

# Research

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*Signe Roed-Frederiksen, Senior Analyst, +45 45 12 82 29, sroe@danskebank.dk*

*Peter Passing Andersen, Senior Analyst, +45 45 13 70 19, pa@danskebank.dk*

## US: How much bang for the Obama buck?

- The US economy is currently in one of the deepest economic recessions since WWII, and a self-reinforcing contraction in employment and consumption makes policy action crucial. The Federal Reserve has already taken unprecedented steps to unlock the credit markets; further credit easing measures are likely to be implemented as credit markets are still a long way from normal functioning. However, monetary policy is weakened by the breakdown of the monetary transmission mechanism. This leaves fiscal policy with a greater role in getting the US economy back on track.
- President Obama's administration has put forward a substantial recovery package amounting to USD 825bn so far, or approximately 6% of GDP. The package consists of tax relief for households and businesses combined with government spending on investments and state fiscal relief. We estimate that such a package would have a significant effect on growth and could boost GDP growth by approximately 0.7%-point in 2009 and 1.0%-point in 2010. Even with a fiscal boost of this size, we do not expect the US economy to move above trend growth before Q1 2010.
- The cost of the recovery package adds to the already surging budget deficit, which we expect to reach 9% of GDP in FY 2009 and 6% in FY 2010. The flipside of the deficit is a flood of new supply of Treasury securities in 2009. We estimate that the combined borrowing needs from the underlying budget deficit, buying of TARP related assets, GSE funding and the Treasury's MBS purchase programme amounts to USD 2.0trn in FY 2009. While the surge in supply will put a floor under Treasury yields, we continue to see the main risk for a renewed surge in bond yields to be a surprise rebound in activity indicators.

### Policy actions lend some hope

#### *Help needed*

There is no doubt that the US economy is currently in one of the deepest recessions since the Second World War, and a self-reinforcing contraction in employment and consumption is darkening the outlook. Worries about a possible debt-deflation spiral pushing the US economy into a Japanese style growth profile have gained some traction. While many of the ingredients for such a scenario is in place – falling asset prices, a credit crunch, delev-

eraging and falling commodity prices – one important element is missing: the lack of policy response.

The Federal Reserve has so far taken unprecedented steps to unfreeze credit markets and get liquidity floating again. Looking forward, further action from the Fed is likely if risk aversion worsens and credit markets fail to improve further.

**Details of the proposed stimulus package**

Economic recovery package	USD bln
Payroll tax cut	144
Tax cuts for businesses	131
Aid for unemployed and the needy	106
Aid to states for health care and other essentials	119
Education	117
Infrastructure	90
Energy investments	54
Investments in science and technology	16
Other	48

Source: House of Representatives, Committee on Appropriations

Furthermore, the fiscal stimulus is likely to reach the economy in 2009 and the scale of President Obama's fiscal stimulus package has gradually increased over the past months, with the latest indications amounting to USD 825bn, corresponding to approximately 6% of GDP.

**Will it work?**

Apart from the size of the fiscal stimulus package, the specific measures taken will have a critical influence on the effect of the policy action. The stimulus package outlined by President Obama consists of tax relief for both consumers and businesses combined with government spending – primarily investments and state fiscal relief.

From a theoretical perspective, government spending is expected to give more short term bang for the buck as the spending multiplier is larger than the tax multiplier. According to standard multipliers, government spending tends to boost GDP at an approximately one-to-one basis, while the multiplier on permanent tax cuts is less than one. The reason being that some of the money received via an income tax cut or a transfer to households, will be used to increase savings. Likewise, some of the boost to earnings from a corporate tax cut is likely to be used to increase retained earnings.

GDP multipliers				
Years after shock		1	2	3
Effect of a permanent government spending increase of 1 percent of GDP	OECD inter-link model	1,1	1	0,5
	FRB/US model	1,4	1,4	1,1
Effect of a permanent tax cut of 1 percent of GDP	OECD inter-link model	0,4	0,8	0,8
	FRB/US model	0,4	0,8	1

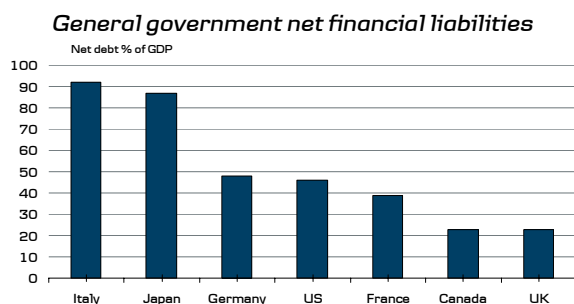
Source: OECD, Federal Reserve

While there is disagreement on the size of such GDP multipliers, evidence from the OECD inter-link model and the Federal Reserves FRB/US model support the view that fiscal expansion does have a positive short term effect on GDP and that the short-term multiplier will be larger on government spending compared to an income or payroll tax cut.

**Credit constraints add to the impact**

The extent to which a given household chooses to save versus spend any additional money is likely to depend on whether the household is credit-constrained or not. A credit or liquidity constrained household is more likely to spend extra income, because it has less ability to smooth consumption over time through borrowing, than a household without such constraint. In that respect, the indication that tax credits to households are likely to be directed towards low income households increases the potential boost to GDP growth.

Another issue is the extent of "Ricardian Equivalence". That is the degree to which government spending or investment crowd out private spending. The principle is that the private sector responds to a rising budget deficit by increasing private saving as they foresee that higher taxes or spending cuts in the future are needed to fund the deficit. One factor to take into account in this respect is the financial starting point of the government. If the government runs a budget surplus, higher spending or lower taxes may not have to be reversed in the future. In the case of the US, the initial state of government finances is not that weak. Net government debt to GDP stood at 46% in 2008 which is not high compared to other G7 countries.



Source: OECD, Danske Bank

Although some degree of Ricardian equivalence cannot be ruled out, with a relatively large share of households and businesses currently suffering from some scale of credit constraint, we believe that fiscal policy will be effective in stimulating growth in the short term.

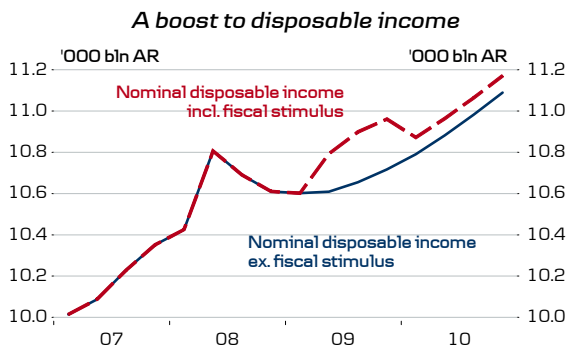
**Important support to the economy****Assessing the impact**

There is still uncertainty about the timing of the package and the date of likely enactment. However,

an agreement in Congress could be reached in mid-February with February 13 a natural deadline as the Congress will be in (Presidents Day) recess for a week thereafter. The next question is when the stimulus will reach the economy. In general, tax credits have a shorter implementation time than government investments and could have an impact on growth already from Q2 09, while we expect the bulk of government spending in 2010 and onwards.

**Consumers get a helping hand**

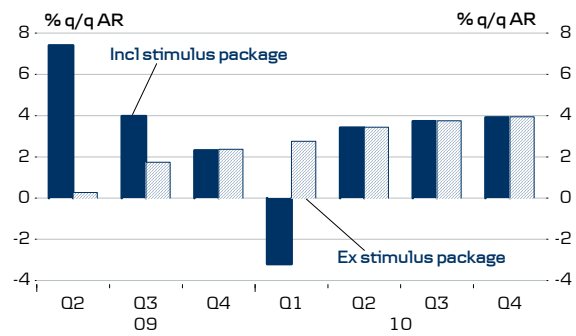
According to the details released so far, households will receive a payroll tax credit of USD 500 per individual in 2009 and 2010 amounting to around USD 72bn each year. In addition, USD 106bn USD will be spend on aid for the unemployed and the needy in 2009. In the following we assume that aggregate personal disposable income will be boosted by USD 168bn in 2009, while the remaining USD 82bn USD will be paid out in 2010 as illustrated in the chart below.



Source: EcoWin, Danske Bank

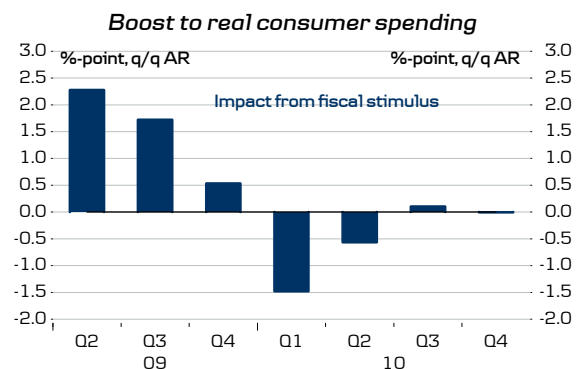
However, what usually matters is the growth rate, not the level of disposable income. As the chart below shows, the payroll tax cut combined with the extra payments to selected households imply a significant jump in nominal disposable income growth in 2009. This is followed by a pay-back in Q1 next year, as part of the payment will only run through December 2009, and a return to the underlying trend in Q2 10. We expect the tax cut to be temporary, meaning that there will be a negative shock to disposable income in 2011. At that time we expect the labour market to have turned, leaving households in a better position to withstand such a shock.

**Nominal disposable income growth**



Source: EcoWin, Danske Bank

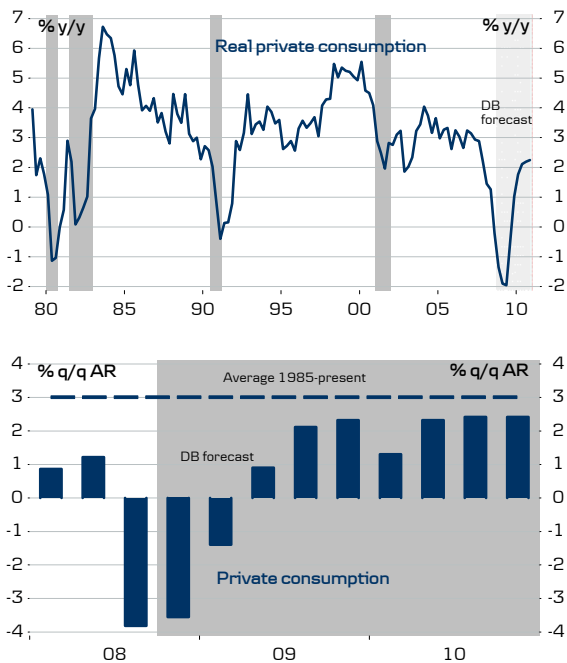
According to our fundamental based model for consumer spending (See [Research US: Consumers under siege](#)), aggregate consumer spending usually reacts with a coefficient of one-third to changes in aggregate nominal disposable income growth. The idea behind this estimate is that one-third of the US households are hand-to-mouth consumers, while the other two-thirds have full access to credit markets and therefore behave in accordance to the permanent income hypothesis and smooth their consumption to fit their life-time income. As discussed above, the current share of credit-constrained households is likely to be at least as high as the average.



Source: EcoWin, Danske Bank

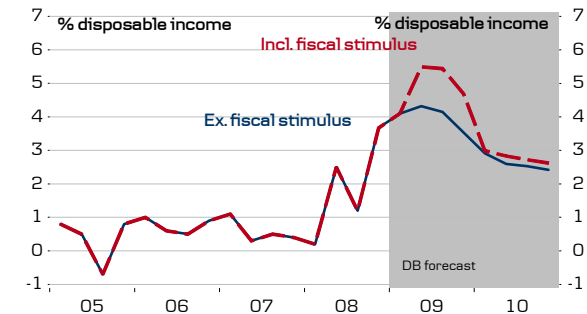
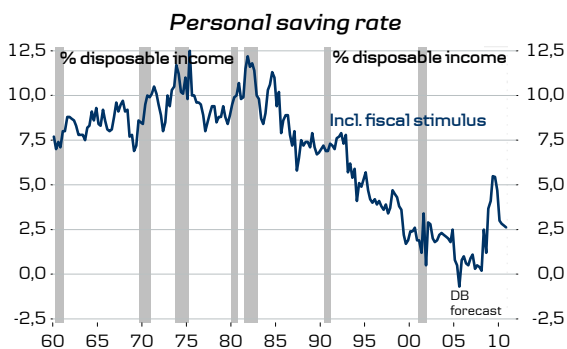
The chart above shows the impact on consumer spending from the boost to nominal income over the next two years. The underlying assumption in the model is that households consume any extra income straight away. Some smoothing of consumption is however likely, and with consumers currently struggling with a credit shock, a negative housing shock and a rapid increase in unemployment, our overall forecast for real private consumption in the coming quarters remains cautious.

**Private consumption forecast**



Source: EcoWin, Danske Bank

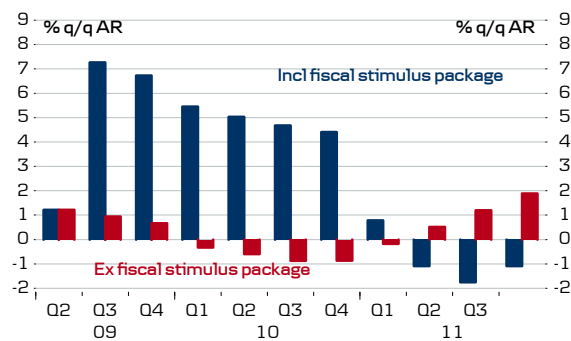
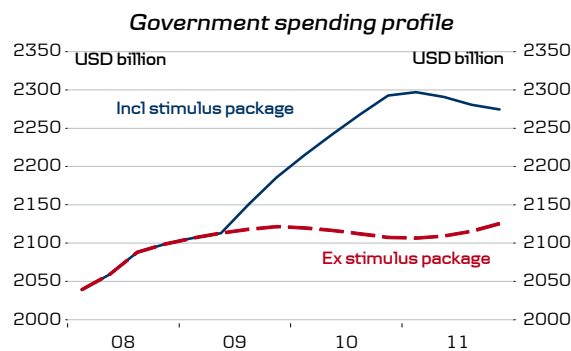
The flipside of our modest approach to consumer spending is that it leaves room for a significant increase in the personal savings rate. The savings rate will reach 5.5% by mid 2009 followed by a return to an underlying upward trend in Q1 2010 as the boost to real income fades away.



Source: EcoWin, Danske Bank

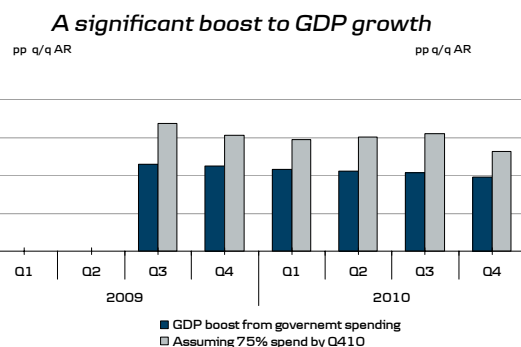
**Timing of government spending is key**

The short-term GDP multiplier on government spending should be higher than that on a payroll tax cut. The challenge is to get government spending projects started fast enough to ensure that the boost to GDP reaches the economy when it is most needed. We expect that only a minor part of the USD 550bn earmarked for government spending will reach the economy in 2009, and the rest will be spent gradually over the following three years. Overall we assume that only 60% of the USD 825bn recovery plan has reached the US economy by end 2010.



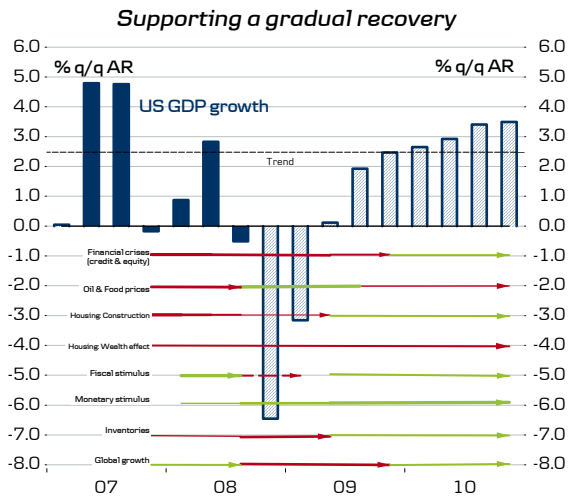
Source: EcoWin, Danske Bank

A spending profile as illustrated above would correspond to a boost to GDP of approximately 1%-point AR in each quarter from Q3 09 to the end of 2010. We assume that the level of government spending will peak in Q4 10, implying that the GDP effect will turn gradually negative from 2011.



Source: EcoWin, Danske Bank

In a note released on January 26, the Obama administration stated that they aim at spending at least 75% of the entire commitment of the package within the first 18 months after passage. Such a scenario would lift the GDP boost from government spending to approximately 1.5%-point AR in each quarter from Q3 09 to Q4 10 and take annual GDP growth to 3.1% in 2010 from our current estimate of 2.7%. However, the negative payback in the following years will be higher as well.



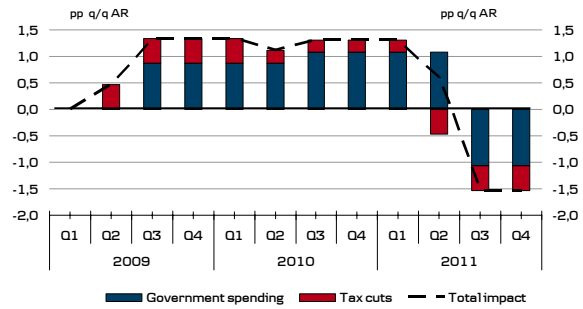
Source: EcoWin, Danske Bank

Summing it all up, after a terrible final quarter last year we expect another, although more moderate, decline in GDP in the current quarter. As the boost to consumer spending from the fiscal package kicks in by Q2 09, we expect activity to stabilise and look for a gradual recovery thereafter. Taking the depth of the current recession into account, the expected upturn will be slow relative to past experiences and we do not expect the economy to move convincingly above trend growth before early 2010. Overall we expect annual GDP to slide 1.5% in 2009 and to increase by 2.6% in 2010.

**Testing our results**

There are numerous methods and economic models that can be used to assess the impact from a shock to taxes and government spending, and the scale of the derived GDP multipliers varies widely. We have chosen to use the GDP multipliers from one of the standard models, the OECD-interlink model, to test our results.

**GDP effect of the proposed fiscal package**



Source: OECD, Danske Bank

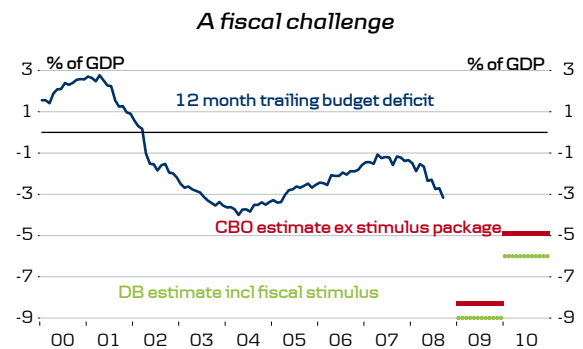
Simulating a positive shock to taxes and government spending corresponding to the size outlined in the Obama recovery package will boost GDP growth by approximately 1.3%-point AR each quarter from Q3 09 to Q4 10. The average effect from the tax shock is 0.4%-point AR, which corresponds well to the average 0.3%-point in our calculations above. The average quarterly GDP effect from the shock to government spending is 1%-point AR, which is also in line with our estimate above of 1.1%-point AR.

If the final version of the recovery package comes close to the outlined composition, our ballpark estimate of a boost to annual GDP growth of 0.7%-point in 2009 and 1.0%-point in 2010 thus seems appropriate. However, the size and composition of the stimulus package could still undergo important changes before it is approved by Congress.

**A challenge for future policy**

**Budget deficit on the rise...**

On a longer time horizon, President Obama will face a challenge in reducing the soaring budget deficit. The Congressional Budget Office has estimated that the budget deficit will reach 8.3% of GDP in 2009 and decline to 4.9% of GDP in 2010 without factoring in the expenditure on a fiscal stimulus package.



Source: CBO, Danske Bank

If we add USD 100bn in outlays to the fiscal stimulus package in FY09 and USD 240bn in FY10 and adjust for differences in our's and CBO's growth forecast, we estimate that the budget deficit will rise to 9% of GDP in 2009 and 6% of GDP in 2010.

#### *...and so is Treasury supply*

Extracting the treasury supply from CBO's budget outlook is not as straightforward as usual. The main reason is the accounting for TARP-related spending and activities related to Fannie Mae and Freddie Mac. CBO's calculations related to TARP and the GSEs are based on an estimate of the present value of all future cash flows, including an adjustment for market risk. However, when estimating the borrowing need one must look at the programs on a cash basis.

#### Budget deficit and Treasury supply

FY 2009	\$ billions
CBO projected deficit	1186
+Fiscal stimulus package	100
-Correction due to higher growth forecast*	-28
=Budget deficit	1258
-TARP	-180
-GSEs	-238
=CBO underlying deficit	840
+TARP	640
+GSEs	248
=Deficit relevant for borrowing needs	1728
+MBS purchases	248
+Other	18
=New financing need	1994
+Maturing coupon securities	561
=Total financing need	2555

Note: \*We use the CBO's January estimate for the budget deficit and OECD's method for cyclical adjustment to take into account that CBO's forecast was based in more pessimistic growth expectations  
Source: CBO, Treasury Department, Danske Bank

As can be seen in the table above, the bulk of the surge in borrowing needs in FY 09 has nothing to do with the expenditure on the recovery package. Taking out costs of the fiscal stimulus package as well as TARP and GSE related costs, the financing need would have surged to almost double that of FY 08. With a negative feed-back loop between activity and the labour market already in place, we believe that the upside from a large and timely fiscal stimulus package clearly outweighs the downside in terms of a higher financing need. That said, the large projected budget deficits in 2009 and 2010 clearly call for fiscal stimulus to start being rolled back as soon as the economy has recovered sustainably to trend growth.

*Box: calculating the financing need*

The table below strips out the underlying budget deficit net of costs related to GSE credit subsidies and the TARP programme and adjusts the deficit for the difference in our's and CBO's growth forecast. To derive the deficit relevant for estimating the Treasury borrowing need, we use CBO estimates of TARP and GSE-related funding needs. According to the CBO's latest Budget and Economic Outlook, the Treasury will need to borrow USD 640bn to acquire TARP assets and an estimated USD 18bn to shore up the capital position of the GSEs. Adding the financing needs for the Treasury's MBS purchase programme, an estimated USD 100bn in fiscal stimulus in FY 09 and refunding needs of USD 561bn, the total supply of Treasury securities will reach USD 2.5 trn in FY 2009.

From a financial market perspective, the flood of treasury securities coming onto the market in 2009 has already become an important theme and has been the main driver behind the recent increase in 10-year Treasury yields. While we believe that the growing supply will continue to put a floor under Treasury yields, the main risk for a renewed spike in government bond yields remains a surprise rebound in activity indicators (see [http://danskeanalyse.danskebank.dk/abo/Strategy\\_041208edited/\\$file/Strategy\\_041208\\_edited.pdf](http://danskeanalyse.danskebank.dk/abo/Strategy_041208edited/$file/Strategy_041208_edited.pdf)). We will assess the combined risks to Treasury yields in a forthcoming research paper.

*Box: relevant links on the fiscal stimulus package*

Congressional Budget Office (CBO): The Budget and Economic Outlook Fiscal Years 2009 to 2019

<http://www.cbo.gov/ftpdocs/99xx/doc9957/01-07-Outlook.pdf>

Congressional Budget Office (CBO): Cost Estimate of the American Recovery and Reinvestment Act of 2009

<http://www.cbo.gov/ftpdocs/99xx/doc9968/hr1.pdf>

President Obama team release of details about the fiscal stimulus package: The American Reinvestment and Recovery Plan - By the Numbers

[http://www.whitehouse.gov/assets/Documents/recovery\\_plan\\_metrics\\_report.pdf](http://www.whitehouse.gov/assets/Documents/recovery_plan_metrics_report.pdf)

Wall Street Journals overview of the highlights in the Recovery Plan

<http://online.wsj.com/article/SB123202946622485595.html>

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**First date of publication**

*Please see the front page of this research report.*

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