Kiel **Policy Brief**

Fiscal Responses to the Financial Crisis

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1 Introduction

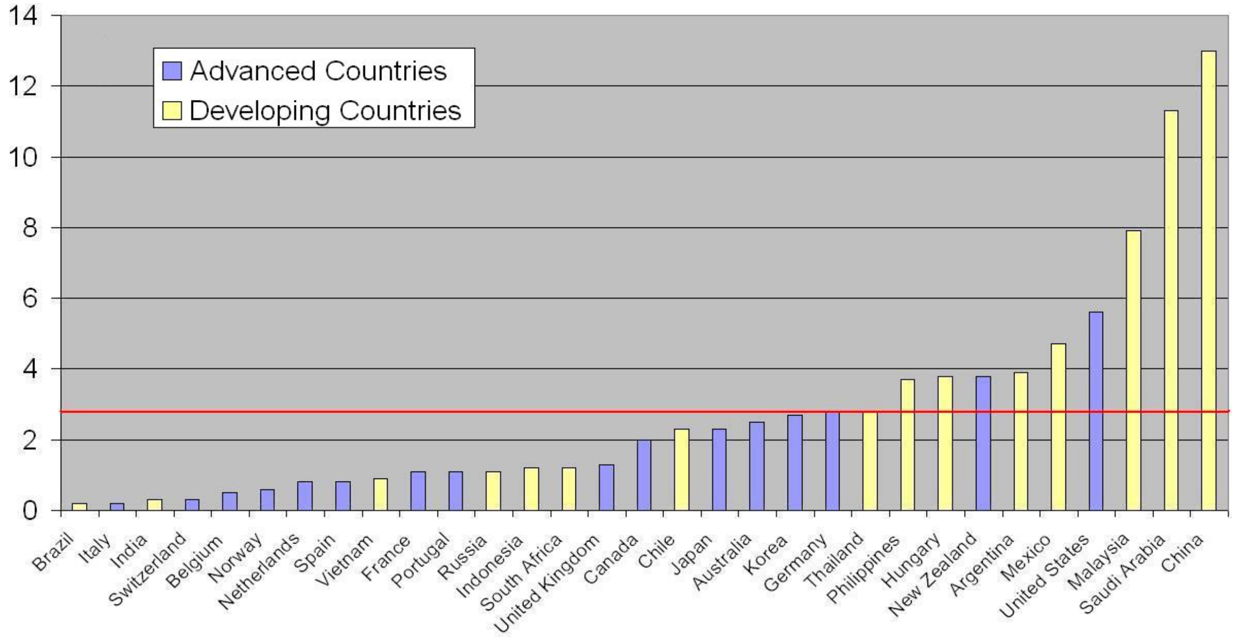
The severity of the financial and economic crisis has called for unconventional policy reactions. With monetary policy being constrained by the zero bound limit in late 2008, many industrialized countries have responded to the crisis by launching fiscal stimulus packages of unseen dimensions. Several emerging economies have also implemented packages of substantial size to support the demand side of the domestic and global economy.

Even though there is no clear consensus on whether fiscal stimulus is helpful or harmful and how it should be designed, we observe a huge appetite for governmental intervention.

This Policy Brief intends to analyze the scope, composition, and timing of fiscal actions taken by over 30 economies worldwide.

2 The Scope of Stimulus Packages

In a recent study, the International Labor Organization ILO (2009) has collected international evidence for fiscal stimulus packages undertaken by 32 national governments. Figure 1 summarizes the ILO's findings and shows a wide heterogeneity in the size of national fiscal stimulus packages. The front runner in relative terms is China, whose $586 billion stimulus accounts for about 13% of Chinese GDP followed by Saudi Arabia, Malaysia, and the United States, whose "American Recovery and Reinvestment Act of 2009" is the largest package in absolute terms ($787 billion).



The thick line denotes the sample average of 2.8%. The values represent the volume to GDP (2008) ratio.

Figure 1: Scope of the National Stimulus Packages. *Source*: Data from ILO (2009).

Most European countries have been reluctant in comparison, with package sizes between 0.3% in Italy and 1.3% in the United Kingdom, which are substantially lower than the sample average of 2.8%. The exception is Germany, whose two fiscal packages sum up to approximately $110 billion or equivalently 2.8% of German GDP.

Combining all national efforts, the world fiscal stimulus, according to the ILO (2009), amounts to approximately $2 trillion or equivalently 1.4% of world GDP, which is still below the IMF's recommendation of 2% of world GDP (Blanchard (2008)).

Where do the significant differences in spending come from? In general, two factors determine the size of the fiscal stimulus; differences in the necessity for stimulus and the fiscal ability.

According to Horton and Ivanova (2009), the necessity for stimulus crucially depends on the size of the automatic stabilizers and the output gap. The authors argue that countries with larger automatic stabilizers are less in need of discretionary fiscal intervention and show that, indeed, government size - as proxy for the impact of automatic stabilizers - is negatively related to the amount of fiscal expansion. Furthermore, they find a strong positive relation of supportive fiscal spending and the extent of the output gap.

Secondly, the available fiscal space explains much of the variation in stimulus size. Horton and Ivanova (2009) emphasize that governments like the US, China, and Germany are in a much better fiscal position, facing lower public debt, contingent liabilities, and interest rates than other countries. This leaves more fiscal space and, hence, increases the ability to provide a strong stimulus. India, Italy, and Japan on the other hand, face more severe restrictions including higher debt levels and real interest rates, which reduce fiscal space to a minimum. Horton and Ivanova (2009) statistically confirm this intuitive result by finding a negative correlation of fiscal stimulus and public debt. This argument might also explain why some countries do not conduct fiscal stimulus at all, which is the subject of the following subsection.

2.1 Developed versus Developing Economies

The ILO study reveals that most of the countries issuing fiscal stimulus are either developed countries or larger emerging economies.

As shown by Arbache (2009), many developing economies on the Asian, African, and Latin American continents are simply not in the economic position to impose large fiscal packages to encounter the decrease in demand. According to Figure 2, these countries not only face a negative demand shock to their export sector (left panel) – like most of Export Sector in Developing Economies the developed world – but they have also been confronted with heavily falling prices of natural resources such as crude oil, copper, aluminum, cotton, and coffee (right panel), harshly hitting the supply side of their economies. Since government revenues of developing countries often depend crucially on export earnings, fiscal budgets are under particular pressure, making it even harder to finance fiscal effort. Therefore, most small developing countries require external funding to set up fiscal stabilization packages, since many of them have already reached the limit of domestic debt financing. Reinhart et al. (2003) argue that, historically, many defaults of emerging markets took place at debt to GDP ratios sometimes as low as 15% and mostly well below the Maastricht criteria of 60% for the European Monetary Union. On this matter, World Bank President Robert B. Zoellick called for a “vulnerability fund” aimed to support the poorest of the poorest. Zoellick appealed to the developed world to donate a fraction of 0.7% of their fiscal stimulus packages to such a fund. Yet, no such fund has occurred and fiscal stimulus in the developing world – with few exceptions – remains low.

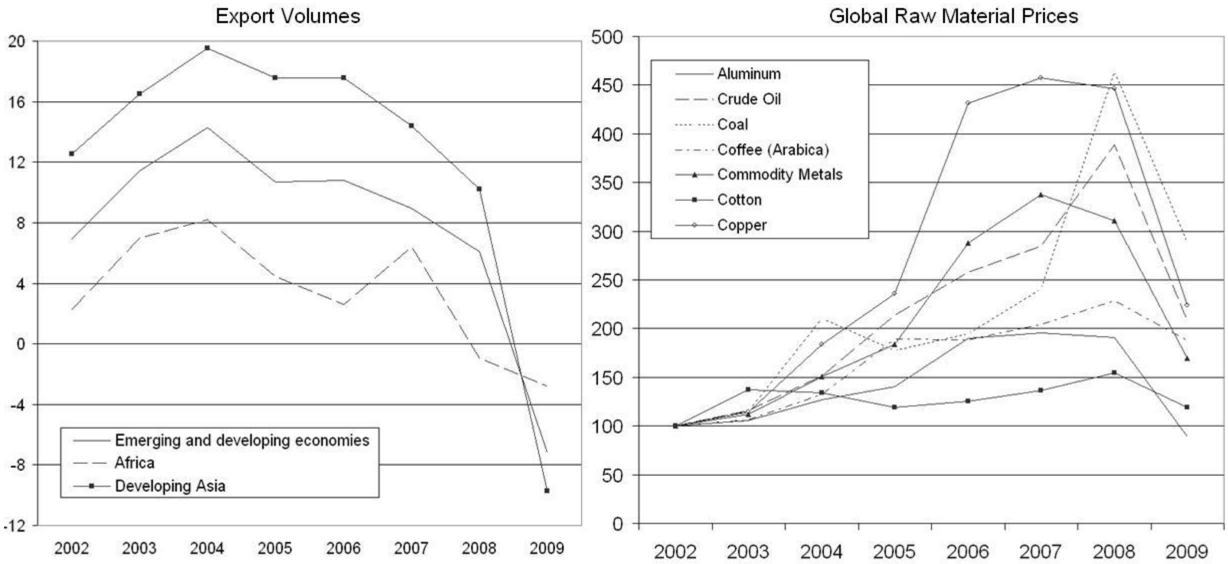
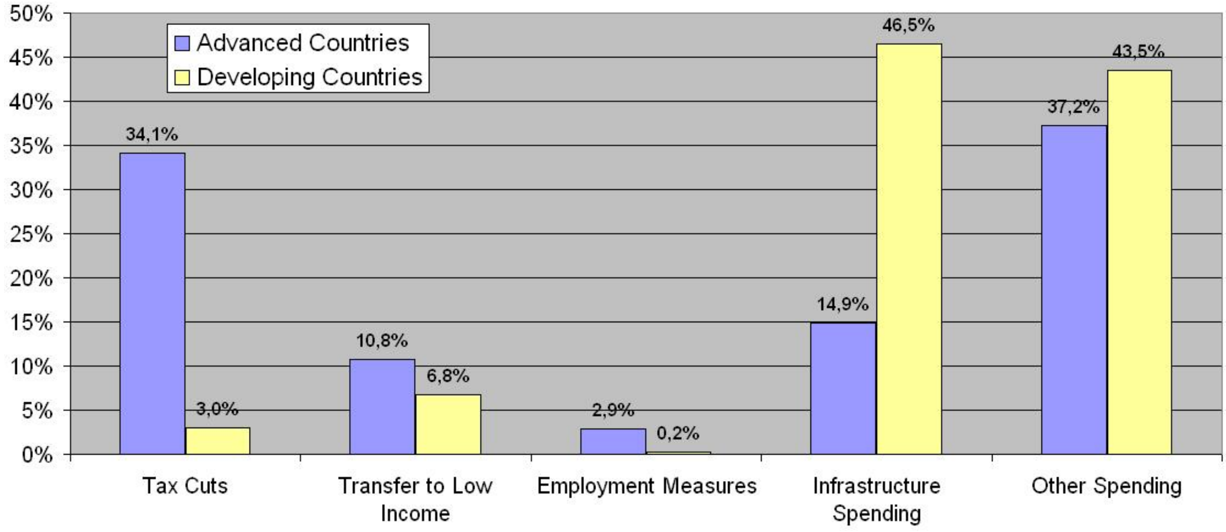


Figure 2: Source: Data from IMF.

3 The Composition of Stimulus Packages

The mere size of the stimulus does not guarantee success of the fiscal measures. Perhaps even more important is the composition of the packages, i.e. the choice of the specific actions taken. In general, we can categorize governmental effort into three branches: direct government spending, tax cuts, and transfers to households.

Along these lines, Khatiwada (2009) analyzes 22 stimulus packages from the ILO (2009) report. The results are summarized in Figure 3. The author shows that packages vary signify-cantly with respect to the shares of tax cuts and government spending. Government spend-ing accounts – on average – for approximately 90% in developing economy stimulus plans, but only for about 50% in advanced country stimulus plans.



Examples for "Other Spending" are direct and indirect transfers to businesses, indirect transfers to consumers, and additional funding for education and health.

Source: Data taken from Khatiwada (2009).

Most of this difference can be explained by the presence of tax cuts, which take a fraction of roughly one third in advanced countries, while they are negligible in the developing world.[1] Evidence from recent polls by Rasmussen Reports (2009) in the US reveal a clear preference for tax cuts over direct spending measures, since the majority of US citizens think that taxpayers are the best judges for spending. In smaller developing economies, however, economists see no effective scope for tax cuts. Arbache (2009) argues for the example of Africa that the income tax base is fairly low. Furthermore, due to the extremely high propensity to import, also a VAT cut would be without significant effect to the domestic economy. Devarajan (2009) also holds the view that lowering taxes in Africa will not be suitable to stimulate growth. He argues that many tariffs and taxes have already been reduced due to economic events that were unrelated to the financial crisis,[2] thus reducing the scope for further reduction.

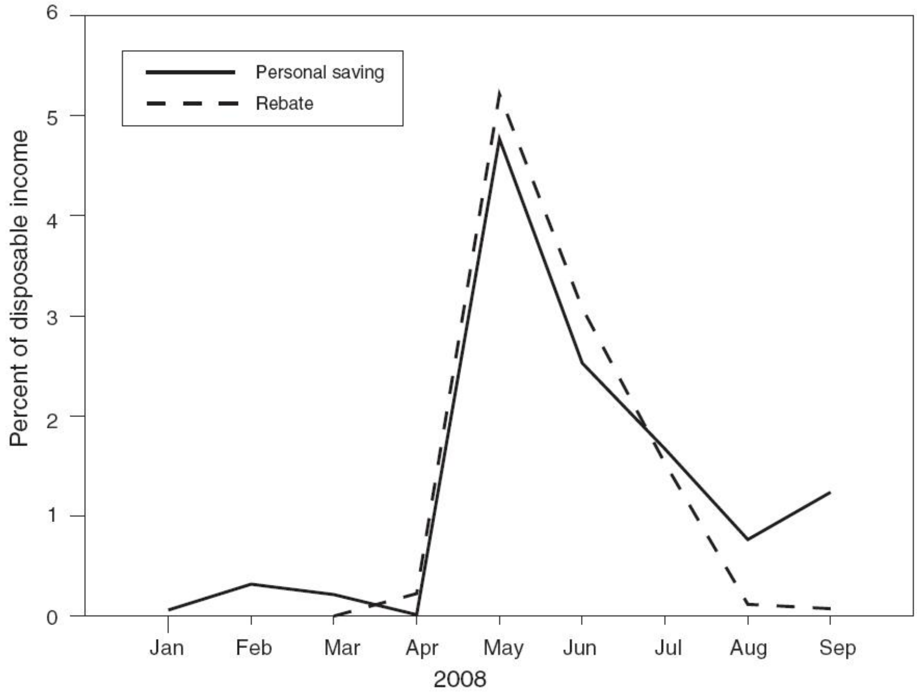
Decomposing multiple-wave stimulus packages, Prasad and Sorkin (2009) show that the share of tax cuts has declined significantly from the first wave to the second for many advanced economies. They report that countries like the US, Germany, Australia and Spain clearly favored tax cuts over direct spending in their 2008 packages, but turned to more expenditure loaded plans in 2009. Why is that so?

The past might yield an answer. Looking at the performance of American Recovery Act of 2008, economists widely agree that the Bush administration's 2008 tax rebate failed its goal to stimulate demand. Moreover, in a telephone survey presented by Shapiro and Slemrod (2009), approximately half the respondents claimed that the additional tax money was mostly used to pay off debt. Another thirty percent indicated that they saved the largest part of it, whereas only twenty percent of the respondents actually spent a major part of the cash

[1] The only exceptions to this are Russia and Brazil, where packages focus almost entirely on tax cuts. A look at Figure 1, however, reveals that both packages are relatively small.

[2] Such events are e.g., the severe food price increase in the mid 2000s.

transfer. Further evidence is given by Figure 4. During the month of implication (April to August) the fraction of the tax rebate relative to disposable income moved almost one to one with the fraction of personal saving. These results match exactly the experiences from the Bush administration's 2001 tax cut bill, when also four fifth of the rebate drained through the leakages of saving and debt repayment. The evidence strengthens the assertion of tax policy to be mostly ineffective and consequently, calls for alternative measures.[3]



Source: Shapiro and Slemrod (2009).

[3] Barry Schwartz (2009) argues that the Bush administration's $500 tax rebate was erroneously designed to actually stimulate private consumption. Emphasizing the role of "mental accounts," he claims that it is "the packaging [that] counts," i.e. that peoples' consciousness towards the additional money matters. For instance, to many people a fairly large one time tax reimbursement of $500 generates the incentive to carefully think about the use of the additional cash, which often results in increasing savings or repaying debt. However, remitting $10 or $15 of people's payroll taxes and leaving it on their weekly pay check is hardly noticeable and hence, the additional money is easily absorbed into the weekly spendable budget.

4 The Timing of Stimulus Packages

The OECD (2009) provides additional information about the timing of the implementation for the OECD countries. This information is summarized in Table 1. According to Table 1, only one third of all countries analyzed by the OECD implemented measures that had taken effect already in 2008, accounting for approximately 15% of overall fiscal stimulus. The remaining 85% are allocated over the years 2009 and 2010 with 48% and 37%, respectively. The Asian and Oceanic OECD countries focus their fiscal expansions on 2009, whereas on the northern American continent most of the fiscal impulses will only become effective in 2010. The European countries are highly heterogeneous, showing no clear preference for early or late stimuli. Prasad and Sorkin (2009) report that China and Saudi Arabia, which both are not listed in Table 1, also plan their major stimulus to be provided 2010. According to Khatiwada (2009), Malaysia, having the third largest fiscal package to GDP ratio, plans to equally split expenses over both years.

Table 1: Timing of Stimulus Packages

Country	2008	2009	2010	Country	2008	2009	2010
Australia	13	54	33	Korea	17	62	21
Austria	0	79	21	Luxembourg	0	65	35
Belgium	0	51	49	Mexico	0	41	59
Canada	12	41	47	Netherlands	0	49	51
Czech Republic	0	56	44	New Zealand	6	54	40
Denmark	0	33	67	Poland	0	70	30
Finland	0	47	53	Portugal	0	100	0
France	0	68	32	Slovak Republic	0	41	59
Germany	0	48	52	Spain	32	44	24
Hungary	0	51	49	Sweden	0	43	57
Iceland	0	28	72	Switzerland	0	68	32
Ireland	6	39	55	Turkey	17	46	37
Italy	0	15	85	United Kingdom	11	85	4
Japan	2	74	24	United States	21	37	42
Average (unweighed):					5	53	42
Average (weighed)*:					15	48	37

*Mexico added by author to the OECD (2009) sample. Thus, weighed average excludes Mexico.

Source: Data taken from OECD Economic Outlook 2009.

5 Conclusion

In response to the worldwide financial crisis, many countries have put together fiscal stimulus packages of substantial size comprising increases in public spending, tax cuts, and transfers to the private sector. These packages vary considerably in respect to size, composition, and timing. Particularly large packages have been adopted by the United States and China, but also by Germany which took the leading role in European fiscal expansion. Other countries, in particular those that were severely restricted by already high deficits, or developing countries with a weak fiscal system provided only little or no fiscal incentives.

There are also marked differences in the structure of the stimulation packages. While developing countries provide fiscal stimulus almost exclusively via increases in spending, one-third of the packages in industrialized countries takes the form of tax cuts. It is, however, remarkable that the share of tax cuts in these countries has decreased substantially in the 2009 packages, as compared to the packages which were decided in 2008. This may to some extent be explained by the low effect which the Bush administration's tax rebate in 2008 had on aggregate demand.

Concerning the time pattern, most packages envisage the measures to focus on 2009 and 2010. In some countries, such as the United States and China, the fiscal stimulus is planned to reach its peak only in 2010. To which extent the stimulus packages will actually be realized, however, is yet uncertain. As the many economies have stabilized surprisingly fast in the second and third quarter of 2009, there are already some observers who suggest to cut back on fiscal stimulus plans, and start fiscal consolidation earlier.

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