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Fiscal Policy in the Crisis: Impact, Sustainability, and Long-Term Implications

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Abstract

The global economic and financial crisis has sparked an unprecedentedly large, generalized fiscal policy response in practically all major industrial and emerging economies, which will change the fiscal and macroeconomic landscapes for some time to come. This paper offers an overview of the new fiscal landscape looking at the following aspects: the size and composition of the fiscal stimulus packages of the major economies, the likely impact of such packages on aggregate demand and growth, the sustainability of countries' fiscal positions, and the international implications of the new fiscal landscape. It then considers under which conditions a virtuous scenario could develop that combines strong and balanced growth with fiscal sustainability. Finally, it offers some conclusions and lessons that can be shared by European and non-European economies.

JEL Classification: E62, F41, F42

Contents

1. INTRODUCTION

The global economic and financial crisis has sparked an unprecedentedly large, generalized fiscal policy response in almost all major industrial and emerging economies. This will change the fiscal and macroeconomic landscapes for some time to come. In this paper, I present an overview of empirical evidence in order to provide a snapshot of such a landscape and provide for some reflection on the challenges that face policymakers as the global economy moves on from the immediate crisis-response phase toward what, at the time of writing, appears to be a policy driven recovery.

In what follows, I look at the following aspects: the size and composition of the fiscal stimulus packages of the major economies, the potential impact of these packages on aggregate demand and growth, the sustainability of fiscal positions, and the international implications of the new fiscal landscape. I then consider possible future scenarios and argue that it is unlikely that the global growth mechanism prevailing before the outbreak of the crisis will become viable again. Given the sizeable fiscal stimulus and its consequences for debt accumulation, and given that growth will not necessarily return to pre-crisis rates, there will be serious problems of fiscal sustainability in all major advanced economies. Policymakers will have to reconsider the framework within which fiscal policy is set, from three major viewpoints: fiscal institutions, the interaction between structural and macroeconomic policies, and international collaboration.

2. SIZE AND COMPOSITION OF FISCAL PACKAGES

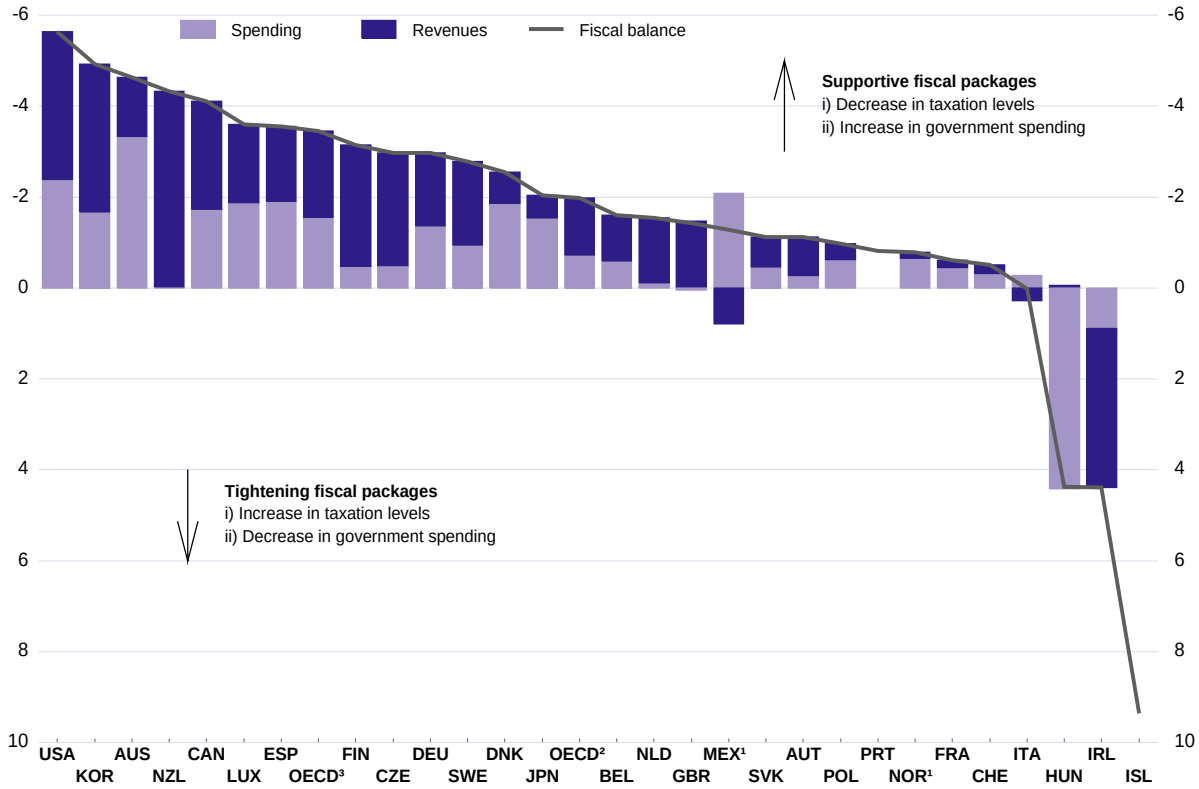
Since the onset of the crisis, large stimulus packages have been introduced by almost all advanced and emerging economies. There are, however, significant cross country variations in terms of size and composition, reflecting different national preferences and the room available to maneuver. Nevertheless, some regularities can also be identified (Table 1 and Figure 1). The size of packages increases with the soundness of the initial fiscal position (i.e., fiscal space) and decreases with the degree of openness, reflecting the concern of the more open countries that much of their stimulus would benefit foreign rather than domestic producers. The validity of this concern is confirmed in Figure 2, which shows that the size of fiscal multipliers varies inversely with the degree of openness.

Table 1: The Size and Timing of Fiscal Packages

	Net effect on fiscal balance (% of 2008 GDP)			Distribution over the period 2008-2010 (% of total net effect)		
	Spending	tax revenue	Total	2008	2009	2010
United States	-2.4	-3.2	-5.6	21	37	42
Korea	-1.7	-3.2	-4.9	23	49	28
Australia	-3.3	-1.3	-4.7	15	54	30
New Zealand	-0.1	-4.2	-4.3	13	35	52
Spain	-1.3	-2.6	-3.9	20	60	20
Luxembourg	-1.6	-1.7	-3.3	0	91	9
Finland	-0.4	-2.7	-3.1	0	47	53
Czech Republic	-0.5	-2.5	-3.0	0	66	34
Germany	-1.4	-1.4	-2.7	0	46	54
Sweden	-1.0	-1.7	-2.7	0	48	52
Canada	-1.7	-0.8	-2.5	2	44	53
Denmark	-1.9	-0.3	-2.2	0	32	68
Belgium	-0.7	-1.0	-1.7	0	62	38
Japan	-1.2	-0.5	-1.7	4	73	23
United Kingdom	-0.2	-1.0	-1.2	17	75	8
Austria	-0.1	-1.0	-1.1	0	84	16
Slovak Republic	-0.5	-0.6	-1.1	0	42	58
Poland	-0.6	-0.4	-1.0	0	77	23
Portugal	na	na	-0.8	0	100	0
France	-0.4	-0.1	-0.6	0	75	25
Switzerland	-0.3	-0.2	-0.5	0	68	32
Netherlands	-0.1	-0.4	-0.5	0	59	41
Italy	-0.1	0.1	0.0	0	19	81
Ireland	0.9	3.8	4.7	14	46	39
Hungary	5.2	0.0	5.2	0	64	36
Iceland	na	na	9.4	0	33	67
Greece	na	na	na	na	na	na
Mexico	na	na	na	na	na	na
Norway	na	na	na	na	na	na
Turkey	na	na	na	na	na	na
OECD average (unweighted)	-0.7	-1.1	-1.8	5	57	38
OECD average (weighted)	-1.5	-1.8	-3.3	17	44	39

Source: OECD.

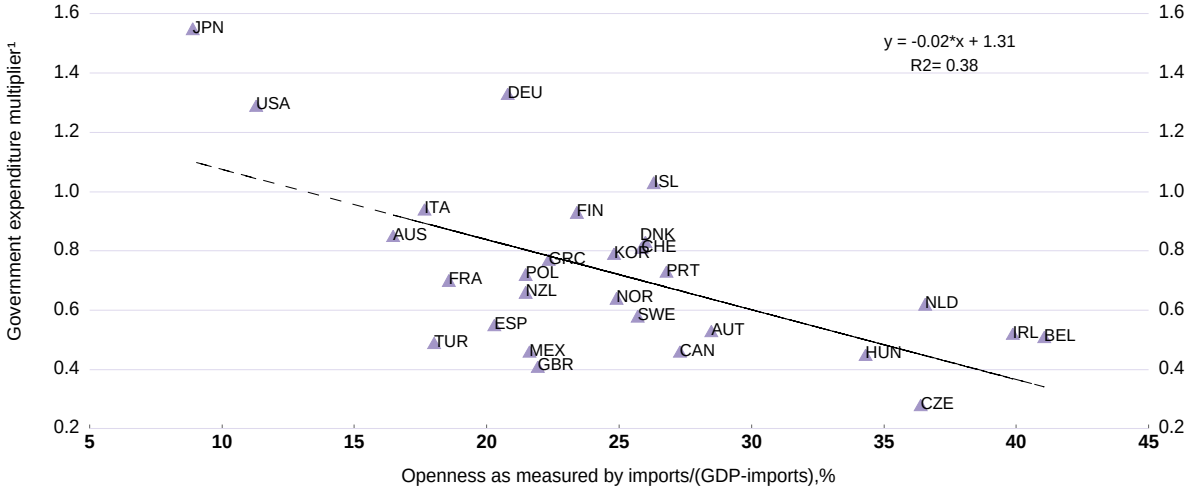
Figure 1: Size and Composition of Fiscal Packages
Cumulative impact of fiscal packages over the period 2008–2010 on fiscal balances as % of 2008 GDP



Notes:
1. Only 2008–2009 data are available for Mexico and Norway.
2. Simple average of the above countries excluding Greece, Iceland, Mexico, Norway, Portugal, and Turkey.
3. Weighted average of the above countries excluding Greece, Iceland, Mexico, Norway, Portugal, and Turkey.

Source: OECD.

Figure 2: Size of Fiscal Multipliers and Degree of Openness

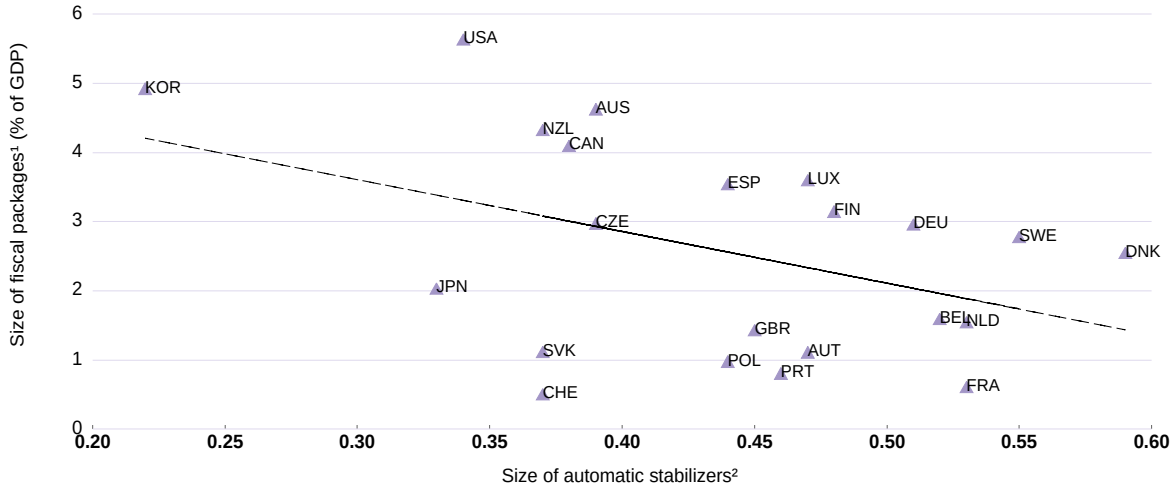


The inverse relationship between the size of fiscal multipliers and the degree of economic openness is particularly noticeable in Europe. One possible explanation is that the high degree of integration in Europe magnifies the spillover effect of fiscal stimulus, so that an expansionary stimulus in any one country benefits its neighbors significantly, while the absence of a fiscal policy coordination mechanism means that expansionary stimulus in one

country is not guaranteed to be matched by expansionary stimulus elsewhere (given sufficient fiscal space). This points to a possible coordination failure and a smaller size of stimulus than would be otherwise possible or desirable in Europe.

The size of discretionary measures also varies inversely with the size of automatic stabilizers (Figure 3). Again, this is particularly relevant in Europe and partly explains why non-European OECD countries, where the size of automatic stabilizers is less relevant, exhibit a larger size of stimulus packages. From this point of view, automatic stabilizers partly compensate for the lack of a more cogent fiscal coordination mechanism in Europe.

Figure 3: Size of Discretionary Fiscal Packages and Automatic Stabilizers



Notes:
1. Total ex ante cost of discretionary fiscal packages over the period 2008–2010.
2. Coefficient summarizing the automatic change in the fiscal balance due to a 1 percentage point change in the output gap.

Source: Girouard and André (2005).

Fiscal packages also show significant variation in terms of composition and effective duration.

Table 2 and Figure 1 summarize the main features of fiscal packages in these respects. While it is difficult to isolate specific patterns, on average, in the OECD economies, the resources devoted to spending and revenue measures are roughly similar in terms of their share in the overall packages. On the expenditure side, most packages include infrastructure investment as well as measures for social safety nets. Several packages also include measures to support industries that have been particularly hit by the recession, including housing.[1] Only a few countries include measures to support small and medium enterprises. On the revenue side, tax relief measures cover both capital and personal income taxes.

[1] In this paper, measures taken in support of the financial sector are not considered.

Table 2: Composition of Fiscal Packages
Total over 2008–2010 as % of GDP in 2008

	Net effect	Tax measures					Spending measures				
		Total	Individuals	Businesses	Consumption	Social contributions	Total	Investment	Transfers to households	Transfers to businesses	Transfers to sub-national governments
Australia	-4.7	-1.3	-1.1	-0.3	0.0	0.0	3.3	2.6	0.8	0.0	0.0
Austria	-1.1	-1.0	-0.9	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Belgium	-1.7	-1.0	0.0	-0.4	-0.1	-0.2	0.7	0.1	0.5	0.0	0.0
Canada	-2.5	-0.8	-0.6	-0.1	0.0	-0.2	1.7	1.3	0.3	0.1	0.0
Czech Republic	-3.0	-2.5	0.0	-0.4	-0.1	-2.0	0.5	0.1	0.0	0.4	0.0
Denmark	-2.2	-0.3	0.0	0.0	0.0	0.0	1.9	0.8	0.4	0.0	0.0
Finland	-3.1	-2.7	-1.9	0.0	-0.3	-0.4	0.4	0.3	0.1	0.0	0.0
France	-0.6	-0.1	-0.1	0.0	0.0	0.0	0.4	0.2	0.1	0.0	0.0
Germany	-2.7	-1.4	-0.4	-0.3	-0.1	-0.7	1.4	0.8	0.3	0.1	0.0
Greece [1]	na	na	na	na	na	na	na	0.1	0.4	0.1	na
Hungary	5.2	0.0	-0.1	-1.5	1.6	0.0	-5.2	0.0	-1.1	na	0.0
Iceland	9.4	na	1.0	na	na	na	na	-1.7	-1.7	na	na
Ireland	4.7	3.8	2.1	0.0	0.5	1.2	-0.9	-0.2	-0.1	0.0	0.0
Italy	0.0	0.1	0.0	0.2	-0.1	na	0.1	0.1	0.2	na	na
Japan	-1.7	-0.5	-0.1	-0.1	-0.1	-0.2	1.2	0.3	0.5	0.4	0.2
Korea	-4.9	-3.2	-1.4	-1.2	-0.2	0.0	1.7	0.9	0.1	0.5	0.2
Luxembourg	-3.3	-1.7	-1.2	-0.5	0.0	0.0	1.6	0.7	0.7	0.2	0.0
Mexico [1]	-1.2	0.8	0.0	0.0	-0.4	0.0	2.0	1.1	0.3	0.4	0.0
Netherlands	-0.5	-0.4	na	-0.4	na	na	0.1	na	0.1	na	na
New Zealand	-4.3	-4.2	-4.3	0.1	0.0	0.0	0.1	0.7	-0.6	0.0	0.0
Norway [1]	-0.8	-0.1	0.0	-0.1	0.0	0.0	0.7	0.3	0.0	0.0	0.3
Poland	-1.0	-0.4	0.0	-0.1	-0.2	0.0	0.6	1.3	0.1	0.0	0.0
Portugal	-0.8	na	na	na	na	na	na	0.4	0.0	0.4	0.0
Slovak Republic	-1.1	-0.6	-0.6	-0.1	0.0	0.0	0.5	0.0	0.0	0.5	0.0
Spain	-3.9	-2.6	-1.8	0.0	-0.8	0.0	1.3	0.7	0.1	0.3	0.0
Sweden	-2.7	-1.7	-1.3	-0.2	0.0	-0.2	1.0	0.3	0.1	0.0	0.0
Switzerland	-0.5	-0.2	-0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Turkey	na	na	na	na	na	na	na	na	na	na	na
United Kingdom	-1.2	-1.0	0.0	-0.1	-0.9	0.0	0.2	0.0	0.1	0.0	0.0
United States	-5.6	-3.2	-2.4	-0.8	0.0	0.0	2.4	0.3	0.5	0.0	0.9

Note: Cut-off date for information is 6 March 2009.
1. Data not available for 2010

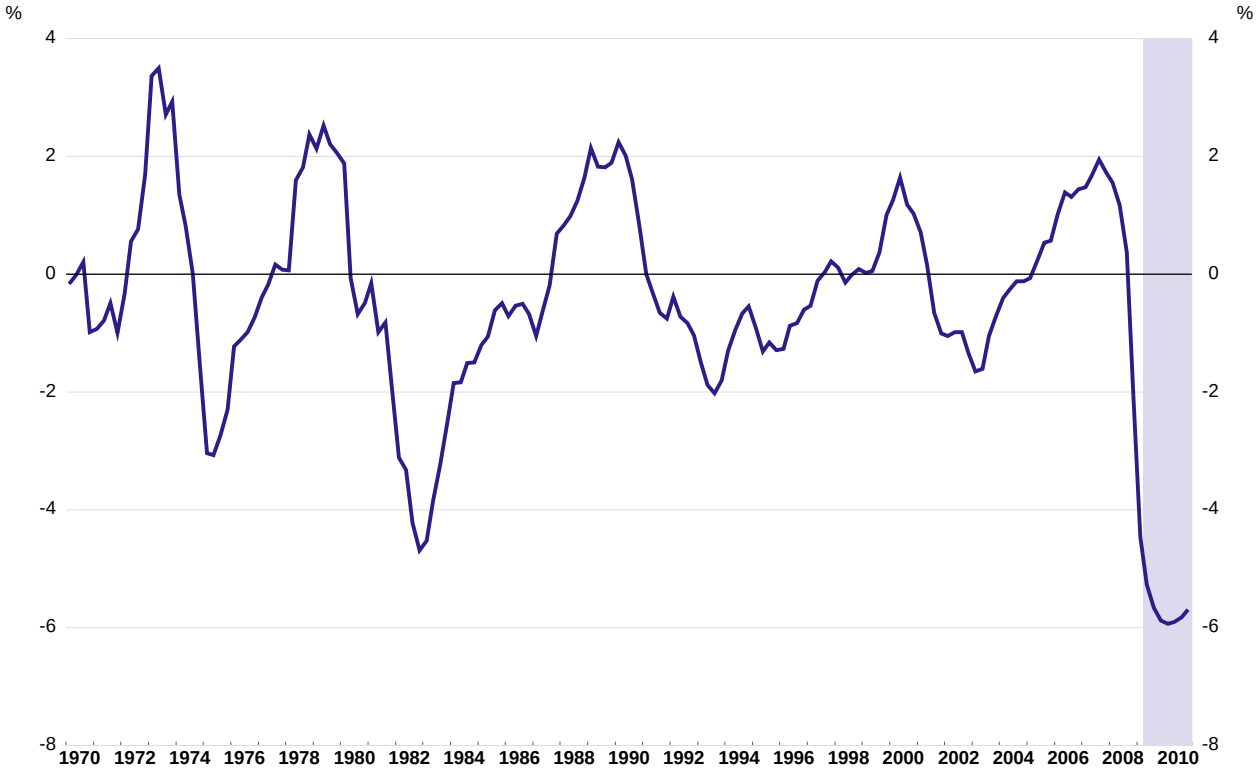
Source: OECD.

One aspect of the measures that is difficult to pin down is the extent to which such measures can be classified as permanent or temporary. This issue is particularly relevant when assessing the long-term sustainability of fiscal packages. In an International Monetary Fund (IMF) study (2009) most tax measures were classified as permanent while most spending measures were classified as temporary. This distinction should be taken with caution given that some of the measures now classified as temporary could prove very difficult to terminate in the future, even if only for political reasons.

In most cases spending for investment is larger than transfers to households (Table 2). However, the amount of resources devoted to investment varies greatly, with non-European OECD countries showing larger amounts than European countries.

An assessment of impact is of the utmost importance in order to determine when, to what extent, and at what speed the fiscal stimulus should be withdrawn and policy efforts redirected toward fiscal consolidation. One indication of the need for the maintenance of fiscal stimulus can be obtained by looking at output gaps. Figure 4 shows the evolution of the output gap in the OECD area since 1970, with projections to 2010. The current output gap, and its development into 2010, shows unprecedented values of up to -5% and these are likely to persist for some time to come. Given this, a significant withdrawal of fiscal stimulus at this time seems premature.

Figure 4: Output Gap in the OECD, 1970–2010



Source: OECD.

However, it is not self-evident that in all national cases fiscal stimulus should persist as long as an output gap persists. The feasibility of fiscal stimulus also has to be checked against available fiscal space. An analysis carried out by Centro Europa Ricerche (CER 2009) for the Group of Seven countries plus Australia and Spain confirms that governments have considered both these factors. While CER found no statistically significant relationship between output gaps and the size of stimulus packages (both discretionary and related to automatic stabilizers), they did find a significant relationship once the ratio of debt to gross domestic product (GDP) was controlled for.

3. THE IMPACT OF FISCAL PACKAGES

The financial crisis has produced a very large demand shock so it is not surprising that one overriding driver behind the stimulus packages has been the urgency to adopt measures that have the most significant and possibly rapid impact on demand. Hence, the effectiveness of the fiscal measures could be gauged by assessing their impact on aggregate demand. However, governments may also see the fiscal stimulus as a way to obtain a double dividend, boosting both short-term demand and long-term potential output. This latter aspect may compensate for the time delay that usually separates the decision to spend in public investment from its implementation. The impact on long term growth will be addressed later in this paper.

Consider first the impact on demand. The impact of fiscal packages on demand depends directly on the size of fiscal multipliers, the credibility of the sustainability of fiscal stimulus and the uncertainty of the current and future economic environment, and the intensity and effectiveness of international cooperation. Furthermore, tax and spending measures have different impacts. Even in normal times, tax cuts could have a limited impact on household consumption if “Ricardian” consumers expect higher taxes in the future. Apart from this, in times of crisis the effectiveness of tax relief in supporting demand may vary significantly with

both the degree of uncertainty faced by households and the amount of outstanding household debt, with higher levels in either case increasing the household's propensity to save. The financial crisis is likely to reinforce both effects, but as the recession fades, the positive impact of tax cuts on consumption could increase as uncertainty decreases and private sector wealth slowly returns to normal. However, even when uncertainty is reduced, households may need to increase savings in order to face the increased debt obligations that result from shocks to financial markets and, consequently, net wealth accumulation may take longer than under normal circumstances.

The measurement of the impact on demand depends on multipliers. Estimates of fiscal multipliers vary greatly across countries and budget items (both revenue and spending). Table 3 presents ranges of estimates of fiscal multipliers based on a number of empirical studies surveyed in OECD (2009). Other things being equal, spending multipliers are larger than tax multipliers. Purchases of goods and services (which include infrastructure investment) multipliers exhibit the highest values, also with respect to transfers to households. Finally, multipliers are larger in the second year after the impact, both for tax relief measures and purchases of goods and services.

Table 3: Range of Estimates of Short-Term Fiscal Multipliers Based on Large-Scale Models

	All studies			Studies with both 1st and 2nd year multipliers					
	1st year			1st year			2nd year (cumulative)		
	Low	High	Mean	Low	High	Mean	Low	High	Mean
Purchases of goods and service	0.6	1.9	**1.1**	0.9	1.9	**1.2**	0.5	2.2	**1.3**
Corporate tax cut	0.1	0.5	**0.3**	0.1	0.5	**0.3**	0.2	0.8	**0.5**
Personal income tax cut	0.1	1.1	**0.5**	0.1	1.1	**0.5**	0.2	1.4	**0.8**
Indirect tax cut	0.0	1.4	**0.5**	0.0	0.6	**0.2**	0.0	0.8	**0.4**
Social security contribution cut	0.0	1.2	**0.4**	0.0	0.5	**0.3**	0.2	1.0	**0.6**

Note: Models surveyed are National Bank of Belgium Model, Interlink, Deutche Bundesbank Model, Banca d'Italia model, Banco de Portugal model, Banco de España model, Area-Wide Model, ESRI Short-Run Macroeconometric Model of the Japanese Economy, Department of Finance's Canadian Economic and Fiscal Model, averages of US models as reported by Fromm and Klein 1976, averages of US models as reported by Bryant et al 1988, averages of US models as reported by Adams and Klein 1991 and averages of UK models as reported by Church et al 1993. These models cover United States, Japan, Euro Area, Germany, France, Italy, United Kingdom, Canada, Spain, Belgium and Portugal.

Source: OECD.

As previously mentioned, irrespective of the composition effect, the size of fiscal multipliers becomes more difficult to predict in times of deep economic crisis, when uncertainty about the future prevails and both households and firms adopt more precautionary attitudes. From this perspective, multipliers used to assess the impact of stimulus packages may be smaller than under normal circumstances. On the other hand, they may be larger than in normal times if the fiscal boost is likely to ease the credit constraint that both households and businesses face in the crisis.

Also, as mentioned above, fiscal multipliers vary inversely with the degree of openness, accounting for the more limited propensity of relatively open economies to increase their fiscal stimulus. This would call for a stronger effort at international cooperation, a point I will return to later. Finally, the size of fiscal multipliers also depends on the degree of monetary tightness. A tighter monetary stance will lead to a smaller ex post multiplier.

The elements just outlined account, at least in part, for the high degree of uncertainty that surrounds growth forecasts that incorporate the fiscal stimulus. Hence, the full impact of fiscal stimuli is yet to be fully understood. It also remains unclear if and to what extent new stimulus will be needed. As mentioned above, the expected size of the output gap suggests that the stimulus will have to be maintained for some time, possibly well into 2010.

4. STIMULUS PACKAGES AND LONG-TERM GROWTH

The recession is likely to lower potential output (addressed in more detail later). For this reason too, it is important to attempt to assess the impact of fiscal packages on long-term growth. The composition of fiscal packages, both in terms of revenues and expenditure items, matters for growth. Dhont and Heylen (2009) show that growth is more likely to flow from productive government expenditures, such as those supporting education and research and development (R&D), and low tax rates on capital. An OECD (2008) study shows that, for given revenue flows, different tax combinations can impact differently growth.

So, can stimulus packages also raise potential output? In addition to the tax structure, fiscal stimulus could have a positive impact on long-term growth beyond the multiplier effect to the extent that public investment, in both physical and immaterial infrastructure (such as R&D and education), affects long-term growth. For the impact on potential output to materialize however a number of factors must be taken into account. First the impact of physical infrastructure on output is difficult to pin down and the direction of causality hard to determine empirically. Nevertheless, there is some evidence from annual and multi-year growth regressions that infrastructure investment has positive effects that go beyond the impact expected from an increase in capital stock. Furthermore, infrastructure investment appears to have a nonlinear effect with, on average, a stronger long-term effect on growth at lower levels of provision. These effects are not commonly shared across OECD economies, where there is some evidence of both under- and over-provision and of both efficient and inefficient use of investment.

Second, before undertaking investment in new capacity, it is important to ensure that best use is made of existing infrastructure. User fees and congestion charges can play a key role in ensuring efficient use of scarce infrastructure and also give more accurate signals as to where additional capacity may be warranted. Curbing the anti-competitive practices of incumbent infrastructure operators can also increase effective capacity. Incentive regulation, such as setting price caps for infrastructure services, can help ensure that investment is cost reducing and mimics a competitive environment. Independence and accountability on the part of regulators can help to establish a stable and credible framework for infrastructure investment.

Third, a competitive environment is generally more supportive of the efficient use of resources and there is evidence that removing barriers to entry can foster higher rates of investment in the network industries. Barriers to entry appear to harm investment, especially in the telecommunication and energy sectors, with vertical integration curbing firm-level investment in the electricity sector.

Fourth, the impact of public investment on growth should also be assessed in connection with the provision of other factors of production. One example is investment in research and development and, more broadly, in innovation infrastructure. A given amount of innovation related spending will have different impacts depending on the extent to which complementary factors are available, most notably human capital. Empirical evidence (OECD 2006; Dhont and Heylen 2009) confirms the positive impact on growth of human capital and innovation related activities. Therefore, assessments of the impact on growth of that part of stimulus packages concerned with public investment should also take into account their composition. In this regard, countries have adopted different strategies. As Table 4 shows, even in cases in which governments earmark significant resources in the stimulus packages to innovation support, there is visible variation in terms of composition within the broader category of long-term spending. However, further work is needed to assess the impact of the composition of fiscal packages on long-term growth for a given amount of stimulus.

Table 4: Financial Weights of Selected Long-Term Policies in OECD Countries' Stimulus Packages

	Infrastructure	Science, R&D and innovation	Education	Green technology
Australia	AUD9.7 billion	AUD2.9 billion	AUD15.7-17 billion	AUD5.7 billion
% of GDP	0.82%	0.25%	up to 1.4%	0.48%
Canada	CAD20.3 billion	CAD800 million	1.9 billion	CAD2.8 billion
% of GDP	1.27%	0.05%	0.12%	0.18%
Chile	US$700 million	US$8.8 million	US$147 million	US$0
% of GDP	0.50%	0.01%	0.10%	0%
Finland	EUR910 million	EUR25 million[1]	EUR30 million	EUR38 million
% of GDP	0.48%	0.01%	0.02%	0.02%
France	EUR4.7 billion	EUR46 million[2]	EUR731 million	EUR30 million
% of GDP	0.24%	0.00%	0.04%	0.00%
Germany[3]	EUR11.5 billion[4]	EUR1.4 billion	EUR14.5 billion[5]	EUR5.7 billion
% of GDP	0.50%	0.10%	0.60%	0.20%
Korea	KRW50 trillion (US$36 billion) of green investments (5.14% of GDP) – distributed throughout these categories although a detailed break-down is not yet available.			
Norway	NOK3.8 billion	NOK170 million[2]	NOK270 million	NOK1.6 billion
% of GDP	0.16%	0.01%	0.01%	0.06%
Sweden	SEK8.6 billion	SEK9 billion	SEK500 million	SEK2 billion
% of GDP	0.27%	0.29%	0.02%	0.06%
Poland	PLN91,3 billion	PLN16,8 billion	n.a.	PLN2.5 billion
% of GDP	0.07%	0.01%	n.a.	0.00%
Portugal	EUR50 million	EUR224 million	EUR682 million[6]	EUR260 million
% of GDP	0.03%	0,13%	0.41%	0.16%
US	US$100 billion	US$16 billion	US$83 billion	US$59 billion
% of GDP	0.70%	0.11%	0.58%	0.41%

Notes: Based on 2008 GDP. Figures are only indicative as applying identical, clear-cut definitions to these categories and making them comparable across countries is very difficult. For instance, a certain degree of double-counting may still occur between spending on items such as infrastructure and education (e.g., building schools) as measures could fit in multiple categories.

1. Finland has high public research and development (R&D) support outside of its stimulus package and has pledged to maintain it.

2. The R&D figures for France, Norway, and Portugal do not include carrying forward their R&D tax credit payments.

3. In Germany, some expenditures remain to be determined on the sub-federal level.

4. This figure contains EUR0.3 billion additional funding for a program for modernizing insulation of buildings and roughly EUR0.8 billion for energy-use modernization of federal buildings.

5. This figure contains EUR8.6 billion of investments in energy efficient school and other education-related buildings.

6. In the case of Portugal, EUR500 million for the modernization of schools is only included in "Education."

Source: OECD estimates based on publicly available data, replies to the OECD questionnaire, and consultations with member countries.

5. INTERNATIONAL COORDINATION

International coordination can enhance the impact of fiscal packages. OECD simulations (Table 5) indicate that a coordinated fiscal stimulus within the OECD area would have a larger impact on growth than any single country measure. Similar results can be found in IMF (2009). These results are not surprising. Given the generalized and large drop in demand on a global scale, an "international multiplier" is likely to be (possibly significantly) larger than any single country open economy multiplier. The global crisis has, in its initial and most acute phase, greatly reinforced international cooperation efforts. The issue, however, is whether incentives for cooperation in fiscal policy will remain strong enough to take full

advantage of the benefits of coordination and to what extent such incentives will fade away once the pressure of the emergency disappears.

Table 5: The Effect of Single Country and Coordinated Fiscal Stimulus

Effect on:	US	Japan	Euro area	Other OECD	Total OECD
Shock to:					
		GDP effects, % differences from baseline: Year 1			
United States	**0.98**	0.21	0.10	0.26	0.50
Japan	0.04	**0.86**	0.03	0.06	0.26
Euro area	0.07	0.11	**0.86**	0.18	0.22
Other OECD	0.09	0.10	0.11	**0.62**	0.18
Total OECD	**1.19**	**1.28**	**1.10**	**1.12**	**1.17**
		GDP effects, % differences from baseline : Year 2			
United States	**1.44**	0.23	0.18	0.34	0.71
Japan	0.06	**1.15**	0.04	0.06	0.34
Euro	0.14	0.15	**1.10**	0.31	0.32
Other OECD	0.16	0.13	0.21	**0.80**	0.27
Total OECD	**1.87**	**1.75**	**1.53**	**1.56**	**1.72**

Notes The table reports the effect of an increase in government expenditure by 1% of GDP for each individual country/region as well as for the OECD as a whole using the OECD's global model.
Interest rates are held constant at baseline values in all simulations.

Source: OECD.

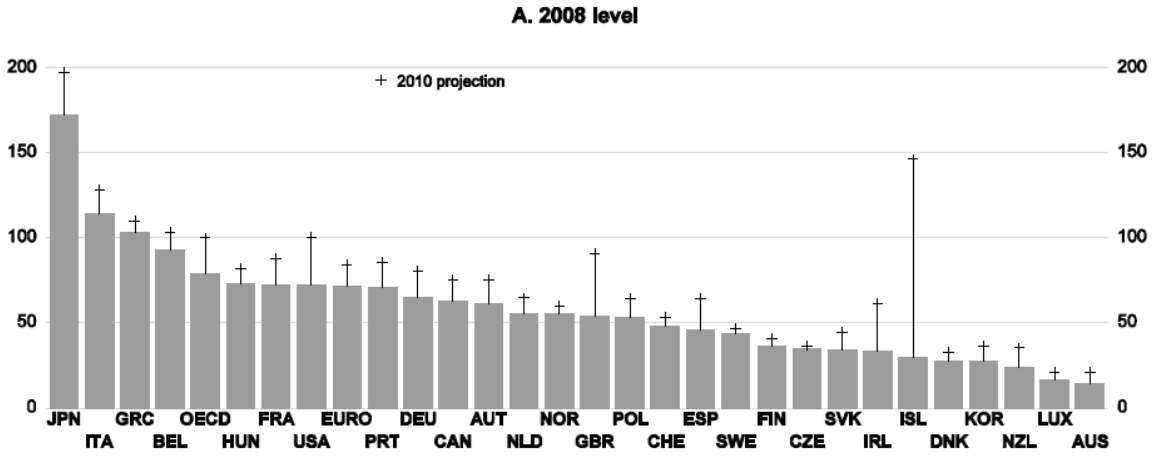
For a given “pressure to cooperate” coming from the global environment, national attitudes towards cooperation will vary according to a number of factors. Smaller, more open economies, as well as those with smaller fiscal space, will have fewer incentives to pursue expansionary policies and will tend to free ride on the action of larger countries. The latter, on the other hand, may be reluctant to expand if there is insufficient cooperation and burden sharing. Regional agreements may incorporate explicit or implicit incentives to cooperate. Trade and investment integration, which leads to the development of global value chains, may increase the incentives to cooperate. Different incentives may also be a reflection of differences in long-term growth mechanisms. Countries that are largely relying on export driven growth could face smaller incentives to expand domestically. Consequently, the fiscal response to the crisis also raises the issue of the appropriate international governance of national fiscal policies.

6. FISCAL SUSTAINABILITY

The above considerations suggest the following conclusions. To maximize the impact of fiscal stimulus and reap a double dividend, governments should concentrate their spending efforts on infrastructure investment and enhance international cooperation so as to internalize the spillover effects of openness. However, a crucial component in boosting impact is ensuring the credibility of measures to ensure fiscal sustainability over the long term. As Corsetti, Meier, and Mueller (2009) have argued, the stimulus impact of fiscal expansion would be enhanced in the presence of “spending reversals,” that is, the expectation that public spending would be reversed in the future to offset fiscal stimulus today. This would lower long-term interest rates and thus increase private spending, which would replace declining public spending. However such a positive outcome could be less likely in the face of persistent output gaps of the size currently seen. Large and non-declining negative output gaps weaken the expectations of spending reversals as they signal the need for additional stimulus. They also lower the expectations of higher interest rates as an inflation surge becomes more remote.

Crisis driven fiscal stimulus also impacts on debt accumulation: this is on top of commitments that arise from existing obligations, including those related to ageing debts. Further, the fiscal stimulus is only one determinant of crisis-related debt accumulation, the other being measures employed to support the financial system, an issue which I will not consider here. However, as Reinhart and Rogoff (2009) note, historical evidence shows that the huge debt build-up in the aftermath of crises is the consequence of both recession-led falling revenues and the spending increases introduced to counter the recession. This seems to be the case this time too. As Figure 5 shows, the average debt level in OECD countries has risen sharply and significantly since the outbreak of the crisis and is expected to peak at 100% by 2010, with some countries moving well beyond this figure.

Figure 5: General Government Gross Financial Liabilities, % of GDP



Source: OECD.

Such a steep rise in debt has a significant impact on the size of fiscal adjustment that will be needed to ensure debt sustainability. According to the standard debt dynamics formula, for a given primary balance, the debt to GDP ratio declines as long as nominal GDP growth is higher than the nominal interest rate. Let us considers these three variables separately. For given growth and interest rates, Table 6 shows that the primary surplus needed to stabilize debt rises significantly in almost all countries between 2008 and 2010. Such increases, coupled with the fiscal deficits generated in response to the crisis, significantly increase the fiscal gaps, most notably in the United States and in the United Kingdom.

Table 6: Measures of the Increase in Underlying Primary Balance Required to Stabilize Debt

	Gross debt ratios[1]		Underlying primary balances					Fiscal gap *vis-à-vis*	
						Required primary surpluses to keep gross debt ratios in 2050 to 2008 levels			
	Outcomes	Projections	Outcomes	Projections					
	2008	2010	2008	2010		2008	2010	2008	2010
			A	B	B-A	C	D	C-A	D-B
United States	71.9	100.0	-3.5	-6.7	-3.2	3.4	4.1	6.9	10.8
Japan	172.1	197.3	-2.9	-3.4	-0.5	4.6	5.0	7.5	8.5
Eurozone	71.0	84.4	1.2	-0.1	-1.3	4.2	4.5	3.0	4.6
Germany	64.8	80.4	1.9	-0.9	-2.8	3.5	3.9	1.6	4.8
France	72.2	88.0	-0.9	-2.1	-1.2	3.6	4.1	4.5	6.1
Italy	113.1	127.2	3.2	4.0	0.8	4.9	5.1	1.8	1.1
United Kingdom	54.1	90.5	-2.3	-5.2	-2.9	3.4	4.2	5.7	9.4
Canada	62.7	75.4	0.6	-2.6	-3.3	3.7	3.9	3.0	6.6
Australia	14.2	20.7	2.3	-0.7	-3.0	4.2	4.1	1.8	4.9
Austria	61.7	75.4	1.2	-1.2	-2.3	2.4	2.7	1.2	3.8
Belgium	92.7	103.0	2.6	2.4	-0.2	5.0	5.0	2.4	2.6
Czech Republic	34.8	36.5	-0.6	1.9	2.5	5.2	4.9	5.8	3.0
Denmark	27.4	32.7	3.2	1.9	-1.3	3.4	3.6	0.2	1.7
Finland	36.3	41.0	3.4	0.8	-2.6	6.1	5.8	2.7	5.0
Greece	103.0	109.8	-0.9	1.3	2.2	7.9	7.6	8.8	6.3
Hungary	72.7	81.7	1.3	7.9	6.7	6.8	6.8	5.5	-1.2
Ireland	33.5	61.7	-5.4	-6.1	-0.7	7.3	7.2	12.8	13.4
Republic of Korea	27.4	36.6	2.8	1.8	-1.1	9.5	9.6	6.7	7.8
Luxembourg	16.5	20.7	1.8	1.4	-0.4	8.8	8.3	7.0	6.9
Netherlands	55.3	64.6	1.9	-0.7	-2.5	4.6	4.7	2.7	5.3
New Zealand	23.6	35.1	2.3	-1.7	-4.0	4.9	5.0	2.6	6.8
Poland	52.7	64.5	-1.9	-3.0	-1.2	-0.2	0.4	1.6	3.4
Portugal	70.7	85.9	1.5	1.4	-0.1	7.0	7.3	5.6	5.9
Slovak Republic	34.0	44.2	-3.7	-4.2	-0.5	4.2	4.3	7.9	8.6
Spain	45.9	64.1	-0.8	-1.0	-0.3	6.0	6.2	6.8	7.2
Sweden	43.6	46.6	4.0	2.7	-1.3	2.2	2.2	-1.9	-0.6
Switzerland	48.0	52.8	1.5	0.6	-0.9	4.2	4.1	2.7	3.5
Simple average	57.9	70.6	0.5	-0.4	-0.9	4.9	5.0	4.4	5.5
Weighted average	79.7	101.3	-1.3	-3.3	-2.0	4.1	4.5	5.4	7.8

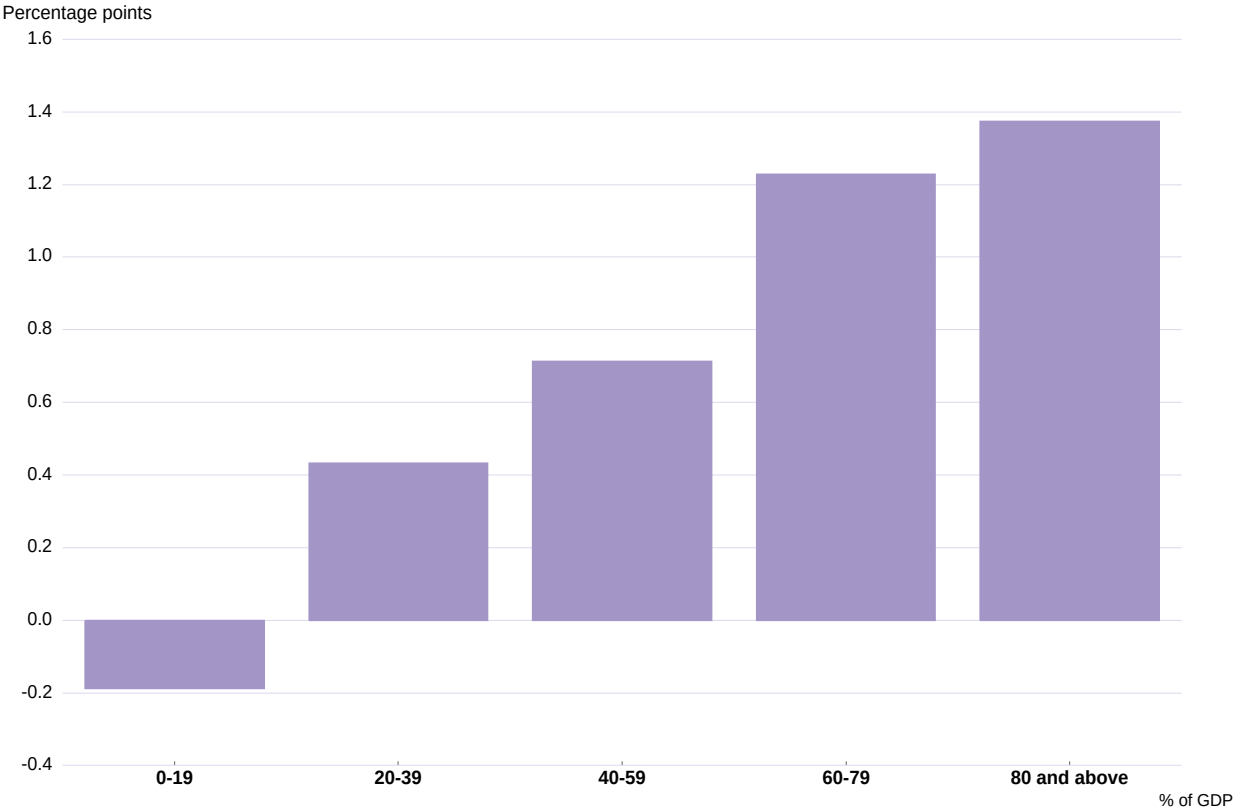
Notes: Required primary surpluses have been estimated based on the interim OECD projections up to 2010. Thereafter, potential growth rates and long-term real interest rates are assumed to remain unchanged. Real GDP growth rates between 2011 and 2013 have been calculated on the assumption that the output gap remaining in 2010 will be closed by 2013. Growth thereafter is assumed to be equal to the potential rate. Projections on health, long-term care and pension expenditures to 2050 are based on Cournède (2008). Gross assets are assumed to remain constant, as a percent of GDP, from 2011 onward. The fiscal gap in 2010 incorporates the impact of fiscal packages.

[1.] Gross debt data shown in this table correspond to the implementation of the System of National Account principles. They differ from gross debt data according to the Maastricht criterion.

Source: OECD.

The projections reported in Table 6 assume unchanged growth and interest rates. What if these assumptions are relaxed? An IMF (2009) simulation looks at the evolution of the fiscal balance and government debt in a prolonged low-growth scenario for G20 countries with respect to a baseline. Significantly lower growth means less sustainable debt dynamics. Growth could be lower not only because of larger output gaps but also because of lower potential output, a point which I will return to later.

Figure 6: Spread Between Long-Term and Short-Term Interest Rates Versus Gross Government Debt



Note: Bars represent average across all OECD countries for which data are available over the period 1994 to 2008. Short-term interest rates are typically rates on 3-month Treasury bills and long-term interest rates those on 10-year government bonds.

Source: OECD Economic Outlook 86 database.

The other variable that affects debt dynamics is the interest rate. A higher interest rate, other things being equal, also makes the debt dynamic less sustainable. One important element of this dynamic is that the interest rate is endogenous to the extent that interest rate spreads increase with the size of debt in the OECD (Figure 6). Econometric evidence, surveyed in OECD (2009), suggests that interest rate spreads increase with the amount of debt and with unfavorable past fiscal records.

Putting all these things together, in the new fiscal landscape debt sustainability is bound to become even more problematic, at least for high debt countries and for those with a poor track record. A vicious circle of higher debt, lower growth, and higher interest rates cannot be ruled out. Worrying, in this respect, would be the risk of prolonged deflationary pressures which would increase the real interest rate. However, deflation risks seem to be fading.

7. WHICH WAY FORWARD?

Historically, large debt declines have been associated with prolonged high growth. As reviewed in IMF (2009) the post World War II recovery allowed public debt in Japan, the United Kingdom, and the United States to decline significantly after the steep, war-driven accumulation of debt. The comparison is not fully out of place as the fiscal cost of this crisis could end up being not far away from that engendered by the war.

A desirable scenario for the medium term would see a sustained and sustainable growth rate which could allow for gradual withdrawal of fiscal stimulus and a decline in debt ratios. This scenario would imply a gradual shift from a policy driven recovery to self-sustained growth

and would require a return to the global growth rates witnessed in the exceptional period before the housing bubble burst. Such a scenario, however, could be overly optimistic for at least two reasons. First, it is unlikely that the growth mechanism prevailing before the outbreak of the crisis can be restored. Second, as a consequence of the recession, potential output growth could fall in some if not all economies. Let us look at these two aspects more closely.

The financial crisis mounted, and eventually exploded, in a macroeconomic framework that has developed over the past two decades and which is usually referred to as "Bretton Woods II" (Dooley, Folkerts-Landau, and Garber 2003). It can be summarized as follows. The main engine of growth in the international system has been US domestic demand, household demand in the first place, itself driven by increasing employment in a low inflationary environment. This was made possible by an exceptionally long period of sustained productivity growth, generated by the mechanism often referred to as the "new economy", following the introduction and diffusion of information and communication technologies (Visco 2009). An increasingly unregulated financial system has acted as a very powerful multiplier and facilitator of this mechanism, by allowing households to consume in excess of income and leveraging on the (expected) value of their properties. With hindsight the financial crisis initiated in the mortgage market was the result of an endogenous mechanism which has gone through the "classic" phases of manias, euphoria, and panic. The history of financial crises is full of such events, all apparently different from one another yet all reflecting one mechanism. Bretton Woods II provided the specific, global, macroeconomic environment that led to euphoria first and crash afterwards.

This macroeconomic environment has generated a widening US current account deficit, matched by a surplus in emerging economies, the People's Republic of China's (PRC) in particular, whose exports have fed both US consumption and emerging markets' growth. In the PRC this has been facilitated by a fixed exchange rate between the dollar and the yuan (a de facto dollar peg) that protected competitiveness and boosted reserve accumulation. Reserves were largely reinvested in the US financial market. One relevant consequence of this is that the US financial system has enjoyed abundant liquidity, which has been accommodated by US monetary policy, in a context of rapid financial innovation (that has gone well beyond the mortgage market) and weak regulation and oversight. This, in turn, facilitated the growth and later bursting of the housing market bubble. The other advanced economies of Europe and Japan played "secondary" support roles. Both economies have suffered, and continue to suffer, from low potential growth, signaling the need for structural reforms, and both have been relegated to the back seat as engines of global growth.

The crisis has destroyed the fundamentals of the Bretton Woods II system and, in particular, the mechanism through which excess savings in emerging economies (including those of oil producing countries) were reinvested in the center of the system at "no risk," as the US economy was considered the "safe haven" par excellence. The crisis has destroyed the credibility of the center and, with it, the main engine of growth and of financing of growth. The global economy is now going through the longest and deepest post-war, recession. The decomposition of the growth mechanism ("deleveraging") is still unfolding at the time of writing. It is highly unlikely, if not outright unthinkable, that the main engine of global growth in the foreseeable future will be US household demand fueled by sophisticated and opaque financial instruments.

Growth will resume after the recession but it could be a lower potential growth. More importantly, global growth will be driven by several engines rather than by a single one and each of the engines will most likely be less powerful than the one that has collapsed and partly disconnected from the others. Household demand as a source of growth in the US will be partly replaced by exports, driven by a weaker dollar and by the still powerful US productivity engine, possibly augmented by important investment in new technologies. It remains to be seen whether US investment and innovation, themselves driven by the stimulus package, will be able to generate a productivity cycle as long and intense as the

one that was supporting the “new economy” in the 1990s. It also cannot be ruled out that, as global value and innovation chains restructure, some centers of innovation and productivity will not relocate from the US to the emerging economies, especially those of Asia, thereby adding to their growth potential.

While the US economy may decline in size, if only in relative terms, it is hard to believe that the economies of Brazil, Russia, India, and the PRC will quickly emerge as global engines of growth. Long-term projections usually place the PRC (and less so India) as the largest economy 20 to 30 years from now. Most of these projections, however, extrapolate from a scenario which is no longer there and which needs to be rebuilt: a relatively stable world economy in which global markets are open, economic integration is progressing, and no major crises occur. It remains to be seen to what extent the current crisis will allow us to keep these assumptions alive. Whatever the case, sooner or later the emerging economies will have to face the challenge of their internal transformations that make more space for domestic demand and rely less on export-led growth. These transformations will need to be accompanied by, and possibly support, a sustained high rate of growth: a necessary condition for these countries to raise the standard of living for the large part of their populations that still live below the poverty line.

What about Europe? The old problems are still there and the financial crisis has made them more acute. Europe in Bretton Woods II has been a slow growth economy and it could grow even less in the future. As noted above, the extensive use of fiscal measures to deal with first the financial emergency and then the recession could have the effect of loosening fiscal discipline in Europe which will make long term debt sustainability more problematic. More flexibility in the application of the Stability and Growth Pact is welcome in the crisis but there is a risk that the credibility capital accumulated over the past decade could quickly vanish. Of further concern for the European economy would be the possible adoption of subsidies for non-financial industries, which would distort competition, combined with a weakening of structural reform and liberalization efforts, efforts which must rely upon sufficient amounts of political capital and fiscal space for their implementation. All of this could undermine the Single Market and European growth.

Fears of lower growth could be further reinforced if the recession lowers potential output in Europe and elsewhere. There are three main channels through which this could happen. First, a portion of the increase in the number of unemployed during the downturn could become irreversible. This can happen when workers lose attachment to the labor force and their skills atrophy during lengthy spells of inactivity. Consequently, it becomes more difficult for them to find employment once the recovery begins. In the wake of past recessions, labor input has been reduced through a combination of lower labor force participation and higher structural unemployment as negative shocks have interacted with inflexible labor markets. Second, steep reductions in investments by businesses and households are characteristic of most downturns. Investment is also likely to be lower following the crisis to the extent that the cost of using capital is higher, due, for instance, to larger risk premiums. During recessions investment often falls sharply and firms go out of business. This may accelerate the scrapping of capital or lead to its relocation, thus lowering the capital stock and/or its efficiency. Financial crises exacerbate these typical effects of recession by impairing financial intermediation, raising further the cost of capital, and forcing otherwise viable firms out of business. Finally, intangible investments, such as spending on research and development are among the first outlays that businesses cut back during a recession. The resulting impact on growth can be significant, because R&D is needed to sustain the discovery of innovations. In fact, the productivity gains of workers today are often in part the fruits of R&D outlays from a decade or more ago. Lower growth would also increase the debt burden.

The potential impact of the financial crisis on the level and growth rate of total factor productivity is more ambiguous. On the one hand, it may lower total factor productivity by reducing the R&D intensity of the economy as firms reduce such spending. On the other

hand, recessions may lead to the closure of the least productive lines of activity and force the least productive firms out of business, thereby increasing average productivity across the economy.

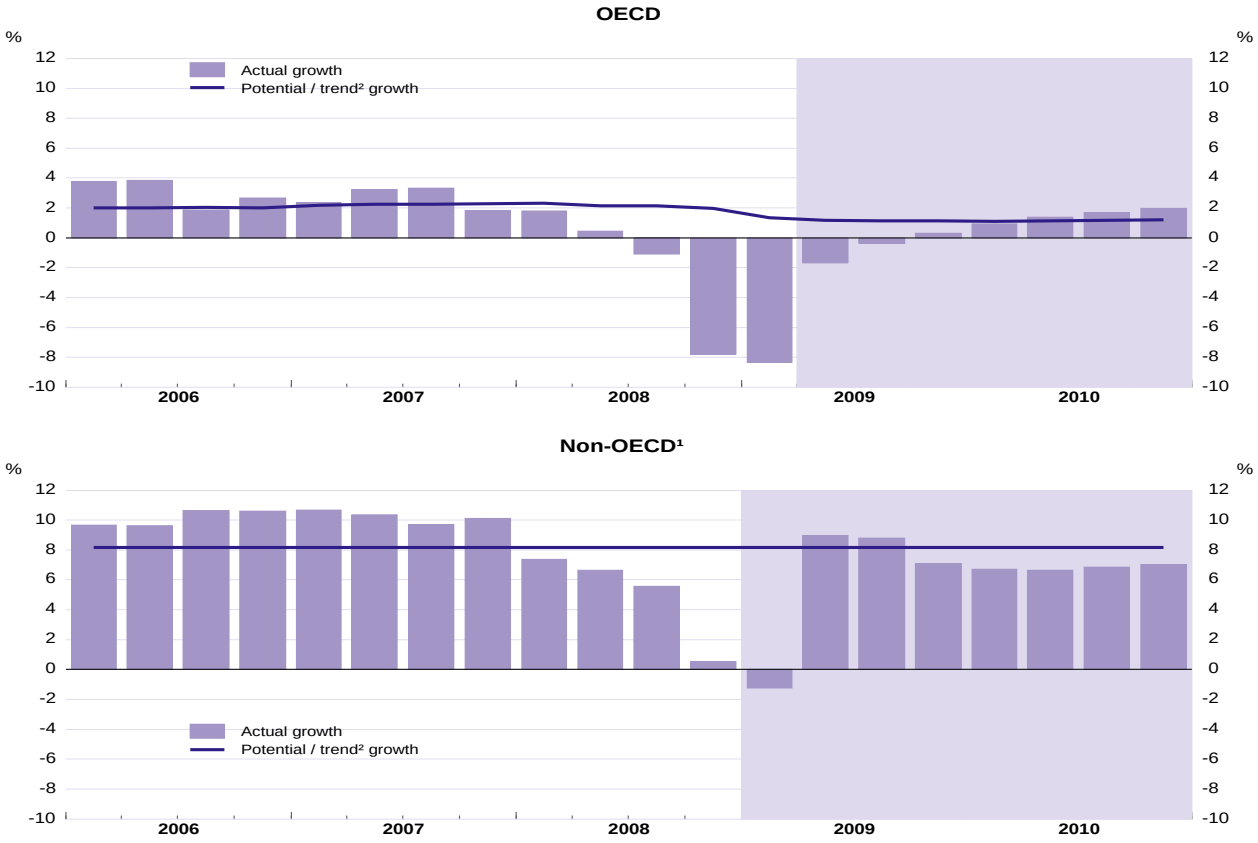
Empirical studies suggest that potential output could be significantly reduced in the wake of the crisis. The average downward revision to the level of potential output made by various national authorities (Table 7), is about 2.5% by 2010, which is close to the average of OECD revisions (Figure 7). However, for some countries the revisions are much larger. The major contribution to the projected fall in near-term potential growth in the OECD revisions comes from the collapse of investment and the associated slower growth of capital input to production. However, the decline in capital intensity is likely to continue over the medium term in response to the increase in capital costs associated with an increase in risk aversion. In addition, the non-accelerating rate of unemployment may increase, particularly in European countries. As mentioned, in the wake of past recessions structural unemployment has tended to rise in many countries, which may partly reflect rising long-term unemployment and hysteresis-type effects. Past experience suggests that European countries may be more vulnerable than other countries to such effects.

Table 7: Potential Output Revisions Produced by National Authorities

		Growth Revisions (percentage points)				
	Institution	2007	2008	2009	2010	2011
United States	Congressional Budget Office (2009)			-0.1	-0.4	-0.2
Euro Area	European Commission (2009)	-0.4	-0.4	-0.8	-0.8	
Japan	Bank of Japan (2009)			-0.5	-0.5	-0.5
Canada	Bank of Canada (2009)			-1.2	-1.0	-0.6
United Kingdom	HM Treasury (2008)	Phased in 4% reduction level of potential output over 2007Q3-2009Q3				
Italy	Italian Treasury	-0.4	-0.3	-1.0	-0.8	-0.9
Austria	Ministry of Finance (2009)	-0.4	-0.5	-0.9	-0.9	
Belgium	Finance Ministry (2009)	-0.2	-0.2	-0.5	-0.6	-0.5
Greece	Ministry of Economy and Finance (2009)	-0.4	-0.8	-1.2	-1.6	
Ireland	Department of Finance (2009)		-1.0	-2.9	-2.9	
Luxembourg	Finance Ministry (2008)	0.1	-0.1	-0.3	-0.5	
Netherlands	Ministry of Finance (2008)	1.4	0.2	-0.9	0.0	
Poland	National Bank of Poland (2009)		0.1	0.4	-0.7	
Sweden	Ministry of Finance			Phased in 3% reduction to level of potential output by 2012		

Source: OECD

Figure 7: Actual and Potential Output in OECD and Non-OECD Countries



8. LONG-TERM POLICY IMPLICATIONS

The new fiscal landscape generated by the crisis raises several concerns. The risks associated with rising government debt burdens could be further aggravated by lower potential output growth and higher interest rates. The effects of this reduced potential output might then have more serious fiscal implications if associated with a permanent decline in employment. Further, the risks associated with rising interest rates will be higher, and the consequences more serious, for those countries where debt burdens are already very high. These risks could become even higher for those countries tempted to inflate away debt.

The possibility of a vicious circle—rising debt restraining growth and pushing interest rates up—developing over the medium term cannot be ruled out. Once the recession is behind us the global economy could well face a prolonged period of lower growth and rising (or at least not declining) debt. In some cases debt burdens could become unsustainable, opening the way to possible defaults and/or rising inflation. A potential scenario such as this calls for a serious discussion of the adequacy of the entire global policy framework, not simply the measures taken in direct response to the crisis. While addressing such a discussion goes well beyond the scope of this paper I can, nonetheless, suggest that a new global policy environment should be based on three pillars: (i) an integrated approach targeted at reinforcing and possibly increasing potential growth by better connecting macroeconomic, structural, and regulatory policies, (ii) strong institutional frameworks to ensure fiscal sustainability, and (iii) enhanced international cooperation in formulating and implementing macroeconomic, structural, and regulatory policies targeted at preventing unsustainable payment imbalances from developing.

Implementation of these three pillars would take on different characteristics within different countries and regions (which would nevertheless not prevent overall coherence from

obtaining in international governance). Below are elaborations on how these three pillars could be translated into concrete action in the case of Europe.

Pillar (i) would call for reinforced and renewed impetus behind the Lisbon Agenda for Growth and Jobs as well as for the Single Market initiative. Low potential growth has been a long standing problem for Europe, commencing well in advance of the outburst of the crisis. The crisis offers the opportunity to accelerate the reform process, without which Europe could witness a new version of the "Eurosclerosis" scenario prevailing in the 1980s.

Pillar (ii) would call for a renewed and strengthened fiscal framework. The Stability and Growth Pact needs to be put back on track taking into account the new fiscal landscape. In evaluating countries' fiscal positions and their sustainability, more attention should be devoted to the quality and composition of fiscal measures. At the same time, more attention should be paid to the debt dynamics (in addition to the deficits). Also, more effective coordination of national fiscal policies (if only in terms of the timing and implementation of national budget processes) would enhance their impact on economic performance while strengthening sustainability.

Pillar (iii) would require, among other things, a more effective single European voice in international institutions such as the IMF and in international informal groupings. This would facilitate the management of global policy coordination and adjustments, for example the management of payment imbalances, while allowing for more space and responsibility for the emerging economies (Padoan 2008).

9. CONCLUSIONS

The economic and financial crisis has prompted a massive fiscal response that will significantly change the global fiscal landscape for many years to come. As the world economy hopefully moves out of the recession several issues will be relevant for policymakers. First, it remains to be seen to what extent the fiscal stimulus packages will be able to produce an impact beyond short-term support to demand and generate a positive impact on long-term growth, i.e., obtain a double dividend. This is particularly relevant as the recession will, most likely, hurt potential output on a global scale. Second, it remains unclear as to when, to what extent, and with what speed the stimulus will have to be withdrawn to make room for fiscal consolidation. Third, the size of the fiscal stimulus and the consequent debt accumulation will make fiscal sustainability in several countries much more problematic and may increase, at least in some cases, the temptation to inflate debt away. Fourth, it remains to be seen to what extent the cooperative approach to fiscal policy that has been seen since immediately after the crisis will persist as we move into a new phase.

The response to the crisis has been unprecedented in terms of resources and in terms of coordination among policymakers. Hopefully the response will prevent a deeper recession and return the world to a path of positive growth. For this to occur, the policy momentum should not be interrupted. The new economic landscape calls for the definition of a new global policy framework that should be based on three pillars: (i) an integrated approach targeted at reinforcing and possibly raising potential growth by better connecting macroeconomic, structural, and regulatory policies, (ii) strong institutional frameworks to ensure fiscal sustainability, and (iii) enhanced international cooperation in the formulation and implementation of macroeconomic, structural, and regulatory policies targeted at preventing unsustainable payment imbalances from developing. The implementation of such a framework will need to take into account structural as well as institutional differences among countries and regions.

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