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FISCAL POLICY IN RECESSION

US FISCAL POLICY IN RECESSION: WHAT'S NEXT?

ALAN J. AUERBACH*

The US recession that began in December 2007 is likely to be the longest recession since the Great Depression. It is clearly the most severe in decades. In response, the US government has actively applied the tools of monetary and fiscal policy. On the monetary side, the Fed lowered its target for the Federal Funds rate ten times between September 2007 and December 2008, starting at 5.25 percent and finally reaching an effective minimum range of 0 to 0.25 percent. To augment this standard monetary policy tool based on the purchase of government bonds, the Fed has also engaged in purchases of a range of other financial assets on an unprecedented scale. All told, the Fed provided more than 1 trillion US dollars in financial support to banks, corporations, money market funds, and other institutions through the end of 2008, with outstanding reserves rising accordingly.

Fiscal policy, too, has been very active. In February 2008, Congress passed the “Economic Stimulus Act of 2008” containing one-time tax rebates for households and temporary accelerated depreciation for businesses, producing a one-year increase in the deficit of just over 1 percent (CBO 2008). Almost exactly one year later, under a new president and with the severity of the recession much more apparent, Congress attempted to provide additional fiscal stimulus through the “American Recovery and Reinvestment Act of 2009”, which was estimated to increase the deficit by a cumulative amount of nearly 5 percent through its first two full budget years (CBO 2009a). The 2009 legislation was not only bigger than the previous year’s, but also provided for increases in government spending, including expanded unemployment compensation and aid to state and local governments.

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In this essay, I consider whether the fiscal stimulus made sense, whether it was of the right magnitude, and the special problems facing fiscal policy in the United States at the present time, given the severity of the recession, the fiscal agenda of the Obama Administration, and the long-run fiscal imbalances that the United States faces as it confronts its rapidly growing expenditures on its major old-age entitlement programs.

The 2009 stimulus package

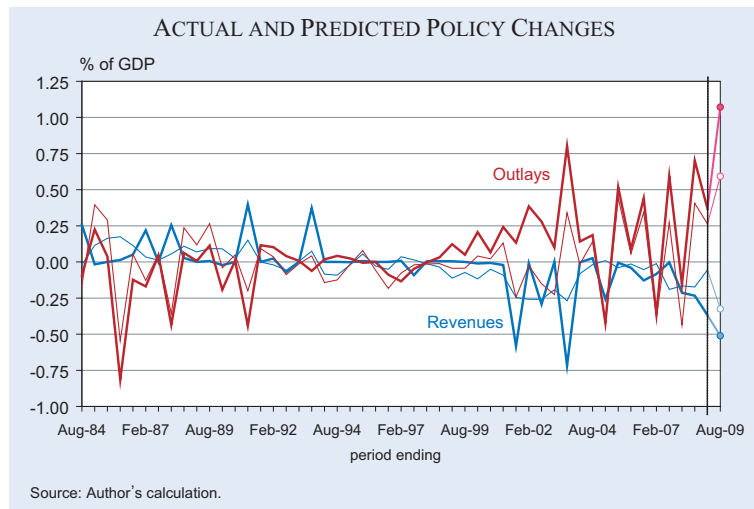
After the 2008 fiscal stimulus was introduced, there were many calls for additional fiscal actions. These calls increased as the financial market collapse accelerated in the fall of 2008, and by the time President Obama took office it was a virtual certainty that some action would occur quickly. But the size and composition of the fiscal package remained undetermined. Some argued for an even larger package than was adopted. Others expressed concern that the timing might have too much of the stimulus hit the economy after the greatest time of need and contribute to inflationary pressure, while others worried about the potential contribution to the long-run fiscal problem. Finally, there was skepticism about the ability of the likely fiscal package to stimulate the economy very much, particularly given the state of financial markets at the time and the general uncertainty about the size of fiscal multipliers.

The size of the 2009 fiscal stimulus

One way to determine whether the size of the 2009 fiscal stimulus made sense is to compare it with recent US practice. This is difficult given the unusual current circumstances, but it is nevertheless interesting to consider whether policy today is in line with fiscal policy responses in other episodes. Figure 1 provides a simple overview of the evolution of US fiscal policy in recent decades. The series in the figure are the actual and predicted values of legislated changes in federal revenues



Figure 1



and non-interest expenditures as a percentage of potential GDP at roughly semiannual intervals spanning the period from summer 2004 (represented as August 1984 or Aug-84) through winter 2009 (Feb-09). The series for actual revenue and expenditure changes are compiled from Congressional Budget Office (CBO) publications, and are weighted averages of the legislated changes during the period covering the fiscal year in which the changes were enacted plus the following four fiscal years. The predicted series (represented as thin lines) come from simple linear models based on the same specification I have used in previous papers, most recently Auerbach (2009), explaining the actual series with the beginning of period average (using the same weights) CBO forecast of the current and subsequent four years' projected budget surpluses and the most recent quarter's output gap.¹ To the right of the dotted vertical line in the figure are out-of-sample predicted values of revenue and expenditure changes for summer 2009 (Aug-09), the current period as of this writing, for which the explanatory variables are already available. The actual values of the dependent variables for this period are not yet available because further legislation is still possible before the end of the period, but we do have the values through the passage of the recent fiscal stimulus package, as computed by CBO. These are the values

¹ Auerbach (2002) provides a detailed discussion of the variables used in the estimation.

shown in the figure for the current period.

The estimates themselves, given in Table 1, show that both revenue and expenditure policies have been countercyclical and budget-stabilizing, with larger responses on the expenditure side. But, as the figure shows, policy volatility has varied over time, with a very quiet period during the mid-1990s sandwiched in between more active periods before and after.

As discussed in Auerbach (2009), the general consensus in support of a large fiscal stimulus in 2009 represents a marked change from the recessions of 1982 and 1990, when no fiscal stimulus was adopted and indeed contractionary fiscal measures were undertaken in response to growing budget deficits. But the move toward more active countercyclical fiscal policy predates the policy discussions of the past few months. Late in the 2001 recession, for example, Congress considered and eventually passed legislation introducing "bonus depreciation" investment incentives, the same bonus depreciation that reappeared in the 2008, along with income tax rebates, and that were extended by the 2009 legislation. However, even based on the full sample period, the estimates in Table 1 predict a large fiscal intervention during the current period – larger increases in spending and tax cuts than are predicted for any date during the estimation period. Still, as seen in Figure 1, the predicted changes in revenues and expenditures are not as large (64 percent and 55 percent, respectively) as the ones actually adopted.

Table 1
Estimated policy functions (August 1984 – February 2009)

Dependent variable	Revenues	Expenditures
Constant	- 0.002 (0.0004)	0.003 (0.001)
Output gap (- 1)	- 0.091 (0.024)	0.158 (0.035)
Projected surpluses (- 1)	- 0.103 (0.021)	0.168 (0.031)
R ²	0.315	0.361
Observations	50	50

Note: Standard errors in parentheses.

Source: Author's calculation.

Was the stimulus large enough?

Given the severity of the current recession, was this most recent fiscal intervention enough? Estimates of the fiscal package's macroeconomic effects are subject to considerable uncertainty. One careful analysis (CBO 2009b) that uses a range of assumed multipliers for the different components of the legislation and takes account of the timing of the spending and revenue provisions yields the predicted range of effects on GDP shown in Figure 2. As can be seen from the figure, the forecast of the GDP gap as of the end of 2009, without any fiscal intervention, was over 7 percent of potential GDP. The estimated impact of the legislation was highest in this first year, between 1.4 percent and 3.8 percent of potential GDP, with effects nearly as large in 2010 and then much smaller thereafter.

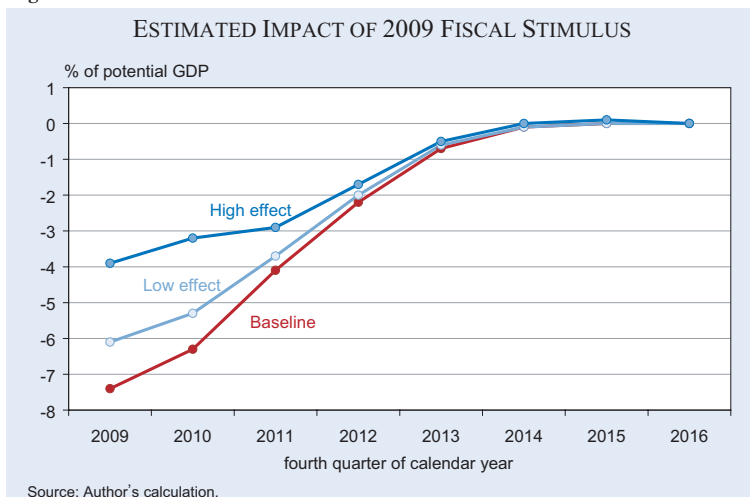
Based on these estimates, at least, there is little cause for concern that the stimulus package was too big, in terms of leading to excess aggregate demand. And, though there was concern that much of the impact of the fiscal stimulus would be delayed due to the time required to implement and respond to the various provisions, the estimates are for 40–43 percent, 76–77 percent, and 90 percent of the economic impact to occur by the ends of 2009, 2010, and 2011, respectively. These percentages are accelerated relative to the percentages (as a fraction of GDP) of the tax cuts and spending increases occurring in the different fiscal years (which end after the third quarter of the calendar year). These shares for 2009, 2010, and 2011 are, respectively, 24 percent, 73 percent, and 88 percent of GDP. Thus, ignoring differences in multipliers over time, the assumed response is even more rapid than if each fiscal

year's tax cuts and spending increases had all of their effects by the end of the corresponding calendar year.

Even though these estimates provide for a large range of multipliers between the “high” and “low” effects, there are estimates in the literature that fall outside these bands. For example, the multiplier range assumed for government purchases is between 1 and 2.5, meaning at worst no net crowding out of other economic activity. Yet estimates using different methods, including structural vector autoregression (SVAR) models (Blanchard and Perotti 2002) and alternative structural models (Taylor 2009), imply multipliers less than 1. While larger multipliers may make sense in an environment in which interest rates are unlikely to rise in response to the fiscal activity, there are also reasons why private activity might respond less now than in other periods, given the current dislocations in credit markets. A similar uncertainty exists on the tax side, where the assumed range of multiplier effects of temporary tax rebates for low- and middle-income individuals (0.5, 1.7) seems large, given the apparent weakness of the response to the rebate that was implemented in 2008 (Taylor 2009). On the other hand, this assumed range is in line with those from the SVAR literature.

In summary, there seems little chance that the fiscal stimulus legislation adopted in February 2009 will prove to have been excessive, given the severity of the recession. Its effectiveness is another issue, as the debate about the size of multipliers indicates. There is more one can say on this issue by considering the components of the legislation in greater detail.

Figure 2



Was the stimulus well-designed?

The 2009 fiscal stimulus package consisted of both tax cuts and spending increases, although spending accounted for a much larger share of the total. Excluding associated interest, the estimated cost of tax cuts (calculated as a simple sum over 11 years) was 76 billion US dollars, while the estimated cost of expenditure increases (computed in the same manner) was 456 billion US dollars. The pri-

many tax-cut provisions, as mentioned above, were a temporary tax rebate to households and a temporary extension of accelerated depreciation deductions for business investment. The spending provisions covered a range of activities including aid to the states, health and unemployment benefits, and infrastructure spending.

These provisions all have precedents in past countercyclical policy practice. Indeed, although large in magnitude, the 2009 legislation is quite conventional in terms of its content. This is somewhat unfortunate, in that one might have hoped for some innovation in the design of provisions, informed by economic theory and evidence. For example, the impact of tax rebates is undercut by their temporary nature for households that are neither myopic nor liquidity constrained. Given that a small consumption response would be anticipated for such groups, a much more targeted tax rebate could have provided a much more efficient use of funds. Also, while being temporary undercuts the income effect on consumption, it would *increase* the substitution effect. Thus, had the tax rebates been provided in a form that offered temporary price reductions, as for example through a rebate for consumption taxes, especially on durable goods,² the short-lived nature of the provision would have worked in favor of increasing the demand response of taxpayers. The lack of such innovation is all the more surprising because it would have paralleled the approach to business taxation of providing investment incentives on a temporary basis, and because a similar provision had already been instituted by the United Kingdom, which temporarily lowered its VAT rate from 17.5 percent to 15 percent at the end of December 2008.

As to the business tax provisions, their temporary nature would, as just discussed, tend to strengthen the investment response. However, another element of the current economic environment works strongly against a strong investment response. Bonus depreciation increases the incentive to invest by increasing the present value of depreciation deductions. It might have an advantage over other investment incentives that do not affect the timing of tax payments if private discount rates substantially exceed the government's discount rate, as might be especially true at the moment. But the key to any

² There are no broad-based consumption taxes at the US federal level, but most states have broad-based sales taxes that could be reduced either through federal transfers to the states or federal rebates to individuals for state taxes paid.

scheme of accelerated depreciation is the acceleration, since there is no net increase in the nominal deductions taken over time. Thus, for firms without taxable income that may become taxable only years later, bonus depreciation is of little value. This is likely to be a very important issue now, given the sharp and as yet not fully understood surge in losses observed earlier in this decade (Altshuler et al. 2009) and the huge drop in corporate tax revenues observed in recent months.

One approach to dealing with this situation is to adapt corporate tax rules to make them more symmetric with respect to the treatment of tax losses, such as through refundability, which also would make the corporate tax function better as an automatic stabilizer. A partial solution to this problem would be to extend the number of years that a loss can be "carried back", that is, offset against income taxed in a prior year to produce a rebate. The current US carry-back period is two years, and the original stimulus proposal was to extend this period temporarily to five years. This extension was ultimately pared back in the final legislation so that it applied only to very small firms, thus weakening the likely investment response to the legislation.

Two criticisms of the extended carry-back period were that (1) it would still leave some firms with net losses and therefore unable to benefit from the bonus depreciation scheme; and (2) that it would provide large windfalls to firms in the form of tax refunds, regardless of the extent to which they undertook new investment. Both of these criticisms could have been addressed through an alternative mechanism of allowing the transfer of the investment tax benefits among firms, so that firms with losses could effectively sell their tax benefits to taxable firms. One such scheme, based on the formal structure of leasing, was actually attempted by the United States in 1981 in conjunction with an earlier scheme of accelerated depreciation. This scheme had problems of its own,³ but no further mechanism of addressing the issue has been attempted in the many years since.

As to the spending provisions contained in the 2009 legislation, a main concern was with their timing. Although the word of the day was that funded projects should be "shovel ready", the pace of infrastructure spending was projected to lag the appro-

³ See Warren and Auerbach (1982) for further discussion of this scheme, known as "safe-harbor leasing".

priation of funds considerably (CBO 2009b), and the rush among the states to identify suitable projects also raised concerns about the quality of the projects to be funded. This experience has led to suggestions that a more orderly system of flexible project funding be established, under which states maintain an ordered list of desired projects that can then be drawn upon as funding becomes available. But this practice would presume a more systematic practice of countercyclical fiscal policy than has existed or is likely to exist in the future in the United States.

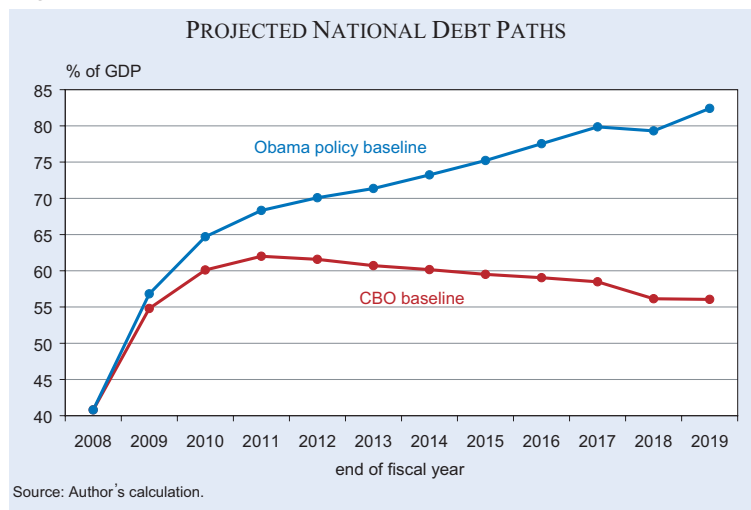
In summary, the 2009 US fiscal stimulus package was large in scale, but its approach was quite conventional and could have been improved through a variety of fairly straightforward changes.

The short-run stimulus and the long-run fiscal imbalance

All of the recent countercyclical activity occurs in the presence of a US federal budget deficit currently projected to be 11.9 percent of GDP for fiscal year 2009 (CBO 2009c), a share unprecedented except during World War II. Little of this is due to the stimulus package directly, and it is customary to ignore issues of long-term fiscal balance when confronting the need for countercyclical policy. Not all governments have the luxury of ignoring such long-run considerations even temporarily, if capital markets reveal skepticism about their abilities to service accumulating liabilities, but this has not been an issue in the United States, at least in the past. The current situation, however, may bring the United States into a new era with respect to its ability to ignore long-run fiscal considerations, given not just the current-year deficit, but also the projected path of national debt and the looming unfunded liabilities for old-age entitlement programs.

Figure 3 plots two projected paths for the US federal debt-GDP ratio, both taken from CBO (2009c). The lower path is for the CBO baseline of current policy, which includes many unrealistic assumptions, such as that the 2001 and 2003 tax

Figure 3



cuts adopted during the Bush Administration will fully expire at the end of 2010, as called for under current law, and that discretionary spending will stay nearly constant in nominal terms. The higher path is for the budget as proposed this year by President Obama, incorporating not only a more realistic policy with respect to tax cuts and discretionary spending but also some new tax and spending initiatives. This higher path is probably the more relevant of the two, and it projects a sobering rise in the debt-GDP ratio, which would reach 82 percent by the end of 2019, representing a doubling of the debt-GDP ratio in the 11-year period shown in the figure.

While the United States experienced even higher debt-GDP ratios at the end of World War II, the situation now is quite different. First, the massive debt accumulation of the 1940s stopped with the war's end and was followed immediately by a rapid decline in the debt-GDP ratio. There is no similar expectation now for the years after 2019. Further, the spending-revenue imbalance is even more considerable as one looks further into the future, given the projected growth of the major US entitlement programs, Medicare (health care for the elderly), Medicaid (health care for the poor, including many elderly), and Social Security (old age and disability pensions).

Using this year's long-term government forecasts for Medicare and Social Security and extending CBO's projections for most other items beyond 2019 by assuming constant shares relative to GDP, Auerbach and Gale (2009) estimate an infinite-horizon fiscal gap – the share of GDP by which the primary surplus

needs to be increased on a permanent basis for policy to satisfy the government's intertemporal budget constraint – of 6.25 percent under the CBO baseline projections and 8.71 percent of GDP under the Obama policy projections.

Given how stable the federal revenue share of GDP has been for the United States over many decades – it ranged between 16.3 percent and 20.9 percent of GDP during every year of the forty-year period 1969–2008 and is projected to fall well within this range for each year between 2011 and 2019 under both of the projections in Figure 3 – it is hard to imagine how tax policy can suffice to close this fiscal gap, and spending cuts are likely to prove equally difficult to accomplish. How the United States will solve this fiscal imbalance is not at all clear, and the recent rise in the probability of default implied by the credit default swap market (Auerbach and Gale 2009), while probably due primarily to the financial market disruptions of recent months, may also be a sign of more durable unrest in the market for US debt. While the long-term imbalance has been seen as a potential problem for some time, the date at which it will become an immediate problem has likely been brought much closer to the present by the recession.

Conclusions

The recent recession has been a severe one in the United States, and it prompted a strong fiscal policy response that exceeded in magnitude what would have been predicted from recent history. This response is not surprising, given the increasing tendency to adopt countercyclical policy and the special circumstances for monetary policy. Whether this response was large enough is unclear, particularly given the uncertainty about the policy's multiplier effects. These effects could have been enhanced had policy relied less on conventional approaches. But the legacy of the recession, and the policy responses to it, is an even more immediate need to deal with a long-term fiscal balance that defies straightforward policy solution.

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THE LACK OF AN EMPIRICAL RATIONALE FOR A REVIVAL OF DISCRETIONARY FISCAL POLICY

JOHN B. TAYLOR*

A decade ago in a paper, “Reassessing Discretionary Fiscal Policy,” published in the *Journal of Economic Perspectives*, I concluded that “in the current context of the US economy, it seems best to let fiscal policy have its main countercyclical impact through the automatic stabilizers ... It would be appropriate in the current circumstances for discretionary fiscal policy to be saved explicitly for longer term issues, requiring less frequent changes”. This was not an unusual conclusion at the time. As Eichenbaum (1997) put it, “there is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible”, or, according to Feldstein (2002), “there is now widespread agreement in the economics profession that deliberate ‘countercyclical’ discretionary policy has not contributed to economic stability and may have actually been destabilizing in the past”.

Despite this widespread agreement of a decade ago, there has recently been a dramatic revival of interest in discretionary fiscal policy. The purpose of this short paper is to review the empirical evidence during the past decade and determine whether it calls for such a revival. I find that it does not.

Experiences with two temporary tax rebates

The most visible explicitly countercyclical discretionary policy experiences during the past decade have been the large temporary tax rebates of 2001 and 2008. In both cases rebate payments were made to individuals and families for several months dur-

ing the year, either in the form of checks, direct deposits, or temporary changes in tax withholding rates. The specific months in each year and the aggregate amounts paid in each month are shown in Table 1, where the data are stated in billions of dollars at annual rates as reported by the Bureau of Economic Analysis (2001 and 2008). In the case of 2001, the recession started in March 2001 and ended in November; in the case of 2008, the recession started in December 2007 and was ongoing well beyond August 2008. Hence, in both cases the payments were made while the recession was still ongoing and thereby exhibit virtually no response or implementation lag which was a criticism of such discretionary fiscal policy actions in the past. Lack of good timing was not a fault in either of these more recent experiences.

The macroeconomic theory that rationalizes such temporary rebate payments is that they increase the demand for consumption, stimulate aggregate demand, and thereby help get the economy on a path to recovery. But what do the data show? Figure 1 illustrates the rebate of 2008. The upper red line shows disposable personal income for the months from January 2007 through October 2008. The data are seasonally adjusted and are stated at annual rates. Disposable personal income is the total amount of income after taxes and government transfers; it therefore includes the rebate payments. Subtracting the rebate payments from the top line results in the yellow line in Figure 1, which shows what disposable personal income would have been without the rebates. Notice the sharp increase in disposable personal income in May when rebates

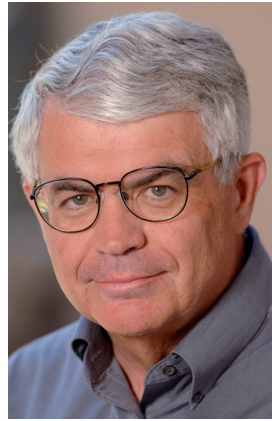


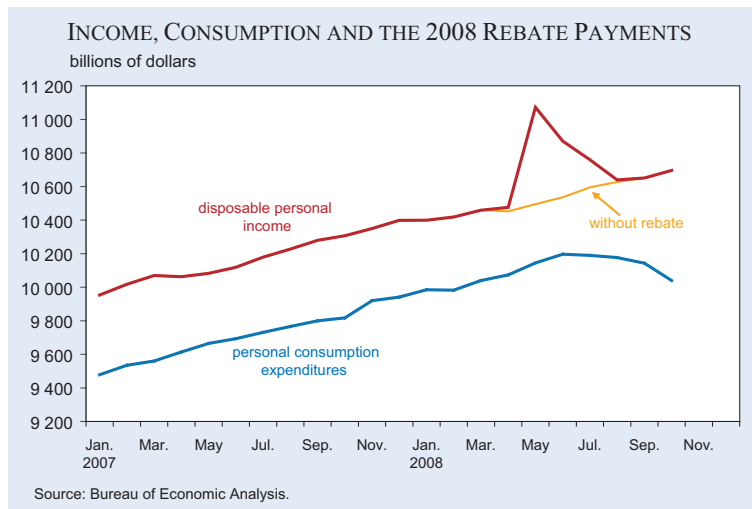
Table 1
Rebate payments in 2001 and 2008
(billion US dollars, annual rates)

	2001	2008
April	0	23.3
May	0	577.1
June	0	334.4
July	95.1	164.1
August	223.1	12.4
September	144.9	0
October	2.5	0

Source: Bureau of Economic Analysis.

* Stanford University. I wish to thank Michael Boskin, John Cogan, Robert Hall, James Stock and Johannes Stroebel for helpful comments and assistance.

Figure 1



were mailed or deposited in people's bank accounts. Disposable personal income then started to come down in June and July as total payments declined and by August had returned to the trend that was prevailing in April.

The lower blue line in Figure 1 is personal consumption expenditures over the same period. Observe that consumption shows no noticeable increase at the time of the rebate. As the picture illustrates the temporary rebate did little or nothing to stimulate consumption demand, and thereby aggregate demand, or the economy. In fact, recently revised data shows that consumption began declining in July 2008 and continued to decline through October.

While Figure 1 is very revealing, policy evaluation requires going beyond graphs and testing for the impact of the rebates on aggregate consumption using more formal regression techniques such as shown in Table 2. The regressions in Table 2 pertain to the period from the start of 2000 through the third quarter of 2008 and thus include both the 2001 and the 2008 rebate periods. To test whether the rebates had a positive and significant effect on consumption, I include both personal disposable income without the rebates and the rebate payments as two separate variables in the regressions. To allow for lagged effects of changes in income I include a lagged dependent variable in the equations.

The first column of Table 2 shows that the impact of the rebate is statistically insignificant and much smaller than the significant impact of disposable personal income excluding the rebate. This confirms the results illustrated in Figure 1 and extends them

to the 2001 as well as the 2008 rebates. But an advantage of using regressions is that one can include other factors that affect consumption. For example, the second regression in Table 2 includes the price of oil which would be expected to have a depressing effect on consumption. It is important to try to control for oil prices because the rebates could have a positive impact once one takes account of the negative effect of oil prices, especially in 2008 when oil prices rose very rapidly in the spring and summer. Because the

impact of oil price changes occurs with a lag, I tried several alternative lag lengths for the oil price variable. Table 2 reports the case where the impact was the highest so as to give the rebate variable the greatest opportunity to have a statistically significant effect. Note that while the coefficient on the rebate variable is higher with the oil price variable than without, it is still not statistically different from zero. These results are robust to changes in the sample period and specification. For example, sample periods that include only one rebate episode also show no significant effects of the rebate. Nor do specifications that use real rather than nominal variables, include other factors such as interest rates, or adjust for serial correlation rather than use a lagged dependent variable.

These results are consistent with the permanent income theory or life cycle theory of consumption in which temporary increases in income are pre-

Table 2
PCE regressions with rebate payments

Lagged PCE	.794 (.057)	.832 (.056)
Rebate payments	.048 (.055)	.081 (.054)
Disp. pers. income (w/o rebate)	.206 (.056)	.188 (.055)
Oil price (\$/bbl lagged 3 months)	—	−1.007 (.325)
R ²	.999	.999

Note: The dependent variable is personal consumption expenditures. Standard errors are reported in parentheses. The oil price is for West Texas Intermediate. The sample period is January 2000 to October 2008.

Source: Author's calculation.

dicted to lead to proportionately smaller increases in consumption than permanent increases in income. In these regressions a temporary increase in income – represented by the rebate variable – has a small and statistically insignificant effect. In contrast when the increase in income is more permanent – as represented in these regressions by the personal disposable income variable without rebate – then the change in consumption is larger and statistically significant.

The results are also consistent with earlier macroeconomic time series studies (Blinder 1981) of temporary government payments or surcharges in the 1960s and 1970s which later became incorporated in macroeconomic textbooks. Indeed, it was such permanent income theories and the empirical studies supporting them that led many economists to conclude that such discretionary fiscal policy actions are not a good policy tool. That consensus apparently broke down during the debates about the fiscal stimulus of 2008 when a number of economists wrote and testified that such a temporary rebate program would be an effective stimulus – see e.g. Elmendorf and Furman (2008), Summers (2008) and Council of Economic Advisers (2008). One reason for that change in view by some economists at the time might have been the apparent success of rebate payments made in 2001. However, those were part of more permanent multiyear tax cuts passed that same year which would be expected by the permanent income theory to boost consumption and the economy.

Of course, the permanent income and life cycle theories are approximations and do not take account of liquidity constraints which make it difficult for some consumers to borrow; thus they may spend more out of temporary income than predicted by the theory. In fact, using micro survey data Johnson, Parker and Souleles (2006) found significant effects for the 2001 rebate payments and this too may have led to a change in views around the time of the 2008 rebates. More recently Broda and Parker (2008) found that individuals in their micro survey spent a statistically significant amount of the 2008 rebates, but apparently this was not enough to move aggregate consumption as shown in Figure 1.

In sum, recent evidence on the impact of rebate payments on aggregate consumption does not provide a rationale for a revival in discretionary countercyclical fiscal policy.

Model simulations and the impact of government purchases

The ineffectiveness of the 2008 rebate payments as a stimulus to consumption has recently led to proposals to increase government purchases as an alternative stimulus. While increasing government purchases will certainly raise GDP in the short run more than temporary rebates, it is not clear that this will be any more effective in stimulating a sustained economic recovery. Indeed, even if the impact of the tax rebates was to raise consumption significantly more than shown than in Figure 1, the increase would have been temporary, probably following the pattern of the rebate in Figure 1. It is difficult to see how such a temporary blip in consumption would lead to a sustained expansion of a large dynamic economy.

There is little evidence that short government impulses will jump start an economy adversely affected by other forces. In the current recession, the economy has been pulled down by the housing slump, the financial crisis, and the lagged effects of high energy prices. Expectations of future income and employment growth are low because the effects of the financial crisis are expected to last for years into the future. Unless these effects are addressed, a short-term fiscal stimulus has little chance of causing a sustained recovery.

The theory that a short-run stimulus will jump start the economy is based on older “Keynesian” theories which do not adequately include, in my view, the complex dynamic or general equilibrium effects of a modern international economy. Nor do they usually include endogenous (or rational) expectations of the future. The problems with such models can be illustrated by again using the evidence from the rebates, and I believe similar problems arise when analyzing other stimulus proposals as well. For example, according to model simulations of Zandi (2008), GDP would have risen by about a dollar and a quarter for every dollar of a refundable one-time rebate. But Figure 1 and Table 2 show that in reality the impact was only a few pennies for each dollar and insignificantly different from zero in 2008. One needs to understand why the models were in error before using the same models to analyze the impacts of new types of proposals for 2009. In contrast, simulations of my (1992) empirically estimated multi-country dynamic model with rational expectations indicates that multiyear changes in government

spending phased in at realistic rates have a maximum government spending multiplier less than one because of offsetting reductions in the other components of GDP.

To be sure, it may be appropriate to increase government purchases in some areas including for infrastructure as in the 1950s when the interstate highway system was built. But such multiyear programs did not help end, mitigate, or prevent the recessions of the 1950s. In sum, there is little reliable empirical evidence that government spending is a way to end a recession or accelerate a recovery that rationalizes a revival of discretionary countercyclical fiscal policy.

Recent experience with the automatic stabilizers

The earlier widespread view of fiscal policy was that instead of focusing on discretionary countercyclical actions it should focus on the automatic stabilizers as well as on more lasting long run reforms that benefit the economy, from tax reform, to entitlement reform, to infrastructure spending, to keeping the debt to GDP ratio in line. Is there any change in the behavior of the automatic stabilizers which would change this view?

Table 3 provides evidence of how the automatic stabilizers have changed over time. It is an update of a similar table and analysis in my 2000 paper. It divides the total federal budget deficit on a quarterly basis into two components: a structural part and a cyclical part. The structural part is a quarterly interpolation of the annual number reported by the Congressional Budget Office (CBO). According to CBO methodology the structural deficit is affected by changes in tax rates or spending programs such as the 1982 tax rate cuts, the 1993 tax rate increases and the 2001 tax rate cuts. The structural deficit is also affected by changes in the economy such as changes in the income distribution or the share of income in different tax categories. The cyclical part is computed in Table 3 as the difference between total deficit and the structural part.

To measure how the automatic stabilizers have changed over time I regressed each of these measures (structural, cyclical and total) as a percentage

Table 3
Simple regression coefficients of deficit components on GDP gap

Sample period	Structural	Cyclical	Total
1983:1 – 1994:4	.00	.35	.36
1983:1 – 1997:4	.14	.35	.49
1983:1 – 2007:4	.48	.34	.82
1995:1 – 2007:4	.71	.29	1.00

Source: Congressional Budget Office; Author's calculation.

of GDP separately on the percentage GDP gap. I used the CBO measure of potential GDP to compute the GDP gap which results in a reasonable description of the ups and downs of the economy at a business cycle frequency. I report the slope coefficients from each of these regressions in Table 3 for several different sample periods. All the coefficients are highly statistically significant. As computed, the sum of the coefficients in the first two columns should equal the coefficient in last column except for rounding errors.

Table 3 shows that there indeed have been large changes in the relation between these measures of the deficit and the GDP gap. While the coefficient on the cyclical component has remained fairly constant around $\frac{1}{3}$, the coefficient on the structural component has increased dramatically over time. In fact, the cyclical movements in the structural deficit have overtaken the cyclical movements in the cyclical deficit. More research is needed to determine exactly why this change has occurred. It is important to determine whether this high responsiveness will continue into the current recession. If so, the automatic stabilizers will be very powerful and the deficit will increase significantly on this account. In any case, Table 3 provides no evidence to change the “widespread agreement” of a decade ago to focus fiscal policy on the automatic stabilizers rather than on discretionary countercyclical actions. It may suggest the opposite.

Changes in monetary policy effectiveness

Another reason for the widespread view a decade ago about fiscal policy was that monetary policy had improved after the late 1960s and 1970s and played an essential countercyclical role as it achieved both greater price and output stability during the great moderation. However, there were also concerns expressed about the limits of monetary policy if the zero bound on interest rates were to be reached as it

had in Japan in the 1990s. The recent change in monetary policy in the United States and the resulting constraint of the zero bound is another reason why some are calling for discretionary fiscal policy actions.

In my view, however, the experience during the past decade does not show that monetary policy is ineffective or that fiscal policy is more appropriate when the short term interest rate reaches the lower bound of zero. Indeed, the lesson from Japan is that it was the shift toward increasing money growth – quantitative easing – in 2001 that finally led to the end of the lost decade of the 1990s. It was certainly not discretionary fiscal policy actions. Increasing money growth – or simply preventing it from falling as in the Great Depression – remains a powerful countercyclical policy.

While a full treatment of monetary policy in the current environment is well beyond the scope of this paper, there is no evidence in the past decade that suggests that monetary policy has run out of ammunition and must be supplemented by discretionary fiscal actions.

Conclusion

A decade ago there was widespread agreement that fiscal policy should avoid countercyclical discretionary actions and instead should focus on the automatic stabilizers and on longer term fiscal reforms that positively affect economic growth and provide appropriate government services, including infrastructure and national defense. In this paper I briefly summarized the empirical evidence during the past decade on (1) the temporary rebate programs of 2001 and 2008, (2) macro-econometric model simulations, (3) the changing cyclical response of the automatic stabilizers, and (4) the role of monetary policy in a zero interest situation. Based on this review I see no empirical rationale for a revival of countercyclical discretionary fiscal policy.

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THE LIMITS OF FISCAL POLICY

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In late 2008 and early 2009, there was a serious deterioration in the US economic outlook. The National Bureau of Economic Research, the widely regarded official arbiter of business cycle dates, announced on December 1, 2008 that the economy had peaked or entered a recession in December 2007. Subsequently, comparisons of performance and the outlook degenerated into comparisons with the Great Depression of the 1930s, suggesting that the recession is the worst since the 1930s. This recession should be called the superlative recession because discussions invariably refer to the most dismal performance since the Great Depression: the decline in stock prices is the worst, the decline in employment is the worst, the fall in output is the worst, the rise in the unemployment rate is the worst, the banking system crisis is the worst, or any number of other “worsts” since the depression.¹

These superlative comparisons are off base, but they seem to have succeeded in reversing 70 years of history on economic policy and economic thought. Policymakers suddenly rediscovered policy responses from the depression and advocated, after the fact, by Keynesian economists. With the benefit of time, depression era policies had been seen as complete failures that extended and worsened the depression (see Shlaes 2008 or Cole and Ohanian 2004, for examples). A long delayed monetary policy easing, beginning in a large one-time expansion of the monetary base in September–October 2008, has offered new possibilities for an end to the deepening recession, but its continuation remains in doubt because it is the result of a shift in policy procedures more than of a shift in policy. More troublesome is that massive fiscal policy programs have become central to the policy debate, despite three large failed fiscal responses over the past year and a strong consensus in the policy community that such efforts are not likely to be effective. A change of leadership has focused efforts on

increasing federal spending in ways and to an extent not seen in many years. On 17 February, 2009 President Obama signed the American Recovery and Reinvestment Act of 2009, increasing spending and cutting taxes by a total of 787 billion US dollars.² One European leader has called this the “road to hell,” and others have been reluctant to join in a policy of coordinated fiscal expansion.

The superlative recession

Unemployment is the most important benchmark of the business cycle for most people, and it has been used as an indicator of the severity of the 2008–09 recession. There have been ten previous recessions since the end of World War II and eight of them did not last as long as the current one has. So far, this is one of the longer recessions since the Great Depression. The two post-war recessions that lasted longer were from November 1973 to March 1975 and from July 1981 to November 1982, both 16 months in length. For the current recession to last longer, it would have to end in May 2009 or after. Some forecasts indicate that this is likely, while others suggest that the recession ended in March or April 2009. It is possible that this recession could be the longest since the Great Depression, but the comparison would likely be very weak because that recession lasted 43 months, from August 1929 to March 1933, and had incomparable consequences, including a rise in the unemployment rate to about 25 percent.

The main indicator of recession, however, is real GDP. In the United States real GDP remained higher than at the cycle peak after three quarters of the recession and then fell sharply in late 2008 and early 2009. With the 3.8 percent rate of decline in the fourth quarter of 2008, real GDP was down by only 0.2 percent over the first four quarters of the recession, a relatively weak recession. After one year, real GDP is usually down by more than that. A further 6.1 percent rate of decline in the first quarter of 2009 left real GDP down 2.4 percent over the five quar-

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¹ See Tatom (2009). This article draws heavily upon the earlier article.

² All references and data for the Obama stimulus plan are based on Congressional Budget Office (CBO 2009).

ters of recession, smaller than in both the 1973–75 and 1981–82 recessions.

Figure 1 shows real GDP growth on a year-over-year basis since 1948. In five of the ten past recessions, real GDP declined for a year by more than 2 percent and in two others it declined by more than one percent. The 0.2 percent decline for four quarters registered in the last quarter of 2008 is smaller than in eight of the last ten recessions.

For the worst two of the ten previous postwar recessions, the declines over the five quarters were 3.1 percent in 1974–75 and 2.6 percent in 1981–82. In the 2008–09 recession the comparable figure is 2.4 percent. To reach a 3.1 percent decline, real GDP will have to fall rapidly in the second quarter of 2009, and this would also extend the latest recession to six quarters, longer than the two other longest and deepest recessions since in the postwar period. To reach a decline of 3.1 percent or more, surpassing all postwar recessions, real GDP would have to decline at a 2.8 percent annual rate in the second quarter of 2009. Of course a longer recession that included some historically record levels could extend the current recession into record breaking territory.

If this recession turns out to be the worst in the postwar period, it would not be too surprising. Tatom (2008a) shows that the energy price shock in the first half of 2008 was far and away the largest since World War II and perhaps ever in US history. The worst two recessions in postwar history were associated with huge energy prices shocks as well, but they were not subsequently reversed in the same way as the 2008 shock. Nor were they associated with such a large

shock to the growth rate of monetary measures as occurred with the tight monetary policy from 2006 to the third quarter of 2008; monetary policy is assessed here using the growth rate of the monetary base. The official view focuses on the federal funds rate (Bernanke 2009). Fortunately, this shock has also reversed sharply, at least temporarily, suggesting that an economic recovery may have been set in motion already.

In any event, comparisons to the Great Depression are over the top. According to annual data prepared by Robert Gordon, over the four years from 1929 to 1933, real GDP fell 45.2 percent, or at a 14.1 percent annual rate. After the first three quarters of the current recession, real GDP was higher than at the peak, though it did decline at a 6.2 percent annual rate over the next two quarters. By the end of the full five-quarter period, real GDP fell 2.4 percent, which is smaller than in the previous five quarter recessions in 1973–75, –3.1 percent, or 1981–82, –2.6 percent. If the recession trough occurs after the first quarter of 2009, the recession will be the longest since the four year recession in 1929–33 and it is possible, though not likely, that it will be the deepest recession in the postwar period.

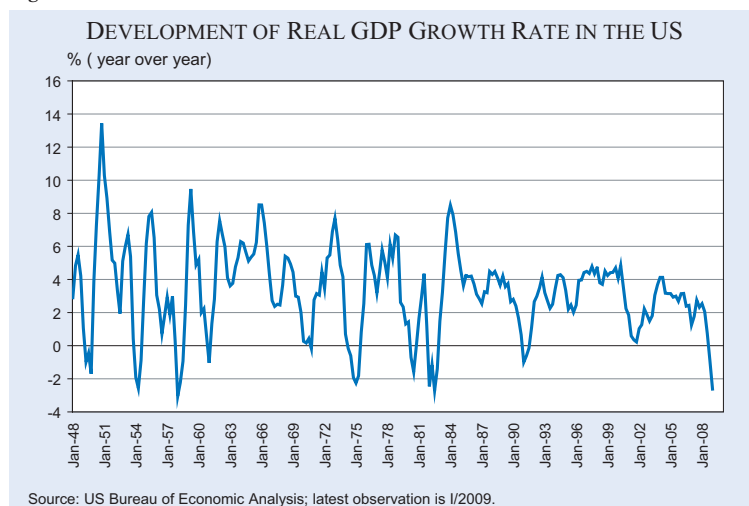
The flawed fiscal response

A new round of fiscal policy stimulus has taken center stage in policy discussions, in part because of the widely-accepted, but false, notion that monetary policy became impotent when the Fed lowered the federal funds rate target to a zero-to-0.25-percent range on 16 December 2008. The general outlines of

the policy were presented in a speech by then President-elect Obama on 8 January 2009. In the end, the bill cost 787 billion US dollars and included a temporary tax reduction and a large increase in spending.³

There has been a major swing back to Keynesian fiscal policy

Figure 1



³ There was official discussion of an added Obama administration proposal that would have permanently cut taxes for 95 percent of taxpayers building on the 2009–2010 tax cut, but that proposal was dropped from congressional plans in April 2009. In any event, the tax cut did not alter marginal tax rates and was a fixed rebate on wage payments spread over each year's periodic payments.

ideas in the United States and elsewhere and not because of new evidence that it has become more effective or timely than in the past. Sure, Milton Friedman (1966) did say “in one sense, we are all Keynesians now”; but the remainder of his statement was “in another, nobody is any longer a Keynesian”. In recent months only the first clause has been noted, despite the dominance of Friedman’s view of Keynesianism over more than 40 intervening years. The shift appears motivated by two forces: fear that failure to enact a massive bill will damage public confidence and, second, a desire to pull all of the social spending plans of a new administration into one large front-loaded program, independent of the effects of any particular components of spending on aggregate demand or on employment. This is unfortunate, given the massive spending programs of the past year that have proven to be ineffective in stimulating spending, largely by design and for long-known reasons. These include the tax cut program passed in spring 2008 (168 billion US dollars), the summer 2008 housing refinancing and stimulus program (300 billion US dollars), the bank bailout program passed in September 2008 (700 billion US dollars) and the 2009 American Economic Recovery and Reinvestment Act (787 billion US dollars).

Fiscal stimulus in the face of recession has generally not been successful in the postwar period. The principal exception was the 2001 Bush tax cut, which began on the campaign trail in 2000 as a policy to boost long-term growth, but in view of the late-2000 anticipated recession, became an anti-recession permanent cut in individual tax rates. For most discretionary fiscal policy changes, especially tax policy, the implementation lag has been long enough that any anti-recession stimulus did not come into effect until after recessions were over. Moreover, many of these tax cuts fail to have any effect on GDP because they are lump-sum payments and do not alter marginal tax rates.

The Bush tax rebates in 2008 came early in the recession, but like other temporary tax cuts failed to stimulate the economy because it did not change consumers’ estimates of life-cycle or permanent income. The 2009 Obama tax cut is larger, 800 US dollars for a joint return instead of 600 US dollars. It excludes joint filers earning more than 150,000 US dollars, just as the 2008 Bush tax cut did. The Obama cut is built into withholding tax reductions over nine month and 12 month periods, respectively, with the view that a small periodic payment might stimulate spending

more than a lump sum rebate each year for two years. Initially, the two year rebate was linked to a proposal for a permanent tax cut after 2010, but that was eliminated in congressional planning at about the same time as the tax cut began (April 2009). A larger dose of an ineffective tax cut is not likely to be any more successful. It remains to be seen whether the small periodic adjustments to payroll withholding will make any difference, but the economic theory indicating the ineffectiveness of a temporary tax cut holds as much for the Obama rebate as it does for the Bush rebate. The Obama tax cut fits the mold of earlier tax-based efforts to avoid recession – it is likely to have been too late, beginning at the end or after the end of the recession.

The overall fiscal plan also fits the US history of discretionary fiscal policy coming too late. Of the total stimulus of 787 billion US dollars, only 23.5 percent, or 185 billion US dollars even comes within 2009. Over 75 percent comes in 2010 and virtually all of it comes after the second quarter of 2009 when the recession is expected to be over. This has fostered concern that the Obama stimulus plan was not a stimulus plan at all, but the beginning of a longer term strategy to reorient the economy to a larger public sector. The 185 billion US dollars of 2009 stimulus (120 billion US dollars of spending and 65 billion US dollars of tax rebates) is only 1.3 percent of GDP, hardly enough to affect GDP appreciably, even under the most extreme Keynesian textbook assumptions.

Another issue for fiscal policy is the effectiveness of discretionary versus endogenous policy. Van den Nord (2000) shows that built-in stabilizers are much more important or sizable in Europe than they are in the United States. This is a critical factor in accounting for Europe’s greater reluctance to rely on discretionary fiscal policy stimulus than in the United States. Fiscal policy has a better reputation for effectiveness in Europe than in the United States, but a greater reliance on endogenous policy has rendered discretionary policy less attractive. Taylor (2000) argues that the relative magnitude of such stabilizers has declined in magnitude in the United States. He also indicates that discretionary policy has shown little consistent response over time. He concludes that discretionary fiscal policy should be used for longer term issues and that rule based automatic stabilizers should become more important in providing systemic and predictable rules. He does not include issues of effectiveness raised below, however.

Multiplier estimates and direct substitution

Economists sometimes discuss the effects of spending on the aggregate demand for goods and services or real GDP in terms of “the spending multiplier”, especially in the most elementary textbooks and around the halls of governments. For example, they might evaluate spending and tax multipliers to assess whether spending or tax changes affect aggregate demand or to compare the relative size of their effects. The spending multiplier indicates how much real GDP would be expected to rise per one dollar rise in spending. Policymakers also like to discuss employment multipliers: how much total employment rises per dollar rise in government expenditures. Forty years ago (November 1968), Andersen and Jordan produced one of the most provocative tests of monetary and fiscal policy effectiveness ever published. They found that fiscal spending has no effect on GDP beyond a few quarters. This implies that the multiplier after one year is zero, so that the new government spending is fully offset by reduced private spending. In short, fiscal spending policy is impotent within a short time.

Mankiw (2008), following a more Keynesian modeling tradition, argues that the spending multiplier is one, so that government spending has no effect on private sector spending and the effect on GDP is simply due to the larger government component of spending. He suggests that a consensus estimate is a multiplier of 1.4, so that each dollar of government spending would raise the government component by one dollar and boost private sector spending by another 0.4 US dollars. Some proponents of road building believe that such spending can have a multiplier closer to 3, a classic mix of bad economics, bad measurement and political exploitation of an admittedly simplistic pedagogy from elementary textbooks. Mankiw (2008) also notes work by the new Chair of the President’s Council of Economics Advisers, Christina Romer, and David Romer (2007), showing that the tax multiplier is much larger, so that a tax cut of a given size is a much more effective stimulus than the same size government spending increase.

Robert Barro (2009) has long argued that government spending has an average multiplier of zero in peacetime years, though he finds some evidence that in wartime the spending multiplier could be as large as 0.8, because not all of the new military spending is offset by reduced private sector spending. Woodward and

Hall (2009) indicate that the wartime spending multiplier is one. The current wartime experience does not compare with the two world wars or the Korean War, in terms of the risks to wealth and permanent income or in terms of the size of the boost in military spending. In this decade, there was a war-related surge in federal spending of less than one percent of GDP several years ago, hardly comparable to the surge, for example, in World War II. At that time, federal outlays rose from 9.4 percent of GDP on average in 1935–40 to 12 percent in 1941, 24.3 percent in 1942 and 43.6 percent in 1943 and 1944. Even the latest US fiscal stimulus for the first year or two, or indeed for the next ten years, is trivial in comparison to those earlier wartime surges in spending. The important point is not the relative size of the spending increase, however, it is the absence of a threat to permanent income such as that posed by the world wars.

Tatom (1991) uses a private sector production function to assess whether government infrastructure capital formation (non-defense) boosts private sector productivity and output and finds that there is no effect. Straub (2009) as well as Ford and Poret (1991) have also found that there is no effect of public infrastructure on private sector output in cross country studies. This might suggest that public sector infrastructure spending has a multiplier of one, or that real GDP rises only by the amount of the government spending, as suggested by Woodward and Hall. However, David Alan Aschauer (1989) shows that private sector investment spending declines dollar-for-dollar with an increase in public sector spending. Two implications of this are that private sector output is reduced due to the decline in the private sector capital that occurs when public sector capital increases, so that real GDP is unaffected by public infrastructure spending or the spending multiplier is zero. The former effect is referred to as “direct crowding out” as the rate of return to private sector capital formation is diminished by an increase in public sector capital formation. The implications of this research are that government spending usually is not effective in stimulating aggregate demand and boosting total employment.⁴ Output and employment are simply moved around from the private to the public sector, with no effect, or perhaps negative effects, on the overall productivity of the nation’s resources.

⁴ See Tatom (2006) for a fuller treatment of the implications of direct substitution and the permanent income hypothesis for fiscal policy. Reynolds (2009) cites five other studies that support small or even negative multipliers for government spending. The strongest fiscal stimulus likely comes from permanent reductions in tax rates and government spending.

Gramlich (1994) provides a summary of the debate over infrastructure spending, though he is more sanguine, like Aschauer, about the productivity enhancing effects of infrastructure spending.

The consensus of economists, at least until recently, is that fiscal spending policy is weak, at best, and usually too poorly timed to be useful for short-term effects on economic policy, but that tax cuts, again usually suffering from poor timing, can be effective when they are permanent and tied to income and income tax rates, or when they are temporary or permanent *and* if they provide immediate incentives for spending, such as an investment tax credit. Fortunately monetary policy is very powerful and does not suffer from the implementation lag that fiscal policy does. The current spending package and tax cuts suffer from the worst problems of fiscal policy. The spending increases focus on a collection of infrastructure spending and other programs that are chosen for political reasons and, at best, on the basis of an erroneous expectation for their potential effects on output and employment. Even the best efforts would not have much or any effect, however, since government spending has a weak track record as a fiscal stimulus policy.

Some analysts have suggested other policies that would likely work if they could be implemented in a timely way. One is a proposal by Susan Woodward and Robert Hall that temporary state sales tax elimination, financed by federal transfer payments to states, would provide strong incentive to boost private sector spending quickly. Like an investment tax credit or any other temporary spending subsidy, it would only be available for spenders and only for the immediate future when the spending is desired, unlike an income or wage tax cut that provides no direct incentive to spend, especially if temporary. Unfortunately, as noted, there are few incentives to spend in the recovery and reinvestment plan. Part of the business tax cut is only available for businesses that do more investment spending and some spending programs are contingent on new spending before a future deadline, so that the incentive is to spend now and not later. Getting the spending going apparently will require more than this, however. The Congressional Budget Office (2009) estimates that the roll out of the new spending will be too slow to have much effect in 2009, even if one assumes that it can be effective in stimulating aggregate demand.

Conclusion

Unfortunately, policymakers emboldened by a renewed interest in Keynesian counter-cyclical fiscal policy are ignoring evidence on what works and what doesn't. They are also ignoring the negative effects that expected recovery has on financial markets and the cost of capital, as well as the effects of higher expected future taxes. There is also risk to the new Administration's plans. The last major initiative to "Rebuild America" was at the beginning of the Clinton Administration when the unemployment rate was about the same as in December 2008. That program failed to pass because of similar questions about its necessity and effectiveness; its failure to pass was also a major setback for the rest of the Clinton Administration's initial plans for spending and for first term. The Obama fiscal policy will offer a strong test of the effectiveness of such a program. In the best case scenario, seldom-mentioned monetary policy may provide the stimulus that many newly minted Keynesians believe will come from fiscal stimulus.

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KEYNESIAN POLICIES STIMULATE DEBATE AND DEBT, NOT EMPLOYMENT

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The global economy is in deep, synchronized recession, and governments are moving mountains to stop job and wealth destruction. Monetary authorities are pumping massive liquidity into credit markets and working with finance ministries to prop up, sustain and nationalize major financial institutions. Nearly every government in Asia, Europe and North America is pursuing some vigorous form of Keynesian fiscal stimulus, defined generally as debt financed consumer-oriented tax cuts and substantial increases in government spending to push up aggregate demand in the hope that output, jobs and incomes follow. But will it work?

The US recession is different from that in Japan, which differs from those in Russia or China or Germany. This observation is important to understanding the recession triggers. Perhaps without exception, every country in recession today contributed to its own economic weakness in some material way, either through the actions of its citizens, institutions, or public policies.

Weakness first appeared in the United States in the housing sector and then spread to the financial sector leading to a credit crunch that sapped the rest of the economy. Export-dependent countries like Germany, Japan, and China are suffering disproportionately from a collapse in international trade. Europe eventually succumbed to the financial distress that swept the United States in 2008. From Iceland to Italy financial institutions engaged in irresponsible, high-risk, highly leveraged lending similar to the lending in the United States mortgage market. Nor are the shocks yet over – the United States is facing new troubles from commercial real estate

while Europe is badly exposed to dubious lending to emerging markets, especially in Eastern Europe.

Eventually nations will need an honest appraisal of what went wrong in the credit markets and in the regulatory architecture. The immediate task, however, is to restore economic growth. In addition to very innovative, aggressive monetary policy responses, policy makers have pursued massive doses of Keynesian fiscal policy. The US government alone may borrow up to USD 2 trillion in 2009 to finance its fiscal policy stimulus, equivalent to nearly 15 percent of GDP.

Fiscal policy as an umbrella term refers to policies involving government revenue, spending and debt issuance. In macroeconomics, fiscal policy may simply refer to whether the budget is balanced, in surplus or in deficit. In public finance, fiscal policy is more textured, involving the composition of government spending as between direct consumption, research, infrastructure investment, etc., and the kinds of tax systems imposed to collect revenues, i.e. property taxes, individual and corporate income taxes, value-added taxes, etc.

A stimulative fiscal policy in the newly revived Keynesian tradition increases the budget deficit from one year to the next to raise aggregate demand through either increased government spending or reductions in tax levels with the expectation that increases in output and income will follow. An alternative view is that fiscal policy is stimulative when it involves reductions in marginal tax rates on productive activity. This view emphasizes the behavior of private individuals and firms responding to improved after-tax incentives.

According to the alternative view, what matters is reducing effective tax rates, not a resulting increase in the budget deficit. On the contrary, reducing government spending can augment the benefits of an effective stimulative tax cut by reducing the budget deficit, thereby relieving upward pressures on interest rates, reducing concerns of subsequent inflation, and leaving more resources available to the private sector.

* The Heritage Foundation, Washington DC.

One view advocates debt-financed spending increases and incentive-indifferent tax cuts; the other advocates incentive-based tax cuts preferably coupled with reduced spending to contain or reduce the budget deficit. During this global great recession, policymakers need an answer. Which approach to fiscal stimulus is right?

The Keynesian flaw – the second half of the story

The theory behind Keynesian stimulus is simple enough. The economy is underperforming: for whatever reason total demand from the private sector – consumption, investment and the international sector – plus government demand is inadequate to allow the economy to operate at full employment. The proposed solution is to increase public sector demand and let output rise to meet the higher level of demand. Expressed in these terms, the efficacy of fiscal stimulus would hardly seem debatable.

The counter argument begins with the simple observation that if fiscal policy were so obviously effective at raising output and lowering unemployment, countries with persistently underperforming economies would have been doing it for years. Some have tried, but their economies continued to under-perform stubbornly nonetheless.

The 1960s and 1970s was the golden age of Keynesianism. Policymakers embraced persistent budget deficits combined with accommodative monetary policy to fine-tune the economy and increase employment levels. It failed. As Christina Romer, Chairman of President Obama's Council of Economic Advisers has noted, the economic ideas of the 1960s and 1970s that led to expansionary policy also led to inflation and real instability (Romer 2007).

Europeans shared in the dream of fine-tuning the economy while justifying additional spending, with similarly lackluster results. As James Callaghan, the former British Labour Prime Minister, said in 1967, "we used to think that you could spend your way out of recession and increase employment by cutting taxes and boosting government spending. I tell you in all candor that the option no longer exists, and that insofar as it ever did exist it only worked on each occasion since the war by injecting a bigger dose of inflation into the economy, followed by a higher level of unemployment as the next step" (BBC-TV 1967).

Japan in the 1990s is the modern poster child for Keynesian stimulus having embarked on massive government infrastructure projects producing wonderful new roads, bridges, waterworks and airports (Eggertson and Ostry 2005). Net government debt rose as a share of the economy from 15 percent in 1990 to 60 percent in 2000 (IMF World Economic Outlook Database 2009). Japan was left with beautiful infrastructure, a mountain of debt and the now-resumed lost decade.

Recent experience in the United States with Keynesian policy is no less discouraging. The United States ran a budget deficit in 2008 of USD 459 billion, or 3.2 percent of GDP, up from a deficit of 1.2 percent of GDP in 2007. This two percent of GDP increase represented a powerful dose of Keynesian stimulus and yet the recession accelerated markedly. Again, an explicit policy of Keynesian stimulus failed.

According to the Congressional Budget Office (CBO 2009), the US government is expected to run a deficit of USD 1.8 trillion in 2009, or 13.1 percent of GDP. This would amount to a stunning USD 1.4 trillion or nearly 10 percent of GDP of Keynesian stimulus. Despite this massive jolt of deficit spending, the CBO and others project the real economy to decline significantly. The numbers tell the story in black and white. Either these forecasters believe the economy would have contracted by 11 percent or more in 2008 but for the stimulus, or they believe Keynesian stimulus will be as ineffective in 2009 as it was in 2008.

For 2010, CBO projects a deficit of USD 1.4 trillion under President Obama's budget, a decline of USD 466 billion, or 3.5 percent of GDP. Under the Keynesian theory, the deficit needs to *rise* slightly to have a neutral effect on the economy in the short run. A drop in the deficit of 3.5 percent of GDP under this theory is then massively contractionary. Keynesians should be in a panic. Most forecasters, including CBO, appear calmly to ignore this phantom contractionary pressure in their own economic forecasts. Apparently, forecasters outside of the political realm do not believe in Keynesian theory, either.

Simple observation has its place, but how does the Keynesian stimulus approach break down in theory? Keynesian stimulus theory ignores the second half of the story – deficit spending must still be financed and

financing carries budgetary and economic costs. Proponents generally acknowledge the long-term budgetary costs, but ignore the offsetting near-term economic costs.

In a closed economy, government borrowing reduces the pool of saving available for private spending, either investment or consumption. Government lacks a wand to create real purchasing power out of thin air (with the fleeting exception of monetary expansions, discussed below). Government spending or deficit-increasing tax cuts increase demand as advertised, and government borrowing reduces demand by the same amount. The dynamics in an open economy are slightly more complicated but the final outcome for output is unchanged. An open economy permits a government to finance its deficits by importing saving from abroad as the United States has done for years, rather than by tapping domestic sources. However, an increase in deficit spending met by an increase in net imports of foreign saving must in turn be matched by an increase in net imports of goods and services to preserve the balance of payments. Thus, the increase in domestic demand due to deficit spending is fully offset by a reduction in demand arising from net exports. Once again, Keynesian stimulus is of no effect.

What if the extra government borrowing soaks up idle savings in an underperforming economy, proponents may ask? In troubled economic times, those who can save more often do so, directing their saving toward very safe investments like Treasury Bonds and bank deposits. (The US personal saving rate is already up significantly.) However, these cautious savers almost never withdraw their savings from the financial system entirely by stuffing cash into mattresses and the like. Aside from the occasional mattress stuffer, even savings held in the safest of instruments remains part of the financial system, working to find its most productive uses through the available channels. Borrowing to finance Keynesian stimulus then remains a subtraction from the funds available to the private sector.

Suppose widespread fear spurred savers to engage in rampant mattress stuffing, withdrawing purchasing power from the economy and creating large amounts of truly idle savings. This has happened before, and could be happening now. Surely Keynesianism works then? Not likely. Nothing about a flood of government bonds engulfing capital markets to finance a surge in wasteful government spending is likely to

convince the mattress stuffers that their concerns are misplaced. Such deficit spending is then a competitor for an even smaller pool of available private saving. Worse, mattress stuffers are likely to increase their mattress-based saving in the face of a surge of profligate, irresponsible government spending. Keynesian “stimulus” would then be an economic depressant.

Printing money to make fiscal stimulus work

Government cannot create real purchasing power by whim, dictate, or debt, but the monetary authority can create the illusion of purchasing power through a policy of monetizing debt and increasing cash liquidity in the economy. Combining an obliging monetary policy with increased deficit spending may create the illusion that fiscal policy is effective, but as Mr. Callaghan attests, it is temporary and only an illusion.

In most countries the monetary authority’s independence is a foundational policy principle. The monetary authority may buy significant amounts of Treasury notes and bills in pursuit of its own expansionary monetary policy as the Federal Reserve has done for many months in extraordinary quantities. But this policy is driven by monetary policy considerations. The monetary authority would take these actions whether or not the fiscal authorities embarked on a stimulative policy. The Fed’s policy goal is the same as the Treasury’s in this instance – to resuscitate the economy – but the Fed is pursuing its policies independent of the Treasury and, ultimately, it is the Fed’s policies that are effective.

In the last theoretical refuge for Keynesian stimulus, suppose the monetary authority broke its commitment to independence and opted to monetize some of the debt issued under a Keynesian fiscal policy. That is, the monetary authority subordinated its monetary policy rules and objectives to fiscal policy. In this repeat of the failed 1970s experiments, market participants would quickly gauge the shift in monetary policy, interpret it correctly, and reflect higher inflation in their pricing and expectations. The immediate effect would be to nullify the stimulative effects of the policy. The subsequent effect would be a contractionary counter-inflationary policy. Even a compliant central bank cannot make Keynesian policy effective unless the bank can consistently and persistently fool the markets. Not likely.

Casual empiricism suggests Keynesian stimulus policy does not work, and the theory behind the policy falls apart upon inspection. What does empirical research indicate?

Empirical insights on Keynesian effectiveness

One approach to testing the efficacy of debt-based fiscal stimulus turns to the data to see what stories it tells. Unfortunately, few have attempted this task in recent years. This may be due to the emergence, development and parameterization of a new consensus model in macroeconomics, the so-called New Keynesian model (Blanchard 2008; Woodford 2009). Also, most of the developed world (other than Japan) has been relatively immune to significant business cycle swings, thus dampening the demand for research on countercyclical fiscal policies in industrial nations. Part of the reason may also be the strong consensus prior to recent events that Keynesian stimulus was ineffective and that studies reporting statistically insignificant results confirming the consensus view are rarely published.

Perhaps Robert J. Barro's analysis of fiscal stimulus efficacy is the most well known and controversial. Barro argues that the clearest evidence of fiscal policy effects is likely to be found when spending ramps up rapidly during wars (Barro 2007). Examining the US fiscal policy in the periods surrounding World War II, the Korean War and the Vietnam War, Barro's analysis suggests a fiscal multiplier of 0.8, meaning that the increase in output was a fraction of the increase in government spending.

Barro further suggests that the wartime multiplier is likely to be much greater than the peacetime multiplier, and that a peacetime multiplier is likely to be near zero, so every extra dollar of government spending actually replaces a dollar of private spending leaving output unaffected. Paul Krugman among others has criticized Barro's results, noting that the wars themselves and the often attendant wage and price controls would have diminished the effectiveness of fiscal policy (Krugman 2009). However, none of his critics have as yet provided an empirical analysis challenging Barro's results.

Mountford and Uhlig (2005) using a purely statistical approach find an unexpected increase in government spending beyond what would occur through automatic stabilizers "weakly stimulates the econo-

my": a 1 percent increase in spending increases output by about 1.3 percent after one year. Proponents of extra increased spending as Keynesian stimulus may take comfort in this result, but they need also to acknowledge that the authors find a deficit-financed tax cut is the best fiscal policy to stimulate the economy.

An alternative approach to ferreting out fiscal multipliers is to use existing macroeconomic models to simulate policy effects. This approach, while of great interest to model builders, provides uncertain illumination for policy makers because the models ultimately only report what their builders have designed into them. One cannot tell whether an interesting result reflects the model or the economy the model is intended to represent.

Christina Romer, as Chairman of the President's Council of Economic Advisers, and Jared Bernstein, Chief Economist of the Office of the Vice-President, provide a recent example of the model simulation approach. They averaged the output from two quantitative macroeconomic models – one in use at the Federal Reserve Board and one from an unnamed private forecasting firm (The White House 2009). Romer and Bernstein found that an increase in government spending of 1 percent of GDP increases output by 1.6 percent.

In contrast, Cogan et al. (2009) use a state of the art macroeconomic model constructed by Smets and Wouters (2007). The Smets-Wouters model embodies the "New Keynesian" approach to macroeconomic analysis. Among the differences with older models such as those used by Romer and Bernstein, Smets-Wouters includes forward-looking or rational expectations. Cogan et al. (2009) find that the impact in the first year of a Keynesian stimulus is "very small" and that the multipliers are less than one as consumption and investment are crowded out.

As the discussion above suggests, the disposition of monetary policy can have a powerful influence on the effectiveness of fiscal policy. Eggertsson (2006) used a model similar to Smets-Wouters to examine these questions. Her analysis explored the consequences of increased government spending when monetary policy is or is not explicitly coordinated with fiscal policy. Uncoordinated policies need not mean that monetary and fiscal policies have divergent goals. Both monetary policy and fiscal policy may react to economic weakness, a threat of defla-

tion or off-target inflation. The lack of coordination in policies means that in reacting to macroeconomic conditions the monetary authority's actions may be coincidental to fiscal policy, but not specifically intended to support fiscal policy. On the other hand, if the monetary authority sets aside its usual guidelines to subordinate monetary policy to fiscal policy goals, then it is considered to be coordinated with fiscal policy.

Eggertsson (2006) finds that fiscal policy is very effective if monetary policy is explicitly supportive, producing a fiscal policy multiplier of 3.76. However, if monetary policy remains independent, then the multiplier becomes exactly zero and fiscal policy is completely ineffective. This latter result is generally consistent with Cogan et al. (2009) who also explicitly assumed the monetary authority remains fully independent of fiscal policy.

Stepping back, Eggertsson's monetary policy focus, while understandable coming from the New York Federal Reserve staff, is perhaps not on point as a test of Keynesian stimulus. Eggertsson's results depend critically on the effects of fiscal policy on inflationary expectations. These are important issues but do not address the underlying rationale for Keynesian fiscal stimulus of increasing aggregate demand. The real message of Eggertsson is to underscore that modeling exercises sometimes tell us more about the modeler's interests than about the economic processes in which we are interested. This is not a criticism of Eggertsson or any user of such economic models, but rather a caution to those who might interpret and apply their results.

Fiscal policy that works

Fiscal policy can stimulate the economy in the short run, but only by stimulating the underlying processes of economic growth. There is no magic about the means or real uncertainty about the consequences, though the means are unpopular in today's political climate. Cut tax rates on those who produce – individuals, entrepreneurs, small businesses and large – and they will produce more of what is in demand and, in so doing, they will invest more, hire more and generate more income. This is not a matter of choosing one policy over another to stimulate aggregate demand. One could pursue an aggregate-demand neutral policy by reducing marginal tax rates while keeping total tax collections constant. An even more

effective policy would be to reduce spending to match the revenue foregone to incentives-based tax relief.

One criticism of an incentives-based approach to stimulus is that businesses will not increase production if there is no additional demand. This is true, but it also misses the point. An economy in recession generates a steady drumbeat of bad tidings, leaving a popular impression of perfect gloom. Yet the basic economic processes of prosperity at work triggering recovery are ever at work in recession. Reports of job loss reflect the net of losses over gains, but the gains can be substantial. Even in recession, many employers are still hiring, still investing, still looking for new opportunities, much as they do in normal times, just less so. A policy of marginal tax rate reductions encourages these positive forces by improving the rewards to productive activity.

For example, according to the US Department of Labor (2009), in the second quarter of 2008 (the latest data), as the recession was gathering steam, total employment declined by 223,000 workers. However, in that same period when unemployment was building, 128,000 workers found new jobs. The reported job loss figure is the net of job losses over job gains. To be sure, losses exceeded gains, hence the net loss figure. Yet 128,000 individuals found employment. The labor market is much more dynamic than the simple figures suggest. An effective stimulus policy recognizes and builds on this dynamism.

Recovery takes hold when those in a position to do so have reason to do more. Low real interest rates and lower unit labor costs are classic sources of these incentives. These incentives internal to the private sector can be given a strong boost by reducing the disincentives from taxation or burdensome regulations or government-generated uncertainties. Unless government policies have so polluted the economy as to render the landscape of opportunities a toxic wasteland, entrepreneurial spirit will seek out those opportunities and in so doing move the economy forward, and will do so.

Keynesian stimulus comes and goes

Bad policy ideas rarely go away forever. Circumstances change, memories fade, and political fashions come and go. The current global experiments with Keynesian fiscal stimulus will fail as they have failed

before. Unfortunately, the price of learning this lesson yet again is an unnecessarily prolonged recession, a weaker recovery and millions more jobs lost – and of course the massive increases in public debt.

Fiscal policy need not be ineffective. Fiscal policy can assist the private sector to address its weaknesses and failings and resume growing if tax relief improves economic incentives to help the private sector heal itself. Unfortunately, these effective policies are not in vogue today. What is in vogue is using the occasion of a deep recession to expand government in a variety of ways that would be more difficult or time consuming under normal circumstances.

Economies will eventually recover as normal corrective economic processes take hold, assisted by effective monetary policies. If the process is drawn out, then economists and policymakers will turn to alternative fiscal policies that today are out of fashion. Reducing marginal tax rates, as unpleasant as it may be for some, will work as advertised. It's all a matter of time – and incentives.

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FISCAL POLICY FOR THE CRISIS

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Introductory remarks

The current crisis, which started in the housing and financial sectors, has now led to a strong fall in aggregate demand. There are indications that this fall could be larger than in any period since the Great Depression. A successful policy package should address both the financial crisis and the fall in aggregate demand, and thus should have two components: one, aimed at getting the financial system back to health; the other, aimed at increasing aggregate demand. There are obvious interactions and synergies between the two. Financial measures, from recapitalization to asset purchases, have important implications for credit flows and aggregate demand. Measures to support aggregate demand, for example by helping homeowners and improving the housing market, have clear implications for the health of financial institutions. Nevertheless, our focus in this article will be primarily on measures aimed at sustaining aggregate demand.

The fall in aggregate demand is due to a large decrease in real and financial wealth, an increase in precautionary saving on the part of consumers, a “wait-and-see” attitude on the part of both consumers and firms in the face of uncertainty, and increasing difficulties in obtaining credit. A further fall in demand will increase the risk that the perverse dynamics of deflation, rising debt, and associated feedback loops to the financial sector, may materialize.

Two macroeconomic policies often used to support aggregate demand are less effective in the current environment. First, while each single country can, on

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its own, adopt an export-led recovery strategy, this is clearly not an option open to the world as a whole.¹ Second, the financial nature of the crisis weakens the traditional monetary transmission mechanism. Furthermore, many countries have already used monetary expansion, and the room to lower central bank policy rates is limited. In these countries, the role of monetary policy should be to support the fiscal stimulus by avoiding increases in the policy interest rate until output begins to recover.²

In these circumstances, the Managing Director of the IMF has called for a sizable fiscal response at the global level. Its precise magnitude should depend on the extent of the expected decline in private sector demand and should therefore be reviewed in light of developments. Moreover, while a fiscal response across many countries may be needed, not all countries have sufficient fiscal space to implement it since expansionary fiscal actions may threaten the sustainability of fiscal finances. In particular, many low income and emerging market countries, but also some advanced countries, face additional constraints such as volatile capital flows, high public and foreign indebtedness, and large risk premia. The fact that some countries cannot engage in fiscal stimulus makes it all the more important that others, including some large emerging economies, do their part.

This article, rather than focusing on the precise magnitude of the required fiscal response and its distribution across countries, focuses on some general features that fiscal stimulus should have in the present context. More specifically, we argue that a fiscal stimulus should be timely (as there is an urgent need for action), large (because the drop in demand is large), lasting (as the recession will like-

¹ In the context of Japan, Lars Svensson argued that a way out of the slump was to achieve exchange rate depreciation, a policy that would work even if interest rates were already down to zero. Exchange rate depreciation was indeed a key factor behind economic recovery after some financial crises. Unfortunately, this cannot work in case of a global crisis (and indeed the beggar-thy-neighbor devaluations of the 1930s were definitely not helpful).

² This statement refers to traditional monetary policy, and the use of the policy rate, not to less traditional dimensions, such as quantitative easing. We think of quantitative easing, that is, direct intervention by the central bank in dysfunctional financial markets, as part of the financial measures, and do not discuss it further in this note. We return, however, to related policies in the last part of the article.

ly last for some time), diversified (as there is uncertainty regarding which measures will be most effective), contingent (to indicate that further action will be taken, if needed), collective (all countries that have the fiscal space should use it given the severity and global nature of the downturn), and sustainable (to avoid debt explosion in the long run and adverse effects in the short run). The challenge is to provide the right balance between these sometimes competing goals – particularly, large and lasting actions versus fiscal sustainability.

Fiscal policy in financial crises – lessons from history

A survey of the countries that have experienced severe systemic financial crises shows that these episodes are typically associated with severe economic downturns (see IMF 2008). The survey also demonstrates that countries have reacted to these downturns quite differently, depending on economic and political constraints. The list of countries that have experienced both financial and economic crises is long and includes the United States during the Savings and Loans crisis in the 1980s, the Nordic countries in the early 1990s, Japan in the 1990s, and Korea in 1997.

Several lessons can be drawn from all these previous crises. First, successful resolution of the financial crisis is a precondition for achieving sustained growth. The archetypal example here is Japan, where fiscal actions following the bursting of its asset bubble failed to achieve sustained recovery because financial sector problems were allowed to fester. Delaying interventions, as was also done in the United States during the Hoover administration and during the Savings and Loans crisis, typically leads to a worsening of macroeconomic conditions, resulting in higher fiscal costs later on. Prompt and sizeable support to the financial sector by the Korean authorities limited the duration of the macroeconomic consequences thus limiting the need for other fiscal action. Second, the solution to the financial crisis always precedes the solution to the macroeconomic crisis. Third, a fiscal stimulus is highly useful (almost necessary) when the financial crisis spills over to the corporate and household sectors with a resulting worsening of the balance sheets. Fourth, the fiscal response can have a larger effect on aggregate demand if its composition takes into account the specific features of the crisis. In this regard, some of the tax and transfer policies implemented early in the Nordic crises did little to stimulate output.

Fixing the financial system and supporting aggregate demand are, thus, both of the essence. It is for this reason that the authorities in several advanced countries have unveiled a series of unprecedented initiatives to rescue the financial sector. We leave these aside in this note, and turn now to the fiscal component.

Composition of a fiscal stimulus

Two features of the crisis are particularly relevant in defining the appropriate composition of the fiscal stimulus.

First, as the current crisis will last at least for several more quarters, the fiscal stimulus can rely, more than is usual, on spending measures: the usual argument that implementation lags are long is less relevant when facing the current risk of a more prolonged downturn. Such expenditure measures may also have advantages over tax cuts or increases in transfers, which operate by raising the purchasing power of households and firms in the economy, given the highly uncertain response of the latter to an increase of their income in current circumstances.

Second, in the current context, characterized by a number of events and macroeconomic conditions not experienced in recent decades, existing estimates of fiscal multipliers are less reliable in informing policymakers about which measures will be relatively effective in supporting demand. This provides a strong argument for policy diversification, that is, for not relying on a single tool to support demand.

Public spending on goods and services

In theory, public spending on goods and services has larger multiplier effects and, most important in the current circumstances, its first round effects are more certain than those related to transfers or tax cuts. In practice, the appropriate increase in public spending is constrained by the need to avoid waste. What are the key policy prescriptions?

First, and quite simply, governments should make sure that existing programs are not cut for lack of resources. In particular, central governments or sub-national governments that are facing balanced budget rules may be forced to suspend various spending programs (or to raise revenue). Measures should be taken to counteract the pro-cyclicality built into

these rules. For sub-national entities, this can be mitigated through transfers from the central government (suspending the rules for sub-national governments would not be appropriate as it will be difficult to reverse the suspension later.) In the United States, for example, increased transfers from the federal government would help states avoid cutting various spending programs.

Second, spending programs, from repair and maintenance to investment projects delayed, interrupted or rejected for lack of funding or macroeconomic considerations, can be (re)started quickly. A few high-profile programs, with good long-run justification and strong externalities (e.g. for environmental purposes) can also help, directly and through expectations. Given the higher degree of risk facing firms at the current juncture, the state could also take a larger share in private-public partnerships for valuable projects that would otherwise be suspended for lack of private capital.

Public sector wage increases should be avoided as they are not well targeted, difficult to reverse, and similar to transfers in their effectiveness. Nevertheless, a temporary increase in public sector employment associated with some of the new programs and policies may be needed.

Fiscal stimulus aimed at consumers

The support of consumer spending also needs to take the present exceptional conditions into account. Three specific factors affect consumption at this juncture:

- Decreases in wealth, be it housing, financial, or human (i.e. declines in current and expected disposable income), leading consumers to cut consumption.
- Tighter credit constraints, as some consumers see their credit lines eliminated or face much higher interest rates, forcing them to cut consumption.
- High uncertainty, leading consumers to increase precautionary saving, and to take a wait-and-see attitude and delay purchases until uncertainty has cleared.

Each of these three factors has different implications for the marginal propensity to consume out of transitory tax cuts or transfers. The first and the third suggest low marginal propensities to consume, the second a high one. Assessing the relative importance

of the three is hard,³ but the list suggests two broad recommendations.

The first is to target tax cuts or transfers at those consumers who are most likely to be credit constrained. Measures along these lines include the greater provision of unemployment benefits, increases in earned income tax credits, and the expansion of safety nets in countries where such nets are limited. Where relevant, support for homeowners facing foreclosures, including a write-down of mortgages using public resources is particularly appealing from a macroeconomic viewpoint as it helps not only to support aggregate demand, but also to improve conditions in the financial sector.

The second is that clarity of policy together with a strong commitment by policy makers to take whatever action may be needed to avoid the tail risk of a depression, are likely to reduce uncertainty, induce consumers to decrease precautionary saving, as well as stop waiting and start spending again.

What about other measures? Some countries are considering broad-based tax cuts. For reasons explained earlier, the marginal propensity to consume out of such tax cuts may be quite low. Some countries have already introduced, or are considering, temporary decreases in the VAT. If the termination date is credible and not too distant, the intertemporal incentives implied by such a measure are attractive, but the degree of pass-through to consumers is uncertain, and its unwinding can contribute to a further downturn. It is also questionable whether decreases in the VAT of just a few percentage points are salient enough to lead consumers to shift the timing of their purchases. Along these lines, larger but more focused incentives, such as cash transfers for purchases of new, more efficient cars, a measure adopted in France, may attract more attention from consumers and have larger effects on demand.

Fiscal stimulus aimed at firms

In the current environment, firms face not only a sharp fall in demand, but also a lot of uncertainty on how bad things could turn out to be. In this very uncertain environment, firms, just like the consumers, are taking a wait-and-see attitude with respect to their investment decisions. Subsidies or

³ Micro and macro evidence on the effect of the recent US tax rebates give conflicting answers. Macro evidence suggests most of it was saved. Micro evidence shows some increase in consumption.

measures to lower the tax adjusted user cost of capital (such as reductions in capital gains and corporate tax rates) are unlikely to have much effect. Rather, the key challenge for policy-makers is to avoid that firms have to cut down their current operations for lack of financing, including reasonably-priced credit.

This is, of course, primarily the job of monetary, not fiscal, policy. However, there is also some scope for governments in supporting firms that are facing particularly difficult problems, could survive through restructuring, but find it difficult or impossible to receive the necessary financing from dysfunctional credit markets. In particular, there is an argument for allowing the restructuring of firms that are facing economic distress, with government guarantees on new credit (given the non availability of private financing for such firms). This can facilitate the development of a plausible restructuring plan, and is very much the approach underlying IMF-supported program lending to countries: lending plus policy adjustment.

It has been argued that governments should provide support to entire high-visibility sectors of the economy because of the potential effect that bankruptcies in these sectors may have on expectations and thus on demand. While there is some validity in this argument, its inherent arbitrariness, and risk of political capture, would make implementation too difficult. Its end result may, in fact, be to add uncertainty, and raise questions about domestic protection.

Indeed, direct subsidies to domestic sectors lead to an uneven playing field with respect to foreign corporations, and could lead to retaliation and possibly trade wars. In this context, an important principle of support should be to minimize interference with operational decisions. For example, following the earlier argument that public provision of credit guarantees to firms may be needed as long as the credit markets remain dysfunctional, it is clear that such provision should not be sector specific.

Sustainability concerns

It is essential for governments to indicate from the start that the extent of the fiscal expansion will be contingent on the state of the economy. While a sizable upfront stimulus is needed, policy makers must commit to doing more, as needed, if conditions so

warrant. It is important to announce this at the start, so later increases do not look like desperation repairs.

However, it is also essential that fiscal stimulus not be seen by markets as seriously calling into question medium-term fiscal sustainability. This is key, not only for the medium run, but also for the short run, as questions about debt sustainability would undercut the near-term effectiveness of policy through adverse effects on financial markets, interest rates, and consumer spending.

Financial markets do not seem, at present, overly concerned about medium-term sustainability in the largest advanced countries, though there has been some widening of borrowing costs within the euro zone that likely reflect sustainability concerns.⁴ This is however limited comfort, as markets often react late and abruptly. Thus, a fiscally unsustainable path can eventually lead to sharp adjustments in real interest rates, and these in turn can destabilize financial markets and undercut recovery prospects.

What can be done to avoid this danger? The following features can help:

- implementing mostly measures that are reversible or that have clear sunset clauses contingent on the economic situation;
- implementing policies that eliminate distortions (e.g. financial transaction taxes);
- increasing the scope of automatic stabilizers that, by their nature, are countercyclical;⁵
- pre-committing to identified future corrective measures – e.g. letting the current administration's upper income tax cuts expire (the US case) – and to future increases in upper income tax rates (a part of the UK package);
- pre-commitment to unwinding stimulus measures either at a specific date (like lowering VAT for just two years as Britain recently did) or on a contingent basis (reversing the VAT cut once GDP growth has risen above a certain level). Consideration should be given to a smooth unwinding to avoid cliff effects;

⁴ Econometric estimates for the United States indicate that a 1 percentage point increase in the expected or current federal debt-to-GDP ratio increases long-term real interest rates by only 2 to 4 basis points (Laubach 2003). There are good reasons to believe, but no strong empirical evidence to support, the notion that the effect is nonlinear in the level of debt. In early December 2008, Italian and Greek government papers were facing interest rates of around 150 basis points over comparable German rates.

⁵ There is evidence of a secular decline in the role of automatic stabilizers in the United States since their historical peak in the 1970s – see Auerbach (2008).

- providing more robust medium-term fiscal frameworks. These should cover a period of four to five years and ideally include: accurate and timely projections of government revenues and expenditures; a government balance sheet reporting data on government assets and liabilities; a statement of contingent liabilities and other fiscal risks; and transparent arrangements for monitoring and reporting fiscal information for central and sub-national governments, other public sector entities, and central bank quasi-fiscal operations, on a regular and timely basis. Such frameworks should be designed to give confidence that increases in public debt resulting from the stimulus are eventually offset;
- strengthening fiscal governance. For example, independent fiscal councils could help monitor fiscal developments, thus increasing fiscal transparency, and could also advise on specific short-term policies or medium-term budgetary frameworks to reduce the public's perception of possible political biases; and
- improving expenditure procedures to ensure that stepped-up public works spending is well directed to raise long-term growth (and tax-raising) potential.

Moreover, we should not forget that the main threat to the long-term viability of public finances in rapidly-aging countries comes from the trend increase in the net cost of publicly funded pension and health entitlements, whose net present values far exceed the magnitude of conceivable fiscal stimulus packages. Finally, structural reforms to boost potential growth, by removing distortions, including those arising from taxation and other public interventions, can also help in strengthening medium-term sustainability: many countries have succeeded in reducing their public debt burden through growth. A credible commitment to address these long-term issues can go a long way in reassuring markets about fiscal sustainability.

Some proposals for discussion

The gravity and singularity of the current crisis may require new solutions that address specifically the issues of financial disintermediation and loss in confidence. Some proposals that could be considered further are:

(1) Greater role of the public sector in financial intermediation

One of the characteristics of the current financial crisis is an extreme shift in investors' preferences

towards liquid T-bills and away from private assets. To the extent that the state is in a better position than private investors to buy and hold these private assets, it may want to do so, in effect, partly replacing the private sector in financial intermediation. In the US context, the government could issue T-bills and use the funds to provide financing for some of the ultimate borrowers.⁶ The issue is clearly that the public sector does not have a comparative advantage in evaluating credit risk, nor in administering a diverse portfolio of assets. A possible solution may be to outsource the management of the banking activities to a private entity.

(2) Provision of insurance by the public sector against large recessions

In the present environment of extreme uncertainty, there may be a high private value to delaying consumption and investment decisions until part of the uncertainty is resolved. Equally important, banks may delay their decisions on which projects to finance for similar reasons. In this context, the government could provide insurance against extreme recessions by offering contracts, with payment, for example, contingent on GDP growth falling below some threshold level. Banks could condition loan approvals on firms having purchased such insurance from the government. This is analogous to the flood insurance that mortgage companies often require from borrowers. While such contracts would most likely be attractive to firms that suffer disproportionately during large recessions, they could be open to individuals as well. Widespread use of such contracts would provide an additional automatic stabilizer because payments would be made when they are most needed, namely in bad times.⁷ Such a market would also provide a market-based view of future output, and the likelihood of severe shocks. (GDP-linked bonds, which have been discussed in the academic literature for some time, would also go some way towards the same goal.) An obvious worry about such a scheme is counterparty risk, i.e. that the government may not be able or willing to honor its obligations. The contingent liabilities created by providing insurance should be included appropriately in the budget and

⁶ This was done in the 1930s during the Great Depression. We describe it as a Treasury operation but it is closely related to the "quantitative easing" policies followed by the Fed and other central banks. The differences are in whether these assets are bought or used as collateral, and whether their purchase is financed through government bonds, or through money creation (as is currently the case).

⁷ Note that this proposal has some resemblance with the ideas on country insurance discussed in Becker et al. (2006).

should be taken into consideration when calculating the medium-run fiscal sustainability.

A collective international effort

The international dimension of the crisis calls for a collective approach to providing fiscal stimulus. There are several important spillovers that could limit the effectiveness of actions taken by individual countries, or even create adverse externalities across borders:

- Countries with a high degree of trade openness may be discouraged from fiscal stimulus; the more open a country, the less it will benefit from a domestic demand expansion, and the more the fiscal expansion will translate into a deterioration of the trade balance. The amount of stimulus needed to achieve a given level of increased output can be large in open economies. The flip side of these spillovers is that if all countries act, the amount of stimulus needed by each country is reduced (and provides a political economy argument for a collective fiscal effort). At the same time, this collective fiscal effort must be tailored to individual country circumstances to take account of external imbalances, the effects of automatic stabilizers and the degree to which each country has fiscal scope of action.
- Some interventions currently discussed such as subsidies to troubled industries may be perceived as hidden (unfair) industrial policy by trading partners. Such a race would bring significant costs in terms of efficiency.⁸
- The history of the Great Depression shows that, as the crisis deepens, there is increasing pressure to raise trade barriers. While it is improbable that trade tariffs will be increased because of the commitments to WTO, there is a distinct possibility that organized groups may advocate non-tariff protection to limit imports, or introduce various forms of export subsidies, especially if some fiscal measures are misconstrued as unfair industrial policy (see previous point).

All these factors point to the need for a concerted effort by the international community, and stricter

⁸ Attempts to save jobs in troubled sectors of the US economy, e.g. the automobile industry, through increased trade protection come with a potentially large cost in terms of lost efficiency. Some estimates suggest that the cost of saving one job far exceeds the average annual wage in the protected sector. For example, in 2002, the Federal Reserve Bank of Dallas published estimates of the annual cost incurred per job saved in 20 sectors in the US economy as a consequence of protection and they concluded that the average annual cost per job saved exceeded 230,000 US dollars.

coordination among countries with closer economic and institutional ties (e.g. the European Union).⁹ The recent decision to finance some of the national expenditures from the EU budget is clearly a step in this direction.

Some countries have questioned the *need* for fiscal action and whether it can be effective. The most recent data are pointing more and more to a worldwide growth slowdown. This suggests that the action should be widespread to maximize its effectiveness. To maximize the demand impetus, policies across regions should be tailored to those actions that are likely to provide the largest multipliers. In the United States, that is likely to be investment, other spending on goods and services, and some targeted transfers. In Europe, with its relatively large automatic stabilizers, the additional fiscal impulse can probably be somewhat less than in the United States.

Conclusion

The current crisis calls for two main sets of policy measures. First, measures to repair the financial system. Second, measures to increase demand and restore confidence. While some of these measures overlap, the focus of this article is on the second set of policies, and more specifically, given the limited room for monetary policy, on fiscal policy.

The optimal fiscal package should be timely, large, lasting, diversified, contingent, collective, and sustainable: timely, because the need for action is immediate; large, because the current and expected decrease in private demand is exceptionally large; lasting because the downturn will last for some time; diversified because of the unusual degree of uncertainty associated with any single measure; contingent, because the need to reduce the perceived probability of another “Great Depression”

⁹ So far, the European Commission has recommended a fiscal stimulus of 1.5 percent of GDP. France has announced a 19 billion euro plan, which includes a boost for the construction and car sectors; moreover, the government has promised 20 billion euros for small business and the construction industry. Germany has announced a package that includes generous amortization rules for companies, and incentives for climate-friendly home renovation; the package will cost 12 billion euros in two years but it is expected to trigger 50 billion euros in private investment. Italy proposes a nominally large stimulus that will only amount to 5 billion euros in ‘new’ money (i.e. not previously announced). Spain has announced measures for 40 billion euros to support infrastructure investment and the car industry. Britain has announced a temporary reduction of VAT rate from 17.5 to 15 percent until December 2009 at an estimated cost of 12.5 billion pounds; in addition, the government plans to invest 3 billion pounds on infrastructure and has offered temporary targeted tax breaks for 3.5 billion pounds.

requires a commitment to do more, if needed; collective, since each country that has fiscal space should contribute; and sustainable, so as not to lead to a debt explosion and adverse reactions of financial markets. Looking at the content of the fiscal package, in the current circumstances, spending increases, and targeted tax cuts and transfers, are likely to have the highest multipliers. General tax cuts or subsidies, either for consumers or for firms, are likely to have lower multipliers.

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WHAT IS NECESSARY AND WHAT IS POSSIBLE IN TODAY'S ECONOMIC POLICY: THE INCENTIVE EFFECTS OF GERMAN ECONOMIC STIMULUS PACKAGES

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*Politik ist die Kunst, das Notwendige möglich
zu machen.¹*

(Herbert Wehner, German politician, 1906–1990)

Richard Musgrave argued that government intervention needs justification (Musgrave 1959). In short, governmental economic activity should be structured around market failure. Reacting to such market failures is intervention motivated on efficiency grounds – politics then makes possible what is necessary. At the same time, it must be recognized that intervention is often subject to the same limited information that causes market failure. Moreover, a government managed by officials is often weak in the sense that actions are biased to serve short-term political interests. The current financial crisis is a good example of market failure and poor government performance. Necessary regulation of the financial sector, which was introduced to fight imminent market failure in the early days, became weaker – or, arguably, too weak – due to governments' choice to relax the level of intervention. As is evident by now, governments' choice to reduce intervention has created the failure of regulation. In the following, we briefly recapitulate the government failure that caused the crisis in order to lay the foundation for a better

design of public interventions in the aftermath of the crisis.

The roots of the crises: a brief overview

Let us distil complicated reality down to comprehensible patterns. It is well understood that the recent financial collapse has been caused by a policy package designed to encourage banks to give credits especially to those US individuals whose income situation is generally not sound enough to qualify for conventional loans. In other words, the problems on financial markets we observe today have their roots in the large scale deregulation of financial markets that has triggered a substantial increase in private income and wealth for a politically relevant number of people for an intermediate period of time. Deregulation of credit markets has resulted in increased private consumption and high inflows of capital and investment goods into the US economy.

The international repercussions were twofold. Germany as a major exporting country benefited from the international market imbalances. At the same time, German financial institutions suffered from a decline in the return on equity as a consequence of international competitive pressures in the banking industry. Accordingly, German banks prompted the German government for deregulation to increase their profitability and to reduce the likelihood of takeovers. Similar to other European countries in a like situation, the government pursued short-term national interests. Only recently has the failure of deregulated credit markets become public knowledge. The dilemma now is that a collapse of the financial system provoked by lax public regulation can only be prevented by drastic public intervention in financial markets. Moreover, consumers' higher exposure to the risk of credit default has reduced private consumption in the United States. The result is a drastic decline of incoming orders for the German export industries that had profited from the trade imbalances during the years of the credit boom in the United



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¹ Politics is the art of making possible what is necessary.

States. Politicians now argue for government rescue packages to stabilize these so-called “core” industries.

Government objectives and incentives

The above summary of events is surely too brief. Nevertheless, it clearly demonstrates that any level of (de)regulation or fiscal policy is obtained as the outcome of a political process. Major players in this process are non-benevolent officials who choose policy instruments as to maximize support. Note that diverse government instruments are often substitutable in a second-best setting, albeit at some economic cost. Thus it is not only the set of available instruments that determines outcomes but also incentives. Public economic activity is often fuzzy and complex because complicated structures may be designed to serve special interest groups. This, in turn, creates a problem for policy evaluation, as an isolated view of a subset of public activity is meaningless. It is clear then that one should not celebrate the diverse public packages that have recently been adopted in many countries as the triumph of the welfare state over the market system, or as the triumph of collective action over anonymous markets. In politics it is often unimportant how one arrives at a specific allocation as long as one (at least roughly) achieves the politically desired outcome. As an example, the beneficiaries from capital market deregulation before the crisis now seem to opt for more regulation and more government intervention in order to externalize the costs of their actions. This turns out to be a truly Panglossian view on the world, as Cohen (2008) argues, as actors aim at making the best out of today’s situation, thereby shirking any responsibility for the economy’s problems in the first place.

Turning back to politics, surely there does not exist a system of imposed order in the Hobbesian sense; the representative democracies we observe today are naturally second-best since the Lockesian case for a government that respects individual freedom is imperfectly implemented. The political process creates a prisoners’ dilemma in the sense that the government might prefer to offer deregulation as part of a policy package serving important particular interests. Even worse, the resulting consequences for efficiency and distribution are amplified by a second prisoners’ dilemma resulting from the strategic policy choice to attract economic activity in internation-

al competition among governments. It seems reasonable that both dilemmas lead to a failure of governments in terms of standard welfare economics.

Given these very basic insights, the first question in the context of the present economic situation is whether economics is able to identify measures that are useful in reducing the negative consequences of the current crisis, given the absence of strong governments. The second question is whether the recommendations can, in fact, be implemented. The answer to the first question requires a ranking of measures, the answer to the second question requires mechanisms designed to ensure that politicians meet their participation constraint. As a matter of course, the answers to both questions are interdependent, and separate answers are only acceptable on the grounds of tractability and the convenience of the reader. The following discussion uses examples and is not meant to be exhaustive.

A short evaluation of German state guarantees and economic stimulus packages

In Germany we currently observe huge efforts to stabilize the banking system. To be sure, it is advisable to prevent a collapse of financial markets and avoid a bank run. Nevertheless, one should bear in mind what standard economic theory suggests: the short-sighted agents tend to externalize the costs of their own actions in a repeated game if they do not have to face a loss of reputation or some other penalty. More specifically, bank managers will clearly continue to pursue short-run optimization strategies in the absence of the risk of bank failure or negative effects on reputation. This is evident in the broad utilization of public guarantees by the banking industry that prevents bank failures and, at the same time, makes any individual bank almost undistinguishable from its competitors. The broad use of guarantees makes individual banks immune to the risk of reputation loss.

As a matter of course, the recent guarantees provided to the banking industry may be justified on the grounds of economic stabilization; the point here is that a corner solution where no bank fails is as undesirable as a corner solution where a bank run occurs. One should additionally note that an outcome with public guarantees that avoids bank failures might indicate that public intervention is designed to secure the market shares of domestic

banks in international governmental competition. In fact, attempts to harmonize banking regulation internationally to create a level playing field seem to have received substantial political attention in Germany only at the beginning of the crisis. Given that other countries have similar incentives, one should not be overly optimistic with regard to international harmonization.

Turning to economic stimulus packages, Germany has seen a substantial increase in government spending as a consequence of the economic stimulus packages I and II designed to dampen fluctuations in output and employment. One of the measures contained in these packages is a subsidy provided in 2009 and 2010 to workers on short-time working, aimed at avoiding spells of unemployment. Economic research documented in Sørensen and Whitta-Jacobsen (2005) and elsewhere suggests that the welfare costs of unemployment fluctuations are substantial and highly unevenly distributed across skills, with particular losses for low-skilled, low-paid and young workers. Not only because of these welfare costs, but also in view of the upcoming federal elections, providing this subsidy appears to be a reasonable choice of economic policy instrument from the government's perspective. Fast increasing unemployment rates tend to be adverse to incumbent government's electoral outcomes (Mueller 2003).

More generally, the underlying incentive problem of politicians with regard to several measures in the economic stimulus packages may be described as a divergence of private benefits and social costs. Politicians and parties gain political support from public spending which imposes a social – and usually higher – cost on tax payers. The political benefits may also explain why the German government, which usually tends to glorify the export-bias of the German economy (Germany – in a somewhat mercantilistic manner – prides itself to be the world's export champion), suddenly turns to stimulate notoriously weak domestic consumption rather than free-riding on other countries' efforts to stimulate their economies.

A similar reasoning applies also to the second measure that we would like to bring to attention: the wrecking bonus (*Abwrackprämie*), a subsidy of 2,500 euros for scrapping and replacing used cars that is only paid out in 2009. It goes without saying that this subsidy is designed to increase the demand for cars in an attempt to stabilize the – highly important –

German automobile industry in times where there is a dramatic drop in orders from the United States. This measure is already problematic *per se* because of – among other things – its adverse effects on environmental protection (gains in fuel efficiency of new cars are completely offset by the new cars' greater weight) and on used-car exporters: in 2006, these firms earned almost six billion euros in revenues by exporting more than 500,000 cars (Sinn 2009). The government's prioritizing is rather obvious here.

However, the consequences of the subsidy are more subtle. Consider a consumer who is exposed to the risk of getting unemployed. The consumer wishes to smooth his consumption path over time because of a declining marginal utility of consumption. The subsidy is only paid in 2009, implying that many consumers will revise their consumption plans. Those consumers stop saving and accumulate debt, especially in the low-income strata, who demand relatively inexpensive cars because the marginal effect of the subsidy is highest for those cars. Less savings mean that less collateral is accumulated. Hence, consumers make riskier decisions, anticipating that debt cannot be repaid in times of unemployment. To conclude, the simple model sketched here has the subtle effect that the subsidy targeted at the automobile industry to stabilize industry sales causes low income types to take up more debt (at least, welfare recipients are excluded from applying for the wrecking bonus – however, only after some political struggle). Furthermore it remains to be seen whether the scrapping certificates needed to receive the subsidy cannot be forged. Otherwise used cars will illegally be sold in other parts of the world. These considerations lead to the question of whether the political payoff generated by the wrecking bonus justifies its economic costs.

Finally, in Germany we have seen a dramatic decrease of incoming orders, especially in the export sector. This means that credit constraints may in fact become binding as expected future profits decline. However, the mere fact that debt financing becomes more expensive when expected future profits fall does not constitute a market failure that justifies public intervention. It has been argued, however, that present and future economic environments are characterized by uncertainty resulting in dysfunctional credit markets (Gonzales-Paramo 2008). While uncertainty could potentially constitute a market failure and might induce support for government intervention, it is also true that the distinction

between risk and uncertainty is hardly operational, since the probability distribution of profits is often – at best – private information. The firm will have little interest in making its private knowledge about true economic profits publicly available, as this would ultimately eliminate potential gains from strategic behavior. To see this we should understand that information is asymmetrically distributed between private agents and the public administration. Any signal given is thus not verifiable by the public, making it profitable for private agents to provide highly diffuse or strongly biased evidence of their future prospects in an attempt to attract resources from the public administration. It then seems obvious that any distinction between risk and uncertainty that is based on publicly available information is very likely strongly biased; this is creating a risk, namely that the definition of uncertainty is wide open for political capture.

Summary

The present discussion attempted to evaluate the benefits and costs of public intervention from the point of view of welfare economics. We tried to clarify that the political process might lead society to a different evaluation of public economic activity, with the risk that government caters to special interest groups and engages in international competition for economic activity. It should also have become obvious from the discussion that it is of primary importance to harmonize banking regulation provisions at an international level to guarantee an efficient functioning of financial markets. Public spending programs such as infrastructure programs are timely and can easily be ceased. Society that cares about distribution should stabilize employment with measures that do not have a large effect on firms' operations. Against this background the subsidy for short-time working is appropriate. Other measures appear to be less appropriate and rather driven by problematic incentives for specific actors in the political process – somewhat contrary to the idea that politics is the art of making possible what is necessary.

A measure that has not been used so far in Germany is broad-based tax cuts. It is certainly true that tax cuts might not have a large-scale effect on private spending; and broad-based tax cuts, almost by definition, cannot be targeted to help specific sectors. On the other hand, tax cuts lead to an increase in savings and investment; and, most importantly, broad-based

tax cuts seem to be less vulnerable to political capture. However, taxpayers constitute a large and heterogeneous group, which may be one of the major reasons why tax reforms are currently not high on the political agenda.

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WHY TAX COMMERCIAL MOTOR FUEL IN THE EU MEMBER STATE WHERE IT'S BOUGHT? WHY NOT WHERE IT'S CONSUMED?

CHARLES E. MCLURE, JR.*

The tax systems of EU Member States have many features that reflect the fact that, until recently, the Member States were independent nations. Corporate income taxes, which are based on distinct national definitions of taxable income, separate accounting and the arm's length standard, provide the most striking and best known example of "legacy" EU tax systems that are not appropriate for an economic union.¹ Less appreciated is the need to reform the taxation of commercial motor fuel – that used in trucks and buses – to make it consistent with economic union.

The perceived problem and the European Commission's flawed solution

In the EU commercial motor fuel is taxed where it is bought, instead of where it is consumed, just like fuel used in private automobiles. Unlike a destination-based system for taxing motor fuels, this purchase-based system has a number of undesirable economic and fiscal implications, unless tax rates are uniform.² There is an obvious incentive to purchase motor fuel where, all else equal, tax rates are lowest. This means that the location of fueling stations may not be optimal – that they are likely to be concentrated in low-tax jurisdictions, especially near borders with high-tax jurisdictions. Truckers with greatest access to low-taxed fuels may compete unfairly with others located in high-tax jurisdictions. The distribution of

tax bases among Member States is likely to be tilted toward low-tax jurisdictions, rather than reflecting distance traveled in each Member State, as would be more appropriate under the benefit principle of taxation. There is thus an incentive for Member States to engage in destructive tax competition; they may set rates below the level they might otherwise prefer either to "poach" the tax base of other Member States or to protect against poaching. The European Commission (2002, 10-11) explains the problem as follows, as it relates to taxation of commercial motor fuel:

"The large range of trucks allows hauliers to purchase a significant part of their diesel fuel in Member States where excise duties are the lowest. Member States which set high rates lose a large proportion of their excise receipts to the profit of Member States applying lower taxation. This tax competition between Member States leads to an erosion of budgetary resources and prevent (sic) Member States wishing to implement an autonomous policy".

The European Commission perceives the root of the problems just described to be the diversity of tax rates applied to commercial motor fuel. This is seen clearly in the following assessment from a Commission staff working document issued in 2006:

"Objective and root problem to be addressed: the existing differences in excise taxes produce distortions in internal market competition within the road transport market as they introduce an important fiscal advantage or disadvantage within competition which is independent from the internal efficiency and costs of road transport firms; any excessive differences in tax levels, especially on fuel, would need to be narrowed, a convergence of taxation levels would be therefore advisable".³

In order to ameliorate these problems, the EU has long set minimum tax rates for commercial motor fuels (that used by trucks weighing more than 7.5 tons and buses). Most recently, in March 2007, the



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¹ McLure (2008c) and literature cited there discuss the need to replace the present corporate tax system with one based on a common tax base, consolidation and formula apportionment – and the prospects for doing so.

² See European Commission (2007a; 2007b).

³ European Commission (2006).

Table 1

Taxation of commercial diesel fuel, January 2009 (euros per 1000 liters)

Member State	Tax rate	Member State	Tax rate	Member State	Tax rate
Austria	347 ^{a)}	Germany	470 ^{a)}	Netherlands	413 ^{a)}
Belgium	318 ^{a)}	Greece	302	Poland	339 ^{a)}
Bulgaria	307	Hungary	368	Portugal	364
Cyprus	245	Ireland	368	Romania	284
Czech Republic	406	Italy	423	Slovenia	383 ^{b)}
Denmark	382 ^{b)}	Latvia	330	Slovakia	481
Estonia	330	Lithuania	330	Spain	302
Finland	364 ^{b)}	Luxembourg	302	Sweden	446 ^{b)}
France	428	Malta	352	United Kingdom	661

^{a)} If several diesel fuels are on the market, the rate reported is for low sulphur fuel. – ^{b)} Includes CO₂ tax.

Source: European Commission, Directorate General Taxation and Customs Union Tax Policy, Excise Duty Tables: Part II – Energy Products and Electricity, January 2009, available at http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/energy_products/rates/excise_duties-part_II_energy_products-en.pdf.

European Commission proposed that the minimum rates be raised in stages from the then-applicable 302 euros per 1,000 liters to 380 euros per 1,000 liters in 2014.⁴ Although the Council has not yet adopted this proposal, Member States have begun to raise their tax rates, perhaps in anticipation of its adoption. Even so, there remain substantial differences in the tax rates prevailing in various Member States; see Table 1 for the rates at the beginning of January 2009.⁵

The real problem and the ideal solution

The first-best solution to the problems described above is not to be found in minimum rates, because diversity of rates is not the root of the problem.⁶ The problem arises because motor fuel is taxed where it is purchased, rather than where it is consumed. Minimum tax rates reduce the distortions of economic decisions, including the incentives for destructive tax competition, but do not eliminate them.⁷ As long as commercial motor fuel is taxed in the Member State where it is bought, these distortions will remain, unless rates are uniform. Of course,

mandating minimum rates – and, *a fortiori*, mandating uniform rates – interferes with the fiscal sovereignty of Member States. Beyond that, uniform rates would not necessarily produce a rational division of revenues among Member States; there would probably be a tendency for tax revenues to be concentrated at the beginning and end of trips, rather than being divided among Member States in proportion to distance traveled in each.

The ideal solution is conceptually simple and has long been employed in the United States: rather than taxing commercial motor fuel where it is purchased, states tax fuel where it is consumed. This is achieved by apportioning consumption of commercial motor fuel among the states on the basis of the distance a vehicle travels in each. Unlike taxation based on where fuel is purchased, this apportionment-based system accords relatively well with the benefit principle of taxation and produces a rational distribution of revenues.⁸ There are no incentives to buy fuel where it is cheapest, no unfair competition among carriers, and no tax competition among states, because any price difference is eliminated by apportionment.⁹ Finally, this system respects the fiscal sovereignty of states; each state is free to apply the tax rate of its choice to its portion of the total fuel con-

⁴ European Commission (2007a). The European Economic and Social Committee of the European Parliament (2007) expressed reservations regarding some aspects of the Commission's proposals, and the European Parliament (2008) amended the proposal to reflect these concerns and set a lower ultimate level of the minimum tax rate (359 euros), to be reached a year later. These amendments are not relevant for the present discussion.

⁵ In mid-2006, because of derogations granted during a transition period, nine Member States had tax rates below the mandated minimum of 302 euros per 1,000 liters. By the beginning of 2009 the tax rates of only two, Cyprus and Romania, still fell below the minimum.

⁶ The arguments presented here are laid out in somewhat greater detail in McLure (2009) and in much greater detail in McLure (2008a) and (2008b).

⁷ Kanbur and Keen (1993) analyze tax competition and cross-border shopping, assuming that taxes ostensibly follow the destination principle but there are no border tax adjustments on purchases by non-residents, a description of the taxation of commercial (and other) motor fuels in the EU. Apportionment-based taxation of motor fuel is equivalent to taxation with border tax adjustments.

⁸ McLure (2009) presents the case for destination-based taxation of commercial motor fuel, which is the outcome of apportionment-based taxation. Although origin-based taxation can be justified in some instances (for example, to compensate for external damage associated with the refining of motor fuels), it is difficult to think of a persuasive argument for purchase-based taxation. Contrary to the situation with cross-border purchases of alcoholic beverages, tobacco products, and motor fuel consumed in private automobiles, where it is difficult to devise means of implementing destination-based taxation that would not unduly hinder the internal market, apportionment offers the opportunity to achieve destination-based taxation for commercial motor fuel – see McLure (2008a).

⁹ Also, there is no need to impose different rates of tax on commercial and non-commercial motor fuel at the pump and (if there are no such differences) no need to refund the difference in tax rates on the two types of fuel, an approach has been found to be complex and cumbersome.

sumed. The good sense of this system is seen in the fact that the Canadian provinces voluntarily participate in it.

The mechanics of apportionment

Table 2 illustrates the mechanics of apportionment. The first three columns set out the underlying assumptions. During the year a trucker purchases 10,000 gallons of fuel in Utah and 90,000 gallons in Nevada, for a total of 100,000 gallons, as shown in column (1), paying the rate of tax shown in column (2) at the time of purchase. The truck travels a total of 600,000 miles during a year, 120,000 in Utah and 480,000 in Nevada, as shown in column (3). Thus the average number of miles per gallon (MPG) is 6.0, shown in column (4). From this and the assumed number of miles traveled in each state, the number of gallons of fuel apportioned to each state can be calculated (20,000 in Utah and 80,000 in Nevada), as shown in column (5). Each state's "Net untaxed gallons," shown in column (5), is the difference between what it has taxed (column 1) and what it should tax (column 4). Thus, Utah is due tax on 10,000 more gallons of fuel than it has taxed at the pump and Nevada has collected tax on 10,000 gallons more than the amount apportioned to it. Multiplying these figures by the state tax rates in column (2) indicates that the trucker owes Utah 2,800 US dollars and should receive as a refund of 3,200 US dollars from Nevada, as shown in column (7).¹⁰

Implementing apportionment

The apportionment-based taxation of commercial fuels in the United States has historically been based on manual record-keeping of the distance traveled in each state. Whether it would be advisable for the EU to switch to apportionment-based taxation, if it could only rely on manual record keeping, which is inefficient and vulnerable to error and fraud, is not

obvious; the compliance and administrative costs might outweigh the manifest benefits. It seems, however, that this would not be necessary – that there are, or soon will be – high-tech solutions to the problem of tracking distance traveled in each EU Member State. Indeed, solutions that rely on the Global Positioning System (GPS) are already being implemented in North America, and non-tax applications that require similar technology are being deployed or contemplated in the EU.

Several systems for recording distance and/or calculating tolls or road user fees are already in use in the EU, but none would be fully satisfactory for apportioning fuel use without modification.¹¹ On-board microwave transponders are used to communicate with roadside equipment and calculate tolls in several countries, including Austria and Italy. These systems suffer from the obvious drawback for present purposes that they only operate where there is roadside equipment to record distance on selected roadways. By comparison, apportionment-based taxation of motor fuel would require recording by jurisdiction, distance traveled on all roads and streets, including travel outside the EU.

Switzerland does record all commercial vehicle travel within its borders, but it does not rely primarily on a satellite-based system – an approach that it rejected after early consideration. Rather, it relies on on-board recorders, which are switched on and off by roadside equipment or manually by customs officials at border stations or by drivers in response to a GPS signal. GPS is used only to monitor odometer readings and as a backup to the primary system. A sophisticated system in which locations obtained from GPS are compared with maps that have been downloaded and stored on board to calculate charges for use of German toll roads. It appears that the German system could be adapted to implementation of apportionment-based taxation, but the fact that it is proprietary could pose a problem. The

United Kingdom considered adopting a satellite-based sys-

Table 2
Two-state Example of the Mechanics of Apportionment

State	Tax-paid gallons	Tax rate (cents/gal.)	Total miles	Miles per gallon	Taxable gallons	Net untaxed gallons	Tax due (in USD)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Utah	10,000	0.28	120,000	6.0	20,000	10,000	2,800
Nevada	90,000	0.32	480,000	6.0	80,000	(10,000)	(3,200)
Total	100,000	–	600,000	6.0	100,000	0	(400)

Source: Author's calculations.

¹⁰ Stated differently, Utah is owed 5,600 US dollars, but has collected only 2,800 US dollars, and Nevada is owed 25,600 US dollars, but has collected 28,800 US dollars. McLure, Pitcher and Turner (2007) describe this system in greater detail. Allowance can, of course, be made for distance traveled in jurisdictions that do not participate in the apportionment system, e.g. in Mexico in the case of the US, and in Switzerland in the case of the EU.

¹¹ McLure (2008b) describes these systems in much greater detail.

tem to calculate charges for the use of all streets, roads and highways that would depend on the type of road and characteristics of the vehicle (weight, number of axles and emission class). Although withdrawn, this kind of system could also underpin apportionment-based taxation of commercial motor fuel.

The EU has adopted a policy of making the equipment used by microwave and satellite-based toll-way systems of all Member States interoperable. But this is presumably only an interim measure; the European Commission stated in its 2006 Green Paper on Satellite Navigation Applications: satellite navigation is recommended for its flexibility and its best fit with European charging policy, being infrastructure-free and easily expandable by nature. It allows varying pricing schemes, interoperability and intelligent transport system services.

Rather than relying on the GPS system maintained by the United States, the EU will deploy GALILEO, a system of thirty satellites circling the earth in geosynchronous orbit. The website of the European Commission's Transportation and Energy Directorate states:

Galileo will offer new and more advanced methods of user-friendly road charging: charge for the use of particular roads at particular times with particular vehicles, or charge users travelling in a certain urban zone, according to the distance driven. *Although there are other techniques for road tolling, only satellite navigation leads to a reliable seamless service. The vehicle will use Galileo to determine its location and to store the distance driven on every type of road (charged or free).* Then it reports the results to a monitoring centre for a central charging entity to invoice the user. This would work on both inter-urban and urban roads.¹²

Unless this assessment is wildly over-optimistic, it appears that the EU Member States should, in the not too distant future, be able to replace their anachronistic purchase-based system of taxing commercial motor fuels with a destination-based system, relying on satellite tracking, rather than manual recording, to determine distances traveled in each Member State.

¹² http://ec.europa.eu/transport/galileo/doc/galileo_application_road.pdf, visited 4 May 2009.

Legal issues

Before concluding, it will be useful to consider some legal issues that are grounded in the EC Treaty.¹³ That treaty provides (in Article 5) for subsidiarity – the principle that EU legislative action should be undertaken only when the actions of individual Member States do not suffice to achieve EU objectives – and for proportionality – the principle that EU legislation should not go beyond what is required to achieve such objectives. If – but only if – purchase-based taxation of commercial motor fuel is taken to be immutable, minimum tax rates are consistent with subsidiarity; given the existence of that illogical system, minimum rates are required to ameliorate the problems identified earlier, which the actions of individual Member States create and aggravate. But a conceptually superior and arguably more proportionate response would be to abandon purchase-based taxation in favor of an apportionment-based system. That would eliminate the problems (not just alleviate them), while fully respecting the sovereignty of Member States to set their own tax rates.

It is notoriously difficult to enact EU tax legislation, since the unanimous approval of all Member States is required. It may be impossible to gain the agreement of Member States that benefit from the present purchase-based system to switch to an apportionment-based system. If so, resort could, in principle, be had to “enhanced cooperation,” a legislative procedure under which as few as eight Member States can agree to “go faster” in area where unanimity cannot be achieved. The Member States with the highest tax rates on commercial motor fuel have the most to gain from using enhanced cooperation to initiate apportionment; they are the ones most under pressure to hold tax rates down and most vulnerable to poaching of their tax base if they do not. At the beginning of 2009 eight EU Member States had tax rates of at least 400 euros per liter and two more had rates of at least 380 euros – the European Commission's target minimum rate for 2014. It does not seem inconceivable that at least eight of these would opt for an apportionment-based system if they were convinced that there is a technological solution to the implementation problem.

The EC Treaty (Article 93) entrusts to the European Commission the responsibility to make proposals

¹³ McLure (2008a) discusses these issues in greater detail.

“for the harmonization of legislation concerning ... indirect taxation ... necessary to ensure the establishment and the functioning of the internal market ...” Thus, if there is to be legislative action to replace the purchase-based system, be it by a unanimous vote or by enhanced cooperation, the European Commission must be convinced of the case for it.

It is interesting to speculate on why the European Commission has never proposed replacing the purchase-based system, favoring instead minimum or uniform rates.¹⁴ Perhaps it is just inertia: purchase-based systems existed when the European Single Market was created, and no one thought of replacing it. Maybe an apportionment-based system was considered, but was found too cumbersome, because of the need for manual recording of distances. Or perhaps this is just another reflection of the European Commission’s apparent penchant for uniformity, even where it may not be desirable.

Maybe the explanation can be attributed in part to the European Commission’s mandate under the EC Treaty quoted above. This mandate does not mention respecting the fiscal sovereignty of Member States or producing a sensible distribution of the tax base among Member States. The former is, of course, the realm of subsidiarity, and the desirability of a sensible distribution of revenues may have seemed so obvious to those who drafted and ratified the Treaty that it did not seem necessary to include it in the European Commission’s mandate.

In any event, it is anomalous that in 2007 the European Commission proposed raising the minimum tax rate on commercial motor fuel rather than abandoning the existing purchase-based system in favor of a satellite-based system for apportioning motor fuel among Member States. After all, in 2006, in the Green Paper mentioned above, it had aptly noted the possibility of using satellite-based systems for road user charging.¹⁵

Concluding remarks: why tax commercial motor fuel?

It seems clear that the present purchase-based system of taxing commercial motor fuels in the EU can

and should be replaced by apportionment. But the same technology that is likely to make an apportionment-based system feasible would also make it possible to implement more sophisticated systems of charging for road use directly, arguably rendering the taxation of commercial motor fuel redundant and obsolete. Why, then, tax commercial motor fuel at all, aside from the apparently insatiable appetite of governments for revenue? As Newbery (2005, 29) has written, “Road fuel taxes can be justified to a considerable extent as road user charges, *pending the political and technical developments of more finely targeted road pricing*”.

It seems almost certain that comprehensive systems of charging for road use will not be applied to private automobiles as soon as to commercial vehicles. Thus, fuel used in private automobiles is likely to continue to be taxed, at least for a while. If that is true, imposing no tax on commercial motor fuel, relying entirely on road user charges, would be an open invitation to massive fraud. Thus, an apportionment-based system should be considered, if only as an interim measure.

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¹⁴ In 2002 the European Commission proposed complete harmonization of rates on diesel fuel. That proposal encountered political opposition and was withdrawn.

¹⁵ In its 2008 “Action Plan for the Deployment of Intelligent Transport Systems in Europe,” the European Commission proposed maximal use of high-tech systems to improve the EU’s transport systems. It noted its previous endorsement of satellite-based systems of charging for road use, without elaboration.

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PERSPECTIVES FOR THE GLOBAL ECONOMY – THE AFTERMATH OF THE FINANCIAL SHOCKS: REPORT ON THE 2009 CESIFO INTERNATIONAL SPRING CONFERENCE

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The Ifo Institute for Economic Research at the University of Munich held its annual CESifo International Spring Conference at the Academy of the Konrad Adenauer Foundation in Berlin on 19 and 20 March 2009.¹ The conference was entitled “Perspectives for the Global Economy: The Aftermath of the Financial Shocks”. A distinctive feature of this conference was the bringing together of the views of experts of financial markets with economists and experts from the manufacturing sector.

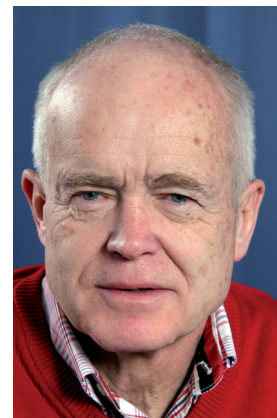
The first day concentrated on two topics: the origins and lessons of the financial crisis and the global economic perspectives by regions. Despite progress in the rectification of the problems in the financial market, most of the speakers saw a bleak outlook not only for 2009 but also for 2010. This assessment was based on further existing global imbalances and the time needed for the readjustment of the financial system. Some relief is expected with the Chinese economy, which has some freedom of action to counter the negative effects. Only Jim O’Neill of Goldman Sachs pointed out a brighter outlook, as he saw improvements in the financial market that will support above all the US economy.

On the second day speakers examined the prospects for European manufacturing industries in the coming years. A prolongation of recessive trends into 2010 was the view of the majority of the sectoral experts. Most dismal were the views on the automotive and the engineering industries as well as on European housing construction, although there are major discrepancies between the EU Member States in the level of overheating in recent years. Even if a stabilization or a slight increase in output occurs next year, companies will have to reduce their staff to adjust to the lower capacity utilization.

World economy and financial crisis

After opening the conference, Ifo President *Hans-Werner Sinn* examined the causes of the financial crisis and its effects on the real economy. To understand the deeper economic reasons for the crisis, Sinn stressed the need to look beyond the record US current account deficit, the low US saving rate, subprime mortgages and the bursting of the real-estate bubble, and to focus on the aspect of limited liability.

Limited liability is essential for creating a joint stock company; one cannot make the individual shareholder liable for a company’s business. Thus, limited liability helped make capitalism possible in the first place. However, one important cause for the financial crisis lies in the limited liability of the shareholders. American investment bankers took advantage of this limited liability to the maximum extent: they used less and less equity capital (4 percent or less) and borrowed more and more money. They distributed their profits in order to minimize losses in turbulent times, and they began to gamble knowing that the losses exceeding their equity capital would have to be borne by the creditors or the taxpayers. But not only Wall Street gambled. Main Street did so as well, and for a similar reason. Because banks gave them non-recourse loans, their liability was limited just like that of banks, and so they bet on house price increases, borrowing and buying excessively. The banks securitized the credits, created mortgage-



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¹ The next CESifo International Spring Conference will take place in Berlin, 18–19 March 2010.

backed securities and sold these to other banks in order to pass on the risk. The bank that bought the mortgage-backed securities bundled them into packages of good and bad claims and created new asset-backed securities of the Collateralized Debt Obligations (CDO) variety, which they resold. This procedure continued, so that at some point, the banks had lost the overview of the claims they actually had.

To overcome the crisis, Sinn demands stricter equity regulation of banks. In that way, banks have a buffer in case a crisis occurs, and, what is more, they have a lower incentive to gamble because they have more to lose in the case of failure. In order to avoid the competition of laxity among different jurisdictions, such a solution would have to be implemented jointly by all countries.

The world is currently in its deepest post-war recession, in fact in the deepest recession since the Great Depression of 1929. The magnitude of the banking crisis is even greater than at that time. The United States is facing tough times, the flow of loans has been interrupted and many people cannot borrow anymore. An already highly indebted government is borrowing even more. This is a continuation of an unsound development and it will take more than one presidential term to overcome the crisis.

Kai Carstensen, Head of Ifo's Business Cycle Analyses and Survey Department, identified three obstacles to a quick recovery of the world economy. First, there are painful adjustment processes lying ahead for the United States. In particular, the current account is still negative and the consumption share in GDP is too high. To achieve sustainable growth, both consumption expenditures and economy-wide borrowing from abroad have to come down to a sustainable level. So far, the adjustment burden has mainly been on investment. This is typical for a business cycle downturn but it will not be sufficient. But if consumption falters, this will have strong repercussions on US production activities. Hence, the United States will not be the growth engine for Europe and the world economy in the coming years.

Second, the write-downs by banks and other financial institutions impede their ability to lend as documented by credit growth numbers and bank lending surveys. On top of this, the cyclical loan defaults are still to come and they will hurt banks even more in a situation of tight balance sheets. In order to prevent

a credit crunch, it is therefore of prime importance for economic policy to quickly restore a healthy banking system.

Finally, it is likely that collateral constraints and risk premia will rise permanently above the levels seen during the recent boom. Inadequately low pricing of risk was one of the major causes behind the bubble in financial markets. Since the crash, most market participants have been extremely risk-averse, which is a natural reaction and usual from a cyclical perspective. However, the typical pattern according to which the risk-aversion would disappear again fairly quickly does not seem to be the most probable scenario this time. In contrast, it is likely that investors and regulators have learned their lesson. This, in turn, implies that credit conditions will remain relatively tight for a sustained period of time, in which capital formation is more costly and hence growth remains less dynamic than before.

Outlook for financial markets

Axel Bertuch-Samuels, Deputy Director of the Monetary and Capital Markets Department of the International Monetary Fund explored the outlook for financial markets and challenges for policymakers. In his opinion, risks to financial stability have intensified since October 2008. General macroeconomic as well as credit risks have risen, spreading in particular to emerging markets. Although market functioning toward the end of 2008 improved in a number of asset classes with extensive government support, the negative interaction between the real economy and the financial sector has intensified due to the credit crunch that extends globally. The recent shock to bank earnings and the global economic slowdown has put further downward pressure on bank equity prices and bank systemic risks are at the most elevated levels of the crisis. In spite of government interventions, many banks, as already mentioned by Hans-Werner Sinn, need to raise significant additional capital to overcome a deep global economic downturn.

Due to the increasing size and amount of write-offs borne by financial institutions, accompanied by continuing funding pressure, policymakers are facing considerable challenges in dealing with the crisis. In addition, the lack of credit intermediation and confidence has barred financial institutions from attracting private investors. Not only the banking system

but also the insurance companies and pension funds have been hit severely on the asset side. Especially in Britain and the United States the pension crisis is a major problem that is looming.

So far, banks have managed to obtain sufficient capital to offset existing write-downs, but funds have come increasingly from the public sector. Due to the worsening credit conditions, estimates of potential financial sector write-offs on US assets rose from 1.4 trillion US dollars in October 2008 to 2.2 trillion US dollars in January 2009. But expected losses will continue to rise and banks will need even more capital. According to the IMF estimates, expected write-downs of European and US banks during 2009 and 2010 could result in a net capital shortfall of at least half a trillion US dollars. Hedge funds and mutual funds have also been hit badly with losses and heavy redemptions. Only during the last quarter of 2008, hedge fund assets halved in value.

The impact on emerging markets has been enormous. Syndicated lending to emerging markets has declined more than half from the second quarter of 2008 to first quarter of 2009 and bond financing has contracted by two-thirds in the same period. Deterioration in asset quality in emerging Europe may, in turn, be transmitted back to several banking systems in Western Europe.

Bertuch-Samuels concluded his speech addressing the challenges for policymakers. The IMF calls for a three-pronged approach to resolve the crisis: (1) the provision of adequate liquidity and term-funding support from central banks, (2) the recapitalization of viable financial institutions, and (3) measures to address problem assets. To be effective the financial policies need to be comprehensive and internationally coordinated. Most important – according to Bertuch-Samuels – is a comprehensive and coordinated approach framed in a strategy with the following elements:

- More emphasis on recapitalization and measures to deal with distressed assets. A “bad bank” could be one element.
- Short-run policies need to be consistent with a long-run vision for a more resilient financial system.
- Rules governing procedures should be clear and comprehensive.
- International cooperation should receive high priority.

Is the end of global crisis foreseeable?

When will the world recover from the global crisis, was the question tackled by *Jim O’Neill*, Head of Global Economics, Commodities and Strategy Research for Goldman Sachs in London. After the collapse of Lehman Brothers, a crisis indicator was developed by Goldman Sachs to measure the evolution of the crisis in the financial system. Goldman Sachs looked at money and credit market variables and created an index out of four variables, among them the spread between mortgage and government repay and the ratio of money market deposits compared to equity markets. This index reacted dramatically during the breakdown of Lehman Brothers. O’Neill underlined that he is not yet sure if the index has any forward-looking capabilities, but it would suggest that there are some grounds for optimism.

He believes that many policymakers are too pessimistic. In his opinion, trend growth, both upwards and downwards, does not change as much as everybody claims. From 2004 through to 2008 trend growth was not rising, as many economists assumed. The cycle growth was going above the trend. He is confident that the world growth trend is still between 3 and 3.5 percent, and the average world growth rate of the past 25 years is about 3.2 percent. Due to a growth rate of 5 percent in the past four years, many investors and economists believed that the world’s growth trend had risen to 5 percent, but this never really was the case. According to O’Neill it is close to 3 percent. Following his view, the absence of finance from over-leveraged Western banks does not mean the end of the world growth trend. What is most important for restarting growth again is confidence in the financial system. Furthermore, the global inventory shredding must be stopped and an offensive monetary and fiscal policy stimulus should be applied to support consumers. As to when the world economy will recover, Goldman Sachs sees for the first time in nearly two years some indication that the US consumption may stabilize in the second half of this year.

Specific aspects for transition economies

In the second panel the financial market and economic situation of various regions of the world were presented. *Jeromin Zettelmeyer*, Director for Policy Studies at the European Bank for Reconstruction

and Development (EBRD) started with an overview of the challenges and prospects in Eastern Europe and Central Asia. Unlike the advanced countries, the transition economies barely felt the crisis in the first half of 2008. At that time the Central European Economies still experienced GDP and credit growth. But the crisis hit hard in the beginning of October 2008. As a consequence, the costs of external financing went up and commodity prices weakened sharply. Economic activity contracted unexpectedly rapidly. By November 2008 most countries of the CEE region experienced sharp drops in industrial production, a weakening domestic credit growth, a decline in capital inflows and inward FDI. Russia, for instance, suffered a 16 percent decline in industrial production in mid-February 2009 compared to January 2008.

In the past few months the global outlook has deteriorated further and a recovery in the international financial markets is not expected until 2010. Therefore, in January 2009, the EBRD forecast for emerging Europe and Central Asia an average growth of about zero for this year, with significant downside risks. In general the EBRD has predicted stagnation for these countries. Yet, a significant cross-country heterogeneity is expected. Less economically integrated countries like those in Central Asia will experience a much lower but still positive growth. A recession is likely to occur in most better-integrated countries as well as in some commodity-dependent countries. Twin currency and full-fledged banking crisis have not appeared yet in any of the countries, but some countries are extremely close to it. Such an event could provoke a major distortion of these countries' economic development.

What are the domestic policy challenges? As for the financial sector policies, Zettelmeyer states that the main focus should lie on the stabilization of the core banking system. This includes the maintenance of a credit deposit insurance scheme as well as to combine liquidity support with a framework for orderly consolidation or liquidation of non-viable, non-systemic institutions. In some countries refinancing of foreign currency debt and recapitalization will be necessary. Concerning the monetary and fiscal policies there is no one-size-fits-all policy. Whether a country is able to afford expansionary fiscal and monetary policies or not depends on factors such as the strength of the public balance sheet, the credibility of monetary and fiscal institu-

tions, the currency composition of debt, domestic inflation dynamics and external and public financing constraints.

Due to external financing constraints and exchange rate pressures, the scope for domestic policy action has become very limited in the last few months. Again, this is why a decisive and coordinated international policy response is indispensable. To help the Central and Eastern European Countries (CEE), Western Europe has to respond with the following instruments:

- Non-discriminatory domestic crisis response packages in the West, because if Western European countries help themselves it is good for the CEE but only as long as aid packages do not discriminate across borders, e.g. by requiring businesses to produce domestically.
- Refinance and, if needed, recapitalize CEE banking systems; some support can be provided by multilateral development banks, but the most support must come from parent banks and their home governments.
- A strong direct role of European institutions; the European Commission can help coordinate national governments and the ECB can provide targeted Euro liquidity support outside the Eurozone.
- Scaling up of the crisis funds at the disposal of the European Commission and the IMF.

A common initiative in support of CEE banking systems was already announced in February 2009 by the EBRD, the European Investment Bank and the World Bank Group with support from the IMF and the European Commission – the so called “Joint IFI Action Plan”. The core elements of this initiative are:

- a common needs assessment, both at the level of CEE banking systems and at the international bank group level,
- a coordinated approach to refinancing and recapitalization, with burden sharing across IFIs, home and host countries, and parent banks, and
- a contribution to the CEE banks amounting to 25 billion euros.

Lastly Zettelmeyer pointed out the opportunities the crisis can offer. Crises sometimes spur reforms and make it possible to improve governance and the structure of financial sectors, especially in economies with weak and relatively large domestic banking sys-

tems. In addition, the crisis could help improve and integrate the European financial architecture.

What about China?

China, a country which many experts, at least until the fall of 2008, felt would successfully avoid the global financial crisis, was then examined by *Sonja Opper*, Professor of International Economics at Lund University in Sweden. She observed that this optimism soon weakened. But has the dragon really been brought to its knees?

Since the fourth quarter of 2008, export and growth rates in China declined rapidly. In December 2008 export growth was down to 2.8 percent. Considering an export dependence of 40 percent of GDP, which is comparable with Germany and Korea, this is clearly a real threat. However, China's export decline is not only a domestic problem. Around 60 percent of China's exports originate from foreign funded firms operating in China. Consequently, the effect of the crisis will vary greatly across export commodity groups. Whereas technical commodities like TV sets and cameras experienced an extreme decline in October 2008, the export of clothing or textiles increased. Due to shrinking domestic spending, imports are currently declining fast, too. But the import decline can still offset the decline in export growth, so that China's overall trade surplus remains largely unaffected. In addition, China's domestic demand has not yet fallen off. On the contrary, retail sales increased by 21 percent in 2008. But the strong domestic demand has not been able to stop the dramatic slowdown of industrial production, which grew as little as 4.8 percent in December 2008.

The global crisis also poses a social challenge for China. In the first quarter of 2009, the official "urban" unemployment rate increased up to 5 percent. Pessimists also forecast lay-offs of rural migrant workers between 20 to 50 million. Based on these assumptions, China could face a social crisis, but luckily most rural migrants have family farms to fall back on.

How can China respond to the financial crisis? With foreign-exchange reserves of 1.95 trillion US dollars by the end of 2008, a budget surplus of 1 to 2 percent of GDP and a total public sector debt of a moderate 20 percent of GDP, China has optimal preconditions to respond to the crisis. In addition the government

can rely on a state-controlled banking system to increase lending in investment projects.

Already in November 2008, China responded to the global crisis: the government announced an economic rescue package of 585 billion US dollars. To a large extent, this package will be used for the modernization of the infrastructure. In addition, the package will help returning migrant workers who wish to start up their own businesses, as well as for job training programs. A sum of 125 billion US dollars of the package will go to social welfare expenditures and tax reductions.

Despite these measures, the general business outlook is still affected by the crisis. And, although China's policy response was very fast and financially broad, critics point out that the efforts to support domestic demand are insufficient. Since 2000, domestic demand has experienced a rapid decrease as a share of GDP, due to lagging wage increases and high saving rates as a result of the weak social welfare system. To overcome the crisis, China still has much homework to do. It has to boost domestic consumption by improving property rights security to avoid easy expropriation of land owners. Furthermore, the social safety net and education funds need to be extended to stimulate domestic demand.

In conclusion, Opper predicted that the current crisis will be broader in scope and deeper in impact than the Asian financial crisis. Due to China's financially and institutionally favourable situation, however, the outlook is slightly optimistic. The current adjustment problems, whether it is the weak domestic demand or the country's strong export dependence, have been problems for China's policy for several years now. But if China uses the current crisis to speed up necessary reforms, "then we might see the Dragon re-emerging from this crisis stronger than it was before".

Effects of current crisis on major industries

Real estate sector

Tobias Just, Head of Sector and Real Estate Research at Deutsche Bank Research, started the second day of the conference by presenting the situation in the real estate sector. Regarding house prices, the US real estate market reached – after a long boom – its peak at the end of 2006. Since then, house

prices have fallen by about 20 percent and housing-starts have declined by more than 50 percent. Not only the US real estate market but also the real estate markets particularly in Ireland, Spain, Britain and now also in Eastern Europe have collapsed. The overall slowdown in economic activity has had negative effects on commercial real estate markets. In 2008 alone, the overall transaction volume on the European real estate investment markets decreased by over 50 percent.

However, not all countries are affected the same way. Especially Spain and Ireland had too much new construction in the years before 2008. In the last few years the supply of new housing units in Spain exceeded the number of new households by 300,000 units per year. In Ireland, 90,000 new homes were built, although it is a country of only 4 million residents. On the contrary Britain, France and foremost Germany, which is currently producing 180,000 housing units a year, do not have such a new-housing oversupply and will therefore be less affected. Another important fact is that especially in Spain, Ireland and Britain commercial property prices were at a very high level in 2007. The drop in prices for office and industrial properties is now heightening the pressure from the housing market. Also the recession results in more vacancies and significantly lower office rents as well as less demand for new housing. Regarding office rents in European cities, Tobias Just expects a drop of up to more than 20 percent from peak to trough – in Britain, Ireland, Spain and some Eastern European countries the drop will be even significantly larger.

When will the real estate markets bottom out? According to Just, the US housing markets will bottom out within a year. In Europe, in contrast, there will be a prolongation for at least a year, varying for each country. Especially with the strong correction in Spain and Ireland, it will take at least 3 or 4 more years for housing, as well as the commercial real estate markets, to bottom out, construction will stay muted and house prices will fall further. Germany will not be affected to the same extent, however. With a current production of 180,000 housing units, Germany has merely a problem from the demand side caused by the decline in disposable incomes. Germany, however, is confronted with a supply-side corrective. If the economy stays in recession in 2010, Germany will also face declining house prices, because the income variable will then become more

important and people will start to move due to rising and persistent unemployment. But even in this downside scenario, Tobias Just only expects a moderate decline of about 2.5 percent for 2010; regional differences, though, will remain pronounced. Hence, considering rental yields, Germany would still have a positive total return from real estate, which, in times of crisis, is good news.

Oil industry

The oil industry has also been greatly affected by the global crisis, as demonstrated by *Enno Harks*, Political Adviser for BP Germany. The six years of boom from 2003 to July 2008 turned to a bust phase for the oil industry and the price of oil. Demand, the prime driver of the price increase, which peaked at 147 \$/bbl, weakened, causing the oil price to collapse. The lower income and lower industrial production in the recession has had a direct impact on the demand for private and industrial transportation and petrochemical feed-stocks; further price elasticity of demand proved surprisingly high in 2008. Consequently, global oil demand fell in 2008. Due to lower demand, energy prices have fallen in the short term but could increase in the medium term if investment recovers too slowly to meet demand during an economic recovery. With regard to the environmental impact, this could lead to lower emissions in the short term, but reduced investments in low-carbon energy could lead to higher emissions in the long term. The near-term oil demand expectations are very difficult to gauge, but it is conceivable that over the next three to six months oil demand will recede even more, as imploding chemical and petrochemical industries show no sign of immediate recovery. Likewise, industrial road and air transportation are heavily dependent on GDP growth: another oil price cannot be ruled out in a prolonged recession. However, oil price scenarios are also heavily dependent on the extent to which OPEC's quotas are met, and currently they seem to be surprisingly effective.

A big concern for a medium-term oil supply in Europe, Enno Harks observed, is the decline in Russian oil output in 2008, which is set to continue in 2009. Most of the reduction is due to the high taxes in Russia, both on exports and on extraction. In the last quarter of 2008 most oil companies exported at a negative profit. This was not due to resource problems but mainly because of the tax system in Russia.

While the government has brought the export tax more in line with market reality, the so-called mineral extraction tax hampers investment in new oil fields – risking production declines in the long run. Obviously, in a crisis, when the Russian government is in need of revenues, any reform of the tax system becomes more difficult.

Investment cycles in the oil market, Harks pointed out, are very different from those in other industries, owing to the fact that only 15 percent of global oil production originates from (western) private/listed companies, the so-called international oil companies (IOC), the rest being produced by state-held national oil companies (NOC). For the latter, investments in upstream projects depends on many variables: societal needs for the generated oil revenues, policies to avoid resource downsides, a national optimal depletion path, OPEC quota obligations, etc., they depend only to a lesser extent on the market balance or the price. A lower reaction profile to the current recession can thus be expected. At the same time, privately held companies show reductions in their 2009 investment planning, albeit at differing degrees. While among the IOCs, the oil majors peer group are holding steady or slightly decreasing their investment portfolio, the small and mid-caps are strongly reducing their investment budgets.

Chemical industry

With 29.5 percent of total sales, the EU is a key player in the world chemical industry. But the global financial crisis has seriously affected the EU chemical industry as well, as *Igor Magdalenic*, Senior Advisor for Essenscia, the Belgian Federation of Chemical and Life Sciences Industry, pointed out in his presentation. In December 2008 the confidence climate index in the chemical industry reached its lowest level since January 1991. In 2008, for the first time since 2003, production of chemicals (excluding pharmaceuticals) declined. In October 2008, output in the EU chemical industry (excluding pharmaceuticals) dropped by 6.3 percent compared to the previous year. Almost all of the key industrial consumers of chemicals have landed in recession, generating less demand for chemical products. Figures of capacity production utilized by chemical companies suggests a rapid fall in production: in the beginning of 2009 chemical industries operated only at 77 percent of their capacity, compared to 81.5 percent in the last quarter of 2008 and to 82 percent as the long-term average level.

Concerning the outlook for the chemical industry, Igor Magdalenic expects a bottoming out not before the third or fourth quarter of 2009 and a slight recovery in 2010. No major improvement is expected before 2011. Overall, over the next 15 years a growth of 1.6 percent per year is expected for the European chemical industry (excluding pharmaceuticals). However, the development of the last ten years shows that the EU has continually lost ground against the emerging countries such as China and India. Europe's share of global output has declined from 32.2 percent in 1997 to 29.5 percent in 2007. The European chemical industry is also at a disadvantage concerning the high costs for energy, labour force and feedstock. But the EU chemical industry has also widened its competitive edge with a high pace in innovation accompanied by a qualified workforce. The challenge for the European chemical industry is to prevail against emerging competitors, improve access to international markets, employ energy policies that take into account the needs of energy intensive industries and to work for a reduction of the regulatory burden.

Engineering industry

The business situation in the engineering industry was presented by *Anders Rune*, Chief Economist at the Association of Swedish Engineering Industries in Stockholm. As expected the economic situation for the European engineering industry, which mainly includes metal goods (30 percent), machinery (35 percent) and electrical machinery (15 percent) does not look any better than other industries. The business cycle in this industry is more pronounced than that of other manufacturing industries: compared with the level in 2005 the production of the European engineering industry grew by nearly a quarter until mid-2008. In the second half of last year new order bookings abruptly started to plummet and the breakdown did not lose momentum until the first quarter of 2009. In other words, production contracted already in the last quarter of 2008, although the annual production of the European engineering industry recorded a slight increase in production for the year as a whole. The decline of production has, however, continued in early 2009, while the capacity utilization has reached record lows. It is expected that, on average for 2009, production will shrink at a double digit rate as compared with the preceding year. The expectations for 2010 are bleak for the engineering industry. Even if there is a recovery in

new orders, it will take some time until production gets under way.

Automotive industry

The automotive industry has been hit by its worst crisis since 1945. The current situation and the outlook were presented by *Christophe Chabert*, who is responsible for strategy and business development at Renault headquarters in France. In February 2009, the Japanese automobile market had its seventh negative month, which is the biggest drop in 35 years. In the same month, the US automobile market was at its lowest level since 1982. Europe as a whole experienced a decline in new car sales of almost 20 percent in February 2009. Spain had a downturn of almost 50 percent, whereas Germany had an increase of more than 20 percent, primarily induced by a massive car-scraping scheme. Western European car production, which ranged between 14 and 16 million from January 1990 to January 2008, dropped sharply down to 10 million cars at the beginning of 2009.

The automotive industry is now “under fire”. There are rapidly deteriorating markets in both advanced and emerging countries with a global shrinkage of the total industry volume. The industry also currently faces external and internal pressures. Environmental regulations and pressure on households’ disposable incomes can be characterized as the external pressures; the supply chain optimization (e.g. inventories and shut-downs) are the internal pressures.

In many countries, public automotive schemes have already been implemented, for example national CO₂-based “bonus-malus”-type regulations and state grants (including loans on preferential terms, loan guarantees and other government guarantees), but these remain highly uncoordinated. According to Chabert, sales are still declining in Europe and there is no sign of consolidation. Throughout Europe there is an average annual production capacity of 11 to 12 million cars. In order to be profitable, the car industry needs a utilization rate of at least 80 to 85 percent. The average utilization rate in Europe is now below 65 percent. Since this is just an average, the rates of some car makers are even lower than 50 or 40 percent.

The future recovery, Chabert observed, will not only be about new products and services. It is also about

new business models and reconceiving the value chains between the different actors of the industry. And even though the figures are frightening, the future of the automotive industry could be bright, because people will still need individual mobility. In addition, climate change and CO₂ regulations offer a great opportunity to benefit from new technology and there is still room for an improving the classic thermal internal combustion engine technology.

Electronics

The last industry on the second day of the conference was the electronic industry analyzed by *David Enu*, Senior Consultant of DECISION in Paris. The electronic industry, with total sales of 1,138 billion euros in 2008, is a crucial industry, since most other manufacturing and service industries need its products as drivers for innovation and productivity. Together with China (with 27 percent), Europe (with 21 percent) enjoys a leading position in world electronic production.

Since 2000 the electronic “mass” market has grown strongly. It represents about 50 percent of the industry value and includes consumer goods that are manufactured in millions of units. Between 2001 and 2006 its volume tripled to 800 million. Now we have passed the 1 billion unit mark. By 2012 further growth of up to 3.5 billion units is expected, in spite of the current disruption induced by the financial and economic crisis.

From the 1970s until the 1990s, electronic equipment was largely produced for government and enterprises. Nowadays, the electronic industry has new driving forces: the individuals and social needs, which includes power efficiency, health and comfort and security. The electronic industry is characterized by a high pace of innovation. Especially the semiconductors industry followed an upward trend with an average annual growth rate of around 11 percent between 1963 and 2007. Thanks to massive R&D expenditures, electronics has permanently penetrated new application areas. However, the European share of the global semiconductors production dropped from 15 to 11 percent between 2000 and 2007.

As all other industries, the current economic instability is causing major uncertainties in the electronic industry. To demonstrate the impact of the crisis, David Enu presented some medium-term scenarios.

Assuming that there had not been a global crisis the growth rate for 2009 and 2010 was estimated at 5.0 and 5.5 percent respectively. An average annual growth rate of 6.1 percent was calculated up to 2012. The scenario “crisis and a fast recovery (in the fourth quarter of 2009)” would result in an average medium-term growth rate of 3.1 percent. The most pessimistic scenario “crisis and slow recovery (in the fourth quarter of 2010)” would result in an average growth rate of 1.2 percent. For the less-likely fast recovery forecast, the electronic market in important regions is as follows: for Europe the market will stagnate in the period from 2007 to 2012 and not grow at an average annual rate of 3.1 percent as in 2003 to 2007. Enu reckons with an average growth rate of 5.6 percent for China and 3.1 percent for the world. The respective figures for the preceding period were 15.8 and 7 percent, respectively.

A LOOK AT CHINA IN THE CURRENT CRISIS

CHRISTOPH ZEINER*

In the current financial crisis new bad news about the United States and Europe abounds. But where does China stand in this crisis?

An overview of the economic situation in China is provided by the Ifo World Economic Survey. The assessment of the situation and the expectations clearly show that China is also seriously affected by the crisis. Figure 1 shows that the economic climate decreased continuously since Q1 2008. From Q3 2007 to Q1 2009 the climate index dropped by 54.2 percentage points to a value of 59.7. This is the lowest level since the survey results in 1990. Better results, with a value of 95.0, were recorded in Q2 2009.

* Ifo Institute for Economic Research.

Are these results in line with economic variables of the Chinese economy? For many years economic development in China has known only one direction. Between 2001 and 2007, nearly every quarter China reported rising growth rates. By Q3 2007 China reached a growth rate of 13.4 percent. Since then a steady decline has occurred as shown in Table 1 and Figure 2. The latest quarter figures historically low growth rates of 6.1 percent. But how worrying is this development? Compared to the other three BRIC countries (Brazil, Russia and India), China has the highest growth rates for the past and coming years

Figure 1

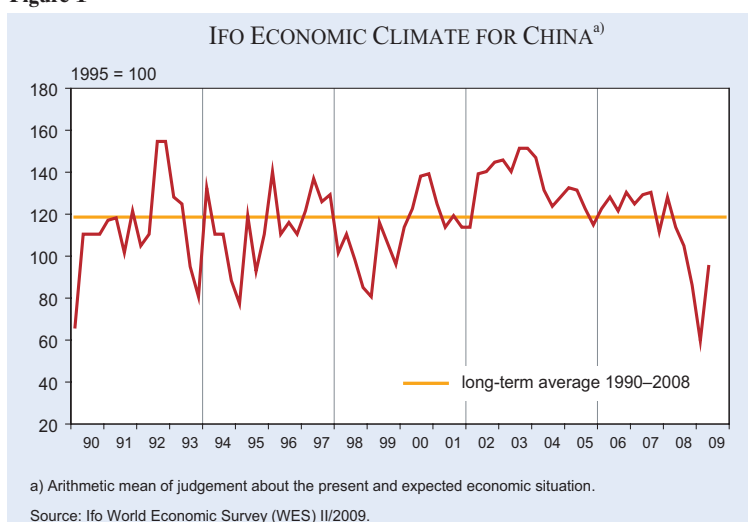


Table 1

China at a Glance

Real GDP growth (%)	2005	2006	2007	I 2008	II 2008	III 2008	IV 2008	I 2009
	10.4	11.6	13.0	10.6	10.4	9.9	9.0	6.1
WES Climate Index 1995=100	III 07	IV 07	I 08	II 08	III 08	IV 08	I 09	II 09
	130.4	111.6	128.2	113.8	105.0	86.2	59.7	95.0
Consumer Price Index (%)	2005	2006	2007	2008	Jan 09	Feb 09	Mar 09	Apr 09
	1.8	1.5	4.8	5.9	1.0	-1.6	-1.2	-1.5
Current account (% of GDP)	2001	2002	2003	2004	2005	2006	2007	2008
	0.3	0.6	0.7	0.9	2.0	2.7	3.6	3.8
Main interest rate (%)	Jul 98	Dec 98	Jun 99	Feb 02	Mar 04	Jan 08	Nov 08	Feb 09
	5.22	4.59	3.24	2.7	3.33	4.14	3.06	2.79
Unemployment (%)	2005	2006	2007	I 2008	II 2008	III 2008	IV 2008	I 2009
	4.2	4.1	4.0	4.0	4.0	4.0	4.2	4.3

Sources: OECD; IMF; National Bureau of Statistics; Ministry of Human Resources and Social Security; Ifo World Economic Survey (WES) II/2009; Reuters EcoWin.

Figure 2



Figure 3

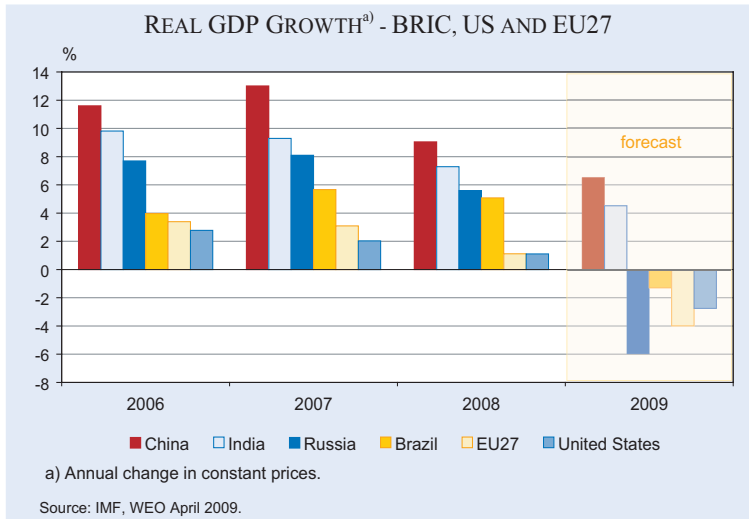


Figure 4



(see Figure 3). While China grew by 9.0 percent in 2008 and Brazil recorded the lowest BRIC country with only 5.1 percent. The gap with the developed economies is large: the EU27 and the United States achieved only 1.1 percent in 2008.

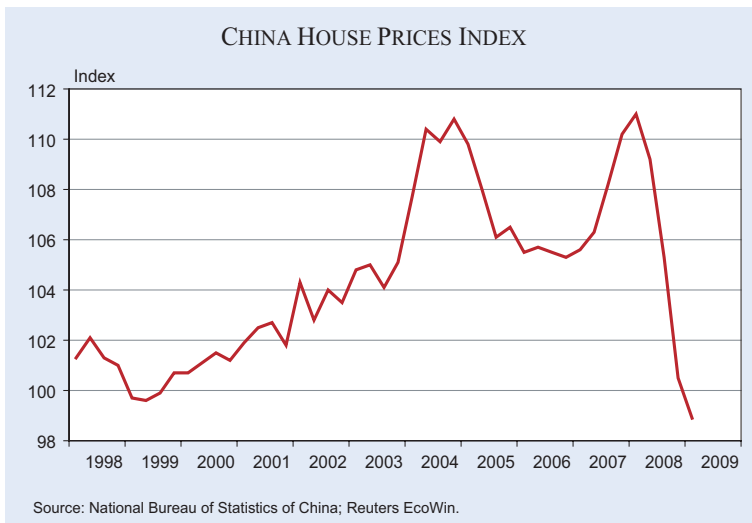
While the Chinese consumer prices rose sharply after 2006, in 2008 they nosedived. In February 2008 the highest inflation measured at 8.7 percent. Up to April 2009, there was a price decline of 1.5 percent. February 2009 was the first time since 2002 and 2003 that there was negative price development (Figure 4).

The current financial crisis was triggered by prices on the US real estate market. In China there was no excessive overshooting of its housing price index (Figure 5). However the bursting of the US real estate bubble also had a downstream impact on Chinese house prices. From 2008 onwards the house price index decline by about 10.9 percentage points.

To stabilize the demand side, a country's exports are very important. As a result of the crisis, however, foreign demand of Chinese goods collapsed (Figure 6). Exports dropped by 22.6 percent in April 2009 compared to the same month of the previous year. Imports decreased by 23.0 percent in the same period. Since the beginning of 2009, exports and imports have rebounded. Of note is that the cyclicity of Chinese imports and exports has become more pronounced.

The Chinese stock indices have been sending out positive signals since the end of 2008, although

Figure 5



precisely at the moment that Chinese exports tanked. The stock markets are apparently an initial sign of hope, but in order to secure sustainable growth, investment in research and development is important, too. In this respect, China has clearly caught up (Figure 7). While in 1995 China invested 10 billion current PPP US dollars in research and development, almost 90 billion current PPP US dollars were invested in 2006. Since this volume is only a 1.4 percent share of Chinese GDP, this appears to be a development with potential.

Figure 6

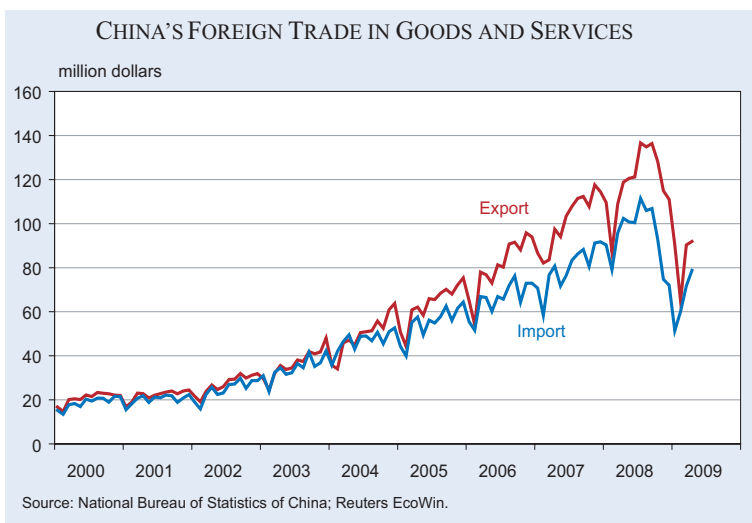
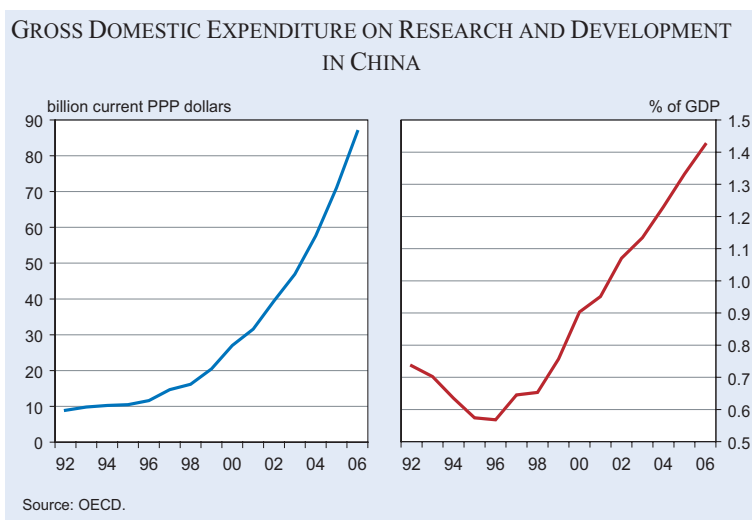
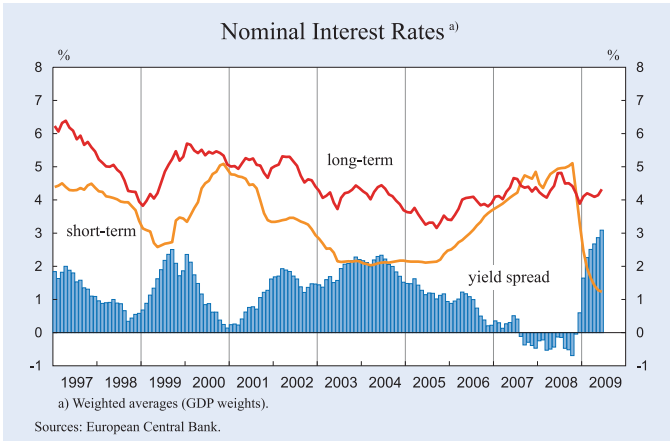


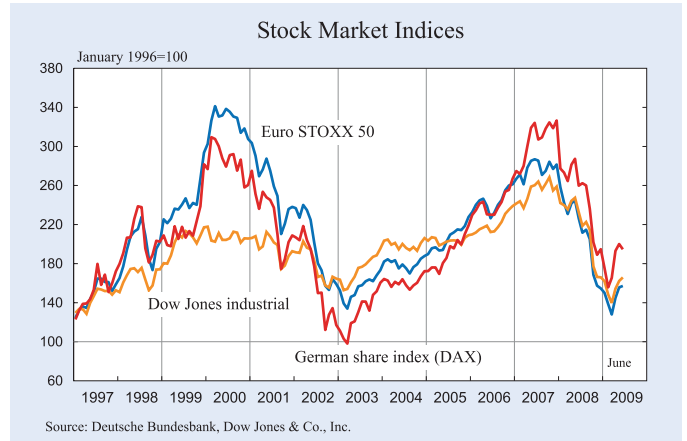
Figure 7



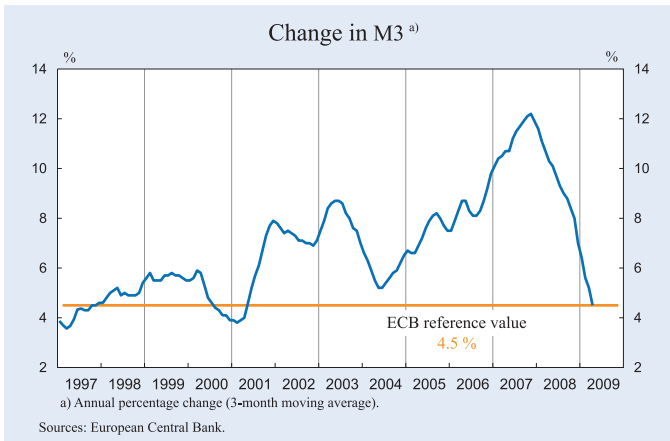
FINANCIAL CONDITIONS IN THE EURO AREA



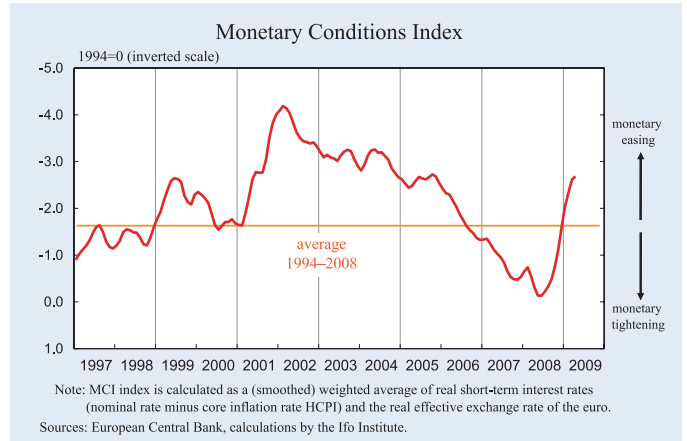
In the three-month period from April to June 2009 short-term interest rates declined. The three-month EURIBOR rate decreased from an average 1.42% in April to 1.23% in June. Yet, the ten-year bond yields grew from 4.09% in April to 4.32% in June. In the same period of time the yield spread increased from 2.67% (April) to 3.09% (June).



The German stock index DAX slightly grew in June 2009, averaging 4,809 points compared to 4,769 points in April. The Euro STOXX also increased from 2,257 in April to 2,449 in June. The Dow Jones International also grew, averaging 8,593 points in June compared to 7,922 points in April.

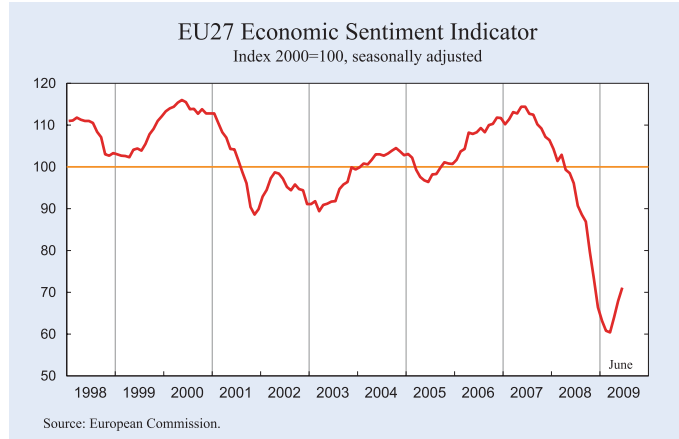
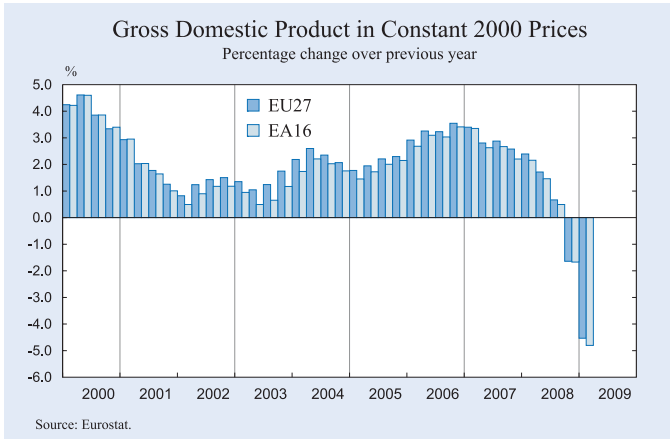


The annual rate of growth of M3 decreased to 3.7% in May 2009, compared to 4.9% in April. The three-month average of the annual growth rate of M3 over the period from March 2009 to May 2009 declined to 4.5%, from 5.2% in the period February 2009 to April 2009.



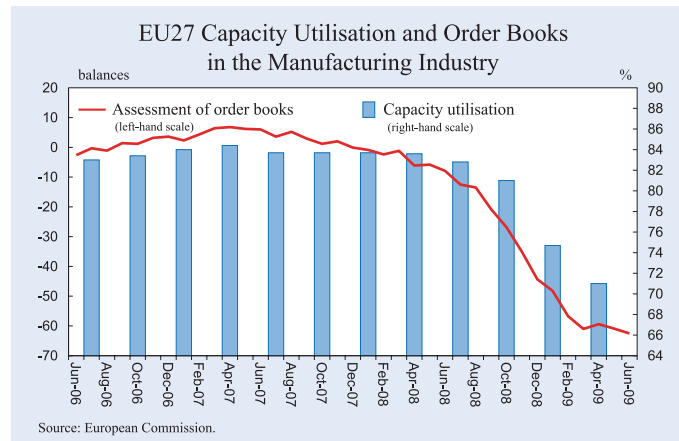
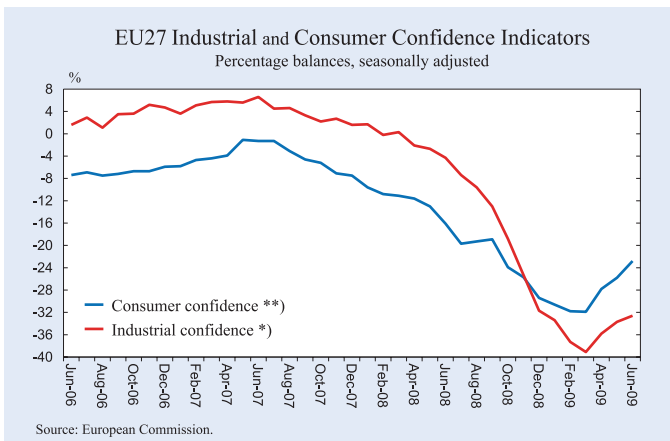
In April 2009 the monetary conditions index continued its rapid growth that had started in mid-2008, signalling greater monetary easing. In particular, this is the result of decreasing real short-term interest rates.

EU SURVEY RESULTS



According to the first Eurostat estimates, GDP fell by 2.5% in the euro area (EU16) and by 2.4% in the EU27 during the first quarter of 2009, compared to the previous quarter. In the fourth quarter of 2008 the growth rate had amounted to – 1.8% for the euro area and – 1.7% for the EU27. Compared to the first quarter of 2008, i.e. year over year, seasonally adjusted GDP declined by 4.8% in the euro area and by 4.5% in the EU27.

In June 2009, the Economic Sentiment Indicator (ESI) for the EU27 and the euro area continued to improve for the third month in a row. In this month the ESI increased by 3.2 points in the EU27 and by 3.1 points in the euro area, to 71.1 and 73.3 respectively. Yet, in both areas, the ESI level is still below the lows reached in the previous trough at the end of 1992.



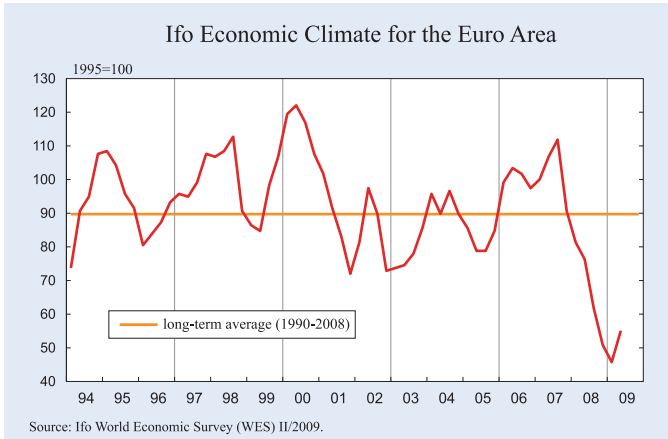
* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).

** New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

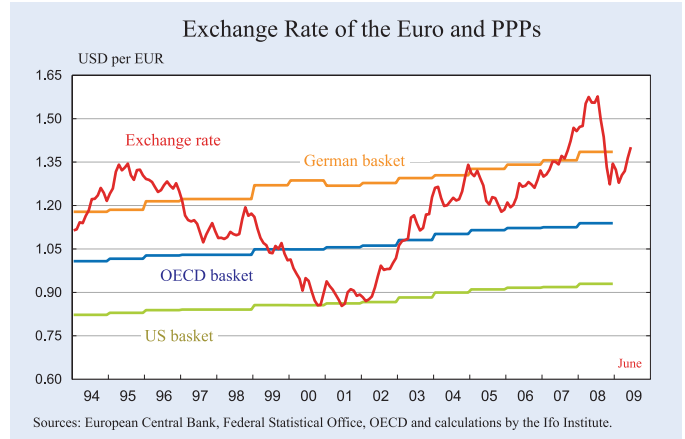
Managers' assessment of *order books* deteriorated from – 59.4 in April to – 62.5 in June 2009. In March 2009 the indicator had reached – 61.0. *Capacity utilisation* declined to 71.0 in the second quarter of 2009 from 74.7 in the previous quarter.

In June 2009, the *industrial confidence indicator* slightly increased by the same amount (+ 1 point) in both the EU27 and the euro area, while the *consumer confidence indicator* increased by 3 points in the both areas. However, these indicators stood below the long-term average in both areas in June.

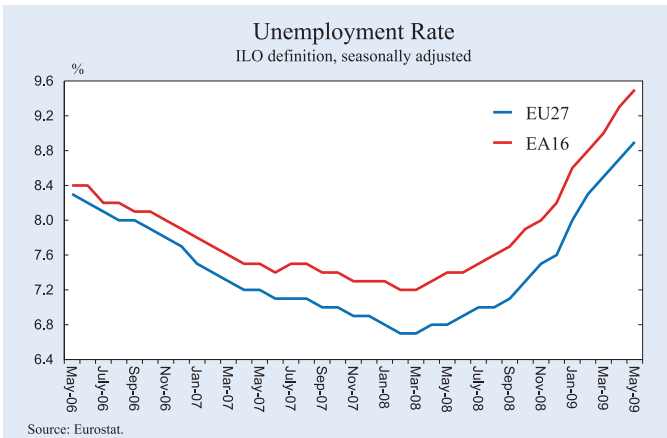
EURO AREA INDICATORS



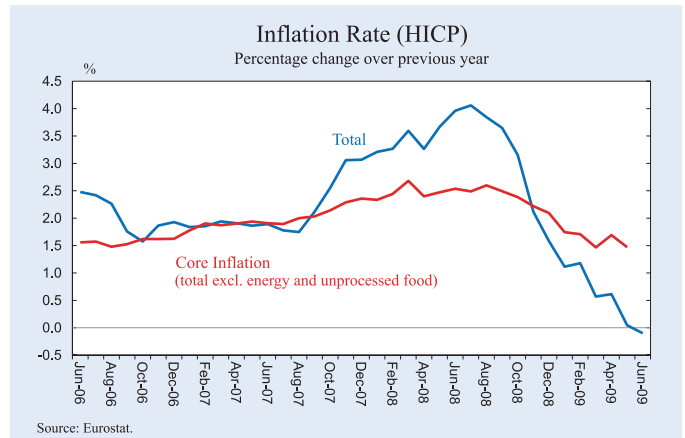
The Ifo indicator of the economic climate in the euro area (EU16) improved in the second quarter of 2009 for the first time since autumn 2007. Its rise is the result of less negative expectations for the coming six months; the assessments of the current economic situation, however, have worsened further and now stand at a new all-time low.



The exchange rate of the euro against the US dollar averaged 1.40 \$/€ in June 2009, an increase from 1.32 \$/€ in April. (In March 2009 the rate had amounted to 1.31 \$/€.)



Euro area (EU16) unemployment (seasonally adjusted) amounted to 9.5% in May 2009, compared to 9.3% in April. It was 7.4% in May 2008. EU27 unemployment stood at 8.9% in May 2009, compared to 8.7% in April. The rate was 6.8% in May 2008. Among the EU Member States the lowest rate was registered in the Netherlands (3.2%) and Austria (4.3%). Unemployment rates were highest in Spain (18.7%), Latvia (16.3%) and Estonia (15.6%).



Euro area annual inflation (HICP) was 0.0% in May 2009, compared to 0.6% in April. This is quite a decrease from a year earlier, when the rate had been 3.7%. The EU27 annual inflation rate reached 0.7% in May, down from 1.3% in April. A year earlier the rate had amounted to 4.0%. An EU-wide HICP comparison shows that in February 2009 the lowest annual rates were observed in Ireland (-1.7%) and Portugal (-1.2%), and the highest rates in Romania (5.9%), Lithuania (4.9%) and Latvia (4.4%). Year-on-year EU16 core inflation (excluding energy and unprocessed foods) fell to 1.5% in May from 1.7% in April.

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