Readme: Reproducing results in "The Transmission of Monetary Policy under the Microscope"

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Data access

This project relies on several types of sources. First, we use publicly available aggregate data. The data and sources for this data are listed in the file 'Macro Data.xlsx' and 'Exchange Rate.xlsx' in the folder \Data\Macro Data\. Second, we use publicly available information from Norges Bank on their forecasts and interest rate decisions. These data sets are located in the folder \Data\MP Decisions\ and \Data\Forecasts\. Third, we use forecast data from Consensus Economics that can be obtained from **https://www.consensuseconomics.com/**. Fourth, we use microdata drawn from Norwegian administrative registries maintained by Statistics Norway. Statistics Norway provides micro data for research projects, either by granting access after application and approvals to anonymized data, or as part of a Norwegian research project. For details see the article "Data for research – step by step": **https://www.ssb.no/en/omssb/tjenester-og-verktoy/data-til-forskning**. Inquiries about access to data from Statistics Norway should be addressed to **mikrodata@ssb.no**. In previous cover letters we requested an exemption from the requirement of providing the data set(s) used in our work as they are confidential and we are not legally allowed to share them.

Program files

The folder REPLICATION_PACKAGE.zip contains Stata .do-files to reproduce our empirical results and Matlab-files to produce figures. Below, each file is described in the order in which they should be run. All tables are produced in .xlsx format and all figures are stored in .eps format. Data sets are described the section Data sources. Versions used: Stata 16.1 MP, Matlab R2019b, Microsoft Office 2016.

The stata files utilize the following non-standard ado-files:
- putexcel: https://www.stata.com/manuals13/pputexcel.pdf
- xtscc: https://ideas.repec.org/c/boc/bocode/s456787.html
- egenmore: https://ideas.repec.org/c/boc/bocode/s386401.html

Stata files

All stata do-files are found in the folder /Stata/. Below is a short description of each file:

vPUB_prep_data.do   This file creates variables and selects estimation sample.

vPUB_main.do   This is the main file for estimation. It runs all the main regressions in the paper and produces excel files with output.

vPUB_micro_*.do   These files run specific regressions. *all* means whole sample regressions (figure 7); *groups* means within group regressions (figure 8, 9, 11-17); *direct_indirect* means the direct indirect regressions for section 5; *rta* means relative to average; *rti* means relative to income; *bal* means balanced sample; *nostocks* means sample with no stockholders; *cons_inc_diff* is the regression for the right-side figure in figure 8.

vPUB_lottery.do   This file estimates the MPC regression for figure 10. It is based on the sample selection in Fagereng, Holm, and Natvik (2021).

Matlab files for figures

All Matlab files used to produce figures are found in the folder /Matlab/. Below is a short description of each file.

runall.m   This file runs all figure codes.

Fig_macro_IRFs.m   This file constructs the monetary policy shocks series and figures 1-3, A2-A4, A7-A11, and B1.

Fig_micro_macro_IRFs.m   This file produces figure 7.

Fig_micro_IRFs.m   This file produces figures 8-9, and 11-17.

Fig_direct_indirect_IRFs.m   This file produces figures 18 and 19.

Fig_MPC_by_liquid.m   This file produces figure 10.

Data sources for Norwegian administrative registries

The variables used in the empirical analysis are specified in Tables 2, with reference to their corresponding data source. The table below provides references to the data sources.

Table 1: DATA SETS

Data	Short name
1) Income and wealth tax registers	Increg
Description: https://www.ssb.no/en/omssb/tjenester-og-verktoy/data-til-forskning/inntekt	
and https://www.skatteetaten.no/en/person/taxes/tax-return/find-item/	
2) The population event data base FD Trygd	FD-trygd
Description: https://www.ssb.no/en/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/fd-trygd	
3) Aksjonærregisterert	Aksje
Description: https://www.ssb.no/data-til-forskning/utlan-av-data-til-forskere/variabellister/aksjonaerregisteret	

Note: This table presents the main data sources used in the empirical analysis. The variables are described in more detail in Tables 2 and 3.

Table 2: DATA SET AND VARIABLES

Variable	Description	Source
lnr	Personal identifier	All data sets
hhid	Identifiying married couple or cohabiting couple with common children	FD-trygd
partner_lnr, mlnr, flnr	lnr of partner in hhid, mother lnr, father lnr	FD-trygd
marital status	Marital status at end of year	FD-trygd
year	Year	All data sets
b_year	Birth year	FD-Trygd
age	Age	FD-Trygd
cpi	CPI-index, Statistics Norway: https://www.ssb.no/en/kpi	Statistics Norway
deposits	Bank deposits in Norwegian banks	Increg
mfund	Capital assets in stock funds	Increg
debt	Total debt, including student debt	Increg
bonds	Bonds and money market funds	Increg
stocks	Value of stocks at Oslo Stock Exchange	Increg
liquid	Liquid assets = deposits + bonds + mfund + stocks	Increg
net_interest_exposure	Net interest exposure = deposits - debt	Increg
housing_wealth	Housing wealth, as described in Fagereng, Holm and Torstensen (2020)	FHT
grunnbelop	Basic amount of the Norwegian social security scheme, approx USD 1,200 in 2011, NAV: https://www.nav.no/no/nav-og-samfunn/kontakt-nav/utbetalinger/grunnbelopet-i-folketrygden	NAV

Table 3: DATA SET AND VARIABLES

Variable	Description	Source
earned_income	Earned income = salary + business income	Increg
salary	Salary income	Increg
bus_inc	Business income	Increg
transfers	Transfers	Increg
taxes	Taxes	Increg
lottery	Lottery prizes	Increg
inheritance	Gifts and inheritance received	Increg
cap_inc	Net capital income	Increg
cap_inc_interest	Interest income	Increg
cap_inc_dividend	Dividends	Increg
cap_exp_interest	Interest expenses	Increg
net_income	earned_income + transfers + cap_inc + lottery + inheritance - taxes	Increg
net_wealth	Net wealth: Financial assets + housing net of debt	Increg and FHT (2020)
uncapgains_stocks	Imputed capital gains in stocks	Aksje (as in FHMN(2019))
uncapgains_mfund	Imputed capital gains in stocks	Aksje (as in FHMN(2019))
uncapgains_housing	Imputed capital gains in stocks	FHT (2020)
uncapgains	Total imputed capital gains	Increg, FHT(2020), Aksje
net_saving	Net saving utilizing stock holder registry since 2004, computed as change in net wealth minus capital gains	Aksje (as in FHMN(2019))
cons_excl_housing	Consumption = net_inc - net_saving	Increg
cons_incl_housing	Consumption including housing service flows = net_inc + imputed housing serivce flow - net_saving	Increg
noise, noise_hhid	Uniform random variable to select x% of sample to temporarily ease server usage	All data sets