mid-2000s. The figure clearly depicts redistribution from

the four bottom quintiles to the fifth, which is the only one that shows an increase over the period above average real income. While we only took the most representative countries, the OECD study shows this trend to be common to most countries in the group.

Over the twenty years we observe only one exception, France, where growth for the lower quintile was larger than for the average wage. Nevertheless, even for France this trend was reversed in the last decade.

Figure 2 shows the changes in the Gini coefficient from the mid-1980s to the mid-2000s. This coefficient is subject to a number of criticisms, and it hides wide variations in income inequality among the different quintiles; thus, absolute values of the coefficient should be regarded with cautiousness. Nevertheless, the trend depicted by the figure is unequivocal, and it points to an important increase of inequality for most countries.

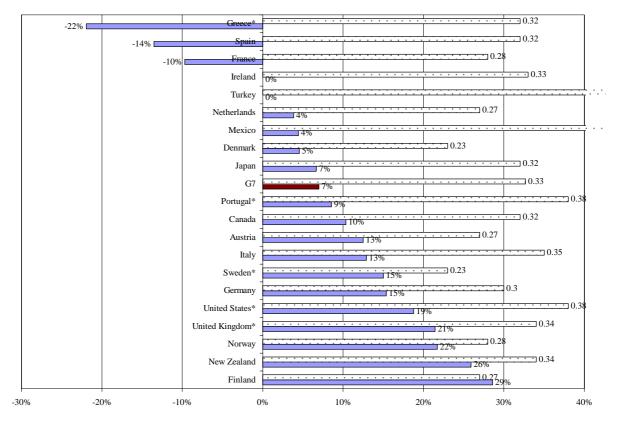


Figure 2 Change in Gini coefficient from mid-1980s to mid-2000s, together with values of the mid-2000s Source OECDStat. * denotes mid 1970s as starting point

The phenomenon of redistribution is even more marked than these figures shows. Dew-Becker and Gordon, (2005) speak of "superstar economy", showing that in fact, those benefiting more from the redistribution are those at the very top of the income distribution (top 1%).

The Role of Policy in the Trend of Income Distribution

Going over the causes of the widespread increase of income inequality would go beyond the scopes of this essay. The usual suspects are globalization and "the great doubling", to use the expression of Richard Freeman, non neutral technical progress, and the star system – the winner takes it all story. Nevertheless, as we are concerned with the role of economic policy, one factor, surely linked with globalization and the universal search for competitiveness, is worth mentioning. Since the early 1980s, the progressivity of tax systems and the tax burden on businesses has substantially decreased.

Table 1 reports central government marginal tax rates of a few European countries, together with the number of tax brackets. This measure is only partial, as the overall degree of progressivity also depends on the structure of the tax base, on thresholds, exemptions, and so on); one can nevertheless easily see that in most countries there was a sharp decrease in both the marginal rate and the number of brackets, the symptom of decreased progressivity of the tax system.

	e				
		1981	1991	2001	2008
Polgium	Number of Brackets	23	7	7	5
Belgium	Maximum Rate	72%	55%	55%	50%
France	Number of Brackets	12	12	6	4
	Maximum Rate	60%	56.80%	52.75%	40%
Component	Number of Brackets	2	2	2	2
Germany	Maximum Rate	56%	53%	48.50%	45%
Itoly	Number of Brackets	32	7	5	5
Italy	Maximum Rate	72%	50%	45%	43%
Spain	Number of Brackets	30	16	6	4
Spain	Maximum Rate	65.1%	56%	39.6%	27.1%
Ireland	Number of Brackets	5	3	2	2
Iteratio	Maximum Rate	60%	52%	42%	41%
UV	Number of Brackets	6	2	3	2
UK	Maximum Rate	60%	40%	40%	40%
US	Number of Brackets	16	2	5	5
03	Maximum Rate	70%	31%	39.10%	35%

Table 1. Number of tax brackets and marginal income tax rates*

* Central government rates

Source: OECD Tax Database (www.oecd.org/ctp/taxdatabase). Calculations of the authors.

Table 2 displays corporate tax rates in EU-15 countries, where in most cases, corporate tax rates have decreased since 1990 or 2000. The common wisdom maintains that this significant and widespread reduction enhances incentives to investment and hence increases employment. Nevertheless, they also induce a shift of the burden of taxation from capital income to wage, the former accruing in a larger proportion to the richest layers of the population.

The shift of taxation from upper to lower incomes fits within a general trend towards the reduction of the collective insurance role of the government (for a detailed discussion, see Creel and Saraceno, (2009)) that was partly based on an important redistributive role of the tax and benefits system. This contributed, along with many other factors (globalization and competition from low-wage countries, skill-biased technological progress, etc) to the substantial increase of income inequality of the past three decades.

	1990	2000	2005	2009		1990	2000	2005	2009
Austria	30		25	20	Ireland	43 10***	24	12.5	12.5
Belgium	43	40.2	35.5	35.5	Italy	36	37	33	27.5
Denmark	50		28	25	Luxembourg	34	37.5	30.4	21.8
Finland	33	29	26	26	Netherlands	35		31.5	25.5
France	42 * 37 **	37.8	34.9	34.4	Portugal	34		27.5	25
Germany	36 * 50 **	52	39.3	15.8	Spain	35	35	35	30
Greece	46 40***		32	25	Sweden	52		28	26.3
UK	35	30	30	28					

 Table 2. Main corporate tax rate, in percentage points

Sources: European Tax Handbook 2005 and 2009.

* Distributed profit ** Retained profit

*** Industry

The combined result of these changes has been a generalized decrease of the wage share, which is common to most OECD countries (Figure 3).

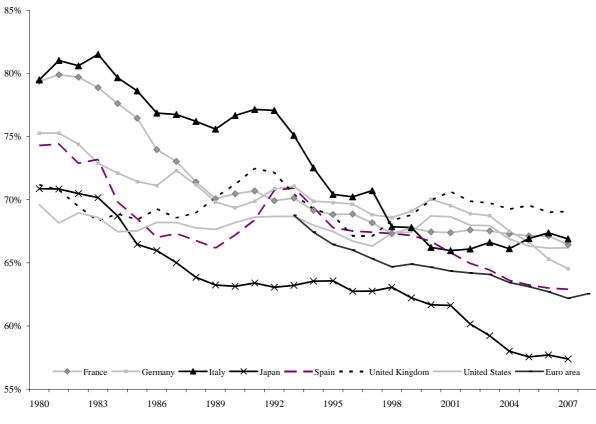


Figure 3 Labour Income Shares Source: OECD

3. The Macroeconomic effects of Increased Inequality

From a macroeconomic point of view, the increase in inequality triggers redistribution from households with high propensity to consume to households with a lower propensity to consume and/or from households credit constrained to households without such a constraint. The reasons for this difference in the propensities may be traced back to the work of Kalecki and Kaldor on income distribution (Kalecki, (1942); Kaldor, (1955)), and it may be related to a minimum consumption (subsistence) level, to liquidity or credit constraints, or to satiation phenomena.

If propensities to consume differ, then the overall propensity to consume is affected by income distribution, and an increase in inequality causes it to decrease. The reduction of consumption demand, then, puts downward pressure on aggregate demand and on income (unless some compensation comes from other items, like government spending or external demand).

On a global level, then, the increase of inequality has generated a chronic deficiency of aggregate demand, and a tendency of growth to stagnate. Yet, the growth performances in the past two decades diverged. The next section will look into the causes of this divergence.

4. Inequality and Macroeconomic Performance in the United States and in Europe

The United States and the European Union are economies with many similarities in what concerns the level of development, technological development and the like. Furthermore, as we saw in section 1, they experienced the same trend of increasing income inequality. Even for what concerns market flexibility, in particular for what concerns labor markets, most European countries significantly increased it, so that the differences in market flexibility with the US are not as large as they used to be in the early 1980s. As an example, table 3 shows that except in a few countries (France, Ireland and the UK, even if the latest two experienced reductions in the replacement rates and benefit duration), the employment protection legislation (EPL) index¹ has been reduced since the mid-1980s and, quite often, sharply so like in Belgium, Germany, Italy, Portugal, Spain and Sweden. Flexibility, in other words does not seem anymore a major difference factor between continental Europe and the United States²

Table 3 EPL	index*.	Selected	years
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		5					
	1985	1995	2008		1985	1995	2008
Austria	2.21	2.21	1.93	Italy	3.57	3.57	1.89
Belgium	3.15	3.15	2.18	Netherlands	2.73	2.73	1.95
Denmark	2.4	1.5	1.5	Portugal	4.19	3.85	3.15
Finland	2.33	2.16	1.96	Spain	3.82	3.01	2.98
France	2.79	2.98	3.05	Sweden	3.49	2.47	1.87
Germany	3.17	3.09	2.12	UK	0.6	0.6	0.75
Greece	3.56	3.5	2.73	US	0.21	0.21	0.21
Ireland	0.93	0.93	1.11				

Source: OECD, (2004).

*Version 1 (unweighted)

Data for 2005 and 2008 from OECD STATS

¹ The EPL, introduced by Nicoletti, Scarpetta and Boylaud, (2000), is extensively discussed in OECD, (2004). It is built by aggregation of 18 indexes from three main areas: Employment protection of regular workers against individual dismissal; specific requirements for collective dismissals; and regulation of temporary forms of employment. As all aggregative indexes, it is not exempt from criticisms (see e.g.Bertola, Boeri and Cazes, (2000); Fitoussi, (2003)). Nevertheless, it is a useful representation of the trends in employment protection over time.

 $^{^{2}}$ This explains, probably, why the evidence on the effects of market flexibility on growth and unemployment are empirically so difficult to disentangle (see Fitoussi *et al.*, (2000)).

Nevertheless, the growth performance of the US and of European countries (especially continental Europe) has been diverging since the early 1980s. The US grew at more than satisfying rates, around or above their potential, while most European countries struggled, with soft growth and stagnating employment (Figure 4).

So the question arises of why a common phenomenon (the trend of increasing inequality), which we argue should be significantly affecting macroeconomic performance, does not yield uniform growth rates in all countries.

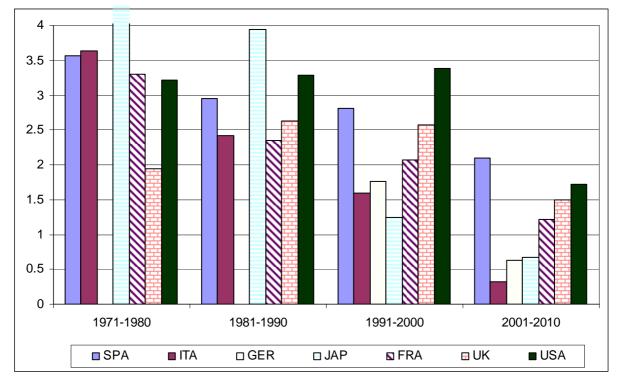


Figure 4 Average Growth Rates per Decade Source: OECD Economic Outlook – Datastream

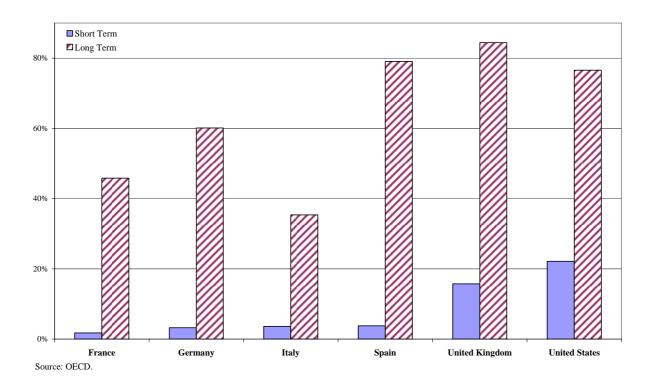


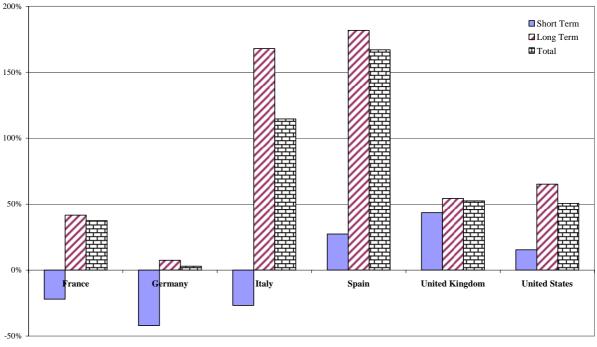
Figure 5 - Household Short and Long Term Outstanding Loans as a Ratio to GDP - 2007

Shocks plus Institutions Once More

We maintain that the answer to the apparent contradiction between a common trend of increasing inequality and differing macroeconomic performances can be found in the interaction of the chronic aggregate demand deficiency, common to all the countries, with the institutional differences, and the policy responses, that were instead extremely different. In the US, and in some European countries (UK, Spain), the reduction of income has been compensated by increasing private indebtedness, made easier by an increasingly deregulated financial system³. Figure 5 and Figure 6 show short and long term loans as a ratio of GDP between 1995 and 2007 (2008 was dropped because the crisis had already hit the economy). The figures show that both in terms of levels and in growth rates, short term debt (mostly consumption credit) has been substantially larger in the US and in the UK than in continental Europe. In these countries as a consequence, the level of consumption remained high, but financed out of debt rather than out of income (see Cynamon and Fazzari, (2008)). In continental Europe, more restrictive rules for financial markets made credit more costly and difficult to obtain, prevented a similar expansion of debt. Spain is an intermediate case, in the

³ The increasing levels of debt were also fueled by a diffuse feeling of "end of history", such that thanks to skillful monetary policies and to financial development, cycles would belong to the past, and asset prices could keep increasing forever.

sense that it experienced a significant increase of both short and long (mortgages) debt. The level of the former, nevertheless, remained extremely low, and in fact, the Spanish exceptional growth of the early years 2000 has been largely determined by the boom of the housing sector.



Source: OECD. Authors' calculation

Figure 6 - Change in the outstanding Household Loan to GDP Ratio (1995-2007)

The countries where short term (consumption) loans increased more are the ones in which growth over the period 1995-2007 was more robust (see Figure 7). This points to a growth rate driven by domestic consumption.

The picture is somewhat confirmed by Figure 8 As can be seen, the share of consumption remained constant in France and Italy it actually decreased in Germany, while it increased in Spain, the US and the UK

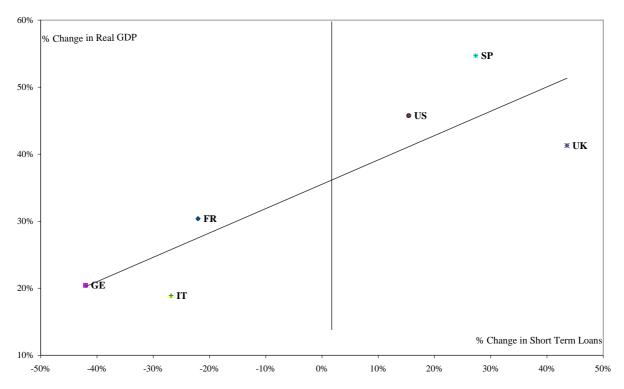


Figure 7 - Cumulate change in household short term loans (x-axis) vs change in real GDP (y-axis), 1995-2007. The trend line is also shown

Source: OECD. Authors' calculations

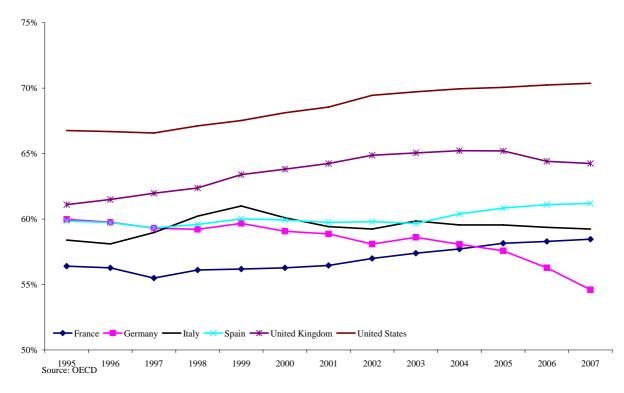


Figure 8 - Consumption Shares

Germany is particularly interesting in this respect, because it shifted towards an export-led model of growth. Table 4 shows that while all the domestic component of demand decreased in size between 1991 and 2007, the current account increased considerably to more than 7% of GDP.

	Consumption	Investment	Government Spending	Current Account
1991	59%	21.8%	19.1%	0.1%
2007	54.6%	20%	18%	7.4%

Table 4: Germany, National Accounts as shares of GDP

Source: OECD

The German strategy is puzzling for a number of reasons. The first is that Germany is by far the biggest European country and one would have expected that this fact should have pushed it to rely more on internal demand. The second is as the growth figures of Figure 4 show, the strategy was not very successful. But maybe the enigma can be resolved if we take into account both the ageing of its population and German unification or more precisely the way the unification was handled (Fitoussi *et al.*, (1993)).

Macroeconomic Policies and Aggregate Demand

Macroeconomic policies contributed to the diverging performances. US fiscal and monetary policies were more reactive to shocks (even during the current crisis). We have discussed elsewhere (Fitoussi and Saraceno, (2004, (2008; 2010)) how the set of institutions for the economic governance of Europe is consistent with the doctrine that dominated in the 1990s, that pledged for a rule-based system aimed at preventing discretionary interventions and at pursuing nominal stability, because the growth objective would be attained through structural reforms alone. The Stability and Growth Pact (SGP) and the strict inflation targeting contained in the statute of the European Central Bank (ECB) did in fact succeed in attaining nominal stability and convergence (Fitoussi and Laurent, (2009)). But, not surprisingly, this came at the price of two decades of soft growth (Fitoussi, (1996; 2001)). Moreover the emphasis on supply-side adjustments aimed at boosting competitiveness most notably through wage moderation, a leaner welfare state, and lower employment protection (the "structural reforms") constrained European governments to engage in a non-cooperative strategy through fiscal and social competition.

Fiscal and monetary policy alike contributed to sustaining aggregate demand. Tables 5 and 6 report descriptive statistics for monetary and fiscal policy respectively in the past decade . From table 5 it emerges that short term rates have been on average very similar in the EMU

and in the US (only 20 basis points of difference). This is *per se* not informative, because the level of the interest rate has to be determined in regard to inflation and output gap objectives. In fact the most striking aspect of table 4 is the much higher variability of interest rates in the United States, with the standard error which is double with respect to the EMU, and a spread between the maximum and the minimum value which is also significantly larger.

	Fed Funds	Repo
Mean	3.12	2.90
s.e.	2.00	1.03
Max	6.5	4.75
Min	0.25	1

 Table 5: Interest Rates Descriptive Statistics 1999-2010

Source: Datastream

A very similar conclusion can be reached by looking at a similar table for fiscal policy. Table 6 reports the descriptive statistics of the fiscal impulse⁴ for the largest European economies, the UK, US and Japan. It emerges clearly that the US had on average a more expansionary stance (in spite of higher growth rates, see Figure 4), and, as with monetary policy, it showed significantly higher variability over the period than Germany, France or Italy. The superior reactivity of American fiscal authorities is not surprising if we consider that on one hand European countries are subject to the constraints of the Stability and Growth Pact; and on the other that the US have a lower level of social protection and of automatic stabilization, which calls for a more active role of macroeconomic policies aimed at limiting harmful fluctuations of income.

	GER	ITA	ESP	FRA	EU4*	UK	USA	JAP
Mean	0.12	-0.01	0.21	0.24	0.14	0.84	0.75	-0.35
s.e.	0.81	0.88	1.89	0.58	0.58	1.63	1.35	2.24
Max	1.68	1.44	5.25	1.15	2.89	4.63	2.89	2.72
Min	-0.79	-1.44	-1.16	-0.47	-0.76	-1.00	-0.81	-4.70

 Table 6: Fiscal Impulse : Descriptive Statistics 1999-2010

Source: Datastream

*EU4 is weighed with GDP

⁴ The fiscal impulse is computed as the negative of year on year changes in cyclically adjusted government net lending. It measures the discretionary fiscal stance of the country, a positive number denoting an expansionary period.

Towards an "American Model"?

The argument developed in the preceding sections may lead to pledge for abandoning the European model in favor of the one adopted in the US, which through financial development and active macroeconomic policies has been able to cushion contingent event, but above all the structural shock represented by increased income inequality. In fact the crisis that we are still living proves that sustaining the level of activity through private debt and active macroeconomic policies is not sustainable. The large amount of savings by the top earners has been channeled in speculative activities that have fueled bubbles in series (stock markets in the 1990s, housing in the first half of the 2000s, see Figure 9) that created the illusion of wealth and hence triggered ever increasing levels of debt. The large amount of liquidity made available by monetary authorities exacerbated this excess of financial means looking for a placement.

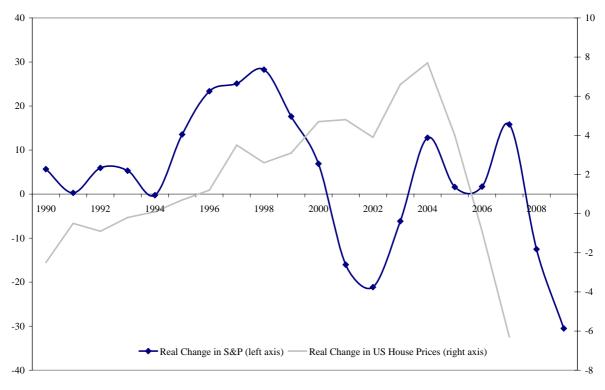


Figure 9 - US Asset Prices, 1990-2009 Source: Datastream – OECD

In fact, the increasing level of debt was apparently compensated by the increase of wealth that nevertheless was not linked to fundamentals, but to the excess demand for some assets that drove up the prices.

The seemingly virtuous circle of increasing debt and asset prices that sustained economic activity in the US, would have proven to be unsustainable much earlier, were it not matched

by disequilibria of the opposite sign in Europe and in other areas of the world (East Asia and oil producing countries), that with their excess savings contributed to finance American growth, and to perpetuate this fragile equilibrium.

To summarize, the pressure on aggregate demand induced by increasing inequality has pushed the world economy between the Scylla of high and unsustainable growth and the Charybdis of stagnant economies unable to sustain their level of growth with domestic demand, and constrained to rely on exports. None of the two paths has proven to be a solution.

5. Conclusion

It will serve no purpose to design a strategy which will permit us to avoid Scylla at the cost of meeting Charybdis . The crisis was an interesting mixture of social and financial causes. The financiarisation of the economy may have helped to accelerate the trend towards growing inequalities. But certainly this trend served well the growth of the overinflated financial sector. The latter has hidden during a period the consequences of the social disequilibria, that is a potential deficiency of global demand, but at the price of pushing the economy from one bubble to another and of diverting resources from productive use. To cure a bad by a bad is not such a good idea. May be it would be preferable to try to eliminate the disequilibria themselves. Much is said in this report on the measures that the world and individual countries should take to keep financial markets under control. Intelligent regulation is a case in point. A revision of monetary policy strategies is another. Simple inflation targeting does not seem anymore the nec plus ultra of monetary policy. At a time when the boundary between monetary and fiscal policies becomes fuzzy, when the control of asset prices becomes a major objective for macroeconomic stability, we have to accept the sheer fact that monetary policy should also have several objectives and instruments and should strengthen its cooperation with fiscal policy.

To avoid that the social disequilibria nurture again the financial one, the trend towards increasing inequalities should be reversed. For sure that is easier to say than to do, but it is absolutely crucial. They are several roads that the world economy could take for that purpose. The more obvious one is cooperation, the end of beggar my neighbor policies. Export led strategy when they are not based on objective factors (developing economies, ageing of population etc.) should not be tolerated by whatever international institution the G20 will give birth to. A second, and theoretically easier, is tax cooperation and/or tax harmonization to avoid fiscal and social competition. We have seen how the tax system has evolved towards less and less progressivity. Together with the decrease of business taxation, that is

impoverishing the State and makes it unable to confront its social obligations. This evolution is a sufficient explanation for the search of a leaner welfare state almost everywhere. It has a further consequence when the economies are confronted to a shock, the decrease of automatic stabilizers. More than 20 years ago, the levels of the marginal rate of taxation and of the profit taxes were powerful in amortizing macroeconomic shocks, especially the latter in reason of the volatility of profit with the business cycles (Solow, (2004)). In a nutshell, increasing inequalities, meager welfare states, lower automatic stabilizers are recipes both to increase the vulnerability of the economic system and above all economic insecurity. The fact that the latter is not included in the PIB does not mean that it has not a strong effect on economic well being (Stiglitz, Sen and Fitoussi, (2009)).

A third road is to inform societies about the state of inequalities characterizing their countries. Maybe a yearly parliamentary debate informed by the national statistical institutes and the work of the researchers may speed the consciousness of both civil society and politicians. Europe could serve as a laboratory for these kinds of measures as in principle it has the institutions and the need of implementing them may be more than other countries.

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