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Chapter One

Budgetary Policies in the Crisis: Crash, Rescue, Boomerang: A Trap for Public Intervention?

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Facing the crisis that struck the world economy in 2008, there emerged a worldwide consensus rarely found in the past with such immediacy: budgetary policies characterized by major deficits are necessary to remedy the crisis. Shortly before, the phenomenon would have left analysts incredulous, so widely held was the belief in the virtues of balance or at least of rigorous budget management. For all that, after three years of very active intervention, while the crisis continues and remains very acute, the financial situation of States has been strongly degraded, causing distrust in the markets, and has made the pursuit of efforts led by public authorities untenable in the current conditions.

The new phase of the crisis provoked by the strong progression of European debt, the loss of confidence of the markets, and the new financial crash in the summer of 2011 puts Europe and its common policies at the heart of the problem today.

The subject of this chapter is therefore to analyze the reasons that have led to the difficulties that the EU is facing today. We will analyze from this point of view the dynamic of public intervention, the factors explaining the changes that have occurred, and the current limits of this action in order to define better the prospects for the future. To understand correctly the nature of the current crisis, it is necessary to look back to its financial origins before stating the role of shock absorbers played by public intervention, and finally analyzing the boomerang effect that has resulted from it due to indebtedness.

1. The financial origins of the crisis

A bit of historical perspective on the origins of the crisis is doubly useful: it makes it possible to identify the factors that set off the crisis in order to make a pertinent diagnosis of the potentialities and limits of public action. The crisis that began in 2007-2008 is first and foremost a financial crisis.¹ Its origin lies in the paradigm shift of public authorities

¹Other factors that led to the crisis can also be found, such as the development of a model of non-egalitarian growth and the limits of productivism (*Alternatives économiques* [Economic Alternatives], 2010), but the primary responsibility of finance in setting off the crisis in 2007-2008 is widely accepted.

toward economic regulation after the Washington consensus of the 1980's. Theoretical beliefs that relied on highly ideologically marked hypotheses of the substantive rationality of economic agents, the efficiency of markets, the superiority of self-regulation of trade and competition rather than public action spread throughout the world. They pushed States to undertake, like the Anglo-Saxon countries, profound reforms. These reforms were largely characterized by the implementation of new public management and the relinquishing by States of certain of their functions through liberalization, development of privatization, and financial deregulation.

In the financial sector, these reforms were initiated by the United States under the Reagan administration, then deepened by its successors. This led to the complete dismantling of the regulatory system founded during the Great Depression² to control a financial sector considered responsible for the crash of 1929 and avoid the recurrence of procyclical effects of the behavior of banks. By their lobbying action, however, American banks were able to impose laissez-faire policies in the 1980's and 1990's, arguing that these were necessary to invigorate economic activity. The reforms adopted contributed to financial globalization processes and liberalization of the movement of capital. From this resulted an unprecedented domination of the world economy by the financial sector (Bourguinat and Briys, 2009). The large-scale financial innovations that were undertaken created very strong development of financial activity. This growth was not sustainable, however, and ultimately had highly toxic effects on the real estate sector by creating great instability and generalized distrust of the markets. Deregulation called into question sound separation from a prudential point of view of the banking activities of lenders and financial investment, and stimulated the development of massive speculation bubbles. The instability and procyclical behavior of the financial sector since that time proceed largely from the emplacement of a "parallel banking system, called shadow banking... accumulating positions of risk and escaping any control" (Cartapanis, 2011). The securitization of assets, the complexity of derivative products created by the financial sector, and the opaqueness reigning over markets contributed greatly to deluding many economic agents about the real potential of investments and amplifying gregarious behavior. The sub-prime credit developed in the United States (which means loans "below first choice" to households lacking financial foundations) are in this respect the climax of an unbridled profit-seeking that caused the collapse of markets by placing borrowers and lenders in serious trouble. Indeed, beyond the classic characteristics of a financial crisis (boom, reversal of expectations, crash), the amplifying effects of the absence of regulation and financial innovations³ on the business cycle are apparent: boom and then cutoff of credit, underestimation then overestimation of risks, lack of funding of banks and of prudential rules. This led in September 2008 to a phase of systemic crisis, in other words, threat of general collapse of the economic system.

² Thus, the Clinton administration, under pressure from the financial sector, completed in 1999 the dismantling of the regulatory system adopted during the Great Depression, specifically, the Glass-Steagall Act. This 1933 law had begun the separation between loan and deposit activities and those of investment, in other words, involving real estate titles and holdings.

³ Besides the doubtful credits held by banks due to these sub-primes, banks redistributed part of their credits on the capital market in the form of structured assets, which allowed them to circumvent microprudential rules by putting these credits off their books.

Generalized distrust seized economic agents when the American government decided in September 2008, in a thoughtless manner, to put Lehman Brothers into liquidation. It was a matter of sanctioning the bank for its improper practices and of challenging the adage “too big to fail.” The imitative panic that seized the markets then forced the American government, followed by the rest of the world, to undertake large-scale actions to avoid the collapse that was appearing. The actions taken during a first period, performed together with central banks, would make it possible to avoid the suffocation of the world economy by flooding it with liquidity.⁴ Central banks would then take action to support economic activity by lowering considerably their base bank rate (see the chapter by Nathalie Rey below). Beyond the implementation of Keynesian-inspired measures, States would also support activity by nationalizations, direct aid, or other recapitalizations of businesses (see the chapter by Luc Bernier below).

Thus, immediately after the bankruptcy of Lehman Brothers, public intervention, both in the United States and in Europe, had characteristics that were diametrically opposed to those of the previous period. The laissez-faire attitude disappeared before a Keynesian logic: the lessons of the crisis of 1929 were then remembered to avoid the worst-case scenario. Policies of support for economic activity would thus be practiced, and would make heavy demands on public budgets.

2. Public budgets and budgetary policies for the crisis

If the systemic crisis was controlled at the end of 2008, the recession deepened on the world scale. Various cumulative mechanisms contributed to transmitting the financial crisis to the real estate economy. A contraction in demand resulted first from the effect of property wealth: the financial crash, by lowering the net assets of households, pushed them to reduce their spending; heavily indebted households were also forced to reduce their liabilities; furthermore, the change in confidence stimulated households to set up savings as a precaution. As for businesses, bankruptcies and the fall in demand provoked a rise in unemployment and therefore a further weakening of demand by households. The contraction of credit and the extreme cautiousness of banks also had long term effects by causing a decrease in productive investment and a fall in research and development (R&D) spending. The same was true of the devaluation of capital stock and the lowering of the productivity of inputs (Cartapanis, 2011).

After falling sharply in 2008, economic growth, conventionally measured by GDP⁵, became very negative in 2009 for most of the OCDE countries. All these countries were

⁴ It was then a matter of allowing the refinancing of the economy resulting from the distrustful behavior of banks that was hobbling the functioning of the interbank market. Central banks worked together with States, breaking—especially in the European framework—with the principle of independence of the central bank and the monetarist conception of political economy focused on fighting inflation.

⁵ As shown by the work of the Stiglitz-Sen-Fitoussi Commission on measuring economic performance and social progress (<http://www.stiglitz-sen-fitoussi.fr/fr/index.htm>), GDP is a very imperfect instrument for measuring the level of well-being of

hit by the depression. For European countries, the United States, and Japan, surveyed in Table 1, rates of growth fell between 2007 and 2009 by 4.9 to 8.7 points of GDP, except for Ireland, where the decrease reached 12.2 points. Among the countries of EU⁶, some that are called part of southern Europe (Greece, Ireland, and Italy), as well as the United Kingdom and Germany, were the most strongly affected during the beginning of the crisis (although Germany saw a net rebound after 2009). The euro zone, which has seen very weak growth since its creation, thus recorded, along with Japan, the sharpest contraction of its economic activity.

Table 1: Economic Growth and Public Balance

	GDP in volume in variation compared to previous year						Financial balance of public administration as % of nominal GDP					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Germany	3.4	0.8	- 5.1	3.6	3.0	0.6	0.2	- 0.1	- 3.2	- 4.3	- 1.2	- 1.1
Belgium	2.8	0.9	- 2.7	2.3	2.0	0.5	- 0.3	- 1.3	- 5.9	- 4.2	- 3.5	- 3.2
Denmark	1.6	- 1.1	- 5.2	1.7	1.1	0.7	4.8	3.3	- 2.8	- 2.8	- 3.7	- 5.1
Spain	3.5	0.9	- 3.7	- 0.1	0.7	0.3	1.9	- 4.5	- 11.2	- 9.3	- 6.2	- 4.4
France	2.2	- 0.2	- 2.6	1.4	1.6	0.3	- 2.7	- 3.3	- 7.6	- 7.1	- 5.7	- 4.5
Greece	3.0	- 0.2	- 3.2	- 3.5	- 6.1	- 3.0	- 6.8	- 9.9	- 15.8	- 10.8	- 9.0	- 7.0
Ireland	5.2	- 3.0	- 7.0	- 0.4	1.2	1.0	0.1	- 7.3	- 14.2	- 31.3	- 10.3	- 8.7
Italy	1.7	- 1.3	- 5.1	1.5	0.7	- 0.5	- 1.6	- 2.7	- 5.4	- 4.5	- 3.6	- 1.6
Netherlands	3.9	1.8	- 3.5	1.6	1.4	0.3	0.2	0.5	- 5.5	- 5.0	- 4.2	- 3.2
Poland	6.8	5.0	1.6	3.8	4.2	2.5	- 1.9	- 3.7	- 7.4	- 7.9	- 5.4	- 2.9
Portugal	2.4	0.0	- 2.5	1.4	- 1.6	- 3.2	- 3.2	- 3.7	- 10.2	- 9.8	- 5.9	- 4.5
United Kingdom	3.5	- 1.1	- 4.4	1.8	0.9	0.5	- 2.8	- 4.8	- 11.0	- 9.6	- 8.1	- 6.5
Sweden	3.4	- 0.8	- 5.1	5.4	4.1	1.3	3.6	2.2	- 0.9	- 0.1	0.1	0.0
Euro zone	3.0	0.3	- 4.2	1.8	1.6	0.2	- 0.7	- 2.1	- 6.4	- 6.3	- 4.0	- 2.9

populations and changes in it. Nevertheless, it remains a reference indicator for markets and States to determine and adjust public policies.

⁶The average of annual variations in volume of GDP of the 20 EU countries that belong to the OCDE (except Estonia, which has been an OCDE member since December 2010) went from 4.2% in 2007 to 0.2% in 2008 and 4.2% in 2009, without significant changes in dispersion, since the standard errors for these three years are 2.3, 2, and 2.6.

Japan	2.4	- 1.2	- 6.3	4.1	- 0.3	2.0	- 3.3	- 2.6	- 7.0	- 6.5	- 7.3	- 7.6
United States	1.9	- 0.3	- 3.5	3.0	1.7	2.0	- 3.9	- 6.8	- 9.8	- 9.0	- 8.3	- 7.7
OCDE	2.8	0.1	- 3.8	3.1	1.9	1.6	- 2.6	- 4.3	- 7.1	- 6.6	- 5.7	- 4.9

Source : *Economic Perspectives of the OCDE*, no. 90, estimates and predictions of the OCDE published in November 2011 for the years 2011 and 2012.⁷

The weak rates of growth that the countries of the southern area of the euro zone saw beginning in the first years of the crisis are explained largely by the overvaluing of European money, which was accentuated from 2002 to 2011.⁸ This would contribute to accentuating distrust of southern Europe. Differences in competitiveness, inherent in the intrinsically different characteristics of the productive apparatus of the countries of northern and southern Europe, do indeed cause major commercial imbalances in the South. These deficits are both intra-European (the countries of the North, especially Germany, exporting massively to the South) and with countries outside the EU. Parity adjustments were no longer possible with the creation of the euro, and since internal solidarity was extremely lacking, and budgetary interventions to help the South were forbidden in Germany from the beginning, these countries have had major economic difficulties that have accentuated distrust toward them.

With the entry into a depression, the deterioration of public accounts, however, was general: deficits of public administration in most countries grew sharply in 2008, reaching in 2009 a level that was unequaled in the past in peacetime and that remained historically high in 2010 and 2011. The deterioration of the balance of public administrations in comparison with 2008 lay, for most countries, between 4 and 7 points of GDP. For the 20 EU countries that are members of the OCDE⁹, the average public administration deficit as a percentage of GDP went from 0.7% in 2007 to 2.1% in 2008 and 6.4% in 2009. The dispersion of public deficit ratios to GDP, however, grew only slightly during the same period: for the 20 countries of the EU, the standard deviation went from 3 to 3.5, then to 3.7. Greece, Spain, the United Kingdom, and Portugal, however, had public deficit ratios that approached or exceeded double digits. For its part, Ireland was strongly affected, especially due to a plan to save private banks that led the State to massive bailouts.¹⁰ The situation of the countries of the South remained very degraded in 2010 and 2012: they were particularly affected in a sustained way by the fall in tax revenues, which resulted from their weak growth and their lack of competitiveness.

⁷The financial balance corresponds to tax and non-tax revenues of public administrations, minus total expenditures of public administrations. The definition of financial balance differs from that of a deficit by Maastricht terms: it does not include payment flows resulting from swap agreements (or exchange contracts) and contracts guaranteeing rates (also called future rate agreements), which are counted as financial operations and not as interest. But despite this, the figures do not differ greatly.

⁸The euro went from \$1.04 in 2002 to \$1.45 in the middle of 2011, but fell back below \$1.30 in early 2012.

⁹With the exception of Estonia.

¹⁰Ireland, which was afraid other European countries would force it to raise its tax rates, which had earlier fed its growth at the expense of that of other countries, wanted at first not to call for European aid.

The deterioration, both rapid and general, of public accounts reveals, however, the interdependence of national economies and behaviors toward the crisis that are often very similar. Public budgets everywhere have a moderating influence to limit the harmful effects of a fall in activity.¹¹ Without it, the economic and social repercussions of the crisis would have been distinctly stronger than those that are presently seen. A double phenomenon makes it possible to explain the reasons for this.

The first stems from the purely mechanical effect of interdependence between fluctuations linked to the economic situation and the revenues and expenditures of public administrations. In case of recession, public revenue contracts, since less activity leads to a reduction of tax income. Moreover, certain public expenditures, such as unemployment benefits, increase due to the decline in economic activity. The growth of the public deficit, that results from this, limits the recession by supporting private spending. The mechanism, called “automatic budget stabilizers,” produces effects that vary in scale from one country to another, depending on the intrinsic nature of national tax systems, in both level and structure. A high level of public administration in the economy generally strengthens the stabilizing effects. The OCDE (1999) declared that these effects are “greater as the tax system is more progressive” and redistributive.¹² Effects thus vary from one country to another depending on the tax structure, and especially depending on the elasticity of different categories of taxes levied in relation to GDP.¹³ They also depend on the level of unemployment benefits. This can explain, at least in part, the less cyclical nature of certain countries and the differences in amplitude of fluctuations related to the economic situation. France is a country for which, as the OCDE notes (2011), automatic stabilization mechanisms have a relatively high impact, which made it possible in 2009-2010 to avoid a sharp contraction of economic activity. Nevertheless, the tax reforms carried out since the 1990's in many European countries, and in France, have reduced these stabilizing effects by decreasing mandatory contributions, progressiveness, and the redistributive nature of taxation. As for the impact of automatic stabilizers on the deterioration of public balances, according to Le Bayon et al. (2010), they made up cumulatively, from 2007 to 2010, 3.8 points of GDP in Germany, 4.7 in France, 4.9 in the United States, 5.4 in Japan, 6.1 in the United Kingdom, and 11.4 in Spain.¹⁴ In the same study, it is estimated that the decline in public balances recorded at the time came to 70% of automatic stabilizers in the United States, 71% in the United Kingdom, 73% in Germany, 76% in Japan, and 78% in France.¹⁵ As for the effect on GDP, the OCDE (1999) declared that “automatic stabilization tends to be particularly weak in Korea, Japan, the United States, Switzerland, and New Zealand, and particularly strong in the countries of northern Europe that have highly developed social security

¹¹Symmetrically, in a time of recovery, automatic stabilizers have delaying effects on the recovery, due to the increase of mandatory contributions.

¹²Models founded on a Ricardian design tend to reduce the influence of public policy, on the basis of the rational expectations of economic agents. They rely, however, on heroic hypotheses (see the chapter by Philippe Bance below).

¹³The 1999 OCDE study estimates that during the 1990's in the OCDE countries studied, elasticity in relation to GDP was on average 1.25 for corporate taxes, 1 for income tax and consumption taxes, and 0.75 for social security contributions.

¹⁴The high figure for Spain is explained by losses of tax revenues due to the lowering of taxability rates.

¹⁵In Spain they are estimated at 93% due to a very restrictive policy beginning in 2010.

systems.” But in the countries that have the least resources, public powers would act by discretionary intervention.

Discretionary budgetary policies constitute a second lever for public budgets to stimulate activity. Beginning in 2008, States have taken interventionist action, mobilizing their budgets to limit the impact of the depression, stimulate growth, and try to re-establish confidence:

Most countries have adopted large-scale stimulus programs, adjusting at the same time various taxes and spending programs. The majority of countries have given priority to cutting taxes over stimulating spending (but Japan, France, Australia, Denmark, and Mexico are clear exceptions)... easing taxation affects principally income tax of individual entities... On the spending side, practically all the countries of the OCDE have launched and/or accelerated investment programs. Moreover, practically all the countries of the OCDE have established discretionary measures to support the economy against the crisis. It seems that budgetary programs applied as direct responses to the crisis and measured by their cumulative impact on budget balances for the period from 2008 to 2010 make up approximately 3½ percent of the 2008 GDP of the OCDE zone. (OCDE, 2009)

According to Le Bayon et al., it also seems that “budgetary stimulus plans have had an expansionist nature since 2008 in Spain, the United Kingdom, and the United States, and only in 2009 in Germany, France, and Japan.” The scope and timetable of these measures, however, differ from country to country. This being so, “they make up from 2008 to 2010 a injection of 6.6 points of GDP in the United States, 4.4 in Japan, 3.4 in Germany and the United Kingdom, 2.4 in Spain... and only 1.6 in France.” The impact of discretionary measures on public balances and economic growth is therefore variable, since States have modulated their systems in consideration of the “degree of seriousness of the economic crisis, the budgetary situation before the crisis, and the size of the automatic stabilizers. According to a non-weighted average of the OCDE countries that established positive stimulus programs, the typical stimulus plan made up more than 2½ percent of GDP over the period from 2008 to 2010” (OCDE, 2009). Non-European countries (Australia, Canada, Korea, New Zealand, and the United States) were the most active, and that with budget plans of at least 4 points of GDP in 2008, the United States being at close to 5 and a half points.

This government intervention is directly inspired by Keynesian precepts and depends on multiplier effects. The OCDE (2009) estimated multiplier coefficients for its member countries and for each category of expenditures or income. The reference model, which is not Keynesian¹⁶, gives an estimate of the multiplying coefficients that led the OCDE to consider recourse to a discretionary policy as pertinent to “contribute usefully to neutralizing the impact of the shock” and “effective to fight against the economic slowdown.” The appendix gives, calculated by the OCDE for each member country in 2009-2010: the global effects of budgetary programs by country; the multiplying

¹⁶The model uses the hypothesis that some households have Ricardian behavior, which has the result of reducing the effectiveness of budgetary policy (see the chapter by Philippe Bance below), and that monetary policy is not accommodating, which, as the theory shows, weakens multiplying coefficients. Moreover, a budgetary policy rule is set to ensure the long-term viability of the public debt. Multiplying coefficients are then not very high (see Appendix 1 and Appendix 2).

coefficients with variation of 1% upward for each kind of expenditure or downward for revenues. This shows that in the short term, an increase in public investment has the strongest impact on GDP, with additional positive effects in the medium term on supply. In the same way, increase in public consumption is considered on this basis as a good form of support for activity. On the taxation side, tax cuts are less effective on average to support demand than spending measures, but lowering income taxes on salaries has the greatest effect.

Huart (2011) shows furthermore that discretionary action and other stimulus plans, by combining with automatic stabilizers, gave public action a distinctly countercyclical nature at the beginning of the crisis. Study of the correlation between variation in primary public structural balance (without debt service) and variation in the production gap¹⁷ establishes this expansive countercyclical nature for all the countries of the euro zone, and even more for other countries of the EU (United Kingdom) and the OCDE (United States). However, in the euro zone, the countercyclical effect results mainly from automatic stabilizers.

The fact that joint countercyclical intervention was made from the beginning of the crisis (although not really coordinated) is an adequate response to seek a way out of the crisis (see below the chapter by Philippe Bance on the positive effects of public action that is coordinated at the international level). The beginning of an economic recovery in 2010 and the first half of 2011 was rooted in this. But starting in 2010, such orientations of budgetary policy were called into question in countries such as Greece, Belgium, and outside the euro zone, in Poland and the Czech Republic, which went “against the goal of stabilizing the situation by budgetary policy” (Huart, 2010). And these reorientations of budgetary policy became general in the 2011 emergency with the recurrence of a financial crash in the summer. However, “rehabilitation of public finances must be done in a way that does not unduly slow economic expansion in the short and long term... The timetable and its scope should be determined on the basis of the strength of the recovery, the scope of short-term budgetary multipliers, available maneuvering room at the level of monetary policy to compensate for restrictive effects on demand” (OCDE, 2010).

The generalization of a change in direction of national budgetary policies, especially after the panic on the financial markets of the summer of 2011, is thus analyzed as a boomerang effect of the rise in public indebtedness sanctioned by the markets.

3. The boomerang effect of public indebtedness

Various studies of the repercussions of severe financial crises of the past prove that they resulted in sharp increases in public debt. For a group of developed economies,

¹⁷The production gap is the difference between the actual level of GDP and its potential level, which is the highest sustainable non-inflationary level of production of an economy that should result from its supply of manpower, capital, and technology used. The measure thus seeks to separate periods of favorable circumstances (during which variation in the production gap is positive) from periods of unfavorable circumstances (when the variation is negative).

Rienhart and Rogoff (2009) show that these crises were characterized by a rise in unemployment, a collapse of tax revenues, and an average increase of 86% in public indebtedness. Furceri and Zdzienicka (2010) have established for the period from 1980 to 2007 that countries affected by a serious crisis (a differential of more than 4 points between actual and potential growth of the economy) recorded an increase in the medium term of 37 points in the ratio of public debt to GDP.

The current crisis has analogous repercussions, with one radical difference: whereas a very small number of countries faced a serious crisis in the past, almost all the countries of the OCDE face one at present. In 2010, gross financial commitments of public administrations increased in only three years by 24 points of GDP and those of net financial commitments by 25 points¹⁸ (Table 2). For the euro zone, the respective increases were 21 and 25 points. Changes were similar from 2007 to 2010 by the Maastricht definition¹⁹ of public debt: a 19 point increase for all the countries of the euro zone, which went from 66% to 85.1%, a 21-point increase for the EU of 27, from 59% to 80% (see Figure 1 below). In this way, high levels of indebtedness were reached in most countries, which are not necessarily, however, extraordinarily high compared to those of the past. Thus, French public debt was close to 100% of GDP from 1880 to 1914, and rose to 160% in the 1930's; that of the United Kingdom was close to 200% in the 1920's and rose to almost 300% in 1945, as that of Japan reached 200% and that of the United States 125% at that date (*Alternatives économiques [Economic Alternatives]*, 2010). This comparison has its limits, of course, because of the very different conditions today. For past levels were often due to war. The effects of deregulation and globalization of markets have made public debt today highly dependent on the risks of the financial markets. Public debt is in fact widely open to non-residents, which causes much greater exposure to the sanctions of rating agencies, the volatility of the markets, and risk premiums. In France, under the impetus of the Finance Ministry and banks seeking financial optimization by rotation of assets, the part of French debt held by non-residents thus went from 30% at the beginning of the decade in 2000 to more than 71% in 2010.²⁰

¹⁸Gross financial commitments are debt and other financial commitments (short-term and long-term) of all institutions in the public administration sector. To get net financial commitments, these amounts are reduced by financial assets held by the sector. These assets can be in the form of cash, bank deposits, loans to the private sector, participation in private sector businesses, participation in public businesses, or currency reserves.

¹⁹The Maastricht definition of debt is consolidated debt of administrations, gross (except elements of assets), that does not include all financial liabilities but only cash and deposits, titles other than shares (Treasury bills, assimilable Treasury bonds, medium-term euro notes, loans). Derivative products and other accounts due or receivable are excluded.

²⁰According to the Finance Ministry, this portion even went from 60.5% in March 2008 to 71.4% in June 2010, falling to 65.2% in March 2011 (http://www.aft.gouv.fr/aft_fr_23/dette_État_24/principaux_chiffres_70/qui_detient_dette_État_163/index.html). For other countries, according to Natixis, CPIS, JEDH, the proportion of the public debt held by non-residents in 2008 was the following: Germany 73.5; United Kingdom 34.7; Italy 52.6; Spain 63.6; Netherlands 86; Ireland 82.2; Greece 78; Portugal 98.7. It is 25% for a country like Japan, which is by the fact less exposed to speculative attacks despite gross public indebtedness of 198% of GDP in 2010

(http://www.letemps.ch/r/Le_Temps/Quotidien/2010/06/11/Economie/Textes/qui-detient-les-dettes-publiques-europeennes.pdf).

Table 2: Changes in Public Indebtedness

	Gross financial commitments of public administration as % of nominal GDP						Net financial commitments of public administrations as % of nominal GDP					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
Germany	65.6	69.7	77.4	87.1	86.9	87.3	42.5	44.6	49.1	52.2	51.5	51.6
Belgium	88.0	93.0	100.0	100.2	100.3	101.5	73.2	73.6	79.7	80.3	80.4	81.5
Denmark	34.3	42.6	52.4	55.6	56.1	58.0	- 3.8	-5.3	- 3.7	- 1.3	2.4	7.4
Spain	42.3	47.7	62.9	67.1	74.1	77.2	17.8	22.96	34.4	40.3	45.6	49.6
France	73.0	79.3	90.8	95.2	98.6	102.4	35.7	45.9	52.3	58.9	62.7	66.2
Greece	115.0	118.1	133.5	149.1	165.1	181.2	82.0	90.4	102.,0	115.5	133.1	144.6
Ireland	28.7	49.6	71.1	98.5	112.6	128.8	- 0.1	12.6	26.3	54.9	65.0	72.5
Italy	112.1	114.7	127.1	126.1	127.7	128.1	86.6	89.5	99.7	98.6	100.2	100.6
Netherlands	51.5	64.8	67.4	70.6	72.5	75.3	27.8	27.0	29.7	34.7	37.7	40.2
Poland	51.7	54.4	58.5	62.4	64.9	65.4	17.0	17.2	22.5	28.7	32.2	33.7
Portugal	75.4	80.7	93.3	103.6	111.9	121.9	49.6	54.1	64.5	69.6	75.8	82.2
UK	47.2	57.4	72.4	82.2	90.2	97.2	28.4	33.3	44.1	53.9	61.7	68.9
Sweden	49.3	49.6	52.0	49.1	46.2	45.3	- 22.5	- 16.6	- 24.4	- 26.1	- 24.9	- 24.2
Euro zone	71.8	77.0	87.6	92.9	95.6	97.9	42.6	47.4	54.5	58.5	60.8	62.8
Japan	167.0	174.1	194.1	200.0	211.7	219.1	81.5	96.5	110.0	116.0	127.6	134.8
USA	62.1	71.4	85.0	94.2	97.6	103.6	42.7	48.5	60.5	68.4	73.8	80.3
OCDE	73.3	79.7	91.4	97.9	101.6	105.7	38.3	43.9	52.5	58.1	62.5	66.7

Source: *Perspectives économiques de l'OCDE [Economic Perspectives of the OCDE]*, no. 90, estimates and predictions of the OCDE published in November 2011 for the years 2011 and 2012.

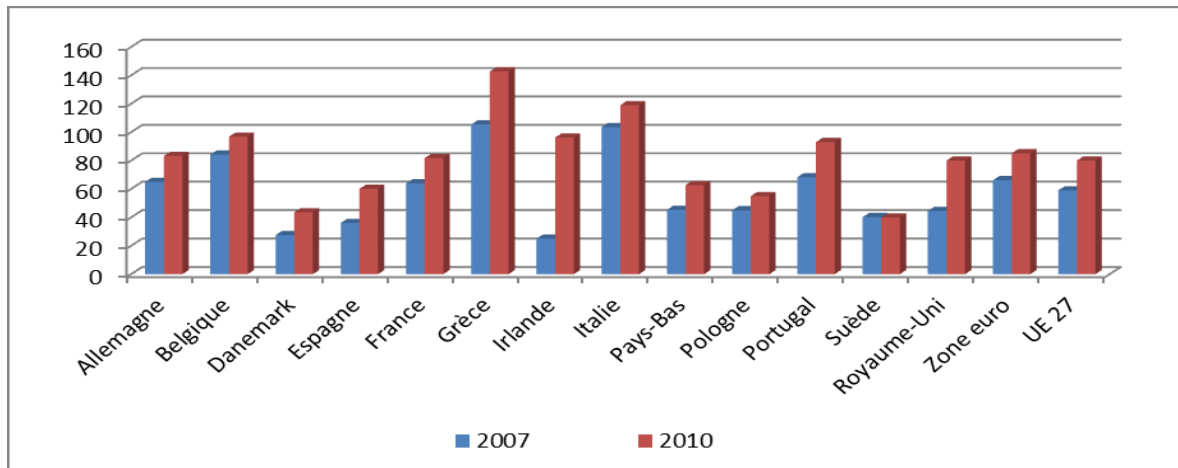
Another contextual element of this beginning of the second decade of the century explains the world economy's strong exposure to circumstantial risks and speculative

attacks: the financial fragility of certain States.²¹ It especially concerns the countries of southern Europe, whose difficulties due to lack of competitiveness and the inability to perform competitive devaluations in the euro zone have already been noted. Speculation against States has become all the more profitable for its practitioners because it focuses on the most fragile countries. Moreover, it can lead to imitative panic and a domino effect, threatening the “weak links” of the euro zone by spreading progressively from State to State (Greece, Ireland, Portugal, Spain, Italy, etc.). Analysis of changes in public debt by country reveals the dynamic of distrust toward sovereign debt that has developed since 2010. The average progression of national public indebtedness in points of GDP shows first of all a general movement, not homothetic but joint, of increase in public debt. From 2007 to 2011, the rate of indebtedness as a percentage of GDP of the countries of the euro zone (Table 2) rose by nearly 2 points for the gross rate and 18 for the net rate. The deterioration is clearly worse, however, for the southern countries and the United Kingdom. The rates of gross and net indebtedness grew respectively by 32 and 28 points for Spain, 36 and 26 for Portugal, 43 and 33 for the United Kingdom, 84 and 65 for Ireland. The “weak link” countries stand out, however, by the distrust they cause, for several kinds of reasons. Thus, two groups of countries can be pointed up for the EU.

For certain countries, the difficulties stem in part from a high level of indebtedness at the beginning of the crisis. This is especially the case for Greece, which had seen its debt grow for a long time, after lax and opaque management of its public finances. Italy is also affected due to the difficulty of controlling its indebtedness, despite the moderate growth of its debt in the recent period. Despite a level of indebtedness that was close to the average for the euro zone before the crisis, Portugal is also a member of this group because of the rapid growth of its indebtedness and high deficits since then. On the other hand, Belgium, whose levels of indebtedness are historically high, faces much less distrust by the markets, having shown its ability to control spending and reduce public debt since the middle of the 1990's. For other countries, such as Germany and, to a lesser extent, France, the situation is more favorable, despite a rapid rise in the level of indebtedness. Nevertheless, January 2012 saw the degrading by Standard and Poor's of France's sovereign rating, which went from triple to double A.

²¹The sovereign debt crisis is not a new question (Levasseur and Riffart, 2003). But it no longer affects emerging countries, as in the 1990's, but European countries and the United States, at the heart of the world economy.

Figure 1: Public Debt Ratio (as % of GDP) by the Maastricht Definition



For other countries, among which Greece and Portugal can again be included, the explosion or very rapid growth of indebtedness and the lack of control of the public deficit during the crisis have aroused strong distrust on the part of the markets. This is especially the case for Ireland and Spain. The rise of Irish debt is particularly spectacular; that of Spain is less so, but the prospects are unclear, especially due to a very large public deficit. These countries whose economic growth before the crisis was linked to a specific position in the EU (especially fiscal dumping for Ireland) and to speculation (in the real estate sector for Spain) have been particularly affected by the crisis. Since it began, they have been subject to distrust due to uncertainty about the recovery of economies. The United Kingdom, which has seen a very significant increase in its indebtedness, and whose economy is highly dependent on finance, has been less affected by distrust, however, especially because of the implementation of a drastic austerity policy that also pleased rating agencies.

In any case, evaluation of States by the markets proceeds from long-term considerations of the sustainability of public finances, and generally reflects a position that is normative and hypothetical, not to say doctrinal, on what makes a "good" budgetary policy. Sustainability can be defined as the ability to finance one's present debt and future expenditures through future revenue. It is also judged, according to the European Commission (2009), by a country's present and future ability to cover interest payments on the public debt. In the European framework, the ageing of the population is creating supplementary financing constraints in this area that must be taken into account. The European Commission (EC) has thus carried out simulations with unchanged policy that

evaluate indebtedness ratios starting from the primary structural deficit²² and the level of initial debt. It has also calculated the primary balance required to reach a fixed ratio of debt in the future, corresponding for example to the Maastricht criteria (60% of GDP). It seeks to define the amount of budgetary adjustment necessary to ensure the constraint of sustainability. The budgetary effort depends on the initial situation and the increase in public spending expected in the long term. The EC thus establishes, in order to help the decision making process, scenarios of stabilization and/or reduction of public debt²³:

Scénario 1 : déficit primaire stabilisant la dette publique			
% du PIB	Solde primaire		Effort budgétaire (b-a)
	prévu en 2010 (a)	stabilisant le ratio de dette (b)	
UEM	-3,7	0,4	4,1
Allemagne	-2,2	0,4	2,5
France	-5,4	0,4	5,8
Italie	-0,6	0,6	1,2
Espagne	-7,6	0,3	7,9
Pays-Bas	-3,7	0,3	4,0
Belgique	-1,8	0,5	2,3
Irlande	-11,3	0,4	11,7
Grèce	-6,6	0,6	7,2

Source: Commission Européenne, calculs CA

Scénario 2 : réduction rapide des ratios de dette publique					
% du PIB	prévu en 2010 (a)	Solde primaire		Effort budgétaire	
		ramenant le ratio au niveau de 2008 en 2015 (b)	ramenant le ratio à 60% en 2020 (c)	Scénario ratio 2008 en 2015 (b-a)	Scénario ratio à 60% en 2020 (c-a)
UEM	-3,7	3,6	2,9	7,3	6,6
Allemagne	-2,2	2,4	1,9	4,5	4,1
France	-5,4	3,9	2,9	9,3	8,2
Italie	-0,6	3,5	6,5	4,0	7,1
Espagne	-7,6	5,9	1,1	13,5	8,7
Pays-Bas	-3,7	1,8	0,9	5,5	4,5
Belgique	-1,8	2,7	4,5	4,5	6,3
Irlande	-11,3	8,1	2,6	19,4	14,0
Grèce	-6,6	5,7	7,0	12,3	13,6

Source: Commission Européenne, calculs CA

These simulations, based on data from 2009, reveal, besides constraints that are clearly different from one country to another, the intensity of efforts to be made. Two types of hypotheses (both based on years after 2010 for each of the countries studied) prompt comments, however, that invite us to imagine other prospects for the future.

The first kind of hypothesis is that of a long-term interest rate of 4.5% for annual inflation of 2%. This postulates therefore the present and future existence of low real interest rates. Interest rates in 2011 were far beyond this level in the countries regarded by the markets with the greatest distrust. The rate for Greek ten-year loans thus rose to 17.5%, those of Ireland and Portugal to more than 11% and 10% respectively in the middle of June 2011; the spread is then considerable for countries whose interest rates remain low (3% for Germany, 3.3% for France).²⁴ In these conditions, the snowball effect is very powerful for countries in trouble, and reduction of the debt ratio--even more a return to

²²It is the balance without interest charges (called primary balance), corrected by the impact of the situation, which means linked to the cycle and to exceptional measures taken because of it (called structural balance).

²³The tables are provided by Olivier Bizimana, an economist at Crédit agricole, and calculated on the basis of the 2009 report of the EC (<http://www.globalix.fr/content/les-finances-publiques-en-zone-euro-sont-elles-soutenables>).

²⁴Moreover, Credit Default Swaps (CDSs), a market mechanism of coverage for the lender of the default of payment by the creditor, rose sharply on sovereign debt in July 2011, going for example for five years for Ireland from 770 base points on June 17 (compared to 79 for France) to 1,177 on July 18 before loosening after the announcement of the European aid and intervention plan of the ECB (see *Les échos*, August 22, 2011).

balance--is an illusion. Moreover, the risk premiums demanded by the markets are liable to create a partial or total default on payment by countries in trouble and contagious effects that could destroy the euro zone. From this comes the pressing need to bring into play solidarity and collective protection measures that make it possible to reduce the debt burden. This includes the aid given to Greece and Ireland (States and banks) in direct form by certain members of the euro zone and the European Financial Stability Facility (EFSF), as well as low-interest loans the latter made to Greece. This leads, however, to an increase in the level of indebtedness of the countries that support them.²⁵ The inability to generalize this kind of support to include other countries in trouble (Portugal, Spain, Italy, etc.) is clear. Another solution consists of rescheduling or restructuring debt, especially by threatening private creditors and banks with a partial default on public securities. Cancellation pure and simple of part of the debt is an extreme scenario. These different scenarios create in any case distrust, which increases the risk of contagion, even of the disappearance of the euro zone. To reassure the markets, the European Central Bank (ECB) has thus been forced, after very great reluctance and despite statutes that were supposed to prevent it other than in exceptional circumstances²⁶, to buy back Greek, Irish, and Portuguese public debt on the secondary market since spring 2010.²⁷ This could lead to the financing of public expenditures by loans approved by the ECB: the bank would buy from States the bonds that they issue to finance themselves. This would allow States to finance themselves at the best rate but with monetary creation: it would constitute a break with monetarist orthodoxy and the statutes of the ECB, which establish the institution's unique goal as watching over the stability of prices. This would be enough to call into question the hypothesis of a low rate of inflation that is set forth in the EC's projections, which clearly depends, however, on an inviolable desired norm. But this would be a return to the teachings of the past: the major role of inflation to reduce and even contract sharply rates of indebtedness found at high levels. Another kind of solution consists of setting up a European agency for mutualizing debt in order to protect against the speculative risk premiums demanded by the markets. Realization of this plan runs up against the reluctance of Germany, however, which rejects the implementation of such a form of solidarity: providing this kind of help to States that are considered irresponsible would raise interest rates for countries whose rigorous management is not questioned. Beyond showing the limits of intra-European solidarity, it is clear that in the current EU institutional framework, there is very strong pressure to reduce drastically the public debt of all States, not just those that are

²⁵The French government thus declared in June 2011 that, in the framework of international aid of 160 billion euros to Greece, French aid would increase the French national debt by 15 billion euros by 2014; 4 to 5 billion euros of the 85 billion of European aid to Ireland were provided by France.

²⁶The decision was based on Article 122-2 of the Treaty of Lisbon, which allows helping European States in trouble in cases of exceptional circumstances. The decision was made in May 2010 by placing the German delegates to the ECB in the minority.

²⁷In August 2011, the amount of these purchases was 77 billion euros.

experiencing the greatest difficulties. This also shows the importance of evaluations by rating agencies, since a below par rating can increase risk premiums on sovereign debt in a very destabilizing way.

A second hypothesis, equally essential, affects the robustness of the results of the EC simulation: the rate of growth of real GDP is set at 2% per year.²⁸ The goal of reducing public debt greatly decreases the viability of such projections, which have also already been contradicted by estimates and projections (OCDE, 2011) for the years from 2011 to 2013. Would not failing to take into account the very negative repercussions on growth of drastic austerity plans implemented jointly by a large number of countries to reduce deficits and public debt amount to living in a very unreal Ricardian universe (see the chapter by Philippe Bance below)? Yet the OCDE has shown the negative effects of Keynesian multipliers in the case of contraction of public demand. Moreover, the complexity of the task of restoring public finances is clearly invoked by international institutions. They advise States to make efforts to control debt while being careful not to destroy growth. This is precisely the position taken in August 2011 by the director of the IMF, Christine Lagarde, who stated that "rebalancing budgets must solve a delicate equation without being too fast or too slow."²⁹ Sharing this point of view, the OCDE (2010) envisages for the euro zone prospects for "more sustained growth in the 'central' economies than in those of the periphery, where a pronounced restoration of public finances is necessary." The August 2011 proposal of the Franco-German couple to institute a "golden rule" of inscribing a balanced budget in constitutions proceeds from a very different logic: forcing all countries of the euro zone to have balanced budgets in order to face after the fact the distrust of the markets. This consists of institutionalizing a reduction of the maneuvering room of public policies and reveals a certain distrust, this time political and within the euro zone, of the ability of certain countries to reach budgetary discipline. The golden rule does not rule out adjusting public policies for restoration so that they produce, according to the characteristics of each national economy, the least negative multiplying coefficients that are possible. The works of the OCDE (2009) suggest that, generally speaking, increasing direct taxes, especially on the most favored households, and certain indirect taxes, could have the least harmful effects on growth. Recessionary effects in this case would be significantly less than lowering public spending, especially investment (for the effect on supply and demand). However, the golden rule would inevitably have effects leading to a contraction of activity, in a way that would further deepen public deficits by reducing revenue. And it is accompanied by no system of compensation, such as an increase in the European public budget, coordinated support for activity in the EU, or a developed plan for "green growth." Moreover, it is liable to make budgetary policies more rigid, although their flexibility has

²⁸This rate of growth is very clearly higher than that of the euro zone since 2001, and was only exceeded in 2006 and 2007.

²⁹Interview with the *Financial Times* on August 15, 2011.

been praised and brought into play to avoid a collapse of markets and to fight against the crisis.

Conclusion

The present crisis has its roots in the process of deregulating world finance conducted since the 1980's at the instigation of the United States. The worldwide depression that resulted from it has led most States to attenuate its effects. Public budgets have played a countercyclical role by the interplay of automatic stabilizers and discretionary intervention. Despite a lack of coordination of intervention at the international level, the multiplying effects of budgetary policies clearly limited the depression, then contributed to the return to moderate growth. But the very large growth of public deficits provoked an explosion of indebtedness and an increase in the debt burden of many States, especially the countries of southern Europe. And a recessionary spiral is affecting the countries of the southern euro zone, which cannot improve their economies by competitive devaluation. A second phase of the crisis therefore began, marked by a return of distrust, this time toward States. This phase has profound effects on certain European countries but threatens the entire euro zone by contagion. Community mechanisms such as the EFSF or assistance to countries in trouble are now insufficient to restore confidence. The contraction of global demand that appears in the generalization of restoration policies and other golden rules actually increases distrust; the unpleasant prospects of uneven world growth (also called a double dip recession and characterized by fall, recovery, then a second fall into depression) of the crisis of 1929 are resurfacing.

After three years of crisis, the limits of the protectors of last resort that States constitute have clearly been reached. But more than a questioning of public intervention, the issue is that of a paradigm shift in the conduct of public policies. In the matter of, first of all, regulating highly unstable markets and restoring confidence, remedying public over-indebtedness without destroying growth, restoring the maneuvering room of budgetary policy, it would be right to follow common policies and to adopt technical arrangements well upstream of problems, anticipating rather than undergoing events as they happen. But here we run up against two major current limits on the international community for making the change: orthodoxy and inertia. In the European framework, the monetarist orthodoxy of the ECB rules out, at least in the middle and long term, resorting to inflation in order to reduce the debt burden, and opposes financing of national public debts by the institution. Inertia also results from a lack of scope of regulation over the world financial system: attenuating the effects of the depression limited the reach of world financial regulations--despite the adoption of Basel III (see below the chapter by Nathalie Rey)--and speculative practices very quickly reappeared. National selfishness

makes it very difficult to implement new systems for governance of public action (Bance, 2011). This lack of solidarity also explains the opposition to creating a European fund to mutualize public debts, establishing a consistent public budget for the EU, close coordination of national budgetary policies, or the limited scope of common strategies for sustainable development. Confronted with these underlying difficulties, it would be right to rebuild the European political/institutional framework by a process of creative deconstruction, which the other chapter by Philippe Bance below discusses.

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Graphique Les effets des programmes budgétaires

A. Effet sur le niveau du PIB (%), 2009-2010

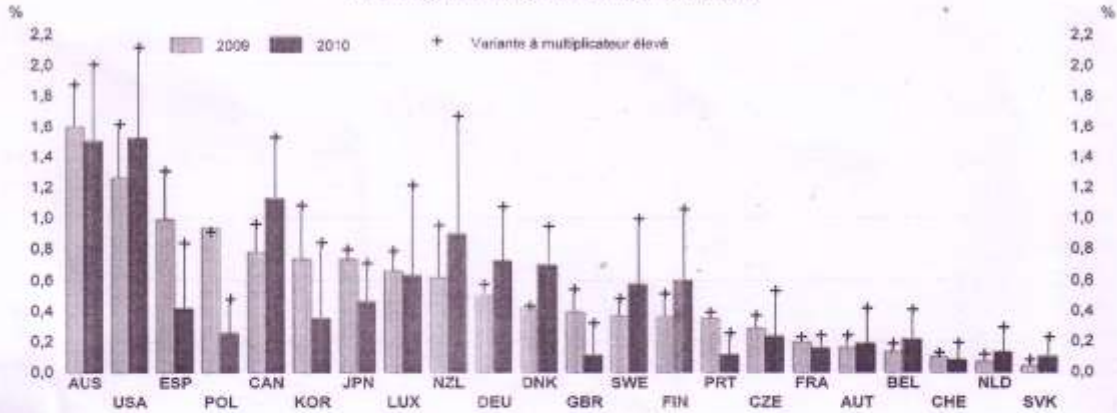


Tableau Multiplicateurs par pays et par instrument

Ouverture en 2008 ¹	Accroissement des dépenses												Baisses d'impôts								
	Consommation publique				Investissement public				Transferts aux ménages				Impôt sur le revenu des personnes physiques				Impôts indirects				
	Année 1		Année 2		Année 1		Année 2		Année 1		Année 2		Année 1		Année 2		Année 1		Année 2		
	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	Réf.	H	
USA	15.4	0.7	0.7	0.8	1.1	0.9	0.9	1.1	1.3	0.5	0.5	0.8	0.9	0.3	0.5	0.5	0.9	0.2	0.3	0.3	0.5
JPN	14.7	0.7	0.7	0.8	1.1	0.9	0.9	1.1	1.3	0.5	0.5	0.8	0.9	0.3	0.5	0.5	0.9	0.2	0.3	0.3	0.5
DEU	29.5	0.4	0.4	0.5	0.8	0.8	0.8	1.0	1.2	0.3	0.3	0.5	0.7	0.2	0.3	0.3	0.7	0.1	0.2	0.2	0.4
FRA	22.5	0.6	0.6	0.7	1.0	0.8	0.8	1.0	1.2	0.4	0.4	0.7	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4
ITA	22.5	0.8	0.6	0.7	1.0	0.8	0.8	1.0	1.2	0.4	0.4	0.7	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4
GBR	23.9	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4
CAN	25.2	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.7	0.2	0.4	0.4	0.7	0.1	0.2	0.2	0.4
AUS	19.5	0.6	0.6	0.7	1.0	0.9	0.9	1.1	1.3	0.4	0.4	0.7	0.8	0.3	0.4	0.4	0.8	0.2	0.3	0.3	0.5
AUT	35.2	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.3	0.6	0.1	0.1	0.2	0.3
BEL	47.9	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
CZE	41.8	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
DNK	34.8	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.3	0.6	0.1	0.1	0.2	0.3
FIN	28.9	0.4	0.4	0.5	0.8	0.8	0.8	1.0	1.2	0.3	0.3	0.5	0.7	0.2	0.3	0.3	0.7	0.1	0.2	0.2	0.4
GRC	25.1	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.7	0.2	0.4	0.4	0.7	0.1	0.2	0.2	0.4
HUN	44.7	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
ISL	32.6	0.4	0.4	0.5	0.8	0.7	0.7	0.9	1.1	0.3	0.3	0.5	0.6	0.2	0.3	0.3	0.6	0.1	0.2	0.2	0.3
IRL	41.4	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
KOR	36.4	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
LUX	59.0	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
MEX	23.1	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4
NLD	41.1	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
NZL	25.1	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.7	0.2	0.4	0.4	0.7	0.1	0.2	0.2	0.4
NOR	23.0	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4
POL	30.0	0.4	0.4	0.5	0.8	0.8	0.8	1.0	1.2	0.3	0.3	0.5	0.7	0.2	0.3	0.3	0.7	0.1	0.2	0.2	0.4
PRT	29.3	0.4	0.4	0.5	0.8	0.8	0.8	1.0	1.2	0.3	0.3	0.5	0.7	0.2	0.3	0.3	0.7	0.1	0.2	0.2	0.4
SVK	45.7	0.3	0.3	0.4	0.7	0.7	0.7	0.9	1.1	0.2	0.2	0.4	0.6	0.1	0.2	0.2	0.6	0.1	0.1	0.1	0.3
ESP	24.8	0.5	0.5	0.6	0.9	0.8	0.8	1.0	1.2	0.4	0.4	0.6	0.7	0.2	0.4	0.4	0.7	0.1	0.2	0.2	0.4
SWE	31.7	0.4	0.4	0.5	0.8	0.7	0.7	0.9	1.1	0.3	0.3	0.5	0.6	0.2	0.3	0.3	0.6	0.1	0.2	0.2	0.4
CHE	31.8	0.4	0.4	0.5	0.8	0.7	0.7	0.9	1.1	0.3	0.3	0.5	0.6	0.2	0.3	0.3	0.6	0.1	0.2	0.2	0.4
TUR	22.5	0.6	0.6	0.7	1.0	0.8	0.8	1.0	1.2	0.4	0.4	0.7	0.8	0.2	0.4	0.4	0.8	0.2	0.2	0.2	0.4

Note : Les estimations reposent sur les résultats d'un inventaire des recherches ; elles ne sont corrigées qu'en fonction de l'ouverture de l'économie.

De plus, les estimations basses sont ajustées subjectivement en fonction de l'effet de la conjoncture actuelle.

Réf. = estimations de référence H = estimations hautes

1. L'ouverture est mesurée par le ratio importations / PIB + importations.

Source : OCDE.

Source : OCDE, 2009, graphique p.122, tableau p.144.