# Online Appendix to 

# Liquidity Constraint Tightness and Consumer Responses to Fiscal Stimulus Policy 

Claus Thustrup Kreiner<br>University of Copenhagen, CEBI and CEPR<br>David Dreyer Lassen<br>University of Copenhagen and CEBI<br>Søren Leth-Petersen<br>University of Copenhagen, CEBI and CEPR

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## 1 Means of selected characteristics across groups of respondents and non-respondents

Table EA.1: Means of selected characteristics across groups of respondents and non-respondents
$\left.\begin{array}{lccccc}\hline & (1) & \begin{array}{c}(2) \\ \text { Respondents } \\ \text { no payout }\end{array} & \begin{array}{c}(3) \\ \text { t-value } \\ \text { diff. (1)-(2) }\end{array} & \begin{array}{c}(4) \\ \text { Non- } \\ \text { respondents diff. (1)-(4) }\end{array} & \begin{array}{c}(5) \\ \text { (-value }\end{array} \\ & \text { Main sample }\end{array}\right)$

Note: The table shows the mean of selected characteristics for our main sample (column 1), for survey respondents who did not withdraw the SP funds (column 2) and for survey non-respondents (column 4). Columns 3 and 5 show the t-value from a test of whether the difference to main sample is significant. A dummy variable is indicated by (d). The marginal interest rate denotes the interest on marginal liquidity and is computed from register data on all loan and deposit accounts from the Danish Tax Agency. SP pay-out is calculated as the (potential) payout, i.e. the account balance less taxes. Remaining variables are obtained from administrative registers at Statistics Denmark. Permanent income is calculated as the average of incomes over the period 1998-2008. Debt service denotes total interest payments on loans. Liquid assets include deposits, shares and bonds. Short, medium and long education correspond to vocational training, college BA level, College Master and PhD level, respectively. Individuals not in these categories have high school or less educ

## 2 Spending share in percent of SP payout regressed on covariates (OLS). Propensity score reweighted

Table EA.2: Spending share in percent of SP payout regressed on covariates (OLS). Propensity score reweighted.

|  | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Liquidity |  |  |  |  |  |  |
| Marginal interest rate, 08 (pct.) | $\begin{gathered} 0.002 \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.408 \\ (0.119) \end{gathered}$ | $\begin{gathered} 0.254 \\ (0.121) \end{gathered}$ | $\begin{gathered} 0.256 \\ (0.092) \end{gathered}$ | $\begin{gathered} 0.251 \\ (0.092) \end{gathered}$ | $\begin{gathered} 0.252 \\ (0.092) \end{gathered}$ |
| Liquid assets / disp. income, 08 (pct.) | $\begin{aligned} & -0.000 \\ & (0.000) \end{aligned}$ |  | $\begin{aligned} & -0.078 \\ & (0.024) \end{aligned}$ | $\begin{gathered} -0.040 \\ (0.014) \end{gathered}$ | $\begin{gathered} -0.03 \\ (0.014) \end{gathered}$ | $\begin{gathered} -0.030 * * \\ (0.014) \end{gathered}$ |
| Debt service / disp. income, 08 (pct.) | $\begin{gathered} -0.01 \\ (0.001) \end{gathered}$ |  | $\begin{aligned} & -0.048 \\ & (0.102) \end{aligned}$ | $\begin{gathered} 0.139 \\ (0.070) \\ \hline \end{gathered}$ | $\begin{gathered} 0.084 \\ (0.082) \\ \hline \end{gathered}$ | $\begin{gathered} 0.087 \\ (0.082) \\ \hline \end{gathered}$ |
| Size Effect |  |  |  |  |  |  |
| SP payout / disp. income, 08 (pct.) | $\begin{gathered} 0.07 \\ (0.006) \end{gathered}$ |  |  | $\begin{gathered} -1.217 \\ (0.320) \end{gathered}$ | $\begin{aligned} & -1.074 \\ & (0.326) \end{aligned}$ | $\begin{gathered} -1.072 \\ (0.323) \\ \hline \end{gathered}$ |
| Income Controls |  |  |  |  |  |  |
| Ln(income), register | $\begin{gathered} 0.215 \\ (0.036) \end{gathered}$ |  |  | $\begin{gathered} 1.931 \\ (2.395) \end{gathered}$ | $\begin{gathered} 1.552 \\ (2.454) \end{gathered}$ | $\begin{gathered} 1.513 \\ (2.382) \end{gathered}$ |
| Ln(permanent income) | $\begin{gathered} -0.118 \\ (0.046) \end{gathered}$ |  |  | $\begin{gathered} -16.863 \\ (2.742) \end{gathered}$ | $\begin{gathered} -14.909 \\ (2.990) \end{gathered}$ | $\begin{gathered} -14.828 \\ (2.915) \end{gathered}$ |
| $\operatorname{sd}[\ln$ (income) $]$ | $\begin{gathered} 0.056 \\ (0.033) \end{gathered}$ |  |  | $\begin{aligned} & -2.245 \\ & (1.890) \end{aligned}$ | $\begin{gathered} -2.588 \\ (2.025) \end{gathered}$ | $\begin{aligned} & -2.522 \\ & (2.010) \end{aligned}$ |
| Income developed better, 09 |  |  |  | $\begin{gathered} 1.943 \\ (1.976) \end{gathered}$ | $\begin{gathered} 1.361 \\ (1.974) \end{gathered}$ | $\begin{gathered} 2.257 \\ (2.040) \end{gathered}$ |
| Income developed worse, 09 |  |  |  | $\begin{gathered} -0.965 \\ (2.080) \\ \hline \end{gathered}$ | $\begin{gathered} -1.146 \\ (2.088) \\ \hline \end{gathered}$ | $\begin{gathered} -0.702 \\ (2.171) \\ \hline \end{gathered}$ |
| Demographic Controls |  |  |  |  |  |  |
| Age | $\begin{aligned} & -0.008 \\ & (0.002) \end{aligned}$ |  |  |  | $\begin{gathered} -0.173 \\ (0.086) \end{gathered}$ | $\begin{gathered} -0.176 \\ (0.088) \end{gathered}$ |
| Woman (d) | $\begin{gathered} 0.149 \\ (0.027) \end{gathered}$ |  |  |  | $\begin{gathered} 2.211 \\ (1.410) \end{gathered}$ | $\begin{gathered} 2.071 \\ (1.406) \end{gathered}$ |
| Single (d) | $\begin{aligned} & -0.067 \\ & (0.032) \end{aligned}$ |  |  |  | $\begin{gathered} 1.111 \\ (1.749) \end{gathered}$ | $\begin{gathered} 1.088 \\ (1.748) \end{gathered}$ |
| Number of children | $\begin{gathered} 0.013 \\ (0.014) \end{gathered}$ |  |  |  | $\begin{gathered} 2.001 \\ (0.687) \end{gathered}$ | $\begin{gathered} 1.921 \\ (0.687) \end{gathered}$ |
| Education, short (d) | $\begin{gathered} 0.061 \\ (0.031) \end{gathered}$ |  |  |  | $\begin{aligned} & -0.179 \\ & (1.749) \end{aligned}$ | $\begin{aligned} & -0.145 \\ & (1.744) \end{aligned}$ |
| Education, medium (d) | $\begin{gathered} 0.289 \\ (0.039) \end{gathered}$ |  |  |  | $\begin{gathered} -1.489 \\ (2.045) \end{gathered}$ | $\begin{gathered} -1.478 \\ (2.039) \end{gathered}$ |
| Education, long (d) | $\begin{gathered} 0.266 \\ (0.052) \end{gathered}$ |  |  |  | $\begin{gathered} -3.564 \\ (2.634) \end{gathered}$ | $\begin{aligned} & -3.491 \\ & (2.639) \end{aligned}$ |
| Home owner (d) | $\begin{gathered} 0.611 \\ (0.035) \\ \hline \end{gathered}$ |  |  |  | $\begin{gathered} 0.816 \\ (1.999) \\ \hline \end{gathered}$ | $\begin{gathered} 0.676 \\ (2.002) \\ \hline \end{gathered}$ |
| Expected Constraints |  |  |  |  |  |  |
| $\Delta \mathrm{E}[$ credit possibility 2010] $<0,09$ (d) |  |  |  |  |  | $\begin{gathered} 1.605 \\ (1.990) \end{gathered}$ |
| $\Delta \mathrm{E}[$ credit possibility 2010$]>0,09$ (d) |  |  |  |  |  | $\begin{gathered} -1.463 \\ (2.508) \end{gathered}$ |
| $\Delta \mathrm{E}[$ income 2010]>0, 09 (d) |  |  |  |  |  | $\begin{gathered} -1.875 \\ (1.771) \end{gathered}$ |
| $\Delta \mathrm{E}[$ income 2010] $<0,09$ (d) |  |  |  |  |  | $\begin{aligned} & -1.754 \\ & (2.176) \end{aligned}$ |
| Taxreform $\Rightarrow$ perm. income increase (d) |  |  |  |  |  | $\begin{gathered} -2.124 \\ (1.488) \end{gathered}$ |
| Taxreform $\Rightarrow$ perm. income decrease (d) |  |  |  |  |  | $\begin{gathered} -4.566 \\ (2.287) \\ \hline \end{gathered}$ |
| Constant | $\begin{gathered} -1.697 \\ (0.393) \\ \hline \end{gathered}$ | $\begin{array}{r} 61.523 \\ (1.188) \\ \hline \end{array}$ | $\begin{array}{r} 67.032 \\ (2.711) \\ \hline \end{array}$ | $\begin{aligned} & \hline 256.381 \\ & (19.073) \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 241.432 \\ & (21.981) \\ & \hline \end{aligned}$ | $\begin{aligned} & 242.843 \\ & (21.812) \\ & \hline \end{aligned}$ |
| Observations | 10,240 | 5,037 | 5,037 | 5,037 | 5,037 | 5,037 |
| Note: The table shows the results from regressing the spending share of the SP payout on covariates based on propensity score reweighted regressions, where the propensity score for survey participation is estimated based on variables available in the administrative registries. Column 1 presents probit estimates of survey participation. SP pay-out in this column is calculated as the (potential) payout, i.e. the account balance less taxes. Column 2-6 presents propensity score weighted regresssions corresponding to column 1-5 in Table 1. A dummy variable is indicated by (d). Robust standard errors reported in parentheses. |  |  |  |  |  |  |

## 3 Summary Statistics for Variables Entering Regressions in Table 1

Table EA.3: Summary statistics for variables entering regressions in table 1.

|  | Median | Mean | St.deviation |
| :--- | :---: | :---: | :---: |
| Marginal interest rate, 08 (pct.) | 8.173 | 10.000 | 7.968 |
| Liquid assets / disp. income, 08 (pct.) | 15.422 | 41.862 | 56.777 |
| Debt service / disp. income, 08 (pct.) | 10.662 | 11.913 | 10.395 |
| SP payout / disp. income, 08 (pct.) | 4.332 | 4.614 | 2.959 |
| Ln(income), register | 12.762 | 12.712 | 0.641 |
| Ln(permanent income) | 12.630 | 12.583 | 0.529 |
| sd[ln(income)] | 0.212 | 0.360 | 0.421 |
| Income developed better, 09 | 0.000 | 0.117 | 0.321 |
| Income developed worse, 09 | 0.000 | 0.127 | 0.333 |
| Age | 45.000 | 45.062 | 11.331 |
| Woman (d) | 1.000 | 0.518 | 0.500 |
| Single (d) | 0.000 | 0.219 | 0.413 |
| Number of children | 0.000 | 0.900 | 1.080 |
| Education, short (d) | 0.000 | 0.447 | 0.497 |
| Education, medium (d) | 0.000 | 0.219 | 0.413 |
| Education, long (d) | 0.000 | 0.100 | 0.300 |
| Owner (d) | 1.000 | 0.751 | 0.433 |
| $\Delta \mathrm{E}[$ credit possibility 2010]<0, 09 (d) | 0.000 | 0.129 | 0.335 |
| $\Delta \mathrm{E}[$ credit possibility 2010]>0, 09 (d) | 0.000 | 0.083 | 0.275 |
| $\Delta \mathrm{E}[$ income 2010] $>0,09$ (d) | 0.000 | 0.198 | 0.398 |
| $\Delta \mathrm{E}[$ income 2010]<0, 09 (d) | 0.000 | 0.131 | 0.338 |
| Taxreform $\Rightarrow$ perm. income increase (d) | 0.000 | 0.366 | 0.482 |
| Taxreform $\Rightarrow$ perm. income decrease (d) | 0.000 | 0.115 | 0.319 |
|  |  |  |  |
| Observations |  | 5,037 |  |

## 4 Comparing OLS with Tobit and Probit

The dependent variable in Table 1 in the paper has support in the $[0,1]$ interval. $96 \%$ of the observations are extreme outcomes, i.e. either 0 or 1 . To make sure that potential misspecification is not driving the results, we have also reproduced the results using probit and tobit estimators. The results are presented in Table EA.7. Columns 1 and 4 reproduce columns 1 and 5 from Table 1 in the paper. Columns 2 and 5 apply a tobit estimator and columns 3 and 6 present results from applying a probit estimator. In the latter case the dependent variable has been assigned to be 0 if it is in the interval $[0,0.5]$ and it is assigned to be 1 if it is in the interval $[0.5,1]$. For the tobit and the probit specifications, we report marginal effects. For the probit specification, we have estimated the model where the dependent variable is a dummy variable, and we have then subsequently multiplied the estimates by 100 to make them comparable to the estimates for the OLS and the tobit specifications. The results are for all practical purposes unchanged when moving from an OLS specification to a tobit specification or a probit specification.

Table EA.4: Spending share regressed on covariates, OLS, tobit and probit

|  | OLS | Tobit | Probit | OLS | Tobit | Probit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Liquidity |  |  |  |  |  |  |
| Marginal interest rate, 08 (pct.) | $\begin{gathered} 0.537 \\ (0.081) \end{gathered}$ | $\begin{gathered} 0.537 \\ (0.084) \end{gathered}$ | $\begin{gathered} 0.591 \\ (0.085) \end{gathered}$ | $\begin{gathered} 0.295 \\ (0.088) \end{gathered}$ | $\begin{gathered} 0.304 \\ (0.092) \end{gathered}$ | $\begin{gathered} 0.365 \\ (0.093) \end{gathered}$ |
| Liquid assets / disp income, 08 (pct.) |  |  |  | -0.031 | -0.030 | -0.031 |
|  |  |  |  | (0.013) | (0.013) | (0.013) |
| Debt service / disp income, 08 (pct.) |  |  |  | 0.139 | 0.133 | 0.108 |
|  |  |  |  | (0.076) | (0.079) | (0.079) |
| Size effect |  |  |  |  |  |  |
| SP payout / disp income, 08 (pct.) |  |  |  | -1.187 | -1.268 | -1.009 |
|  |  |  |  | (0.286) | (0.292) | (0.294) |
| Income Controls |  |  |  |  |  |  |
| $\operatorname{Ln}$ (income), register |  |  |  | -3.124 | -2.903 | -3.126 |
|  |  |  |  | (1.961) | (2.326) | (2.338) |
| $\operatorname{Ln}$ (permanent income) |  |  |  | -8.478 | -9.840 | -8.475 |
|  |  |  |  | (2.531) | (2.826) | (2.823) |
| sd[ $\ln$ (income) $]$ |  |  |  | 0.023 | 1.073 | -0.353 |
|  |  |  |  | (1.923) | (2.285) | (2.240) |
| Income developed better, 09 (d) |  |  |  | 2.057 | 2.208 | 2.310 |
|  |  |  |  | (2.022) | (2.108) | (2.131) |
| Income developed worse, 09 (d) |  |  |  | -0.538 | -0.687 | -0.912 |
|  |  |  |  | (2.097) | (2.158) | (2.169) |
| Demographic Controls |  |  |  |  |  |  |
| Age |  |  |  | -0.177 | -0.161 | -0.199 |
|  |  |  |  | (0.084) | (0.088) | (0.088) |
| Woman (d) |  |  |  | 2.141 | 1.912 | 2.256 |
|  |  |  |  | (1.380) | (1.427) | (0.01441) |
| Single (d) |  |  |  | 0.730 | 0.719 | 1.519 |
|  |  |  |  | (1.697) | (1.748) | (1.765) |
| Number of children |  |  |  | 2.030 | 2.124 | 1.913 |
|  |  |  |  | (0.678) | (0.723) | (0.728) |
| Education, short (d) |  |  |  | -0.531 | -0.522 | -0.293 |
|  |  |  |  | (1.653) | (1.739) | (1.757) |
| Education, medium (d) |  |  |  | -2.133 | -2.218 | -2.059 |
|  |  |  |  | (1.966) | (2.066) | (2.084) |
| Education, long (d) |  |  |  | -4.386 | -4.653 | -4.571 |
|  |  |  |  | (2.564) | (2.711) | (2.730) |
| Owner (d) |  |  |  | 0.008 | 0.362 | 0.033 |
|  |  |  |  | (1.888) | (1.955) | (1.978) |
| Expected Constraints |  |  |  |  |  |  |
| $\Delta \mathrm{E}[$ credit possibility 2010] $<0,09$ (d) |  |  |  | 1.063 | 1.332 | 1.130 |
|  |  |  |  | (1.939) | (2.044) | (2.059) |
| $\Delta \mathrm{E}[$ credit possibility 2010$]>0,09(\mathrm{~d})$ |  |  |  | -0.326 | -0.735 | 0.332 |
|  |  |  |  | (2.350) | (2.457) | (2.508) |
| $\Delta \mathrm{E}[$ income 2010]>0, 09 (d) |  |  |  | -1.875 | -1.898 | 2.208 |
|  |  |  |  | (1.712) | (1.798) | (1.822) |
| $\Delta \mathrm{E}[$ income 2010] $<0,09$ (d) |  |  |  | 0.013 | -0.028 | -0.022 |
|  |  |  |  | (2.067) | (2.112) | (2.130) |
| Taxreform $\Rightarrow$ perm. income increase (d) |  |  |  | -0.925 | -0.966 | -0.470 |
|  |  |  |  | (1.428) | (1.490) | (1.505) |
| Taxreform $\Rightarrow$ perm. income decrease (d) |  |  |  | -4.133 | -4.163 | -3.903 |
|  |  |  |  | (2.202) | (2.224) | (2.237) |

$\begin{array}{lllllll}\mathrm{N} & 5037 & 5037 & 5037 & 5037 & 5037 & 5037\end{array}$
Note: The table shows the results from regressing the spending share of the SP payout on covariates. Columns 1 and 4 show OLS regression, columns 2 and 5 show tobit regressions and columns 3 and 6 show results from estimation of probit models. Marginal effects are reported for tobit and probit models. Estimates for the probit models are multiplied by 100 to make them comparable to the OLS and tobit estimates. A dummy variable is indicated by (d). Robust standard errors reported in parentheses. The spending share is obtained from survey questions. The marginal interest rate denotes the interest on marginal liquidity and is computed from register data on all loan and deposit accounts of the household obtained from the Danish Tax Agency. Liquid assets, debt service, income variables and all demographic controls are obtained from administrative registers at Statistics Denmark. Permanent income is calculated as the average of incomes over the period 1998-2008. Debt service denotes total interest payments on loans. Liquid assets include deposits, shares and bonds. Short, medium and long education correspond to vocational, college BA level, College Master and PhD level, respectively. Individuals not in these categories have high school or less education. Information about whether income has developed better/worse than expected and about expected constraints are obtained from survey.

## 5 Including Polynomials in the specification

The specification presented in Table 1 in the paper includes linear terms only. Figure 4 suggested that the propensity to spend could be nonlinearly related to the size of the SP-payout. Another concern might be that the realized marginal interest rate is in fact just picking up variations in income across the persons/households in our sample. To address these concerns we repeated the estimations including up to 4 th order polynomials in the size of the SP-payout, in all the income variables, and age. The results are presented in Table EA.5. Results are affected only marginally by including the polynomials.

Table EA.5: Spending share regressed on covariates (OLS)

|  | (1) | (2) |
| :---: | :---: | :---: |
| Liquidity |  |  |
| Marginal interest rate, 08 (pct.) | $\begin{gathered} 0.295 \\ (0.088) \end{gathered}$ | $\begin{gathered} 0.309 \\ (0.088) \end{gathered}$ |
| Liquid assets / disp income, 08 (pct.) | $\begin{aligned} & -0.031 \\ & (0.013) \end{aligned}$ | $\begin{gathered} -0.037 \\ (0.013) \end{gathered}$ |
| Debt service / disp income, 08 (pct.) | $\begin{gathered} 0.139 \\ (0.076) \\ \hline \end{gathered}$ | $\begin{gathered} 0.132 \\ (0.076) \\ \hline \end{gathered}$ |
| Size effect |  |  |
| SP payout / disp income, 08 (pct.) | $\begin{gathered} -0.012 \\ (0.003) \end{gathered}$ | $\begin{gathered} -0.043 \\ (0.025) \end{gathered}$ |
| (SP payout / disp income) ${ }^{2}$, 08 (pct.) |  | $\begin{gathered} 0.001 \\ (0.006) \end{gathered}$ |
| (SP payout / disp income) ${ }^{3}$, 08 (pct.) |  | $\begin{gathered} 0.000 \\ (0.001) \end{gathered}$ |
| (SP payout / disp income) ${ }^{4}$, 08 (pct.) |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |
| Income controls |  |  |
| Ln(income), register | $\begin{gathered} -0.031 \\ (0.020) \end{gathered}$ | $\begin{gathered} 0.030 \\ (0.335) \end{gathered}$ |
| $\operatorname{Ln}$ (income) ${ }^{2}$, register |  | $\begin{gathered} 0.035 \\ (0.073) \end{gathered}$ |
| $\operatorname{Ln}$ (income) ${ }^{3}$, register |  | $\begin{gathered} -0.006 \\ (0.006) \end{gathered}$ |
| Ln (income) ${ }^{4}$, register |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |
| Ln(permanent income) | $\begin{aligned} & -0.085 \\ & (0.025) \end{aligned}$ | $\begin{gathered} 37.412 \\ (29.868) \end{gathered}$ |
| $\operatorname{Ln}\left(\right.$ permanent income) ${ }^{2}$ |  | $\begin{aligned} & -4.571 \\ & (3.663) \end{aligned}$ |
| $\operatorname{Ln}\left(\right.$ permanent income) ${ }^{3}$ |  | $\begin{gathered} 0.247 \\ (0.199) \end{gathered}$ |
| $\operatorname{Ln}\left(\right.$ permanent income) ${ }^{4}$ |  | $\begin{aligned} & -0.005 \\ & (0.004) \end{aligned}$ |
| sd[ $\ln$ (income) $]$ | $\begin{gathered} 0.000 \\ (0.019) \end{gathered}$ | $\begin{gathered} -0.058 \\ (0.023) \end{gathered}$ |
| Income developed better, 09 | $\begin{gathered} 0.021 \\ (0.020) \end{gathered}$ | $\begin{aligned} & 0.0219 \\ & (0.020) \end{aligned}$ |
| Income developed worse, 09 | $\begin{aligned} & -0.005 \\ & (0.021) \end{aligned}$ | $\begin{gathered} -0.006 \\ (0.021) \end{gathered}$ |

(Cont.) Spending share regressed on covariates (OLS)

| Demographic controls (2) |  |  |
| :---: | :---: | :---: |
|  |  |  |
| Age | $\begin{aligned} & -0.002 \\ & (0.001) \end{aligned}$ | $\begin{gathered} -0.166 \\ (0.138) \end{gathered}$ |
| Age ${ }^{2}$ |  | $\begin{gathered} 0.006 \\ (0.005) \end{gathered}$ |
| Age ${ }^{3}$ |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |
| Age ${ }^{4}$ |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |
| Woman (d) | $\begin{gathered} 0.021 \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.027 \\ (0.014) \end{gathered}$ |
| Single (d) | $\begin{gathered} 0.007 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.009 \\ (0.017) \end{gathered}$ |
| Number of children | $\begin{gathered} 0.020 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.023 \\ (0.008) \end{gathered}$ |
| Education, short (d) | $\begin{aligned} & -0.005 \\ & (0.017) \end{aligned}$ | $\begin{gathered} 0.002 \\ (0.017) \end{gathered}$ |
| Education, medium (d) | $\begin{aligned} & -0.021 \\ & (0.020) \end{aligned}$ | $\begin{aligned} & -0.016 \\ & (0.020) \end{aligned}$ |
| Education, long (d) | $\begin{aligned} & -0.044 \\ & (0.026) \end{aligned}$ | $\begin{gathered} -0.043 \\ (0.026) \end{gathered}$ |
| Owner (d) | $\begin{gathered} 0.000 \\ (0.019) \\ \hline \end{gathered}$ | $\begin{array}{r} 0.004 \\ (0.019) \\ \hline \end{array}$ |
| Expected constraints |  |  |
| $\Delta \mathrm{E}[$ credit possibility 2010$]<0,09$ (d) | $\begin{gathered} 0.011 \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.019) \end{gathered}$ |
| $\Delta \mathrm{E}[$ credit possibility 2010] $>0,09$ (d) | $\begin{aligned} & -0.003 \\ & (0.024) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.023) \end{gathered}$ |
| $\Delta \mathrm{E}[$ income 2010] $>0,09$ (d) | $\begin{gathered} -0.019 \\ (0.017) \end{gathered}$ | $\begin{aligned} & -0.021 \\ & (0.017) \end{aligned}$ |
| $\Delta \mathrm{E}[$ income 2010] $<0,09$ (d) | $\begin{gathered} 0.000 \\ (0.021) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.021) \end{gathered}$ |
| Taxreform $\Rightarrow$ perm. income increase (d) | $\begin{aligned} & -0.009 \\ & (0.014) \end{aligned}$ | $\begin{gathered} -0.010 \\ (0.014) \end{gathered}$ |
| Taxreform $\Rightarrow$ perm. income decrease (d) | $\begin{aligned} & -0.041 \\ & (0.022) \\ & \hline \end{aligned}$ | $\begin{gathered} -0.038 \\ (0.022) \\ \hline \end{gathered}$ |
| Constant | $\begin{gathered} \hline 2.205 \\ (0.211) \\ \hline \end{gathered}$ | $\begin{array}{r} -111.531 \\ (91.238) \\ \hline \end{array}$ |
| Observations | 5,037 | 5,037 |
| R-squared | 0.0506 | 0.0576 |
| RMSE | 0.456 | 0.455 |

Note: The table shows the results from regressing the spending share of the SP payout on covariates. A dummy variable is indicated by (d). Robust standard errors reported in parentheses. The spending share is obtained from survey questions. The marginal interest rate denotes the interest on marginal liquidity and is computed from register data on all loan and deposit accounts of the household obtained from the Danish Tax Agency. Liquid assets, debt service, income variables and all demographic controls are obtained from administrative registers at Statistics Denmark. Permanent income is calculated as the average of incomes over the period 1998-2008. Debt service denotes total interest payments on loans. Liquid assets include deposits, shares and bonds. Short, medium and long education correspond to vocational training, college BA level, College Master and PhD level, respectively. Individuals not in these categories have high school or less education. Information about whether income has developed better/worse than expected and about expected constraints are obtained from survey questions.

## 6 Estimating by 2008 income quartile

In Table EA. 6 we present results where the core sample is split in to four groups according to the income quartiles in 2008 and the specification corresponding to column 5 in Table 1 is estimated separately for each of these four sub-groups. The estimated effect of the interest gradient is almost identical across the four subsamples confirming the observation that income is not a strong proxy for liquidity constraint tightness.

Table EA.6: Spending share in percent of SP payout regressed on covariates by 2008 income

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
| Liquidity |  |  |  |  |
| Marginal interest rate, 08 (pct.) | $\begin{gathered} 0.283 \\ (0.163) \end{gathered}$ | $\begin{gathered} 0.256 \\ (0.172) \end{gathered}$ | $\begin{gathered} 0.301 \\ (0.188) \end{gathered}$ | $\begin{gathered} 0.371 \\ (0.188) \end{gathered}$ |
| Liquid assets / disp. income, 08 (pct.) | $\begin{gathered} 0.005 \\ (0.023) \end{gathered}$ | $\begin{gathered} -0.036 \\ (0.029) \end{gathered}$ | $\begin{gathered} -0.075 \\ (0.029) \end{gathered}$ | $\begin{gathered} -0.031 \\ (0.027) \end{gathered}$ |
| Debt service / disp. income, 08 (pct.) | $\begin{gathered} 0.155 \\ (0.125) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.285^{*} \\ & (0.168) \\ & \hline \end{aligned}$ | $\begin{array}{r} -0.036 \\ (0.168) \\ \hline \end{array}$ | $\begin{gathered} 0.150 \\ (0.163) \\ \hline \end{gathered}$ |
| Size effect |  |  |  |  |
| SP payout / disp. income, 08 (pct.) | $\begin{gathered} -0.897 \\ (0.382) \\ \hline \end{gathered}$ | $\begin{gathered} -1.963 \\ (0.727) \\ \hline \end{gathered}$ | $\begin{gathered} -0.189 \\ (0.869) \\ \hline \end{gathered}$ | $\begin{gathered} -1.658 \\ (0.791) \\ \hline \end{gathered}$ |
| Income controls |  |  |  |  |
| Ln(income), register | $\begin{aligned} & -2.572 \\ & (2.412) \end{aligned}$ | $\begin{gathered} -9.601 \\ (17.023) \end{gathered}$ | $\begin{gathered} 8.327 \\ (20.226) \end{gathered}$ | $\begin{gathered} 6.020 \\ (8.194) \end{gathered}$ |
| Ln(permanent income) | $\begin{aligned} & -11.97 \\ & (4.129) \end{aligned}$ | $\begin{gathered} -9.801 \\ (8.078) \end{gathered}$ | $\begin{gathered} -14.869^{*} \\ (8.086) \end{gathered}$ | $\begin{gathered} -9.651 \\ (7.947) \end{gathered}$ |
| sd $[\ln ($ income $)]$ | $\begin{gathered} -2.489 \\ (2.525) \end{gathered}$ | $\begin{gathered} -3.806 \\ (4.986) \end{gathered}$ | $\begin{gathered} 1.170 \\ (6.344) \end{gathered}$ | $\begin{gathered} -2.809 \\ (7.684) \end{gathered}$ |
| Income developed better, 09 (d) | $\begin{aligned} & -3.871 \\ & (3.675) \end{aligned}$ | $\begin{gathered} 5.026 \\ (4.098) \end{gathered}$ | $\begin{gathered} 2.358 \\ (4.157) \end{gathered}$ | $\begin{gathered} 5.091 \\ (4.351) \end{gathered}$ |
| Income developed worse, 09 (d) | $\begin{gathered} -0.275 \\ (3.833) \\ \hline \end{gathered}$ | $\begin{gathered} 7.304^{*} \\ (4.293) \\ \hline \end{gathered}$ | $\begin{gathered} -5.054 \\ (4.444) \end{gathered}$ | $\begin{gathered} -4.175 \\ (4.369) \\ \hline \end{gathered}$ |
| Demographic controls |  |  |  |  |
| Age | $\begin{gathered} -0.299 \\ (0.135) \end{gathered}$ | $\begin{gathered} 0.049 \\ (0.176) \end{gathered}$ | $\begin{gathered} -0.273 \\ (0.194) \end{gathered}$ | $\begin{gathered} -0.148 \\ (0.204) \end{gathered}$ |
| Woman (d) | $\begin{gathered} -1.985 \\ (2.638) \end{gathered}$ | $\begin{gathered} 3.923 \\ (2.891) \end{gathered}$ | $\begin{gathered} 2.670 \\ (2.723) \end{gathered}$ | $\begin{gathered} 3.469 \\ (3.141) \end{gathered}$ |
| Single (d) | $\begin{gathered} 1.823 \\ (2.777) \end{gathered}$ | $\begin{gathered} 1.683 \\ (3.481) \end{gathered}$ | $\begin{aligned} & -3.503 \\ & (3.696) \end{aligned}$ | $\begin{gathered} 0.547 \\ (4.098) \end{gathered}$ |
| Number of children | $\begin{gathered} 2.141 \\ (1.285) \end{gathered}$ | $\begin{gathered} 1.981 \\ (1.352) \end{gathered}$ | $\begin{gathered} 2.153 \\ (1.434) \end{gathered}$ | $\begin{gathered} 1.309 \\ (1.400) \end{gathered}$ |
| Education, short (d) | $\begin{gathered} -0.406 \\ (2.743) \end{gathered}$ | $\begin{gathered} 4.555 \\ (3.333) \end{gathered}$ | $\begin{gathered} -0.574 \\ (3.625) \end{gathered}$ | $\begin{aligned} & -5.234 \\ & (4.338) \end{aligned}$ |
| Education, medium (d) | $\begin{gathered} -2.570 \\ (3.931) \end{gathered}$ | $\begin{gathered} -0.753 \\ (4.214) \end{gathered}$ | $\begin{gathered} 1.581 \\ (4.048) \end{gathered}$ | $\begin{aligned} & -6.499 \\ & (4.423) \end{aligned}$ |
| Education, long (d) | $\begin{aligned} & -0.847 \\ & (5.613) \end{aligned}$ | $\begin{gathered} -6.094 \\ (5.819) \end{gathered}$ | $\begin{gathered} -8.484 \\ (5.456) \end{gathered}$ | $\begin{aligned} & -5.067 \\ & (5.043) \end{aligned}$ |
| Home owner (d) | $\begin{gathered} -3.614 \\ (2.945) \\ \hline \end{gathered}$ | $\begin{gathered} -2.921 \\ (3.669) \\ \hline \end{gathered}$ | $\begin{gathered} 6.611 \\ (4.270) \\ \hline \end{gathered}$ | $\begin{gathered} 5.025 \\ (6.251) \\ \hline \end{gathered}$ |
| Expected constraints |  |  |  |  |
| $\Delta \mathrm{E}[$ credit possibility 2010$]<0,09$ (d) | $\begin{gathered} 1.828 \\ (3.595) \end{gathered}$ | $\begin{aligned} & -2.683 \\ & (3.801) \end{aligned}$ | $\begin{gathered} 0.824 \\ (4.107) \end{gathered}$ | $\begin{gathered} 3.030 \\ (4.075) \end{gathered}$ |
| $\Delta \mathrm{E}[$ credit possibility 2010$]>0,09$ (d) | $\begin{gathered} 1.265 \\ (4.023) \end{gathered}$ | $\begin{aligned} & -3.168 \\ & (5.029) \end{aligned}$ | $\begin{gathered} 1.895 \\ (4.847) \end{gathered}$ | $\begin{gathered} -0.890 \\ (5.137) \end{gathered}$ |
| $\Delta \mathrm{E}[$ income 2010$]>0,09(\mathrm{~d})$ | $\begin{aligned} & -4.495 \\ & (3.084) \end{aligned}$ | $\begin{aligned} & -1.289 \\ & (3.411) \end{aligned}$ | $\begin{aligned} & -1.087 \\ & (3.523) \end{aligned}$ | $\begin{gathered} -1.034 \\ (3.766) \end{gathered}$ |
| $\Delta \mathrm{E}[$ income 2010] $<0,09$ (d) | $\begin{gathered} -0.736 \\ (3.934) \end{gathered}$ | $\begin{gathered} -0.791 \\ (4.511) \end{gathered}$ | $\begin{gathered} 4.041 \\ (4.313) \end{gathered}$ | $\begin{aligned} & -1.865 \\ & (4.044) \end{aligned}$ |
| Taxreform $\Rightarrow$ perm. income increase (d) | $\begin{aligned} & -2.103 \\ & (2.747) \end{aligned}$ | $\begin{gathered} 1.631 \\ (2.886) \end{gathered}$ | $\begin{aligned} & -1.397 \\ & (2.858) \end{aligned}$ | $\begin{aligned} & -1.845 \\ & (3.003) \end{aligned}$ |
| Taxreform $\Rightarrow$ perm. income decrease (d) | $\begin{aligned} & -6.324 \\ & (4.311) \end{aligned}$ | $\begin{gathered} -1.570 \\ (4.250) \\ \hline \end{gathered}$ | $\begin{gathered} -1.357 \\ (4.568) \\ \hline \end{gathered}$ | $\begin{gathered} -7.035 \\ (4.755) \\ \hline \end{gathered}$ |
| Constant | $\begin{array}{r} 265.999 \\ (42.472) \\ \hline \end{array}$ | $\begin{gathered} 308.112 \\ (204.013) \\ \hline \end{gathered}$ | $\begin{gathered} 151.080 \\ (243.278) \\ \hline \end{gathered}$ | $\begin{aligned} & 114.855 \\ & (59.859) \\ & \hline \end{aligned}$ |
| Observations | 1,260 | 1,259 | 1,259 | 1,259 |
| R-squared | 0.080 | 0.045 | 0.052 | 0.037 |
| RMSE | 42.77 | 45.58 | 46.18 | 47.88 |

Note: The table shows the results from regressing the spending share of the SP payout on covariates. A dummy variable is indicated by (d). Robust standard errors reported in parentheses. The spending share is obtained from survey questions. The marginal interest rate denotes the interest on marginal liquidity and is computed from register data on all loan and deposit accounts of the household obtained from the Danish Tax Agency. Liquid assets, debt service, income variables and all demographic controls are obtained from administrative registers at Statistics Denmark. Permanent income is calculated as the average of incomes over the period 1998-2008. Debt service denotes total interest payments on loans. Liquid assets include deposits, shares and bonds. Short, medium and long education correspond to vocational training, college BA level, College Master and PhD level, respectively. Individuals not in these categories have high school or less education. Information about whether income has developed better/worse than expected and about expected constraints are obtained from survey questions.

## 7 Re-estimating on extended sample

In the main analysis presented in the paper, we have included only observations who in the interview indicated that they took out the SP-balance. 215 individuals completed the interview, but indicated that they did not take out the SP-payout. We have estimated the same specification as in Table 1 in the paper, but now including the additional respondents in the analysis and coding their spending propensity to be zero. The results are reported in Table EA.7, and they are practically identical to the estimates presented in Table 1 in the paper.

Table EA.7: Spending share in percent of SP payout regressed on covariates by 2008 income

|  | (1) | (2) | (3) | (4) | (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Liquidity |  |  |  |  |  |
| Marginal interest rate, 08 (pct.) | $\begin{gathered} 0.574 \\ (0.081) \end{gathered}$ | $\begin{gathered} 0.36 \\ (0.087) \end{gathered}$ | $\begin{gathered} 0.319 \\ (0.087) \end{gathered}$ | $\begin{gathered} 0.314 \\ (0.089) \end{gathered}$ | $\begin{gathered} 0.314 \\ (0.089) \end{gathered}$ |
| Liquid assets /disp income, 08 (pct.) |  | -0.064 | -0.053 | -0.041 | -0.042 |
|  |  | (0.012) | (0.013) | (0.013) | (0.013) |
| Debt service / disp income, 08 (pct.) |  | 0.177 | 0.248 | 0.165 | 0.169 |
|  |  | (0.065) | (0.066) | (0.075) | (0.076) |
| Size effect |  |  |  |  |  |
| SP payout / disp income, 08 (pct.) |  |  | -1.022 | -0.828 | -0.822 |
|  |  |  | (0.275) | (0.279) | (0.280) |
| Income controls |  |  |  |  |  |
| Ln (income), register |  |  | -2.904 | -3.581 | -3.51 |
|  |  |  | (1.833) | (1.868) | (1.872) |
| $\operatorname{Ln}$ (permanent income) |  |  | -8.284 | -5.24 | -5.423 |
|  |  |  | (2.235) | (2.484) | (2.490) |
| $s \mathrm{sd}[\ln$ (income) $]$ |  |  | -4.879 | -4.684 | -4.678 |
|  |  |  | (1.828) | (1.962) | (1.962) |
| Income developed better, 09 |  |  | 1.620 | 0.981 | 1.681 |
|  |  |  | (1.995) | (1.991) | (2.049) |
| Income developed worse, 09 |  |  | -0.646 | -0.535 | -0.398 |
|  |  |  | (1.980) | (1.994) | (2.090) |
| Demographic controls |  |  |  |  |  |
| Age |  |  |  | -0.223 | -0.209 |
|  |  |  |  | (0.081) | (0.084) |
| Woman (d) |  |  |  | 4.183 | 4.18 |
|  |  |  |  | (1.386) | (1.388) |
| Single (d) |  |  |  | -1.030 | -1.074 |
|  |  |  |  | (1.705) | (1.706) |
| Number of children |  |  |  | 1.853 | 1.804 |
|  |  |  |  | (0.679) | (0.680) |
| Education, short (d) |  |  |  | -0.436 | -0.388 |
|  |  |  |  | (1.668) | (1.668) |
| Education, medium (d) |  |  |  | -1.538 | -1.526 |
|  |  |  |  | (1.972) | (1.972) |
| Education, long (d) |  |  |  | -3.066 | -3.184 |
|  |  |  |  | (2.557) | (2.563) |
| Owner (d) |  |  |  | 1.223 | 1.087 |
|  |  |  |  | (1.891) | (1.895) |
| Expected constraints |  |  |  |  |  |
| $\Delta \mathrm{E}[$ credit possibility 2010$]<0,09$ (d) |  |  |  |  | $0.714$ |
|  |  |  |  |  | $(1.950)$ |
| $\Delta \mathrm{E}[$ credit possibility 2010$]>0,09$ (d) |  |  |  |  | -0.649 |
|  |  |  |  |  | (2.371) |
| $\Delta \mathrm{E}[$ income 2010] $>0,09$ (d) |  |  |  |  | -2.205 |
|  |  |  |  |  | (1.720) |
| $\Delta \mathrm{E}[$ income 2010] $<0,09$ (d) |  |  |  |  | -0.188 |
|  |  |  |  |  | (2.070) |
| Taxreform $\Rightarrow$ perm. income increase (d) |  |  |  |  | -0.013 |
|  |  |  |  |  | (1.437) |
| Taxreform $\Rightarrow$ perm. income decrease (d) |  |  |  |  | -3.185 |
|  |  |  |  |  | (2.180) |
| Constant | 56.646 | 59.456 | 205.948 | 182.303 | 183.853 |
|  | (1.063) | (1.462) | (18.734) | (21.280) | (21.316) |
| Observations | 5,252 | 5,252 | 5,252 | 5,252 | 5,252 |
| R-squared | 0.009 | 0.017 | 0.032 | 0.038 | 0.039 |
| RMSE | 47.28 | 47.11 | 46.77 | 46.65 | 46.66 |

Note: This table includes respondents who answered that they did not take out the SP balance. These are coded as not spending the SP balance.
Otherwise the notes from Table 1 apply to this table.

## 8 Survey instruments

The analysis in the paper is based on a survey where we ask people about a range of things in relation to the SP-payout. Below we list all the survey instruments that we have made use of.

- On March 1st last year, it was decided that the SP-savings (special pension) should be released in relation to the tax reform agreement. Thereby, people with SP-savings could withdraw these funds in the period from June 1st to December 31st, 2009. Have you used the opportunity to withdraw your SP-savings? 1) Yes 2) No
- How much money did you approximately have on your SP-account (before taxes) when you got the opportunity to withdraw these? 1) Amount (DKK) 2) Don't know (do not read aloud)
- Did you know about the opportunity to withdraw the SP-savings? 1) Yes 2) No
- How much money was approximately paid out from your SP-account after taxes? 1) Amount (DKK) 2) Don't know
- The sum of money that you have at your disposal is the sum of money that you have available for spending, saving, and reducing your debt. The SP payout increased the amount that you have at your disposal in 2009. Considering this increase, how did you allocate it: 1) to increase spending (for example on food, traveling, clothes, televisions, cars, home appliances, computers, restaurants, maintaining the house, or other types of spending); 2) to increase your free savings (i.e. putting money in the bank, buying shares, bonds, or other securities) 3) to reduce your debt; 4) to increase your pension savings
- Concerning the part of the increase [in the sum of money that you have at your disposal] that you allocated for spending, did you mainly spend it on: 1) Large items (for example televisions, cars, white goods, computers, maintaining/improving the house) or unusual items (for example travels, nice clothes, eating at restaurants) 2) Everyday spending (for example food) . 3) Do not know (do not read aloud)
- Did your total income in 2009 evolve differently from what you expected in the beginning of they year? 1) In a much more positive way than expected 2) In a more positive way than expected 3) As expected 4) In a more negative way than expected 5) In a much more negative way than expected 6) Don't know (do not read aloud)
- Have your expectations about your income in 2010 changed since the beginning of 2009? 1) Has changed in a very positive way 2) Has changed in a positive way 3) Unchanged 4) Has changed in a negative way 5) Has changed in a very negative way 6) Don't know (do not read aloud)
- Have your expectations about the possibility for borrowing money in 2010 changed since the the beginning of 2009? 1) I am much more optimistic about the possibility for borrowing money in 2010 2) I am more optimistic about the possibility for borrowing money in 2010 3) My expectations have not changed 4) I am more pessimistic about the possibility for borrowing money in 2010 5) I am much more pessimistic about the possibility for borrowing money in 2010
- Thinking about the consequences of the tax reform for your own financial situation over the next ten years, how do you expect your financial situation to be, compared to 2009? 1) Much better 2) Better 3) Unchanged 4) Worse 5) Much worse 6) Don't know (do not read aloud)

