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# Lessons learned in the Recent Crisis and strategies for the exit phase

## 1. Introduction and outline

The Recent Crisis has been the deepest crisis of the world economy since the Great Depression of the thirties of the last century. Its echo effects will impact on the economic development of many regions for a long time, and maybe for European countries more than for other regions. We first compare the Recent Crisis with the Great Depression as far as GDP, employment, trade, industrial production and stock markets are concerned, and analyze differences across countries and regions (section 2). Then we analyze whether the performance across regions and countries in the recent crisis was related to the “initial conditions” of the economies, such as the budget situation, competitiveness (as far as revealed by trade and current account balances), past growth, openness, the size of the public sector and the working of automatic stabilizers. Section 3 analyzes the policy reactions. It was the combination of monetary and fiscal policies which prevented the Recent Crisis from becoming as severe as the Great Depression of the thirties of the last century. We concentrate on the size of fiscal stimuli, though we note that the size of the fiscal stimuli were smaller than the automatic stabilizers. We then relate the size of fiscal stimuli to the initial conditions (section 4), and analyze the content of the stimulus programs and describe what seem to have worked (section 5). Specifically we find that a considerable part of the stimulus programs which were planned – specifically the large infrastructure program – has not been enacted or at least not in the time frame planned. This raises the question for future strategies in economic downturns whether not to rely on smaller projects or on intangible expenditures as core of anti-cyclical expenditures. It raises the further question for economic models, whether we should not introduce a “Leakage Rate” (section 6) in parallel to the “Savings Rate” which reduces the expenditures really spent in relation to government plans. Up to now planned expenditures (decided by government or parliament are fitted without hesitation into the models generating an unrealistically high impact for government expenditures (for example versus tax reductions). Section 7 describes how different employment and unemployment reactions were in relation to output variations in different countries. Then we

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use findings of this study and from other investigations resp. earlier crises to tentatively formulate a few recommendations for the exit phase (section 8 and section 9). A summary follows (section 10).

## 2. The depth of the crisis

### Comparing the Recent Crisis to the Great Depression

The Recent Crisis was triggered by the subprime crisis in the US, but had deeper roots. These may be subdivided into macroeconomic issues (disequilibria, flood of financial capital looking for high yield investment opportunities), microeconomic causes (financial innovations, leveraging, bonuses paid for short term profits) and regulatory failures (national scope, disregard of special purpose vehicles)<sup>1</sup>. The crisis – after lingering around during 2007 – led to several quarters of low growth first and finally to an abrupt and rather simultaneous decline in trade, investment and production in mid 2008. Recovery started in mid or end 2009, at different speed in Asia, US and Europe (with a few countries expecting further GDP losses in 2010).

Table 1: The depth of the two crises: Ten industrialized countries  
Unweighted average for seven activity indicators

	Great Depression	Recent Crisis	
	1932/1929	2009/ peak 2007/2008	Trough 2009/ peak 2007/2008
	Annual data	Quarterly data	
	Percentage change		
GDP, real <sup>1)</sup>	-10.0	-4.4	-5.6
Manufacturing	-23.2	-20.2	-23.0
Exports	-58.5	-16.8	-25.7
Stock market <sup>2)</sup>	-53.3	-44.9	-53.6
Employment	-17.3	-2.5	-1.6
Unemployment rate 1932 and 2010	19.6	9.2	
Unemployment rate; change <sup>3)</sup>	13.2	3.1	2.0
Inflation (CPI)	-12.8	1.0	-0.1

1) At PPP. - 2) Unweighted average over US, FR, DE, UK. - 3) Absolute difference 1929 to 1932 vs. 2008 to 2010.  
Ten industrialized countries: Austria, Germany, Belgium, Spain, France, Finland, Sweden, United Kingdom, USA, Japan.

Source: WIFO Long-term Database (see Aiginger, 2010).

<sup>1</sup> For an overview on the causes of the Recent Crisis, see Aiginger (2009A).

The crisis – if it really ended as consensus forecasts currently tell us and if no second large dip will follow – proved to be much smaller and shorter than the Great Depression of the thirties in the last century. The GDP in ten industrialized countries for which activity and policy indicators are presented in *Aiginger (2010)* decreased by 4½% for annual data, and 5½% for quarterly figures in the Recent Crisis. The drop had been 10% in the Great Depression for these ten industrialized countries (see table 1).

- Unemployment increased by 3 percentage points (to 9%) in the Recent Crisis while it had increased by 13 points (to 20%) in the Great Depression.
- If we take data for total World GDP the output loss had been only 1% this time round (against 10% between 1929 and 1932).
- The Great Depression lasted three years at least (with some countries experiencing no end before World War II), while the Recent Crisis lasted for four to six quarters for most countries (measuring the time between maximum GDP and its first growth rebound after the crisis).

Thus the Recent Crisis was the most severe crisis of the world economy since World War II, but only "half a Great Depression" for the industrialized countries and a rather small dent for the rapidly growing world economy.

### **Country differences in the depth of the crisis**

Even if the crisis is not over, we know today that the performance of countries was very different during the crisis and since growth was resumed (i.e. including forecasts for 2010; see table 2). It is however, not easy to grasp the performance of countries by looking at a single indicator. In order to be able to analyse the performance of countries we combine four information sets to describe in a robust way country differences in output performance for 37 countries in table 4:

- The rate of change of GDP in 2009; in 32 countries this was a decline, an increase of GDP in the year 2009 occurred in China, India, Poland, Australia, and Korea.
- The cumulated change in the three years 2008, 2009, 2010 as to indicate the severity including "neighbourhood" of the crisis ("three years performance"). This measure yields a decrease for 24 countries, an increase in 13 countries.
- The decrease of quarterly GDP from pre-crisis peak to trough (describing the potential severity of the crisis not shown by annual figures, "steepness of the crisis").
- The growth in the three years 2008, 2009, 2010 ("in crisis dynamics") relative to pre-crisis trend growth (2000-2007) as to compare performance in the crisis with the pre-crisis growth ("trend change")<sup>2</sup>.

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<sup>2</sup> Additionally we could measure the length of the crisis by counting the number of quarters in which GDP decreased; in rare cases these were one to two quarters, on average five quarters. In a few countries we cannot say yet how many quarters the crisis lasted, since GDP is still declining.

The results are very robust as to the specific indicator chosen. The crisis was mildest in China, India and Indonesia, where even the trend change was less than one percentage point. The cumulated three years growth was between 15% and 30% in the crisis years. Argentina and Brazil performed well too, as well as Korea and Australia, Canada and the US. In Europe the positive outliers were so different countries like Switzerland and Poland, member of EU vs. non member, small vs. large, export oriented vs. domestic oriented, financially globalized, vs. domestic oriented banking system).

Table 2: GDP development in main regions  
Weighted average of GDP growth at PPP

	Great Depression					2008	Recent Crisis		
	1929	1930	1931	1932	1932/1929		2009	2010	2010/2007
	Percentage change								
USA	6.1	-8.9	-7.7	-13.2	-27.0	0.4	-2.4	2.8	0.7
EU-15	3.0	-1.8	-4.9	-2.7	-9.1	0.4	-4.1	0.8	-3.0
EU-10 <sup>1)</sup>	1.1	-1.9	-3.4	-5.1	-10.1	4.1	-3.8	1.2	1.3
Russia	2.8	5.8	1.9	-1.1	6.7	7.3	-8.9	4.3	2.0
China		1.3	1.0	3.2	5.6	9.6	8.7	9.5	30.5
India	4.2	0.7	-0.7	1.1	1.2	7.1	6.7	7.3	22.6
East Asian Countries <sup>2)</sup>		-0.6	-0.4	2.9	1.8	6.2	4.9	7.3	19.5
Latin America <sup>3)</sup>	2.7	-5.1	-6.2	-4.3	-14.7	4.7	-0.5	3.9	8.2
World	3.7	-1.9	-4.2	-4.0	-9.8	3.0	-0.9	3.6	5.7

1) GD: Czechoslovakia, Hungary, Poland, Bulgaria, Romania. CC: Czech Republic, Slovak Republic, Slovenia, Hungary, Poland, Bulgaria, Romania, Estonia, Latvia, Lithuania.

2) GD: China, India, Indonesia, Japan, Philippines, South Korea, Taiwan, Malaysia. CC: China, Hong Kong, India, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand.

3) GD: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Venezuela. CC: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Panama, Paraguay, Peru, Uruguay.

Source: Individual countries: Groningen (1900-2006), Oxford Economic Forecasting Ltd. (2007-2010).

The crisis was worst – according to our combined indicator or output – in Ireland and the Sweden, Finland, Denmark and in the Baltic countries. This could suggest a Northern European bloc. According to the GDP indicators chosen the crisis was not really bad in the Southern countries with Greece, Spain and Portugal in a middle zone. France, the Netherlands and Austria had the best performance within the Euro area. The New member countries of the EU – besides the Baltic countries – took top as well as low positions.

While country differences for the depth of the crisis are rather independent of the specific indicator chosen, there are some differences highlighted by individual indicators. The crisis was deeper in Greece, France, and Italy if we rank these countries according to their relative

dynamics in all three years together, than if we look at 2009 only (since growth had been meagre in 2008 and/or recovered less in 2010). On the other hand the crisis looks less severe if performance in 2008 is included in Bulgaria, Romania, Slovakia and Czech Republic since growth had been rather high in Central and Eastern European countries in 2008.

If we compare the depth of the crisis not only by looking on performance in the years of the crisis but relate the “in crisis performance” to the “pre-crisis performance” (“trend change”), the output loss of Italy, Germany and Mexico is set into the perspective of slow growth before the crisis started. The crisis itself is not the cause of meagre performance, it has deeper structural causes.

The rank correlations between the four indicators for the output performance in the crisis lie between 0.7 and 0.9. We think that each of the indicators grasp some elements of “the depth of a crisis”, therefore we combine the information in a super-rank-indicator. This is constructed by ranking the countries by the individual indicators, then adding up the ranks and ranking countries according to the rank sum again. The correlations of the component with the combined indicator are about 0.9 for each indicator.

### **3. The policy reaction**

#### **The potential of the downturn**

The crisis would have had the potential for a larger and longer recession (and maybe still have). This is indicated by the sharp and simultaneous fall in exports, industrial production and stock prices in the first three quarters. A worldwide cumulative downward spiral could have been expected due to the degree of globalization which this time round existed for trade, investment and finance. Some economists proclaimed in late 2008 or early 2009 that the crisis would be as deep or deeper than the Great Depression. Among those was the historically trained and well equipped with data research team of *Eichengreen – O'Rourke*, which concluded in March 2009 that “the world is currently undergoing an economic shock every bit as big as the Great Depression shock of 1929-30.” This statement became very important since it was extremely well documented by empirical facts. The Vox column in which it was presented shattered all previous records, with 100.000 hits within a week. And the assertion was correct for three quarters and some indicators (trade, industrial production, stock markets); it was never true for GDP or employment.

#### **Policy made the difference (and China)**

There is strong and growing evidence that the main factor for the difference in the length between the two crises was economic policy (see table 3). Economic policy, specifically monetary policy and fiscal policy, re-acted quite differently in the Recent Crisis. This was

partly due to lessons learned from the Great Depression itself. During the Great Depression fiscal policy was restrictive, at least during the first three years. It tried to keep budgets balanced and counteracted the automatic stabilizers by increasing tariffs and taxes and by reducing expenditure. In the Recent Crisis automatic stabilizers were a priori larger. Their effect was amplified by stimulus programs. Bank failures and the breakdown of the credit market were combated through the use of guarantees, recapitalization or nationalization. The same difference holds true for monetary policy. In 1929 interest rates were first increased, and then cautiously reduced. Severe deflation turned the lower nominal rates into high real rates. Money supply declined over several years for many countries (at least in nominal terms). This time monetary policy slashed interest rates towards zero and engaged in traditional and innovative increases in money supply (or “quantitative easing”). Some institutional factors helped. There was no gold standard to limit money supply this time and fewer national currencies to defend due to European monetary integration. Furthermore, all policy measures were implemented expeditiously and to a certain extent with coordination at an international level. Worldwide economic cooperation happened to a surprising degree; this held for the quick apprehension of the potential danger of a breakdown of credit markets, for the necessity to react by a three tiers strategy (securing the financial system, fiscal stimulus, low interest rates plus unconventional monetary policies).

Table 3: Policy indicators

	Great Depression	Recent Crisis	
	1929/1932	2008/2009	
Money supply	-7.6	12.1	
Discount rate; level start	5.6	4.0	
Discount rate; 1 year after start	4.0	0.6	1)
Discount rate; 2 years after start	4.5		
Discount rate nominal; absolute change	-1.4	-3.2	2)
Discount rate real; absolute change	5.4	-0.7	2)
Fiscal balance in % of GDP; level start	0.7	-1.7	
Fiscal balance in % of GDP; 1 year after start	-0.5	-6.4	
Fiscal balance in % of GDP; 2 years after start	-0.8	-7.8	
Debt/GDP; level start	57.3	68.6	
Debt/GDP; 1 year after start	58.9	78.6	
Debt/GDP; 2 years after start	65.6	86.3	
Customs/GDP; level start	1.8	0.1	
Customs/GDP; 1 year after start	1.8		
Customs/GDP; 2 years after start	2.1		

1) 1Q2009-3Q2009. – 2) 1Q2009-3Q2009/1Q2008-3Q2008

Sources: WIFO calculations using IFS, Bank of England, Riksbank.

There was more consensus among economists and more international coordination due to the G7, G20, the European Union, the IMF, and the World Bank.

No tariffs were raised to protect domestic production from imports. Other blunt forms of protectionism were impeded, soft forms were mitigated after protests and this helped. Some, subsidies for industrial firms remained biased towards domestic firms. Nationalization of banks reverted past multi-nationalization of ownership and activity; it is open whether this will remain in the exit phase. The rules for public procurement were softened and soft preferences for domestic firms occurred.

### **The size of fiscal stimuli**

The reversal of the downturn worked since all policy lines were applied simultaneously. Neither monetary policy, nor fiscal policy would have worked if applied separately and without the help of an extensive schemes of guarantees, safeguards and bailing outs. Let us however concentrate on fiscal policy issues in this chapter.

The major part of the fiscal policy response was to allow automatic stabilizers to work. Additionally and importantly automatic stabilizers were amplified by stimulus packages. The OECD estimates that the effect of the automatic stabilizers was three times as high as that of the stimulus packages (OECD, 2009).

There are several estimates available as to the size of the fiscal stimuli packages by OECD, European Commission, Bruegel, Bertelsmann (summarized in *Breuss – Kaniowski – Schratzenstaller, 2009*). The estimates of the exact size of the packages are different since it is often not easy to define what would happen if no crisis would have occurred. Some projects were planned before, but then realized quicker, in some countries tax reforms were discussed for some time and then done earlier or larger. In some countries several packages were enacted (Germany, Austria). In all cases the effects relate to at least three fiscal years.

In the following quantitative analysis we follow the estimates by OECD as to the size of the fiscal packages. We then add information on the size of the packages in China and India and then an estimate about several member countries of the EU, for which the OECD does not publish data (mainly Eastern European Countries). Since the estimates are not be done with the same methodology, we differentiate between an indicator “SP OECD” which uses only the OECD information and then an indicator “SP extended” which adds estimates from other sources.

As indicator for the size of the packages we relate the total fiscal stimulus of a country – however distributed between taxes and expenditures or across years – to the size of one annual GDP (in fact they are related to GDP 2008) and use an unweighted average across countries to get an estimate as to the total size relative to GDP. For the OECD subsample the average “package size” amounts to 1.5% of GDP. Since some countries had no fiscal stimulus programs, but had on the contrary to consolidate budgets, this figure underestimates the size

of the packages in the “active” countries. If we take an average of those countries with expansionary programs, the size amounts to 2.8% of GDP. In the extended data set we add China with a large and India with a rather small stimulus program, Rumania and Bulgaria with small consolidation efforts and the Baltic countries and Hungary with large consolidation programs (“negative stimuli”) near or above 10% of GDP. If we calculate averages for the extended set it is less than 0.5% for the unweighted average (due to very large consolidations of the few mentioned countries), the average of the countries with expansionary programs is 2.8% also for the extended data set.

The largest expansionary packages were tied in non European countries, namely in Korea, Japan, US, Australia, New Zealand, Canada, Turkey and China. In the average of these eight countries the packages amounted to 5% of GDP. It is not easy to grasp what the common characteristic between these countries is. Japan had already a very high government debt. The US had a large budget deficit; the crisis was not really deeper but maybe expected to become deeper than in other countries in 2007/08). From the perspective of the socio economic systems, the most active countries represent members of the rather liberal Anglo-American model (US, Australia, Canada, New Zealand) as well as members with traditional strong public interventions like China, Korea, Turkey). All these eight countries had lower government shares in GDP (average 25% relative to 37% for all 37 countries). Therefore the knowledge that automatic stabilizers were smaller may have motivated larger packages.

Summarizing, out of the 37 countries in the enlarged data set 11 countries did have to consolidate. Two countries did neither engage in expansionary fiscal policy nor in consolidation (Italy, Slovenia), Greece had a small reduction in the fiscal deficit. Large consolidation happened in the midst of the crisis in the Baltic countries, in Hungary, Iceland and Ireland. All these countries had high pre-crisis growth, but could not continue to grow either due to a breakdown of the housing bubble, bank failures, and large deficits in external balance or in fiscal balance. Most of these countries had a combination of two or three of these factors.

Larger packages seem to have been enacted in countries with smaller automatic stabilizers like the US, Australia but also in China, Korea and Turkey. Relating the size of the packages with the government share in GDP gives a negative correlation (however not robust).

It is essential for an anti-cyclical policy that structural deficits are zero in advance of the crisis; since crises are usually coming after a period of high growth/high inflation/irrational exuberance, there should in fact be large surpluses to be seen before the crisis starts, not just small deficits. We will relate the sizes of the packages to fiscal balances and debt before the crisis. Past growth may play an ambivalent role, if it had been used to consolidate the fiscal position it may be positively related to the size of expansionary packages. If it had lead to leniency and bubbles, the negative surprise could be dominant. Another determinant of the size of stimulus packages might be the competitiveness of countries as revealed by trade



position. Weak competitiveness proves usually as larger problem in recessions and limits the scope for expansionary policy exactly when and where it is needed most.

Table 4: The size of the packages

	Size of packages		Initial conditions					Country size
	% of GDP	Rank	BS2007 Budget surplus 2007	PD2007 Public debt 2007	CA2007 Current account 2007	OPEN2007 Openness 2007	GOV2007 Government expenditures 2007	GDP nom 2007
			Ranks					
Belgium	-1.4	18	20	4	9	2	6	16
Denmark	-3.3	10	4	27	11	29	3	22
Germany	-3.2	12	15	6	6	8	13	4
Greece	0.8	29	36	3	32	19	11	23
Spain	-3.9	8	10	20	30	16	20	8
France	-0.7	24	33	8	17	17	2	6
Ireland	8.3	34	17	28	24	7	23	24
Italy	0	27	26	2	16	15	7	7
Netherlands	-2.5	15	16	14	5	5	10	14
Austria	-1.2	20	22	11	10	6	5	21
Portugal	-0.8	23	31	9	29	11	9	26
Finland	-3.2	12	3	21	8	9	8	25
Sweden	-3.3	10	7	18	3	31	1	17
United Kingdom	-1.9	16	34	16	19	12	12	6
Japan	-4.7	4	30	1	7	36	24	2
USA	-5.6	2	32	10	23	27	22	1
Bulgaria	2.3	30	18	30	36	10	18	34
Czech Republic	-2.8	14	23	24	18	33	14	27
Estonia	9.4	35	8	37	35	30	28	35
Hungary	7.7	33	35	5	27	35	4	29
Lithuania	12.5	37	24	31	33	21	27	33
Latvia	11.6	36	21	35	37	4	26	37
Poland	-1.2	20	28	15	22	25	17	19
Romania	2.5	31	29	34	31	26	25	28
Slovenia	0	27	19	29	20	3	15	32
Slovakia	-1.3	19	27	22	21	1	29	31
Turkey	-4.4	5	25	19	25	22	33	15
Canada	-4.1	7	13	7	13	18	21	9
Switzerland	-0.5	25	12	17	4	14	30	18
Norway	-1.2	20	1	13	1	32	19	20
Iceland	7.3	32	2	23	34	34	16	36
Mexico	-1.6	17	37	25	14	13	35	12
Korea	-6.1	1	5	26	12	37	32	11
Australia	-5.4	3	9	32	26	24	31	13
New Zealand	-3.7	9	6	32	28	23	37	30
China	-4.4	5	11	36	2	28	34	3
India	-0.5	25	14	12	15	20	36	10
Structural packages (extended; unweighted average over 37 countries)	-0.3	19	19	19	19	19	19	19
Structural packages (positive signs; unweighted average over 27 countries)	-2.7	14	18	17	15	19	19	15
Correlation SP (37 countries)			0.2234	0.1329	0.5063	-0.2395	-0.1389	0.6584

Source: WIFO calculations, OECD, Eurostat (AMECO, May 2010).

## 4. The initial conditions

In this chapter we want to analyze some initial conditions of the economies before the crisis. This is done since it is often and probable correctly said that the crisis lay open or deepened problems which were lingering around. Furthermore unfavourable conditions made it more difficult for governments proactively to react and made it tougher for firms to sustain the crisis.

We look only on (i) budget situation and public debt (fiscal conditions), (ii) on balance of trade and balance of account ("revealed competitiveness"), (iii) on trade openness and finally (iv) on trend growth of GDP from 2000 to 2007 (dynamics). Of course there would be many more conditions to analyze concerning the financial system or the price dynamics in construction (bubbles).

We use these initial conditions to assess (i) whether the performance in the crisis is related to the initial conditions as well as for the question (ii) whether the size of the packages depended on the initial conditions.

Table 5: GDP performance and employment top 10 vs. low 10

	GDP performance					Employment				
	2009	2010/2007	Trough 2009/ peak 2008	2010/2007 minus 2000/2007	Combined indicator	2009	2010/2007	Trough 2009/ peak 2008	2010/2007 minus 2000/2007	Combined indicator
		p.a.	Percentage change	Trend change	Rank		p.a.	Percentage change	Trend change	Rank
	Annual data, percentage change	Quarterly data				Quarterly data				
<b>Top 10</b>										
India	5.9	6.5	5.9	-0.7	1	1.7	1.8	1.8	-0.2	1
China	7.7	8.7	7.7	-1.7	2	0.8	0.7	0.7	-0.3	3
Poland	1.7	3.1	1.7	-0.9	3	0.4	1.4	-0.7	0.7	2
Australia	1.3	1.9	1.3	-1.6	4	0.2	0.8	-0.3	-1.4	3
Switzerland	-1.5	0.6	-2.4	-1.3	5	0.9	0.1	-0.8	-1.1	8
Norway	-1.5	0.6	-2.4	-1.7	6	-0.4	0.8	-1.4	-0.5	6
Korea	0.2	2.5	0.2	-2.2	6	-0.5	0.3	-0.6	-1.1	7
USA	-2.4	0.2	-3.8	-2.2	8	-3.8	-1.5	-5.5	-2.5	31
Canada	-2.6	0.2	1.4	-2.4	9	-1.6	0.4	-1.8	-1.5	13
France	-2.2	-0.2	-3.9	-2.0	10	-1.3	-0.5	-1.1	-1.3	15
<b>Low 10</b>										
Latvia	-18.0	-8.9	-26.1	-17.9	37	-13.6	-6.8	-10.4	-9.3	37
Estonia	-14.1	-5.8	-19.6	-13.9	36	-9.2	-3.9	-13.1	-5.8	35
Lithuania	-15.0	-4.6	-18.1	-12.7	35	-6.9	-3.7	-5.3	-5.0	33
Ireland	-7.1	-3.7	-12.5	-9.3	34	-8.2	-4.3	-13.1	-7.6	35
Slovenia	-7.8	-1.2	-9.5	-5.6	33	-1.7	-0.5	-2.0	-1.4	20
Finland	-7.8	-1.8	-9.1	-5.0	32	-3.0	-1.2	-4.4	-2.3	28
Hungary	-6.3	-2.0	-7.9	-5.7	31	-3.6	-1.9	-4.4	-1.7	30
Iceland	-6.5	-2.3	-6.3	-6.8	30	-6.0	-2.1	-7.4	-3.9	32
Japan	-5.2	-1.5	-8.4	-3.0	29	-1.6	-1.0	-2.8	-0.8	24
Romania	-7.1	0.2	-7.1	-5.9	28	-1.0	-1.0	-1.3	1.0	17

Source: Eurostat (AMECO, May 2010).

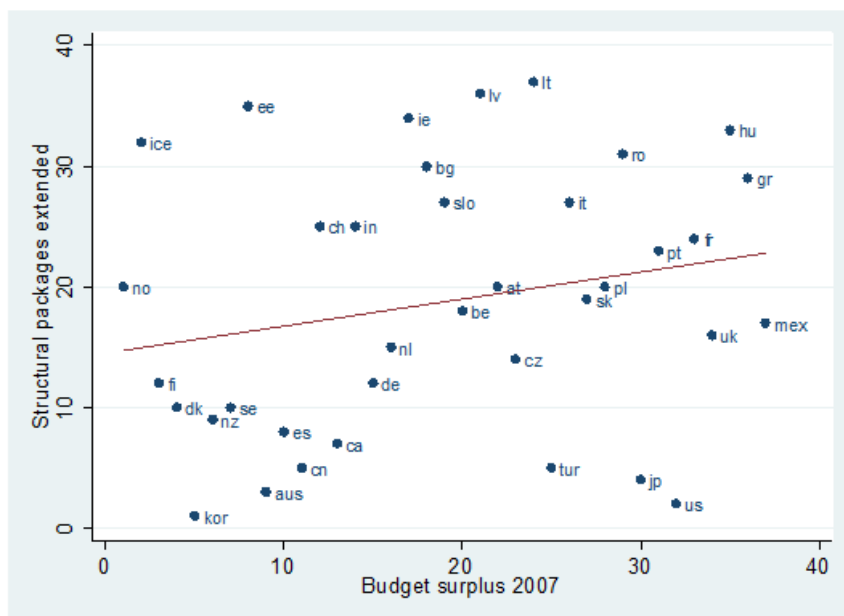
### Fiscal conditions 2007

Government budgets were in surplus 2007 in 19 out of the 37 countries. Among these countries the five Nordic European countries (Norway, Denmark, Sweden, Finland, Iceland) as well as Korea enjoyed a rather large surplus of about 4% of GDP. Smaller but still considerable surpluses occurred in Canada, Switzerland, Spain and Australia. High deficits (about 5%) were already seen in Greece, and Hungary, considerable deficit (more than 2%) in France, Portugal, US, United Kingdom.

Most of the countries with surpluses had also low debt/GDP ratios, notably Australia and Denmark, while those with current fiscal deficits also accrued higher debt ratios. In general current public deficits and debt ratio are high correlated.

The countries with budgetary surplus all increased their deficits (or changed from surplus to deficits), five of them by more than ten percentage points (Spain, Denmark, Ireland, Finland, Norway). The fiscal packages were above European average in Denmark, Sweden and Finland, but not to an extraordinary extent, so the bulk of the change in the budget position was made by automatic stabilizers. Korea, Australia, Canada are non European countries with a large fiscal surplus and high stimulus packages. Out of the deficit countries Ireland and Hungary had to consolidate, US and Japan enacted large stimulus packages despite of a deficit at the start of the crisis. Estonia had a budget surplus and low debt but did not stimulate its economy (in order not to endanger conditions for the introduction of the Euro).

Figure 1: Size of the packages (extended) vs. budget surplus 2007



R = 0.2234

Public debt is highest in relation to GDP in Japan, Greece, Belgium, Italy and Hungary, lowest in (other) Eastern European countries and in Scandinavian countries. High debt induced Belgium to limit its stimulus (maybe together with an instable government). Ireland, Greece and Hungary had to consolidate instead of stimulating their economies.

The general correlation between budget position and fiscal stimulus is as expected positive in the sense that surplus countries did stimulate and some deficit countries not or less, but the correlation is not very high ( $R = 0.22$ ). The correlation between stimulus and debt is still weaker (with insignificant, unexpected positive sign).

### **Trade competitiveness**

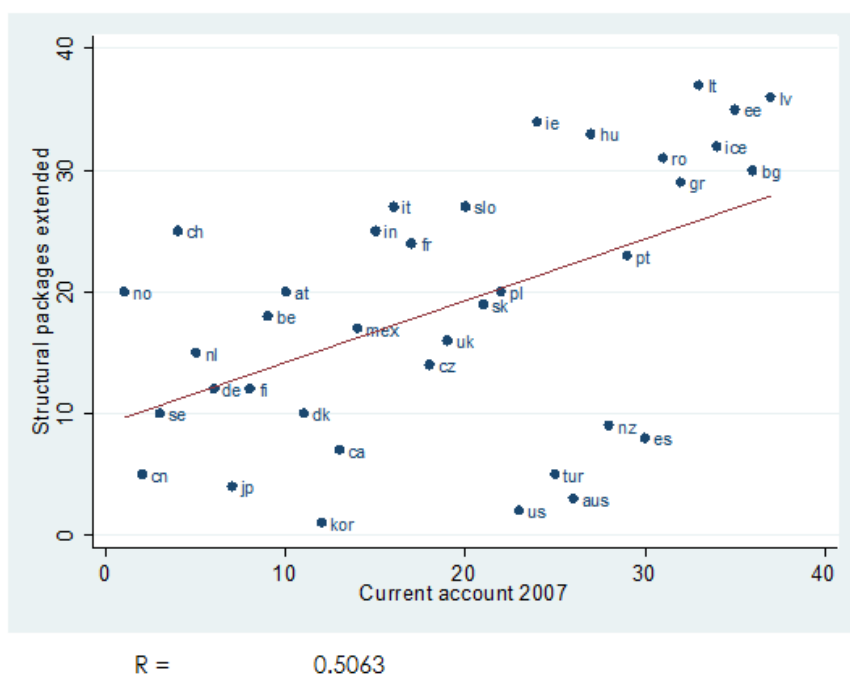
Trade deficits about ten percent of GDP existed 2007 in Greece, Portugal, Bulgaria and Latvia, United Kingdom and Spain had also deficits near 10%. The deficits are translated into current account deficits for all countries with one small and one large exception. The deficit in the current account for Greece is somewhat lower due to tourism (15% instead of 18% of GDP) and that for the United Kingdom decreased to 3% (instead of 9½%) due to the financial sectors surplus. In the US both deficits are about 5%. Large trade surpluses existed for 2007 in Ireland, Germany, the Netherlands, and Finland. It looks as if both extremes were not favourable for the severity of the crisis, deficit countries had often a twin deficit, and some surplus countries had larger losses due to breakdown of world demand.

In general, the external position at the start of the crisis and the size of the fiscal packages are positively related. This holds for trade balances in 2007 ( $R = 0.12$ ) and even stronger for current accounts ( $R = 0.38$ ). Countries with external surpluses like Germany, the Netherlands, Austria, Finland, and China had also considerable stimulus packages. The exceptions were Ireland, which had a surplus in trade but a large deficit in fiscal budget and Norway which did according to OECD data not use its surplus for fiscal stimulus. Out of the countries with large external deficits Greece, and Latvia had to consolidate, Spain, the United Kingdom and to some degree also Bulgaria had positive stimulus packages. The overall correlation, indicating that good trade performance in 2007 is correlated with better GDP performance in the crisis is stronger than that between fiscal position and active stimuli, which are a surprise, open for further interpretation.

Trade openness as measured by the sum of export and import share is – if anything – very weakly related with the performance in the crisis. This is remarkable since it was an international crisis, starting from an epicentre and diffused by trade and international financial relations. Belgium, the Netherlands, Austria and Switzerland are small, open countries in which the crisis was less severe; Ireland is the counter example of a very open economy, which was hit hard in the crisis. Less open countries with a moderate crisis were Poland, Japan, with strong impact Hungary and Sweden.

There seems a tendency that less open countries made higher positive stimuli, this holds for Japan and US, but also Korea and Australia, and outlier was Hungary which had to consolidate. Many of the most open economies had small stimulus programs, very little ones in Switzerland, Slovenia, and Slovakia, Ireland had to consolidate. The negative relationship between openness and positive stimulus efforts might be interpreted as the fear of leakage (and the hope to “free ride”) of countries with higher openness do. Openness correlates (negatively) with size, as shown by the activity of US, Canada, Japan, Australia, and New Zealand as large economies and Korea as less open economy. Therefore it is not evident whether openness or small size limited positive stimuli efforts.

Figure 2: Size of the packages (extended) vs. current account 2007



### Package size and pre-crisis dynamics

Many of the countries with large packages had high growth before the crisis; this holds specifically for China, Korea, Australia; US and Canada have high growth relative to Europe and within industrialized countries. The highest growth before the crisis however occurred in Ireland, and in Eastern European countries, which however could not stimulate growth since the breakdown of the construction bubble in Ireland, respectively the large fiscal and/or trade deficits lead to budget strains even without expansionary packages. China is here an outlier as fast growing economy enacting a large stimulus (India did grow fast but did not try to boost demand by a large stimulus program). Altogether there is a slightly negative relation between performance in the crisis and pre-crisis growth ( $R = -0.20$ ) and a stronger with stimuli

efforts ( $R = -0.32$ ), since the component that fast growing countries had to consolidate dominates.

Summarizing, the economies entered the crisis with very different conditions. One third of the countries had budget surpluses at the start of the crisis as they should have had after a period of high growth (at least moderately high growth); in many countries even the automatic stabilizers alone turned the surpluses into a deficit, so that positive discretionary deficits added to automatically generated deficits. Some countries had already high deficits at the start of the crisis. Some countries had additionally high deficits in their external position. This holds specifically for the Southern European countries and some Eastern European countries. Twin deficits combined with a fixed exchange rate were the most unfavourable position at the start. Even where the option of devaluation existed, external deficits then limited the ability to lower interest rates and devaluation did then little to encourage exports and a lot to raise import prices and to aggravate cost increases. Wages has been relatively high, specifically if compared to productivity in many Southern European countries. And the industrial sector had declined dramatically in Spain, Portugal and Greece.

Some countries had a housing bubble before the crisis set in; its burst aggravated the crisis considerably. So did indebtedness of households, specifically in Ireland and Spain.

The worst combination was high current budget deficits, accumulated fiscal debt, and large trade deficits. This combination existed at the start of the Recent Recession in Hungary, Ireland, Latvia and Lithuania and lead to consolidation efforts from the beginning of the crisis on. It would have been advisable in Greece too but not done, with similar results for Italy and Portugal.

#### **Size of packages relative to initial conditions**

Economic stimuli were applied in a differentiated approach. Most countries which had room for boosting public expenditures did increase their deficits, least Switzerland and some very small economies.

Some countries which had very high deficits (budget deficits and current account deficits) were assisted by multinational agencies. IMF as well as EU did provide assistance to countries which could not stabilize their own economies due to large public deficits. Financial reserves for these purposes were increased, coordination mechanism intensified (joint action by EU, IMF). Some large countries like US, UK and Japan enacted positive stimuli programs despite of strained public budgets. In general less open economies did stimulate more.

#### **Size of packages and performance in the crisis**

It would be tempting to investigate how much active fiscal stimuli packages changed the depth of the crisis in individual countries. This is possible only in a careful econometric investigation, and would need a thorough explanation of the causes of the crisis, the conditions at the start and the policy mix. Just ranking the size of the packages and the

performance in the crisis is a much too crude method, and causality can run in both directions. Countries in which the crises had a higher potential, can have enacted larger packages. On the other hand countries which were in better initial conditions could have had more leverage to enact larger packages.

The overall correlation between the size of the packages and the performance in the crisis is negative and quite robust ( $R = 0.5$ ), i.e. countries with larger stimulus packages experience a positive less severe crisis. This correlation is supported on the positive side by China, Korea, Australia, New Zealand and the US which had large packages and smaller crisis. The positive correlation is supported on the negative side by the countries which had to consolidate (Ireland, Lithuania, and Hungary). Large packages concurred with less performance in Japan (which was afraid from a new period of deflation), Spain and the Nordic countries which had room for budgetary manoeuvre but could not prevent the crisis to become rather large in their economies. Good performers without large packages were Switzerland and Poland.

## 5. The content of the stimulus programs

Most stimulus packages were rather structural conservative; physical infrastructure made up the main part, very small shares were spent for green issues, and intangibles (education, research), specifically in European countries.

Table 6: The structure of the stimulus packages

	Infrastructure		Science, R&D and innovation		Education		Green Technology	
	% of GDP	% of SP	% of GDP	% of SP	% of GDP	% of SP	% of GDP	% of SP
Austria	0.97	80.0	0.04	3.0	0.05	4.0	0.16	13.0
Germany	0.50	35.7	0.10	7.1	0.60	42.9	0.20	14.3
France	0.24	85.7	0.00	0.0	0.04	14.3	0.00	0.0
Finland	0.48	90.6	0.01	1.9	0.02	3.8	0.02	3.8
Sweden	0.27	42.5	0.29	45.6	0.02	2.5	0.06	9.4
Portugal	0.03	4.1	0.13	17.8	0.41	56.2	0.16	21.9
Poland	0.07	84.7	0.01	15.3	n.a.		0.00	2.4
Norway	0.16	66.7	0.01	4.2	0.01	4.2	0.06	25.0
Europe	0.27	41.0	0.09	14.0	0.22	33.6	0.07	11.4
Europe (incl. Norway)	0.25	42.9	0.08	13.5	0.18	31.3	0.07	12.3
USA	0.70	38.9	0.11	6.1	0.58	32.2	0.41	22.8

Source: tip, Mit Zukunftsinvestitionen aus der Krise? July 2009.

Boosting infrastructure via large programs (highways, railroads, national spearhead programs) proved to be very difficult in the short run. Casual evidence hints that only half of the plans decided upon by governments were executed after more than one year.

If the casual evidence that infrastructure programs take a long time to being implemented, and the construction sector's large size had been one of the reasons for the crisis, it may make sense to shift from larger projects to smaller projects, from tangible to intangible

investment in the future. Of course the perennial request for programs which had to be pre-planned makes sense ("construction-ready programs").

### **Incentive programs with caps and time slots**

The measures which worked best with regard to their speed and their level of implementation were those which provided incentives to do something which already stood on the agenda of consumers or firms, and where this incentive was limited to a specific time frame and/or a pre-determined maximum amount of government subsidy. The best known example for this type of incentive are the "cash for clunkers programs", which subsidized the purchase of a new car (with little or no ecological restriction). These subsidies, if limited, were quickly exhausted, and car dealers even added a specific discount or prolonged the programs after the government subsidy had ended. A similar success had been private home renovation programs with an energy saving component (thermal renovation) e.g. in Austria. Thermal renovation of office buildings and schools proved more difficult to implement since administrative consent needed more time or schools declined to pay slightly higher rents for the period immediately after thermal renovation (even if in the long run "original rents" plus energy costs would have declined substantially and the investments were heavily subsidized).

A tentative lesson from this is that larger, bulky programs are more difficult to implement. Smaller projects, with an effective incentive, may be better from the perspective of their ability to quickly boost demand.

### **Tangible vs. intangible programs**

An open question is whether intangible investment programs would not be better than programs for physical infrastructure. Overviews on stimulus programs (*Saha – Weizäcker, 2009; Breuss – Kaniowski - Schratzenstaller, 2009, Tip, 2009,*) show that most government programs were for traditional infrastructure expenditures. Very few programs increased spending for education, R&D and green issues<sup>3</sup>. Spending on education or research is traditionally not a constituent part of stabilization programs since its effect on potential output is correctly thought to occur only in the long run. What is important in a recession is, however, the demand effect of expenditure. And the multipliers of expenditure on education are probably higher than that of infrastructure projects (due to the smaller import component) and the employment effect even more so (intangible investments are less intensive in physical capital). An objection against this type of expenditure as anti-cyclical device is that it may not be as easy to reduce it after the crisis. Secondly the additional employees generated by such programs are very differently qualified from those losing their jobs in the crisis. If education expenditure in stimulus programs concentrates on re-qualification both objections

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<sup>3</sup> Exceptions are Sweden which focused on R&D, Portugal focused on education and Norway on green technology, see Table 6.



against the focus on intangibles should lose importance. Summarizing, we believe that the long-term "supply side effect" on growth and employment of intangible investment is larger than that of physical infrastructure. The short run "demand side effect" of expenditures in research, education and other intangibles is larger too and finally the leakage rate for intangibles may also be smaller.

## **6. "Leakage ratios" for infrastructure programs**

From the theoretical point we would expect fiscal policy and specifically fiscal expenditures to be most effective. Raising government expenditure in a recession is, according to conventional wisdom, assumed to be translated one to one into economic demand in the first period and then boosted by a "multiplier". Since stimulus programs were enacted in parallel in most countries in late 2008 or early 2009 import leakages should have been rather small. Since interest rates were slashed towards zero, this source of leakage could also be of little. On the contrary it is standard wisdom that tax reductions are subject to the uncertainty about the savings ratio. Since a certain part of income is saved, only part of the tax reduction is transferred into demand in the first period (and the savings rate tends to be rather large in a deep recession). Therefore, in standard models the impact (multiplier) of tax cuts is smaller than that of expenditure (see *OECD, 2009, IMF, 2009*). This conventional wisdom may have been wrong in this crisis due to the speed of the downturn and the need to react quickly. Casual evidence shows that it was very difficult to raise expenditure fast. In February 2010 the US government reported that out of 750 billion \$ stimulus planned in early 2009 only about 272 billion \$ had been enacted (including tax cuts). This is about one third of the total program. Even for the end of the Fiscal Year 2010, only 60% of the spending contained in the stimulus package will have occurred<sup>4</sup>. This concurs with experience in other countries. One full year after their implementation about one half of funds intended for Austrian stimulus packages have not yet been spent. More specifically out of the money intended to be spent in 2009 a large share could not be spent due to administrative problems up to the end of the year.<sup>5</sup>

A study for Austria investigates the planned stimulus programs and their effective implementation. While it is very difficult to compare various measures (tax cuts, credit, premium etc.) the result is clear-cut. At the end of 2009 66.7% of the planned tax cuts were set into force, while only 45.2% of the expenditures were spent (*Angelo – Feigl, 2009*). This would give a Leakage Rate of 54.8% for expenditures.

This makes the case for inserting a policy implementation or "Leakage Ratio" (LR) into economic models, which decreases or delays the demand effect of government expenditure planned in parallel to the "savings rate" (SR) which is modelled for tax cuts. From 100 € of planned government expenditure, a specific ratio will not be spent in the first period

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<sup>4</sup> Joint Research Committee of the US Senate, February 2<sup>nd</sup>, 2010, Sam Brownback and Wiener Zeitung, 18.2.2010.

<sup>5</sup> Further research should be done to get broader evidence (which is currently more anecdotal than empirical).

and another ratio may never be spent, at least not before the economy recovers. This could change the balance in the expected growth effect of the two instruments. In current models multipliers for expenditure are, in the tradition of the Haavelmo theorem<sup>6</sup>, always larger than that of tax cuts. If the "Leakage Ratio" (casual evidence indicates that the LR may be 30% to 40%) is higher than the Savings Rate out of tax cuts, the balance could shift<sup>7</sup>.

Table 7: Estimate for Leakage Rate in Austria's stimulus programs

	Intended volume	Effective volume	Effective volume/ intended volume	Leakage Rate
	Mio. €		In %	
Tax cuts	3,200	2,135	66.7	33.3
Expenditures	1,146	518	45.2	54.8
All measures	4,346	2,653	61.0	39.0

Note: excl. "Konjunkturpaket 1", average of two estimates for "Konjunkturpaket 2".

Source: Angelo - Feigl (2009).

## 7. Labor market policy and employment elasticities

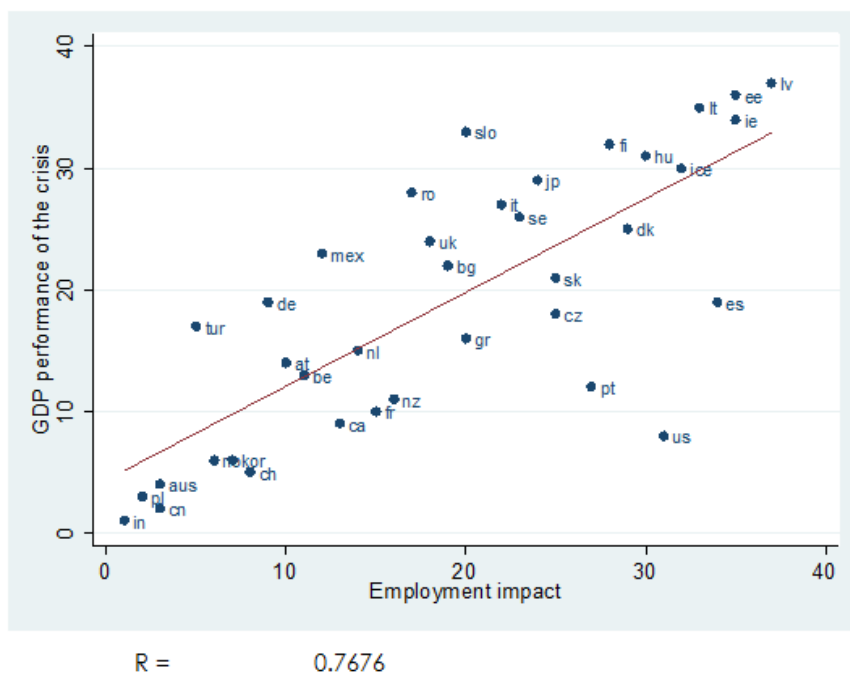
Additionally to fiscal policy (automatic stabilizers plus proactive stimuli programs) many countries tried to mitigate the employment response to the output decline. Part-time working schedules were applied specifically in European countries. In these arrangements firms agreed with their employees to cut work hours, with some but not complete decrease in the wages per hour. Some part of the wage cut by firms – again not the full amount– was compensated by governments (labour market organizations). Additionally in some countries –specifically in Germany – firms guaranteed on the firm level to shed workers if labour unions and worker councils accepted the arrangement. Consequently the employment elasticity

<sup>6</sup> It claims that the multiplier of a fully tax-financed public expenditure is one.

<sup>7</sup> The literature uses for delays in the effect of government programs often the terms recognition lags, implementation lags and impact lags. The first refers to the time period, policy needs to recognize the necessity of action: this lag was rather short this time due to the speed of the downturn. The implementation lag refers to the period between the recognition and the time the legislative process takes time, the third refers to the time between decisions and effect on spending and jobs (intended outcome). If we speak of a leakage ratio, we refer to a mixture of the second and the third: government has decided to spend, authorizes some agency to do so and maybe even transfer the money or the provision to borrow with state guarantee, but the money is not yet spent, since additional planning, permissions, tenders are necessary. US Budget Office (February 2009) report, cited in the statement of Sam Brownback, assess that for large projects like highways "the initial rate of spending can be significantly lower than 25 percent". Furthermore some projects might turn out as not feasible, or they would have been done without stimulus programs (which tried to accelerate them, which then proved impossible). Maybe the term "leakage ratio" can summarize these effects better than implementation rate.

(and the unemployment response) had been very different across countries. In Germany GDP loss was rather strong (-5%, 2009), employment loss small and unemployment did increase only from 7.3% to 7.5% (2009). In the US the GDP loss was rather small, employment fell by 3.8% (2009) and unemployment rose from 5.8% to 9.3% (2009).

Figure 3: GDP performance in the crisis vs. employment performance



We use the same technique to combine information into one employment indicator, ranking together the one year loss in employment, the three years lost, the maximum quarterly decline and the trend change within the crisis vs. pre crisis. According to this combined indicator on employment, the best performance is shown for the fast growing economies in Asia and South America, and for Poland in Europe. And the worst performance for the Baltic countries, Iceland and Ireland, this correlates with output performance.

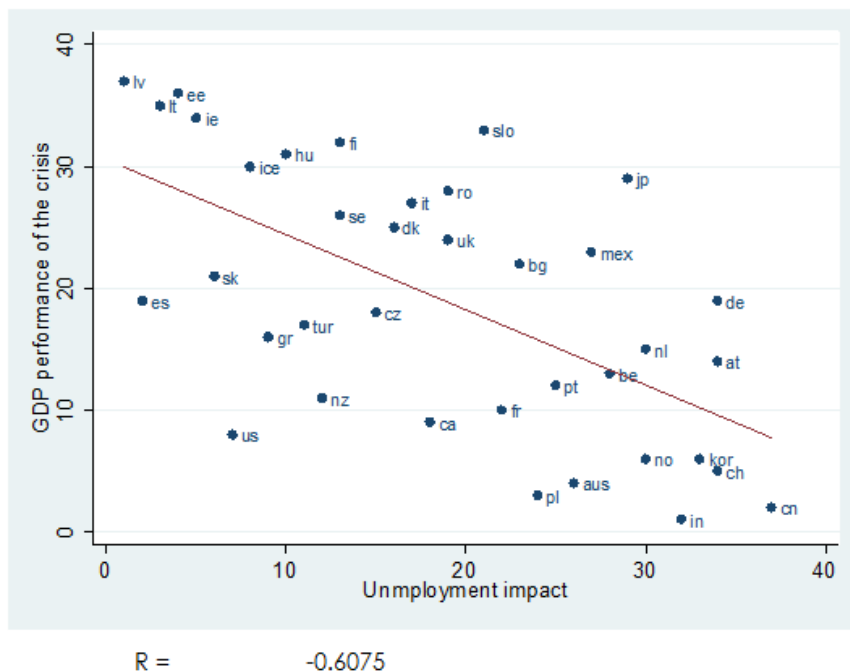
What is interesting is for which country ranking in output and in employment differs most.

The largest difference exists for Germany, which had above average crisis with regard to GDP loss (for 2009, for three years combined, for annual and quarterly data), but a very minor decrease of employment (on the 9<sup>th</sup> best performance for the combined employment indicator among 37 countries). Thus the difference between the rank in output performance (rank 19) and in employment performance (9) is strikingly large. Better performance for employment is also to be shown for Italy, Austria, Finland, Sweden, the United Kingdom, Slovenia and Japan.

In the US the contrary is true. Output performance in the crisis was rather good (rank 8), employment performance is on rank 31, unemployment increased fast (rank 7). Canada is

falling back a bit, also Switzerland. Worse ranks in employment than in output experience Spain and Portugal, in which employment had risen quickly and which had made an inflexible labour market very flexible, by part-time and fixed-time contracts lately.

Figure 4: GDP performance in the crisis vs. unemployment impact



In general the employment performance and output performance are fairly, but not strongly related. The rank correlation for the combined performance indicator is about 0.77 for employment indicators and -0.61 for unemployment. Exceptions are Germany on the one side, US at the other side. It looks as if countries with coordination on the labour market (social partners) and plant level contracts, but also administered market (Japan), performed better, and that some progress in the direction of flexible or part-time contracts made it easier to decrease work force in some European countries with inflexible labour market.

### Employment elasticities and unemployment

Another way to study employment reactions is directly to relate output loss and employment decline. This could be done for one year (e.g.) 2009, or for three years; it could be done for annual data, quarterly data, and without or with time lag (since employment does not react concurrently). We finally chose to take a two year elasticity for annual data, hoping that this will give the bulk of the response in one indicator (though fine-tuning with quarterly and slightly lagged data would be superior). We found six countries in which this elasticity made no sense since either output did not decline but employment did (US, Switzerland) or that employment did not decline but output did. If we deduct these cases, the employment

response was about 0.8, i.e. per output loss of one 1%, employment declined by 0.8%. The lowest elasticity is shown for Korea, Australia, Germany, Austria, and Romania. Responses larger than 1 occurred in Spain, France and Portugal but also in Denmark and Slovakia.

An alternative measure would be to relate the combined employment loss in 2009 and 2010 to the single year output loss in 2009; this allows incorporating the countries with a perverse elasticity in the first measure. Now we see that the US response with 0.8 in employment for two years is double as high as the average response, and ten times higher than the response in Germany, Austria, Poland and Canada. This is a rough estimate of the differences in employment reaction to output. Final evaluations need quarterly or even monthly data and approximately large between output and employment.

We conclude that besides from the differences in the depth of the crisis in output and the response of fiscal policy, there were differences in employment policy and in employment regimes which led to very different responses of employment relative to output (no stable Okun's law).

The reactions of unemployment to output variations differ to a similar extent. Unemployment rate was flat in 2008 and increased by 3.5 percentage points in the two years since (for the unweighted average of 37 countries). It increased by five percentage points in the US for 2007 to 2010 and by 2.8 percentage points in EU 15. Lowest increases were shown for Austria and Germany – in Germany specifically related to a higher output drop –, Japan and Switzerland, Canada and Australia.

## **8. Exit strategies, timing**

Exit strategies should be carefully tuned and follow a certain order. We follow the recommendation by *Bruegel* that first it should be guaranteed that the banking system has eliminated all the toxic assets and is recapitalized. Secondly fiscal stimuli have to be withdrawn but quicker in countries with high deficits and debt; thirdly monetary policy should reduce its expansionary role, first by stopping quantitative easing, then by increasing interest rates. But in general monetary policy should be not too restrictive during the exit phase since the expected growth rates are – with some exceptions in Asian countries – rather low (and unused capacities will mitigate inflation).

The reactivation and recapitalisation of the banking system will limit for some time attempts to increase taxes on banks. Such taxes are very popular, specifically since banks are seen as one of the culprits of the crisis. The pressure increases since profits are rising quickly and bonuses even more. While these arguments have some grain, it is not easy to increase taxes on banks, asking them to increase own assets relative to risks and keeping interest low at the same time. There are also some flaws insofar as conventional banks are easier to tax than investment banks and these less than other financial institutions, hedge funds, insurances.

Logically more consistent would be a financial transaction tax, if possible with higher rates for more frequent transactions, and less in the core business more in the derivative sector.

### *Fiscal exit: Increasing taxes or reducing government expenditure*

Literature on successful budget consolidations gives some important clues for the exit strategies. Consolidation efforts are the more successful if expenditures are cut, relative to strategies which increase taxation. Severe crisis – and a large consolidation effort needed – is to some surprise helpful.<sup>8</sup> But the consolidation strategy must be clearly communicated, and burden has to be distributed fairly. A positive environment – high growth in other countries – is helpful. The consolidation strategy has to be carefully designed to allow the expectation reversals to work (consumer expect their long-run income to increase, investors expect the trend of rising costs and taxes to be stopped, interest rates are expected to decrease). Cuts in government outlays should not affect income substitutes and transfers to low income earners or unemployed too much.

To some extent past experience has to be modified for the consolidation period which now follows. Most countries consolidate simultaneously, sending negative external effects cross countries. Consolidation concurs with efforts to deleverage (banks, households, firms). On the positive side world economy is growing rapidly allowing rising exports into non consolidating countries. The savings rate had been historically high in many countries, firms have rather high cash flow and astonishingly few firms experienced losses in the recession, so that liquidity is high.

### **Growth-oriented approach for expenditures and taxes**

It is highly recommendable to differentiate expenditures very strong. Investment into future growth, qualification, new technologies should increase strongly, while completion distorting subsidies should be curtailed.

As far as taxes are concerned tax rates are rather high – despite of temporarily lower revenues due to lower profits and lower employment and despite of efforts of many countries to lower tax rates before the crisis came. Government expenditures had increased before and in many European countries are about 50% of GDP or more (including the crisis driven expenditures). This high share of public expenditures – specifically in Europe relative to US, Japan and Asian countries – additionally boosts the case for expenditure cuts. Some of the expenditure cuts, specifically those reducing inefficiencies are slow to implement (due to rigidities, ratchet effects, privileges. Therefore a combination of larger expenditure cuts plus intermediate use of higher taxes from property, which are returned later or even better used to lower taxes on wages are a feasible combination. Tax increases are quicker to enact and

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<sup>8</sup> For a summary on the success conditions of consolidation strategies see *Pitlik – Gruber (2010)* and *Aiginger et al. (2010)*.

may have lower negative effects on effective demand at first (relative to cuts in expenditures). It is all important not to raise taxes on wages and on profits which are important for investment. It is also essential to forego the tempting strategy to increase the value added tax. While attractive from the sheer volume of tax receipts mobilizes, this depresses consumption and increases income spread (thus additionally lowering consumption).

Summing up, a growth component in consolidation strategy is essential. Since long-run growth depends on human capital, innovation (both on the firm level as on the national level) expenditures should increase – even above proportional during the consolidation period. Since it is well known that climate change will happen and costs will increase if the problem is not combated early – investment in CO<sub>2</sub> reducing technologies, and specifically alternative heating and mobility has to be continued or even accelerated in the consolidation period. Otherwise costs will increase.

### **Distributional issues**

Reducing social transfers should not be at the heart of a strategy to cut expenditures. This would increase the income spread between high and low incomes further and decrease consumption. What might be important is to make them more efficient and incentive compatible. This means higher transfers connected with qualification and mobility efforts, in work bonuses, incentives to work longer, incentives for firms to make working conditions more continuous, better apt for ageing workforce, lower redundancies, absenteeism etc.

The distribution of income changed before the crisis. Dispersion between high and low incomes increased, wages in most countries did not keep up with productivity, specifically for the low wage segment. Lower wage ratio has contributed to lower stability of effected demand, the large and fast growing share of the high wage sector contributed to the growth and volatility of the financial sector. While it is not the right strategy to increase wages faster than productivity, to decrease wages should be the strategy attest only for countries without severe trade deficits. Countries with high surpluses should pursue one or the other strategy to boost domestic demand. If they are not willing or able to increase investment encouraging higher than productivity increasing wages is necessary. This should be done at least for the one or two years in which low utilization of capacity is the dominant barrier for higher investments. In the near future investment is capacity constraint or depressed due to low expected demand growth, not due to cash or profit constraint.

### **Privatisation – a forgotten element of a consolidation strategy**

Privatization had been a pillar in most consolidation strategies. Its attractiveness is in the ability to reduce extremely high debt/GDP ratios quickly (given that firms are restructured and stock market evaluations not too bad). How the impact on regular budget is more controversial,

interest rates decline due to lower debt level, this is multiplied by better assessment of country risk. Dividends and tax receipts will depend on the performance of the formerly nationalized firms. If privatization is partially (reduction of public share from 100% to 25 %), it may well be that enlarging the activity (from national scope to multinational), the productivity push and or the technology input of the new private investor, may increase dividends or corporate tax in a way that future dividends are larger than before. However privatization has become extremely unpopular due to speculation of private firms and hedge funds before and during the crisis.

## **9. After the Crisis**

Apart from – but not independent of – the exit strategy the world will and should look different than before the crisis.

### **Reduced medium-term growth**

It is certain that there will no speedy return to the growth rates we have known until now. The world economy will not grow at 5% a year as it did in the last five years. And it is very improbable that either the USA or Europe will grow by 2% or more. The reason for this is the increase in uncertainty and the systemic risks which all firms, consumers and investors will clearly have implanted in their memories (which does also have a positive effect). Every company will try to keep a better balance between equity and debt: collateral or subordinated debt and other forms of hybrid capital equity will be viewed with a more critical eye, consumers will be less likely to take on debt (or as in the USA will have to pay off their debts using savings) and loans in foreign currencies with risky repayment products will no longer be able to be used to build a house. The period of time where all economic players (banks, businesses and consumers) adjust their equity-to-debt ratio is a period of low growth. Low growth rates mean that the increase in unemployment as a result of the crisis cannot be reduced. In Austria and many other European countries a growth in GDP of 2% would be necessary in order to reduce unemployment. This also confirms the above conclusion: the length of the crisis will depend on which indicators are used. Even if production gradually increases again by 2010 – but remain in a corridor between 1% and 2% – the rate of unemployment is not likely to go down but rather it will continue to increase (even if the rates can be reduced as a result of higher qualifications or re-sitting school final exams.<sup>9</sup>

There is also the theory that growth rates following the crisis will be similar to pre-crisis rates because medium term growth is determined by the size (growth) of the workforce and by technological change. Currently there is excess capacity (because demand is less than production capacity) and normally any upturn is stronger if the output gap is big. The

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<sup>9</sup> When the mismatch between qualifications demanded and supplied is less, the rate of unemployment is lower. Today the unemployment rate for unqualified people is at 15% and for people with a tertiary degree at 2%.



prognosis of a "V-shaped" recovery<sup>10</sup> which would mean that unemployment could quickly be reduced is, in my opinion, rather unlikely. Some models also show that a certain fraction of the potential output has to be written off due to the crisis.

## **Intelligent Regulation**

Financial regulation will take on a new form. Reforms have been discussed on an international and national level and some common themes have emerged. All financial products should be included in any regulation as should the level of equity as collateral required by financial institutions. Forming special purpose vehicles or passing on bad risk will no longer be so simple e.g. it could become compulsory to leave part of the most risky tranche of a securitization on the books of a financial institution. Hedge funds – at least when they have reached a specific size – should have registration obligations (although their owners are strongly lobbying against this and some European countries are becoming somewhat weak in their resistance).

National regulatory bodies will become more tightly linked and an international agency which expands on and complements the national ones is being discussed (Larosière-Plan, 2009). Checks should take place on a regular basis and should actually, on occasion, be carried out by the regulatory bodies of another country in order to squeeze out relationships and networks at a national level between the regulators and those that are being regulated.

A new and special regulatory mechanism will need to be found for multinational financial institutions. This will most likely be a multinational agency. The rules which apply to ratings must also be changed, the fact that rating agencies are listed on the stock market needs to be questioned and at the very least those requesting the ratings and those providing the ratings should also be subject to better regulation. Rating agencies should not be allowed to offer consultant services to institutions whose products they rate. The fact that American rating agencies dominate the market needs to be investigated and indeed, in general, the number of rating agencies needs to increase. Rules for any bail outs also need to be improved so that in any future crises intervention can be swift but not distort competition. Systemic risks need to be more widely included in the models on which financial regulation is based. The Larosière-Plan foresees a limit on systemic risks. A very important factor in any intelligent regulation is anti-cyclical rules regarding the equity ratio. Financial institutions should be forced to put aside a higher level of reserves during boom times for a certain loan risk class, a lower level during a recession for the same risk class (Hahn, 2003 and 2008, emphasized this point and the pro-cyclical effects of the Basel II rules; in 2003 he was almost the only one in the general literature to write about this). Incorrect regulations with a pro-cyclical effect accentuate the inherent tendency on the financial markets to provide too many loans in euphoric phases

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<sup>10</sup> For the opinion that the recovery will be steep because the production capacity allows for a quick increase in production see *IMF* (2009), *Mussa* (2008). Nevertheless even those economists who place a lot of emphasis on the supply side also agree that part of potential output will be lost due to the crisis (e.g. in the car industry)

and too few in a recession ("macro-prudential regulation" is anti-cyclical and requires higher reserves in good years (Hahn, 2008)).

### **No revival of state ownership**

The relationship between the state and the private economy will be redefined after the crisis. The self regulating mechanisms of the market have failed on crucial points, as have the thousands of employees in the regulatory bodies of the 27 European Union countries and the multilayered specialist regulatory agencies of the USA. Despite new regional hot spots the world economy collapsed almost simultaneously ("multi polar world"). Therefore, the stability and systemic risk of a global financial market needs to be afforded more attention in the future. If each year financial markets show a turnover of several times the value of GDP then new financial products do not only stabilize but can potentially destabilize the market. This effect is in addition to the historically well known waves of optimism and pessimism which are typical of the financial system (and investors), but which often get forgotten during periods of boom.

Nevertheless, the solution does not lie with increasing the proportion of nationalized businesses or the share of public expenditures in GDP. The state should strengthen its role in regulating those markets which are highly volatile or likely to fail. It also needs to adjust to the new environment of increased product variety, specialist solutions, internationalization and globalization. An efficiently run state which focuses more on the important public services does not necessarily have to cost more (Bayer, 2009). Its role as owner of car manufacturers or banks might be a short term necessity. However, the longer the state takes on the function of a business manager, the more certain it is that the disadvantages of public ownership will once again come to light (political influence, choice of manager, soft budget restrictions). In Austria, we know these disadvantages from the loss of billions of Euros in nationalized industries in the eighties and the nineties of the last century, the meagre service of the railway company and the losses in the airline and rail industry.<sup>11</sup> We can still remember that it used to take a long time to get a telephone (before there was liberalization and increased competition in the postal industry through private firms). German regional banks, Austrian local governments and the Austrian Federal Financing Agency all speculated on the financial markets and canalization networks and trams were sold by local governments to America and leased back again for tax purposes. The level of risk this entailed was severely underestimated.

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<sup>11</sup> Nevertheless ownership was not the only factor that affected efficiency and profitability. Competition, regulation, management and sector of the economy all played a role.

### **Financial transaction tax - a sensible option for many reasons**

The crisis, or the time immediately following the crisis, is the perfect time to introduce a financial transaction tax, namely the levying of a minimal tax of about 0.1% on every financial transaction (sale or purchase of shares etc<sup>12</sup>). Now is an opportune moment because there will still be large amounts of capital which are looking to be invested. It is politically opportune because the USA and Great Britain, who were both against its introduction until now, will both need to somehow increase taxes as a result of their extremely large budget deficits. It can also be seen as a small contribution from the sector which was partly responsible for the crisis and which also received huge sums of money to limit some of the damage to the economy. Furthermore, a financial transaction tax will serve to reign in the somewhat extreme area of short term transactions, which does not really serve to find market equilibrium but rather to make money by being a little faster (or technically better equipped). Such a tax conforms to the market relatively well since it does not ban transactions but merely makes them a little more expensive and curbs an activity with negative externalities. It goes without saying that any financial transaction tax should be introduced on a worldwide basis and the USA and Europe could be important places to start.

The closure of many tax havens, making the obligations to provide information more uniform, and more strict in the case of a suspected tax evasion, are all steps towards an international framework for financial transactions and would also mean that the introduction of any transaction tax would be smoother.

### **The biggest danger: a new form of protectionism**

Historians are all in agreement that the Great Depression was drastically deepened and extended through the use of protectionist measures. This time – at least in the first stages – the economic policy measures refrained from protectionism. EU countries tried to actively co-ordinate measures amongst themselves as did the EU and the USA. In addition a unified view of the problem was developed with the emerging economies of China and Russia (G20 summit). Finally the rescue packages for banks were also coordinated and their reach did not necessarily stop at the country's borders.

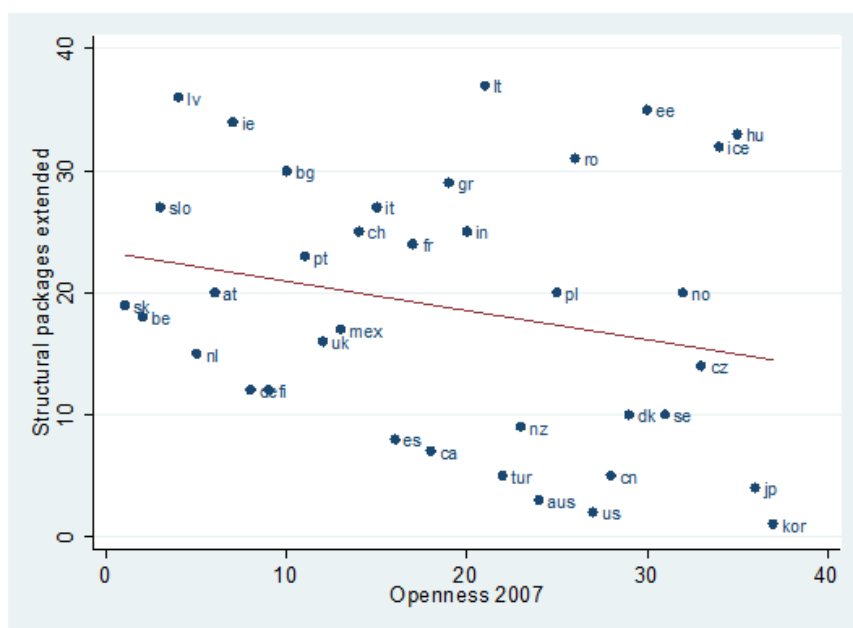
However, in the following there were and still are some clauses in the rescue packages which openly (as in France and China), feebly (as in the USA) or quietly (everywhere) favour the domestic economy. These burgeoning protectionist measures often managed to be eliminated or mitigated as a result of protests and negotiations. However, if the crisis lasts a long time and large national champions are in danger of bankruptcy and unemployment rises, attempts will re-emerge.

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<sup>12</sup> More complex suggestions involve a different tax depending on the level of risk of the goods (shares, oil, gold) covered by the transaction.

Protectionism has many dimensions - the devaluation (whether consciously or through lack of intervention) of the currency is one method. The structure of stimulus programs is often tailored to the needs of one's own economy. The call to buy domestic produce or to spend your holidays "at home" is a "soft" form of protectionism. When political tensions rise and radical parties have more influence the movement towards protectionism will increase. One of the important criteria in combating the crisis is that the world economy remains open.

Figure 5: Size of the packages (extended) vs. openness 2007



R = -0.2395

### The crisis as an opportunity

The post crisis world can also be a better one. In such a world private businesses and global markets dominate but financial markets will have been more intelligently regulated. Innovation not only increases GDP but is also directed towards achieving social goals (health, environment, fighting poverty). Investing in the real economy is once again favoured above investing in financial markets. The focus of a business is not only salaries and the value of the company is viewed in the long term and using broader criteria. The window dressing of accounts and off balance sheet transactions are not possible to the same extent as before. The rules of play for the financial sector and for rating agencies have been improved.

It is, however, important to note that following the crisis many problems will reappear in the "old order". The competitiveness of a country will be determined by education, innovation and technology. Eastern Europe and neighbouring countries as well as China, India and South America will have above average growth. Global warming will continue to be a

central issue. Migration will also still be necessary as will improving the integration of migrant workers.

The serious damage caused by the crisis is not an occasion to gloat or feel triumphant. Some of the causes of the crisis do originate from the character of the "American model/way" or the "Anglo-Saxon economic model" – namely the focus on short term profit, linking the salaries of the managers to the share prices (instead of broader performance criteria<sup>13</sup>) and the assertion that everything can be financed by credits and higher leverages. The belief in the self-regulating ability of the market and particularly the financial market was especially strong in the USA and this despite evidence to the contrary. Innovative financial models are also allowed even if they fall outside the remit of the regulations. On top of this comes the fact the USA and Great Britain ignored their own targets for a balanced budget and the crisis came at a time when they both had enormous budget deficits.

### **Making the economy more resilient in general**

Combating a crisis after it occurred is usually more difficult and more expensive than preventing a crisis. But crises will always occur and it looks even as if market economies have become more susceptible to external shocks under globalization.

*Aiginger (2009B)* presents five methods (or policy areas) which increase the resilience of an economy, namely (i) upgrading industrial structures, (ii) increasing economic growth, (iii) placing more emphasis on longer-term goals by firms, analysts and economic policy, (iv) avoiding factors which actually cause economic crises and (v) shaping of institutions and incentive schemes which serve to stabilise the economy.

- Making economic structures more resilient could mean upgrading industrial structures by switching from resource intensive sectors to human capital and knowledge intensive sectors. It also means moving partly from manufacturing to services, more specifically towards knowledge-intensive services. The following factors also make an economy more resilient: shifting production from homogenous products to more differentiated products, increasing regional diversification of exports; building a buffer stock; and avoiding single sourcing and dependence on one big firm.
- Increasing economic growth decreases the probability of absolute declines and high unemployment. Within this strategy investment into education, innovation and requalification are important, as is a growth oriented structure of public expenditure and an employment friendly tax structure. Projects with dual purposes (environment, health) will help because demand is less cyclical for such expenditure.
- More emphasis should be attached to (i) long-run performance measures instead of quarterly profits, (ii) business start ups, and (iii) anti-cyclical wage policy (hopefully

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<sup>13</sup> Making an additional salary payment to managers based on options in shares of their own business.

internationally coordinated). Targeting long-term processes, social inclusion and sustainability is important and a specific feature of the European Socioeconomic Model.

- Avoiding a crisis by smart regulation (not by a larger share of government in GDP), limiting the pro-cyclicality of research expenditure, and the pro-cyclical impact of finance by anti-cyclical reserve obligations should also be on the agenda. Reducing speculation with financial instruments by means of a financial transaction tax is as important as lower leverage ratios and a more stable shareholder structure.
- Stabilizing institutions involves a fiscal policy which provides budget surpluses in good times, and projects which are ready for construction and can be quickly started in a crisis. Innovative solutions to limit unemployment and to increase voluntary restrictions of work time (and increasing qualification) in recessions will help, as well as experience ratings in the unemployment and health contributions of firms (those with better records pay less). A more equal distribution of incomes and wealth and a higher rate of consumption relative to GDP limit cyclical fluctuations ex ante and is smoothed consumption if a crisis occurs.

The 23 strategies presented in table A1 could be the contents for an enlarged agenda of business cycle policy, combining demand management with structural policy. To be honest, not all strategies are achievable without potential negative side-effects and costs. Specifically, not all strategies to foster economic resilience are achievable without negative direct effects on growth<sup>14</sup>. Some strategies need similar policies to be pursued in parallel in other countries/regions and at an international level. Table 6 further demonstrates the feasibility of economic policy to influence a strategy, the side effects of the strategies on growth and competitiveness and their ability to be implemented on a national level. No strategy which leads to less openness and protectionism should be followed, since protectionism costs growth and jobs. The negative effects for the dynamic of the economy of some of the strategies need to be compensated by integrating special growth strategies into the overall strategy. In this way higher growth and employment could ideally be combined with greater stability.

## 10. Summary

- (1) The Recent Crisis, which had started from the Financial Crisis in 2007 and which finally hit the real economy in mid 2008, proved to be much smaller than the Great Depression. Output for industrialized countries dropped by about 5%, while it decreased by 10% in the Great Depression. World Economy declined only by 1% this time, and is forecast to grow by 4% in 2010, compensating the output drop in less than one year. Employment and unemployment reaction is much less too this time round. The decrease of stock market

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<sup>14</sup> Indirect positive growth effects may come from the reduction of uncertainty which increases consumption and investment out of given incomes and profits.

prices, industrial production and trade was more similar, but still smaller than in the Great Depression. The decline of the last mentioned indicators had been rather strong for three quarters indicating the potential of this crisis to develop into a Great Depression.

- (2) Economic policy was applied differently and had better preconditions (no gold standard, knowledge of economists about history, coordination between countries at G10, G20, IMF, World Bank). Some countries had accrued surpluses and made use of them. It was the combination of policies that worked: (i) monetary policy (from lower interest rates to quantitative easing, guarantees of savings accounts, bailing out of bank, re-capitalization), (ii) fiscal policy from letting automatic stabilizers work to stimulus packages, (iii) employment policies from part time to subsidies etc.
- (3) Assessing the depth of the crisis for countries even by a single activity indicator like GDP is no simple task, because we should consider not only annual rates, but also quarterly dynamics, should compare "in crisis" to "pre crisis" performance and how long the crisis lasted (for those countries it has ended, and hoping for all that no large second dip will follow). We combine four indicators to get an overall combined indicator for economic dynamics in 37 countries (2009 growth, three years growth, quarterly maximum decline, "in crisis" vs. "pre crisis" performance). According to this indicator the best performers were India, China, Australia, Korea (four Asian economies). In Europe such different economies like Poland, Switzerland and Norway performed best. The originator of the crisis the US is ranked 8<sup>th</sup>. Five (Poland, Korea, Australia, China, India) out of 37 countries economies had no decline in GDP in 2009. Worst performers were the three Baltic economies, as well as Ireland and Iceland, two economies which had climbed up to top position in per capita income. Rather deep crisis occurred also in Slovenia and Finland, top countries as far as the progress in transition resp. transformation into knowledge society is concerned. Looking into this hierarchy of top and low performers in the crisis indicates that it will not be easy to explain why the countries were hit differently.
- (4) The good performance of Asian countries is no surprise, since they had grown fast, had good fiscal positions and low debt, and gained competitiveness over the past decade. The good performance of South America is a little surprise as well as the resilience of African economies. Eastern European economies had very different performance, on average performance was not much worse than Western Europe (with the exception of the Baltic countries). Post Soviet economies did suffer rather strongly. Europe – be it defined as EU-27, EU-15 or as Euro-zone – was hit harder than US in the crisis as well as in the recovery, specifically as seen from the perspective that it had not been the origin of the crisis. In general there seems to be a Nordic bloc of low performers in this crisis (Sweden, Finland, Iceland, United Kingdom, Ireland, Baltic countries). But problems are lingering around and breaking out somewhat lagged in Southern Europe just now (mid 2010) due to high debt and large deficits in public finances as well as trade.

- (5) Ranking performance to the initial conditions of the crisis confirms that it is not easy to explain country differences. Performance is weakly related to the fiscal position in 2007. This insignificant positive correlation is driven by the fact that Asian countries had a good fiscal position in 2007 and a mild crisis, as well as the fact that the Baltic economies, Hungary, Italy and United Kingdom had large deficits and a deeper crisis. On the other hand Denmark, Sweden and Finland had a budget surplus at the start, but a rather disappointing "in-crisis-performance". No correlation (and several unexpected results) comes up if we relate performance to the debt (relative to GDP, 2007).

Surprisingly, much better is the relation between performance in the crisis and the current account balance. Several countries with surpluses in the current account in 2007 are best performers in the crisis (Norway, China, India, Belgium, Netherlands, Austria and Germany). Trade deficits and rather deep crises are seen in the Baltic States, Bulgaria, Ireland and Spain supporting the good correlation. Outliers in this regression are few (Sweden and Finland with positive external balances and over proportionate crisis), and Australia, Poland and US with deficits and mild crises). The overall correlation between external performance in 2007 and mildness of the crisis is 0.38.

It is surprising that the depth of the crisis is not at all related to the size of government. The share of government to GDP seems not to have been stabilising. There is no relation between crisis and openness (-0.12).

- (6) The average size of the fiscal stimulus packages had been about 3% of the GDP (of one year, expenditures were distributed over two to three years). Packages were largest in Korea, US, Australia, Japan, China and Turkey (with about 5% of GDP). Nine countries had to consolidate in the crisis, some of them with rather large "negative stimuli" up to 10% of GDP, Ireland, Iceland, Hungary, Baltic countries – so that an unweighted average gives a "package size" near zero. If we compare the size of the automatic stabilizers to the package size in the countries with positive packages, the impact of the automatic stabilizers were much larger.
- (7) The size of the packages is positively related with the budget position and negatively with public debt in 2007 (somewhat less and more instable), this holds for all countries in the set and also for those which tied stimulus packages. Fiscal surpluses and large packages were enacted in Korea, Australia, New Zealand, China and Spain, deficits and consolidation occurred in the Baltic States, Romania, Hungary and to some (unfortunately low extent) in Greece. Deficits and large packages occurred in Japan and the US and Turkey. Switzerland and Norway did not use their excellent fiscal position for packages. If we combine current deficits and debt/GDP ratio into a combined public prudence indicator, the correlation is rather strong for those countries which enacted packages, weaker if we include the countries which had to consolidate in the midst of the crisis.



Again the size of the packages is better related to the current account position in 2007 ( $R = 0.51$  for all 37 countries) than to the fiscal position in 2007.

- (8) There are lessons to be learned from the policy implementation this time round which are important for future crises. The first lesson is that the naïve assumption of economic models that government expenditure will increase demand immediately and without leakages proved wrong. We learned specifically that large physical infrastructure projects need a long time to be executed and maybe never will be fully implemented due to administrative hurdles. This has already been acknowledged in literature but is often ignored in the economic models. Casual evidence shows that one year after the decisions to boost expenditure with an infrastructure program, at best one third or one half of this expenditure has actually been converted into effective demand. If models use planned budget figures provided by government it might be advisable to incorporate a leakage rate (LR) which lowers the "effective" spending in the first period relative to the planned one. Up to now most models applied (specifically those used for short-term forecasting) yield larger multipliers for government expenditure and lower ones for tax cuts, since the former starts with the full demand effect, the later after deducting the savings rate (SR). Tax cuts are easier to enact, but their impact is modelled to be delayed since it takes time for consumption to increase. What is less known and not modelled is, that once a particular course of expenditure is decided upon by government (or parliament) it takes time before the money reaches the ultimate investor (a state agency, a private firm, a community), and more time until all the permits and appropriations are completed, and finally all tenders are published, opened and decided. This inherent delay may shift the balance towards tax cuts (or smaller projects). Very casual experience for the working of stimulus programs in Austria indicates that the leakage rate for government expenditures might be as high as 50%.
- (9) The second lesson regards the structural effects of government spending. Analyzing stimulus programs has shown that most programs were rather conservative, spending more of the same. Green projects are rather rare, as is investment into education and research. Perhaps economic policy should consider shifting expenditure during anti-cyclical policy from physical to intangible investments. Usually the latter ones are not on the political agenda, since education and research only offer long-run yields (supply side effect). However, during the crisis the demand effect is decisive. The demand effect of 1000 Euro of intangible investment may be larger – and the employment effect is definitely larger. Large infrastructure projects are capital intensive (and often use imported machines). One problem, however, could be that expenditure on research and education needs to be continuous and not subject of stop and go policies. However, there are always things which could be done (requalification, new schools and kindergartens etc.) more intensively. Increasing public research money during crisis or period in which private firms tend to cut their research budgets may also be a good choice (private sponsoring run dry in recessions).

- (10) Thirdly, we reiterate that the core of anti-cyclical Keynesian recommendations is to increase government expenditure (including discretionary expenditures) in an economic trough and to cut them in an economic boom, so that budgets are balanced over the cycle. Some Keynesian economists are now reluctant to recommend expenditure cuts as the main way to reduce deficits (and advice supported by short term, Keynesian models). This asymmetry, boosting expenditure in the crisis and opposing expenditure cuts after the crisis, leads either to a further increased debt/GDP ratio (if budgets are not balanced at all) or to a higher tax/GDP ratio (if budgets are balanced via increases in tax rates after the crisis). This is not the Keynesian approach of stabilizing demand if private demand is low. It may follow from political preferences, but this should honestly be argued separately. It is worth noting that the overwhelming empirical evidence shows that consolidations based on tax increases are not sustainable (deficits recur). Successful sustainable consolidations occur, where mainly expenditure is cut (maybe with an interim support of a higher tax rate which is later reduced). Traditional short-run models can give misleading advice in this situation: they emphasize the demand side and often fail to reflect the impact of expectations or other non-Keynesian effects. In traditional Keynesian models the cut in expenditure always reduces demand more than tax hikes. If we follow this advice of short run Keynesian models tax rates have to rise after each crisis. Policies following this line will undermine the standard Keynesian policy in the next crisis.
- (11) The fourth lesson is that it might be advisable to change the tax structure within a given share of taxes to GDP (i.e. changing tax structure not the overall showed tax) specifically in the exit phase of the current crisis; taxes on emissions, financial transactions and property could be increased, taxes on wages, specifically on low wages could be reduced. This would stabilize the financial sector, combat climate change, limit wage disparities, under consumption and unemployment. A discussion of "under-consumption" has some roots in the General Theory and there are some signs that this is a relevant topic today in Germany in specific. But this is a very different agenda from that of raising tax rates and/or increasing government debt. Investment incentives, fostering new products, boosting services with high income elasticity might be better alternatives.
- (12) Best of all would of course be to prevent future crises either through better regulation or through policies increasing the resilience of economies. Since it is not likely that crises and specifically financial crises can totally be prevented, we propose five types of policy measures which may limit the probability and scope of the next crises.
- (13) As far as the order of exit strategies is concerned is all important that the financial institutions are working well in supplying cheap and reliable credits to firms and households. They have to be recapitalized, toxic assets should be limited. Then comes fiscal consolidation in those countries in which problems are largest, while countries with less debts should start rather cautious with consolidation (define targets but consolidate only if demand has recovered). During the whole period of consolidation, monetary

policy should be growth supporting. The only real danger of inflation comes from prices of raw materials and energy, which could rise due to supply shortages or to high growth in non industrialized countries. In case this problem becomes very strong, it should be dealt with specific policies, specifically to curb energy consumption in all countries (new attempt to vitalize climate policy).

- (14) During fiscal consolidation everything should be done to prevent a negative spiral on economic growth. All consolidation strategies therefore should be careful not to depress consumption and investment. To prevent consumption from declining, the incomes of low income segment should be raised rather than depressed. Social systems and transfers can be reformed as to make the social system more proactive and more activating; targeting at social expenditure in general as prime target of consolidation strategy is a deep error with negative consequences. To prevent investment to decline, governments should abstain from high taxes on business to raise revenues should be abstained. Taxes on property, on financial transactions, on banks are less problematic. However the bulk of reforms should be cutting wasteful public expenditures and those with low employment effects.
- (15) Even during consolidation periods it is necessary to feed the growth drivers. *Expenditures* on education and on research and in new technologies should further be raised. Traditional expenditures should be cut over-proportionately in order to be able to increase spending (and making it more efficient, and raising private capital) for the growth drivers of economies. The current dogma that every country should consolidate, as fast as possible, with focus on social system or across the spending categories is wrong.

And very importantly, the goal of consolidation is not to fulfil EU-goals or to appease financial markets but to be able to conduct a proactive economic policy in the future. A successful consolidation does not need an austerity terminology (“we have all lived beyond our means” – specifically the low-wage earners), but a positive vision: we want to create an economic system with ecological responsibility and social inclusiveness, with a reformed financial sector, openness and increasing incomes.

## Annex

Table A1: Strategy elements to increase resilience: feasibility and side effects

	Controllable by Economic policy	Growth effect	Cost effect	National possible/ only international
<b>Policy Area 1: More Resilient Economic Structures</b>				
Strategy 1: Upgrading the industrial structure	difficult	positive	-	national
Strategy 2: Regional Diversification of Exports	somewhat	rather positive	-	national
Strategy 3: Build in Buffer and avoid Lock – In	partly (stocks)	negative	increasing	rather international
Strategy 4: Strengthening Automatic Stabilizers	yes	rather negative	-	national
<b>Policy Area 2: Increasing Economic Growth</b>				
Strategy 5: Investing into the Future	yes	positive	short-term increasing/ long-term decreasing	national
Strategy 6: Directing the Public Sector towards Growth	yes	positive	short-term increasing	national
Strategy 7: Projects with a dual purpose, high employment and growth effects	yes	yes	short-term increasing	national
<b>Policy Area 3: Emphasising on Longer Term Goals</b>				
Strategy 8: Measure performance over the long term	partly	rather positive (?)	increasing?	international
Strategy 9: Start ups	somewhat	positive	increasing private	national
Strategy 10: Anti Cyclical Wage Policy	partly	?	increasing	rather international
Strategy 11: Thinking more long term (European Model)	marginal	rather positive (?)	rather increasing	international
<b>Policy Area 4: Avoiding a Crisis</b>				
Strategy 12: Smart regulation	yes	positive	-	international
Strategy 13: Work against the pro cyclical nature of R&D expenditure	yes	positive	public increasing	national
Strategy 14: More critical evaluation of mergers and company size	yes	?	short-term increasing	international
Strategy 15: Tax financial transactions, evaluate financial innovations, reduce speculation	yes	rather positive (?)	slightly increasing	only international
Strategy 16: Deleveraging and a more stable shareholder structure	marginal	rather positive (?)	increasing	rather international
Strategy 17: More regionalization	somewhat	negative	increasing	national (limited)
<b>Policy Area 5: Crisis Stabilizing Institutions</b>				
Strategy 18: Budget surplus before a crisis	yes	short term/ long term	?	national
Strategy 19: Construction ready projects	yes	yes	positive	national
Strategy 20: Supporting firms with a viable business model only	somewhat	yes	slightly increasing	national
Strategy 21: Innovative solutions to limit unemployment	rather yes	yes	positive	national
Strategy 22: Experience Rating	yes	-	decreasing	national
Strategy 23: Broader company goals, trust and for distribution	difficult	positive?	short-term increasing/ long-term neutral	also national

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