Additional robustness exercises show that the model can fit the liquid wealth distribution for alternative interest rates of 0.5 percent and 1.5 percent per quarter. In both cases, the estimation exactly matches the median liquid wealth to permanent income ratios for each education group listed in Panel B of Table **??**.

A Results in a model without the splurge

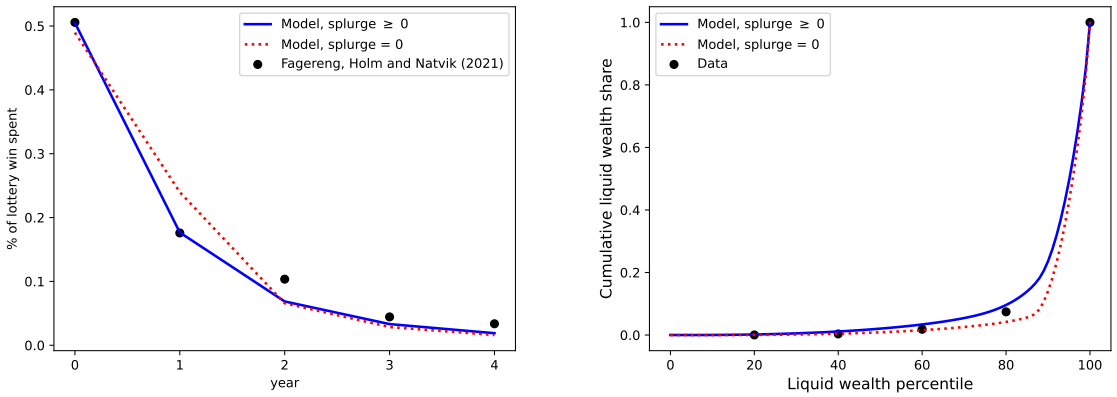
A.1 Introduction

In this appendix, we consider the implications for our results of removing splurge consumption from the model. First, we discuss that model's ability to match the empirical targets that we used to estimate the splurge in section **??** of the paper. Second, we repeat the estimation of discount factor distributions in the US model in section **??**, and discuss the implications for both targeted and untargeted moments. Finally, we use the reestimated model to asses the relevance of the splurge for the effectiveness of the three policies.

A.2 Matching the iMPCs without the splurge

For the purpose of evaluating the results in the model without the splurge we do not require the reestimation of our Norwegian model, as the purpose of the latter is the estimation of the splurge. Nevertheless, we test how well the model can match the dynamics of spending after a temporary income shock as reported by Fagereng, Holm, and Natvik (2021) when the splurge is zero. Figure **??** illustrates the fit without the splurge and compares it to our baseline estimation.

Figure 1 Model performance with and without splurge factor



(a) Spending dynamics comparison

(b) Wealth distribution comparison

Note: This figure compares model performance with and without the splurge factor (Appendix **??**). Subfigure (a) shows the fit to dynamic consumption response from Fagereng, Holm, and Natvik (2021); the model without splurge achieves high initial MPC through wider discount factor distribution ($\beta = 0.921, \nabla = 0.116$) versus the baseline model ($\beta = 0.968, \nabla = 0.0578$). However, it exhibits higher spending propensity in year 2 due to faster spending by borrowing-constrained agents. Subfigure (b) shows the liquid wealth distribution fit; the no-splurge model generates more unequal wealth distribution relative to baseline and empirical data from the 2004 SCF. While both models perform reasonably well, the splurge factor provides superior empirical fit.

While the splurge helps in matching the empirical evidence on the iMPC, the model without the splurge also performs relatively well. This is because the model without the splurge is able to generate a high initial marginal propensity to consume through a wider distribution of discount factors ($\beta = 0.921$ and $\nabla = 0.116$) relative to the model with a splurge ($\beta = 0.968$ and $\nabla = 0.0578$). This ensures that sufficiently many agents are at the borrowing constraint and thus sensitive to transitory income shocks.[1]

However, the model is not quite able to match the difference in spending between the initial year of the lottery win and the year after. The model without the splurge exhibits a higher spending propensity in the year after the shock occurs as borrowing-constrained agents spend the additional income quicker. The model without the splurge also provides a worse fit of the distribution of liquid wealth. Relative to the baseline model, and to the data, the model without a splurge generates a more unequal wealth distribution.

The reason for these two effects, becomes apparent when considering the cross-sectional implications of the models with and without the splurge across different wealth quartiles. While the model with the splurge can account for the empirically-observed initial MPCs among the wealthiest, the model without the splurge exhibits much lower MPCs among that group, see Table **??**. The wealthiest group will thus be very patient and have low MPCs, which can explain why the wealth distribution becomes more unequal and doesn't quite fit the targeted distribution in the data in the version of the model without the splurge.

Overall, the model fit with the data deteriorates roughly by a factor of two measured by the Euclidean norm of the targeting error.[2]

A.3 Estimating discount factor distributions without the splurge

Figure **??** shows that the model without splurge consumption can also match the wealth distributions in the three education groups very well. We therefore turn to the implications of this version of the model for the untargeted moments discussed in section **??**.

[1]The model without the splurge implies there is a group of highly impatient households who have discount rates close to 0.8. While this is possible, such a discount rate implies these households care very little about their consumption even just a few years in the future.

[2]Specifically, the Euclidean norm of the targeting error increases from 0.04 to 0.08 for the time-profile of the marginal propensity to consume when the splurge is removed, from 0.16 to 0.29 for the marginal propensity to consume across wealth quartiles and from 0.027 to 0.032 for the Lorentz curve.

Table 1 Model fit comparison: MPCs across wealth quartiles w. and w/o. splurge

	MPC					
	1st WQ	2nd WQ	3rd WQ	4th WQ	Agg	K/Y
Splurge ≥ 0	0.27	0.49	0.60	0.66	0.50	6.59
Splurge $= 0$	0.13	0.52	0.62	0.68	0.49	6.58
Data	0.39	0.39	0.55	0.66	0.51	6.60

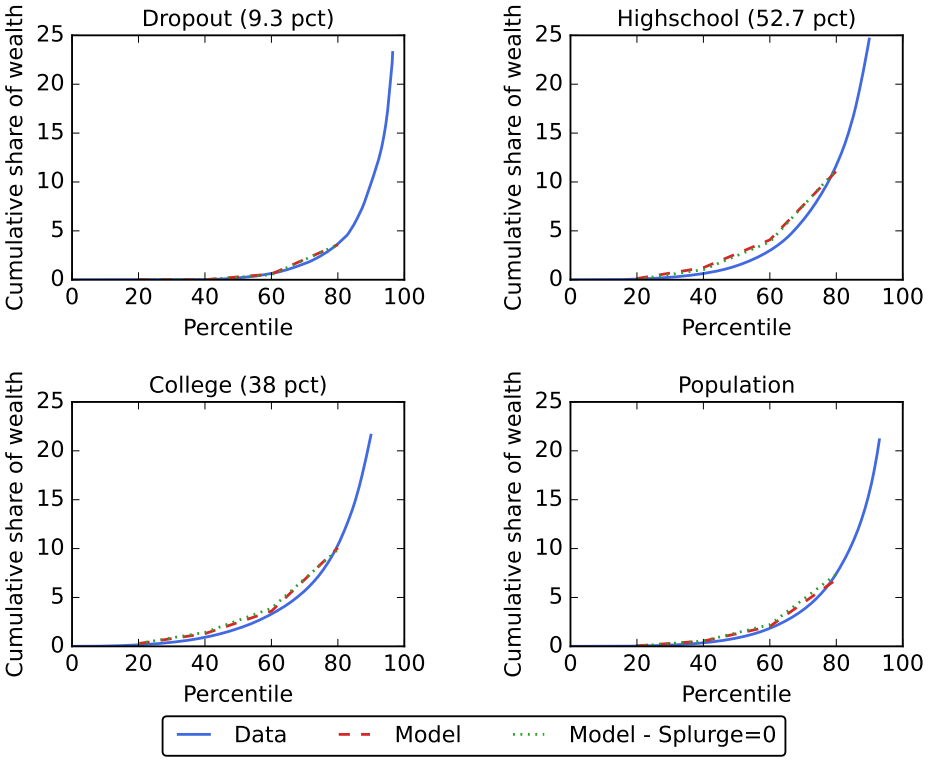
Note: Marginal propensities to consume by wealth quartile (WQ), aggregate MPC, and capital-to-income ratio. The model without the splurge is able to match the aggregate MPC reasonably well (0.49 vs 0.51 in data), but does so by missing the MPCs in the different wealth quartiles quite badly, especially the richest quartile (**0.13** vs **0.39** in data). This contradicts robust literature findings that even wealthy households with ample liquidity exhibit high MPCs (Crawley and Kuchler (2023); Graham and McDowall (2024)) and related literature discussed in the main text, demonstrating that the splurge parameter is necessary for matching empirical consumption dynamics, though it (perhaps surprisingly) does not much affect policy rankings.

The main difference between the models with and without splurge consumption is that without splurge consumption the MPCs drop for each education group and wealth quartile. The difference is largest for the College group and for the highest wealth quartile (obviously with substantial overlap between these two groups). This is shown in the two panels in Table **??**. The rest of the table shows that the distribution of wealth is not substantially different in the model estimated without splurge consumption.

Finally, we again consider the implications of our model for the dynamics of spending over time and for the dynamics of spending for households that remain unemployed long enough for unemployment benefits to expire. Figure **??** repeats Figure **??** in the paper with results from the model without splurge consumption added. The implication is that the model without a splurge leads to a slightly too low MPC in the year of a lottery win and a slightly higher MPC in the year after.

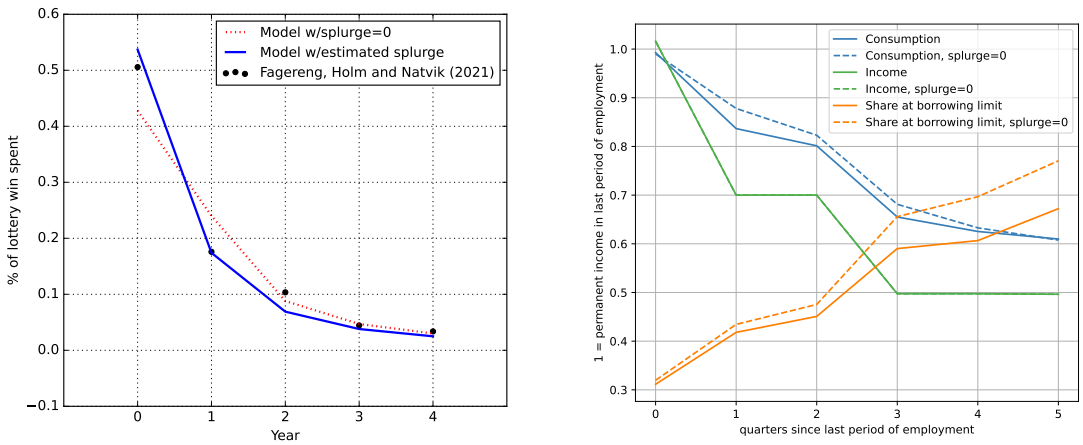
The drop in spending when unemployment benefits expire is virtually the same in the model without splurge consumption (17 percent versus 18 percent in the baseline). While the consumption dynamics across the models with and without a splurge are fairly similar, the underlying drivers of the consumption drop upon expiry of unemployment benefits are different. In the model with the splurge, the drop in income translates directly into lower consumption via the splurge itself. In the model without the splurge it is the sharp rise in agents hitting the borrowing constraint which accounts for the consumption drop after UI benefits expire. This is shown in the solid and dashed red lines in Figure **??**, and is due to the wider distribution of discount factors that is needed to match the wealth distributions in the model without the splurge. This leads to a greater number of agents being close the borrowing constraint.

Figure 2 Wealth distribution comparison without splurge factor



Note: This figure shows liquid wealth distributions in the model without splurge factor (Appendix **??**). The no-splurge model requires wider discount factor distributions to achieve similar empirical fit, resulting in more unequal wealth distribution compared to the baseline model and 2004 SCF data. The model generates higher inequality particularly for the College group and highest wealth quartile, as shown in Table **??**. While performance remains reasonable, this validates the empirical advantage of including the splurge factor for matching both spending dynamics and wealth distribution simultaneously.

Figure 3 Validation moments in models with and without splurge



(a) Dynamic spending comparison

(b) UI benefit expiry dynamics

Table 2 Model fit with respect to non-targeted moments

Panel A: Non-targeted moments by education group

	Dropout	Highschool	College	Population
Percent of liquid wealth (data)	0.8	17.9	81.2	100
Percent of liquid wealth (model, baseline)	1.2	16.8	82.0	100
Percent of liquid wealth (model, Splurge=0)	1.6	18.7	79.7	100
Avg. lottery-win-year MPC (model, incl. splurge)	0.78	0.61	0.38	0.54
Avg. lottery-win-year MPC (model, splurge=0)	0.70	0.53	0.23	0.43

Panel B: Non-targeted moments by wealth quartile

	WQ 4	WQ 3	WQ 2	WQ 1
Percent of liquid wealth (data)	0.14	1.60	8.51	89.76
Percent of liquid wealth (model, baseline)	0.12	0.98	3.85	95.06
Percent of liquid wealth (model, Splurge=0)	0.10	1.07	4.24	94.60
Avg. lottery-win-year MPC (model, incl. splurge)	0.74	0.61	0.48	0.32
Avg. lottery-win-year MPC (model, splurge=0)	0.69	0.53	0.36	0.14

Note: Panel (A) shows percent of liquid wealth held by each education group in the 2004 SCF and in the model. It also shows the average MPCs after a lottery win for each education group. The MPCs are calculated for each individual for the year of a lottery win, taking into account that the win takes place in a random quarter of the year that differs across individuals. The MPCs are averaged across individuals within each education group. Panel (B) shows the same numbers for the population sorted into different quartiles of the liquid wealth distribution.

Note: This figure validates both model variants against empirical evidence (Appendix **??**). Subfigure (a) compares dynamic consumption response to Fagereng, Holm, and Natvik (2021) estimates; the no-splurge model shows slightly low MPC in year 1 and high MPC in year 2 due to faster spending by borrowing-constrained agents from the wider discount factor distribution. Subfigure (b) shows UI benefit expiry dynamics compared to Ganong and Noel (2019); both models predict similar consumption drops (17% vs. 18%) when benefits expire, but through different mechanisms: direct splurge effects vs. increased borrowing constraints. Red lines show income dynamics, demonstrating model consistency across specifications.

A.4 Multipliers in the absence of the splurge

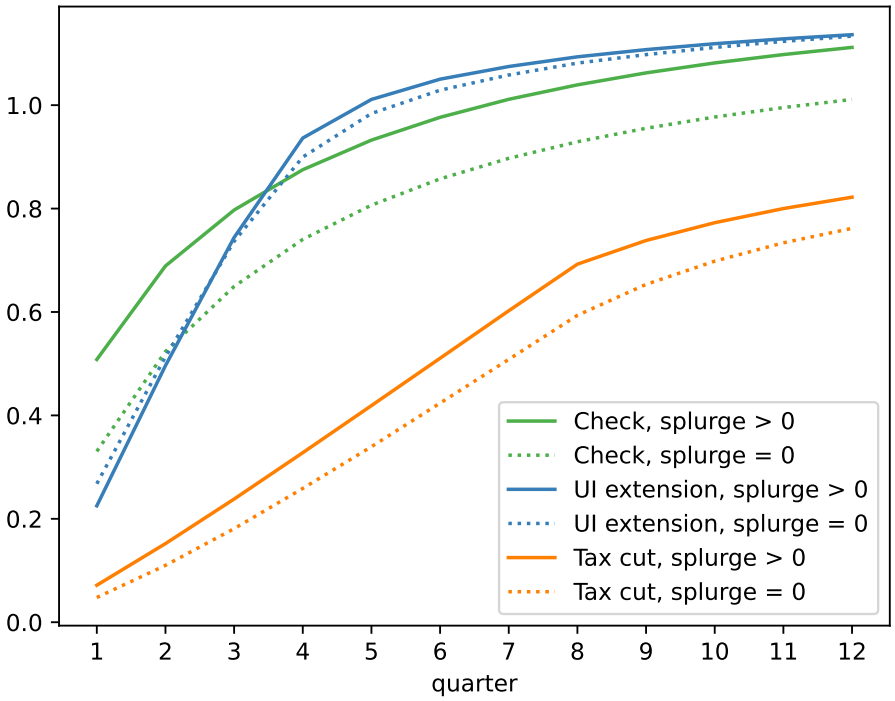
In this section we simulate the three fiscal policies from the main text in the estimated model without the splurge. The shape of the impulse response functions only marginally change relative to the model with the splurge. Hence, we focus on the quantitative changes as summarized by the cumulative multipliers in Figure **??**. The figure shows

the multipliers when AD effects are switched on for the model with and without the splurge. Table **??** shows the 10y-horizon multiplier across the two models.

The absence of the splurge entails a calibration with a lower average MPC in the population. Hence, the check and tax cut exhibit lower multipliers when there is no splurge. For the UI extension we observe the opposite pattern, as the multiplier is larger in the model without the splurge. This due to the consumption dynamics around the expiry of UI benefits described in the previous section. In the model without the splurge more agents hit the borrowing constraint upon the expiry of benefits. Providing those agents with an extension of UI benefits thus turns out to be slightly more powerful.

The policy ranking in terms of the multiplier shifts slighlty. In the model with the splurge, the check policy delivers multiplier effects much more rapidly than the UI extension. In the model without splurge consumption, the UI extension appears superior to the check, both at shorter and longer horizons. Both models agree on the tax cut being the least effective policy.

Figure 4 Multiplier comparison: with vs. without splurge factor



Note: This figure compares cumulative multipliers for all three policies in models with and without the splurge factor (Appendix **??**). Both model specifications show similar policy rankings: UI extensions remain most effective, followed by stimulus checks, with payroll tax cuts least effective. The splurge factor enhances multipliers by improving the model's ability to match empirical spending patterns, but does not fundamentally alter policy effectiveness rankings. This robustness validates the main paper's conclusions across alternative model specifications.

Table 3 Policy multipliers w. and w/o. splurge: recession implementation

	Stimulus check	UI extension	Tax cut
10y-horizon Multiplier (no AD effect)	0.870 (0.879)	0.910 (0.906)	0.839 (0.847)
10y-horizon Multiplier (AD effect)	1.143 (1.234)	1.221 (1.211)	0.947 (0.978)

Note: Values outside brackets show multipliers in the model without the splurge, while those inside brackets are the corresponding multipliers with the splurge. Policies are implemented during a recession with or without aggregate demand (AD) effects active. Despite substantial MPC differences across model variants (see Table **??**), multiplier shifts are only minor, though the lower average MPCs reduce effectiveness of check and tax cut policies relative to UI extension.

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