Europe and the US: Labor Supply (ctd.)
Monetary and Fiscal Policy

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Goethe Universität
Summer Term, 2010
### Preferences for more or less work, Bell and Freeman (2000)

<table>
<thead>
<tr>
<th>Would you prefer:</th>
<th>More hours/ more pay</th>
<th>Same hours/ same pay</th>
<th>Less hours/ less pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany, All Workers 1997</td>
<td>21.0</td>
<td>68.7</td>
<td>10.3</td>
</tr>
<tr>
<td>US, All Workers 1997</td>
<td>32.0</td>
<td>57.7</td>
<td>10.3</td>
</tr>
<tr>
<td>Germany, All Workers 1989</td>
<td>13.5</td>
<td>76.4</td>
<td>10.1</td>
</tr>
<tr>
<td>US, All Workers 1989</td>
<td>32.7</td>
<td>61.8</td>
<td>5.5</td>
</tr>
</tbody>
</table>

*Responses to the following question asked of workers in both countries: “Think of the number of hours you work and the money that you make in your main job, including regular overtime. If you had only one of three choices, which of the following would you prefer: (1) Work longer hours and earn more money; (2) Work the same number of hours and earn the same money; (3) Work fewer hours and earn less money?”*
Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>German GSOEP data</th>
<th>US NLSY data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variation log usual hours</td>
<td>Variation log usual hours</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>Male</td>
</tr>
<tr>
<td>1985</td>
<td>0.422</td>
<td>0.321</td>
</tr>
<tr>
<td>1986</td>
<td>0.397</td>
<td>0.290</td>
</tr>
<tr>
<td>1987</td>
<td>0.398</td>
<td>0.305</td>
</tr>
<tr>
<td>1988</td>
<td>0.406</td>
<td>0.320</td>
</tr>
<tr>
<td>1989</td>
<td>0.375</td>
<td>0.253</td>
</tr>
<tr>
<td>1990</td>
<td>0.384</td>
<td>0.284</td>
</tr>
<tr>
<td>1991</td>
<td>0.380</td>
<td>0.252</td>
</tr>
<tr>
<td>1992</td>
<td>0.383</td>
<td>0.254</td>
</tr>
<tr>
<td>1993</td>
<td>0.404</td>
<td>0.237</td>
</tr>
<tr>
<td>1994</td>
<td>0.405</td>
<td>0.260</td>
</tr>
<tr>
<td>1995</td>
<td>0.427</td>
<td>0.279</td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a}For German and US workers reporting greater than or equal to five usual hours work per week and less than or equal to 90 usual hours work per week.

\textsuperscript{b}Variation calculated as standard deviation in ln of usual hours.

\textsuperscript{c}Variation calculated as standard deviation in ln of hourly earnings.
Table 4

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>All German workers</th>
<th>Male German workers</th>
<th>All US workers</th>
<th>Male US workers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) All (2) 20 h</td>
<td>(3) 35 h</td>
<td>(4) all male</td>
<td>(5) male 20 h</td>
</tr>
<tr>
<td></td>
<td>(6) male 35 h</td>
<td></td>
<td>(7) all male</td>
<td>(8) 20 h</td>
</tr>
<tr>
<td></td>
<td>(9) 35 h</td>
<td></td>
<td></td>
<td>(10) all</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(11) male 20 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(12) male 35 h</td>
</tr>
<tr>
<td>Std. ln Hourly</td>
<td>0.032</td>
<td>0.124</td>
<td>0.096</td>
<td>-0.026</td>
</tr>
<tr>
<td>Earnings</td>
<td>(0.034)</td>
<td>(0.024)</td>
<td>(0.017)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>Mean ln Hourly</td>
<td>0.158</td>
<td>0.144</td>
<td>0.045</td>
<td>-0.032</td>
</tr>
<tr>
<td>Earnings</td>
<td>(0.020)</td>
<td>(0.014)</td>
<td>(0.011)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.073</td>
<td>0.130</td>
<td>0.046</td>
<td>0.001</td>
</tr>
<tr>
<td>$y$</td>
<td>762</td>
<td>752</td>
<td>741</td>
<td>672</td>
</tr>
</tbody>
</table>

All regressions include year dummies.
Dependent variable: mean of ln weekly hours in detailed occupation cell (mean of hours, wages, and standard deviation of wages calculated across a maximum of 78 occupational cells in each of 10 years of data in Germany, and across a maximum of 42 occupational cells in each of 7 years of data in US).

*Data are for West German and US non-farm civilian workers with greater than 5 and less than 90 h of work per week.
Table 5

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>All German workers</th>
<th>Male German workers</th>
<th>All US workers</th>
<th>Male US workers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>In of hourly earnings</td>
<td>0.033 (0.005)</td>
<td>−0.017 (0.005)</td>
<td>−0.004 (0.005)</td>
<td>0.034 (0.003)</td>
</tr>
<tr>
<td>Standard deviation of ln of hourly</td>
<td>0.078 (0.011)</td>
<td>0.066 (0.017)</td>
<td>0.013 (0.017)</td>
<td>0.018 (0.017)</td>
</tr>
<tr>
<td>wage in occupation cell²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational controls c</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Female dummy</td>
<td>−0.211 (0.007)</td>
<td></td>
<td></td>
<td>−0.119 (0.003)</td>
</tr>
<tr>
<td>Married dummy</td>
<td>−0.039 (0.006)</td>
<td>0.040 (0.006)</td>
<td></td>
<td>−0.009 (0.002)</td>
</tr>
<tr>
<td>N</td>
<td>25,441</td>
<td>25,441</td>
<td>16,501</td>
<td>50,368</td>
</tr>
<tr>
<td>R²</td>
<td>0.008</td>
<td>0.184</td>
<td>0.004</td>
<td>0.016</td>
</tr>
</tbody>
</table>

All regressions include year dummies.
Dependent variable: In usual weekly hours.

*West German and US non-farm civilian workers with greater than or equal to 20 and less than or equal to 90 h of work per week.

²Standard deviation of wages calculated across a maximum of 78 occupational cells in each of 10 years of German data and across a maximum of 42 occupational cells in each of 7 years of US data.

³Categorical Education Dummy Variables given for US as: (1) less than high school; (2) some high school; (3) high school graduate; (4) some college; (5) college graduate; (6) post-college education, for US. Education Dummy Variables for Germany are: (1) no school degree; (2) secondary-school degree; (3) non-classified degree; (4) technical degree; (5) high school degree; (6) other degree.
Effect of Hours on Future Wages (Bell and Freeman, 2000)

Table 6
The effect of hours worked in the past on current hourly earnings. NLSY data for US workers and GSOEP data for German workers.\(^a\)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>German workers</th>
<th></th>
<th></th>
<th></th>
<th>US workers</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td>(7)</td>
</tr>
<tr>
<td>Average ln hours</td>
<td>0.149 (0.022)</td>
<td>0.106 (0.023)</td>
<td>0.091 (0.025)</td>
<td>0.070 (0.038)</td>
<td>0.136 (0.019)</td>
<td>0.111 (0.019)</td>
<td>0.105 (0.019)</td>
</tr>
<tr>
<td>1989–1993</td>
<td>0.640 (0.015)</td>
<td>0.587 (0.018)</td>
<td>0.538 (0.019)</td>
<td>0.598 (0.030)</td>
<td>0.768 (0.012)</td>
<td>0.649 (0.012)</td>
<td>0.622 (0.013)</td>
</tr>
<tr>
<td>Average ln hourly earnings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989–1993</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotion variable(^b)</td>
<td></td>
<td></td>
<td></td>
<td>-0.017 (0.029)</td>
<td>0.081 (0.011)</td>
<td>0.079 (0.011)</td>
<td></td>
</tr>
<tr>
<td>Ln tenure with current employer</td>
<td></td>
<td></td>
<td></td>
<td>-0.002 (0.009)</td>
<td>0.035 (0.014)</td>
<td>0.048 (0.004)</td>
<td>0.045 (0.005)</td>
</tr>
<tr>
<td>Female dummy</td>
<td></td>
<td></td>
<td></td>
<td>-0.097 (0.019)</td>
<td>-0.088 (0.022)</td>
<td>-0.082 (0.033)</td>
<td>-0.038 (0.012)</td>
</tr>
<tr>
<td>Married dummy</td>
<td></td>
<td></td>
<td></td>
<td>-0.002 (0.017)</td>
<td>-0.004 (0.018)</td>
<td>0.023 (0.027)</td>
<td>0.052 (0.012)</td>
</tr>
<tr>
<td>Educational controls(^c)</td>
<td>YES</td>
<td></td>
<td></td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation dummy</td>
<td>YES</td>
<td></td>
<td></td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry dummy</td>
<td>YES</td>
<td></td>
<td></td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N)</td>
<td>2015</td>
<td>1048</td>
<td>1048</td>
<td>954</td>
<td>7142</td>
<td>6872</td>
<td>6872</td>
</tr>
<tr>
<td>Adjusted (R^2)</td>
<td>0.502</td>
<td>0.546</td>
<td>0.564</td>
<td>0.576</td>
<td>0.420</td>
<td>0.466</td>
<td>0.481</td>
</tr>
</tbody>
</table>

Dependent variable: ln hourly earnings, 1996 (US) or 1995 (Germany).

\(^a\)All German and US workers with reported hours in one or more years 1989–1993 and 1995 (Germany) or 1996 (US). West German and US workers with weekly hours of work greater than or equal to 5 and less than or equal to 90.

\(^b\)In Germany, workers were asked whether they will likely be promoted in 1993. In the US, workers were asked whether they were promoted in 1996.

\(^c\)Categorical Education Dummy Variables given for US as: (1) less than high school; (2) some high school; (3) high school graduate; (4) some college; (5) college graduate; (6) post-college education. For US. Education Dummy Variables for Germany are: (1) no school degree; (2) secondary-school degree; (3) non-classified degree; (4) technical degree; (5) high school degree; (6) other degree.
Table 7
The effect of hours worked in the past on the probability of promotion. NLSY Data for US Workers\(^a\), GSOEP Data for German Workers\(^b\)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>German workers</th>
<th>US workers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Average ln hours</td>
<td>0.606 (0.098)</td>
<td>0.360 (0.109)</td>
</tr>
<tr>
<td>1989–1993</td>
<td>0.093 (0.028)</td>
<td>0.037 (0.010)</td>
</tr>
<tr>
<td>Average ln hourly earnings</td>
<td>-0.209 (0.057)</td>
<td>-0.287 (0.067)</td>
</tr>
<tr>
<td>1989–1993</td>
<td>-0.056 (0.015)</td>
<td>-0.074 (0.017)</td>
</tr>
<tr>
<td>Educational controls(^b)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ln AFQT test percentile</td>
<td>0.062 (0.020)</td>
<td>0.013 (0.004)</td>
</tr>
<tr>
<td>Female dummy</td>
<td>-0.417 (0.074)</td>
<td>-0.103 (0.017)</td>
</tr>
<tr>
<td>Married dummy</td>
<td>-0.217 (0.068)</td>
<td>-0.058 (0.018)</td>
</tr>
<tr>
<td>N</td>
<td>2427</td>
<td>10,082</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1114.5</td>
<td>-3670.4</td>
</tr>
</tbody>
</table>

Dependent variable US: = 1 if individual received a promotion in main job since last interview year, 1996; = 0 otherwise.
Dependent variable Germany: = 1 if individual indicated that they expect a promotion in 1993; = 0 otherwise.
\(^a\)All US and German workers with reported hours in one or more of years 1989–1993 and in 1995 (Germany) or 1996 (US). West German and US workers with weekly hours of work greater than or equal to 5 and less than or equal to 90.

\(^b\)Categorical Education Dummy Variables given for US as: (1) less than high school; (2) some high school; (3) high school graduate; (4) some college; (5) college graduate; (6) post-college education, for US. Education Dummy Variables for Germany are: (1) no school degree; (2) secondary-school degree; (3) non-classified degree; (4) technical degree; (5) high school degree; (6) other degree.
GDP per Capita Growth in Euro Area and US

Date
1998q1 2001q1 2004q1 2007q1 2010q1

Euro Area  US

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New Keynesian Models

- “New Keynesian versus Old Keynesian Government Spending Multipliers”
  by John F. Cogan, Tobias Cwik, John B. Taylor and Volker Wieland

- “Keynesian government spending multipliers and spillovers in the euro area”
  by Tobias Cwik and Volker Wieland

- Downloadable from
  http://www.volkerwieland.com/research.htm
Figure 1. Estimated Impact on GDP of a Permanent Increase in Government Purchases of 1 percent of GDP
### Table 1: Impact of a Permanent Increase in Government Spending by 1 Percent of GDP
(federal funds rate set to zero throughout 2009 and 2010)

<table>
<thead>
<tr>
<th>Percentage increase in real GDP</th>
<th>2009Q1</th>
<th>2009Q4</th>
<th>2010Q4</th>
<th>2011Q4</th>
<th>2012Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romer/Bernstein</td>
<td>1.05</td>
<td>1.44</td>
<td>1.57</td>
<td>1.57</td>
<td>1.55</td>
</tr>
<tr>
<td>Smets/Wouters</td>
<td>1.03</td>
<td>0.89</td>
<td>0.61</td>
<td>0.44</td>
<td>0.40</td>
</tr>
</tbody>
</table>
Table 3. Increased Deficit, Federal Government Purchases, and Transfers to State and Local Governments for Purchases of Goods and Services in the February 2009 Stimulus Legislation (billions of dollars)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Increase in Federal Purchases</th>
<th>Increase in Transfers to States, Localities</th>
<th>Increase in Federal Deficit*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>21</td>
<td>48</td>
<td>184</td>
</tr>
<tr>
<td>2010</td>
<td>47</td>
<td>107</td>
<td>400</td>
</tr>
<tr>
<td>2011</td>
<td>46</td>
<td>47</td>
<td>134</td>
</tr>
<tr>
<td>2012</td>
<td>36</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>2013</td>
<td>25</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>2014</td>
<td>27</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>2015</td>
<td>11</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>2016</td>
<td>-2</td>
<td>0</td>
<td>-8</td>
</tr>
<tr>
<td>2017</td>
<td>-3</td>
<td>0</td>
<td>-7</td>
</tr>
<tr>
<td>2018</td>
<td>-2</td>
<td>0</td>
<td>-6</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations derived from Congressional Budget Office, “Cost Estimate for Conference Agreement for H.R.1”, February 13, 2009
*Excludes impact of interest payments on the public debt incurred to finance the stimulus package.
Figure 2. Estimated Output Effects of Government Purchases in the February 2009 Stimulus Legislation. (Government purchases equal federal purchases plus 60 percent of transfers to state and local governments for purchases of goods and services)
Figure 3. Crowding Out of Consumption and Investment in the February 2009 Stimulus Legislation (Government purchases are as in Figure 2)
### Table 1: Overview of the fiscal stimulus packages in the euro area

<table>
<thead>
<tr>
<th>country</th>
<th>Total fiscal package (bln Euro)</th>
<th>Expenditures (bln Euro)</th>
<th>Total fiscal package (percent of GDP)</th>
<th>Expenditures (percent of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>4.9</td>
<td>4.6</td>
<td>1.4</td>
<td>1</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.3</td>
<td>1.2</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Germany</td>
<td>35.9</td>
<td>48.4</td>
<td>18</td>
<td>13.6</td>
</tr>
<tr>
<td>Greece</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Spain</td>
<td>26.8</td>
<td>14.7</td>
<td>12.1</td>
<td>0</td>
</tr>
<tr>
<td>Finland</td>
<td>2.4</td>
<td>2.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>France</td>
<td>17</td>
<td>4</td>
<td>16.3</td>
<td>4</td>
</tr>
<tr>
<td>Ireland</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>-0.3</td>
<td>-0.8</td>
<td>3.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.1</td>
<td>2.9</td>
<td>0.2</td>
<td>0</td>
</tr>
<tr>
<td>Portugal</td>
<td>1</td>
<td>0.3</td>
<td>0.9</td>
<td>0.3</td>
</tr>
<tr>
<td>EU-11</td>
<td>92</td>
<td>77.6</td>
<td>53.2</td>
<td>20.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Measure</th>
<th>2009 (bln Euro)</th>
<th>2010 (bln Euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degressive depreciation deduction</td>
<td>1.94</td>
<td>4.33</td>
<td></td>
</tr>
<tr>
<td>Higher tax-free allowances for companies</td>
<td>0.24</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>Suspension of car tax on on new vehicles</td>
<td>0.44</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Tax deductibility of professionel commute</td>
<td>4.00</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>Package for tax burden reduction, stabilisation of Tax cuts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social security contributions and investment in families</td>
<td>4.22</td>
<td>12.04</td>
<td></td>
</tr>
<tr>
<td>Income tax cut</td>
<td>2.90</td>
<td>6.04</td>
<td></td>
</tr>
<tr>
<td>Reduction in health insurance contributions</td>
<td>3.00</td>
<td>6.50</td>
<td></td>
</tr>
<tr>
<td>State payment of 50 percent social insurance for short-time workers</td>
<td>1.15</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Reform of car tax</td>
<td>0.09</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.98</strong></td>
<td><strong>34.73</strong></td>
<td></td>
</tr>
<tr>
<td>Extra spending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investments into transport infrastructure</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Longer eligibility for short-time compensation</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Improvement of regional economic structure</td>
<td>0.30</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Infrastructure investment programme</td>
<td>8.65</td>
<td>8.68</td>
<td></td>
</tr>
<tr>
<td>Innovation support programme</td>
<td>0.45</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Retraining and stronger job service</td>
<td>1.59</td>
<td>1.59</td>
<td></td>
</tr>
<tr>
<td>Increased child benefits</td>
<td>4.42</td>
<td>2.84</td>
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</tr>
<tr>
<td>Premium for new car purchases</td>
<td>1.50</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Increased housing benefits</td>
<td>0.06</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.97</strong></td>
<td><strong>13.62</strong></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: The impact on euro area GDP in the Smets & Wouters (2003) model

Notes: Quarterly annualized government spending is depicted by the bars in percent of GDP: 0.29085 in 2009Q1, 0.5817 in 2009Q2, 0.727125 in 2009Q3 and 2009Q4 and 0.2225 in 2010.
Consumption and Investment, Cwik and Wieland (2009)

Figure 2: Private spending in the Smets & Wouters (2003) model

Consumption and Investment

- Consumption (C)
- Investment (I)
- C plus I
Implementation lags and anticipation effects, Cwik and Wieland (2009)

Figure 5: Implementation lags and anticipation effects

Delayed stimulus

Impact on GDP
Figure 7: Impact on euro area GDP: constant interest rates in 2009

Government spending and real GDP

- Government spending
- Smets and Wouters (2003)
- Small IMF Model
- EU Quest Model
- ECB Area Wide Model
- Taylor (1993)
Table 2: Cumulative GDP net off government spending

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Smets and Wouters (2003)</td>
<td>-0.20</td>
<td>-0.34</td>
<td>-1.31</td>
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<tr>
<td>ECB Area Wide Model</td>
<td>0.37</td>
<td>-0.18</td>
<td>0.01</td>
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<tr>
<td>Taylor (1993)</td>
<td>0.04</td>
<td>-0.11</td>
<td>-0.56</td>
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<tr>
<td>Small IMF Model</td>
<td>-0.26</td>
<td>-0.55</td>
<td>-1.67</td>
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<tr>
<td>EU Quest Model</td>
<td>-0.25</td>
<td>-0.43</td>
<td>-1.51</td>
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</tbody>
</table>

Notes: Delayed euro area fiscal stimulus package as in figure 7 assumed for the results in column 2 and 3. The interest rate is assumed constant in 2009. The cumulated euro area stimulus amounts to 0.80 percent of euro area GDP (see table 1) and the cumulated US government purchases to 2.21 percent of US GDP.
Table 3: Impact of German government expenditures

<table>
<thead>
<tr>
<th></th>
<th>Percentage increase in real GDP</th>
<th>2009Q1</th>
<th>2009Q4</th>
<th>2010Q4</th>
<th>2011Q4</th>
<th>2012Q4</th>
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<tr>
<td><strong>Monetary union</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.039</td>
<td>0.037</td>
<td>0.012</td>
<td>-0.01</td>
<td>0.002</td>
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<tr>
<td>Germany</td>
<td>0.737</td>
<td>0.685</td>
<td>0.414</td>
<td>-0.085</td>
<td>-0.149</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>0.015</td>
<td>-0.01</td>
<td>-0.049</td>
<td>-0.057</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td><strong>Flexible exchange rates</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.056</td>
<td>0.064</td>
<td>0.022</td>
<td>-0.02</td>
<td>-0.014</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0.668</td>
<td>0.52</td>
<td>0.256</td>
<td>-0.123</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>0.046</td>
<td>0.056</td>
<td>0.026</td>
<td>-0.016</td>
<td>-0.016</td>
<td></td>
</tr>
</tbody>
</table>

Notes: The impact of the German fiscal stimulus package is simulated with the Taylor-Model. Euro area inflation and output gap are defined as a weighted average of German, French and Italian values. In the case of the monetary union simulation the euro area nominal interest rate reacts to euro area inflation and output gap. We assume no change in the fiscal policy of France and Italy.