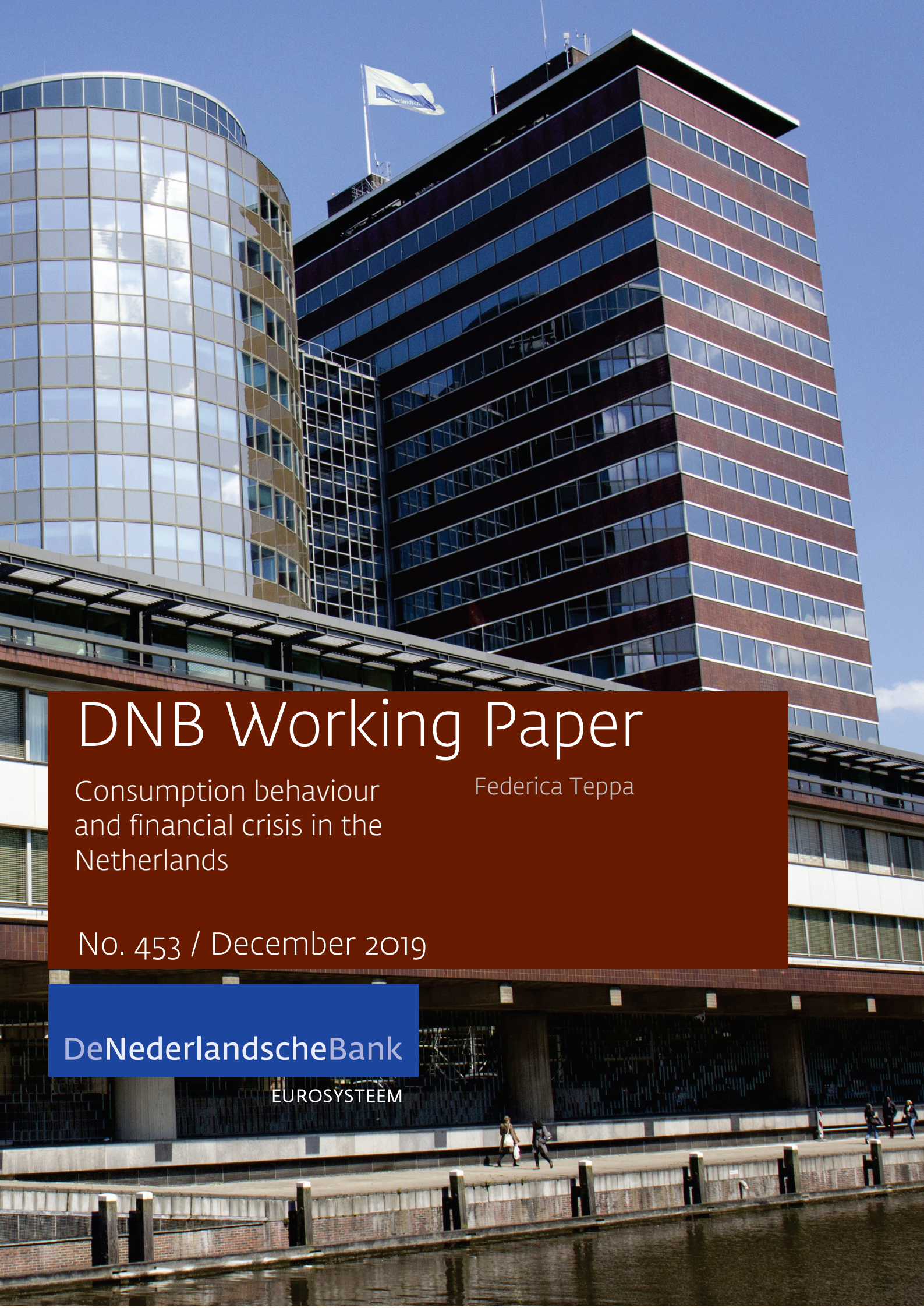

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Consumption behaviour and financial crisis in the Netherlands

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* Views expressed are those of the author and do not necessarily reflect official positions of De Nederlandsche Bank.

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Consumption behaviour and financial crisis in the Netherlands [*]

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Abstract

The focus of this paper in on the effect that changes in income and financial assets have on household consumption in the Netherlands over the period 2009-2012. The empirical evidence is based on the LISS panel, a longitudinal survey representative of the Dutch-speaking population conducted and administrated by CentERdata at Tilburg University. We find a point estimate of the marginal propensity to consume (MPC) of 0.21 out of household income, that is in line with the international microeconomic evidence. We also find that less fragile households display a double MPC out of income than those more fragile (0.44 vs 0.21, respectively). The point estimate of the MPC out of total financial assets equals 0.04. We also find support of the fact that the MPC out of wealth is smaller for richer households.

Keywords: Marginal propensities to consume, consumption behavior, survey data.
JEL classification: E21, D12, D91.

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1 Introduction

Households' final consumption expenditure (also known as private consumption), defined as the market value of all goods and services, including durable products and excluding purchases of dwellings, is often considered a good measure for individual living standards.

Figure 1 (top panel) shows that household private consumption represents more than half of GDP in most European countries, and in the United States and the United Kingdom as well, since the mid Sixties (see also Muellbauer and Lattimore, 1994). Although the level of consumption displays some degree of heterogeneity across countries, overall a rather stable component of GDP can be observed over the years.[1] As a result private consumption has found comparatively little academic and policy attention.

However, since the onset of the recent financial crisis consumption has dropped markedly in many countries. Figure 1 (bottom panel) shows the development of per capita annual changes in private consumption for the same set of countries. Hurd and Rowhedder (2010) report that almost 30 percent of households aged 50 or older in the US reduced their spending between 2007 and 2009, with an average decline of 8 percentage points. In addition, according to Petev, Pistaferri and Saporta (2011) the fall in consumption in the same years was greater in magnitude at the top bottom of the wealth distribution than at the bottom of the distribution. Overall, since the wake of the Great Recession household consumption has experienced a renewed interest among academic researchers and policy makers.

The possible determinants of the aggregate consumption function have been analyzed extensively in the economic literature. Different consumption theories exist, but it is hard to find a single theory of consumption that can possibly explain consumption behavior in all economies. Prior to Keynes (1936), consumption had been viewed as a passive residual, namely the amount of income remaining after saving. The Keynesian consumption function is based on the *"fundamental psychological law ... is that men are disposed, as a rule and on the average, to increase their consump-*

[1] The Netherlands is characterized by a lower level of private consumption if compared to other economies mainly due to the different role of health-related spending. As of January 2006 the Dutch health insurance system substantially changed, and some statistics in terms of income, prices, consumption and the National Accounts were affected by this reform. In particular, the new basic insurance (that includes the previously privately insured expenditure on medical care) has become mandatory, and consequently this component is no longer considered as household consumption, but as government spending. Only the supplementary health care insurance that is not included in the basic package is defined as household consumption. The introduction of the new health care system is therefore responsible for the drop in household consumption observed in the Netherlands in 2006.

tion as their income increases, but not by as much as the increase in their income" (Keynes, 1936). According to this static relationship households increase their utility by consuming more as their income increases. The Keynesian consumption function, estimated on time series national account data, explains a large fraction of the variance of consumption. On macro data, however, the marginal propensity to consume is lower in the short run than in the long run (Kuznets paradox). On micro data, saving rates change systematically with income (Friedman, 1957)[2], and with changes in income (Katona, 1949)[3]. Modigliani and Brumberg (1954) and Friedman (1957) developed models of intertemporal allocation of consumption that could explain these stylized facts. In both models, consumption is a function of available resources over a long time horizon (life-cycle wealth or permanent income). According to the Life Cycle-Permanent Income model consumers have concave utility functions and therefore prefer smooth paths of consumption (over time and across states of the world) over variable ones. Only unanticipated changes in income that are perceived as permanent induce substantive changes in consumption. Expected and temporary changes to income should not induce a strong change in consumption. The explanation of the stylized facts above boils down to the observation that a large fraction of the changes in income considered are temporary.

This paper focuses on the effect that changes in income and financial assets have on household consumption in the Netherlands over the period 2009-2012 for about 4,600 households. The literature distinguishes two main approaches to the analysis of the annual marginal propensity to consume (henceforth, "MPC") out of income and wealth. On the one hand, theoretical macroeconomic studies such as Zeldes (1989) have studied life cycle models in which agents face permanent and transitory shocks. The complexity of these models has probably restricted their applicability in a dynamic general equilibrium context like that of Krusell and Smith (1998), which would answer questions like how the MPC changes over the business cycle. On the other hand, microeconomic studies have provided empirical estimates for MPCs by using household-level datasets for different countries, based on alternative measures of consumption. Poterba (2000) presents a review of empirical studies about the wealth effect on consumption based on both aggregate and disaggregate data.

When reading the two strands of literature jointly, we see that most estimates of the aggregate MPC coming from survey data range between 0.2 and 0.6, considerably exceeding the low values implied by representative agent models or the standard

[2] Groups of individuals with, on average, lower level of income (such as blacks) had higher saving rates than other groups with higher levels of average income (such as whites) at any income level.

[3] People whose income has increased save more than people whose income has decreased.

framework of Krusell and Smith (1998), yielding MPCs typically around 0.02-0.04. Carroll, Slacalek and Tokuoka (2013) argue that heterogeneity is key. Models that are able to match heterogeneity have much higher MPCs than representative agent models.

Our methodology falls into the latter strand of the literature as we rely on survey microeconomic household data. The empirical evidence is based on the LISS panel, a longitudinal survey representative of the Dutch-speaking population conducted and administrated by CentERdata at Tilburg University. We find a point estimate of the marginal propensity to consume (MPC) of 0.21 out of household income, that is in line with the international microeconomic evidence. This means that a one euro increase in household income raises consumer spending by 21 cents. We also find that less fragile households display a double MPC out of income than those more fragile (0.44 vs 0.21, respectively). The point estimate for the MPC out of total financial assets equals 0.04, in line with the early work of Modigliani (1971). The economic interpretation is that for an extra unit of total financial assets, household consumption increases by 4 cents. We also find support for the fact that the MPC out of wealth is smaller for richer households.

The rest of the paper is organized as follows. Section 2 describes the data used in the empirical analysis. Particular emphasis is devoted to the consumption expenditure measure. Section 3 describes the empirical model and reports and discusses the empirical results. Section 4 concludes.

2 The data

Measuring consumption empirically at the microeconomic level is not an easy task. Almost all the main household surveys collect information about household spending, but there is considerable variety of methods. Consumer Expenditure Surveys (CEX) have been developed for this specific purpose, but they all suffer from severe measurement errors. There is substantial evidence that by aggregating CEX data it is not easy to obtain figures corresponding closely to those from National Accounts. In addition, for very few countries longitudinal studies are available. On the one hand consumption and expenditures are typically much easier to be collected from poor households than from wealthy households. On the other hand, for poor households it is more difficult to come up with a good measure of income and earnings, due to the presence of informal income sources (e.g. intra-household members support).

The Panel Study of Income Dynamics (PSID) and the Household Finance and Consumption Survey (HFCS) ask for food consumption, consumed at home and outside home. The Survey of Health, Ageing and Retirement in Europe (SHARE)

collects a few questions on consumption. Hurd and Rohwedder (2012) designed a spending module administered as part of the Financial Crisis Surveys that was conducted in early 2009 in the RAND American Life Panel. The US Consumer Expenditure Survey contains a very extensive battery of questions about spending.

In absence of high-frequency elicitation of spending, in this paper we rely on the information available in the LISS panel, an on-line longitudinal survey representative of the Dutch-speaking population conducted and administrated by CentERdata at Tilburg University since October 2007. It consists of about 5,000 households, comprising about 8,000 individuals. The panel is based on a true probability sample of households drawn from the population register by Statistics Netherlands. Households that could not otherwise participate are provided with a computer and Internet connection. A special Immigrant panel is available since October 2010 in addition to the LISS panel. It consists of about 1,600 households (about 2,400 individuals) of which 1,100 households (1,700 individuals) are of non-Dutch origin.

Panel members complete questionnaires on a monthly basis of about 15 to 30 minutes in total. They are paid for each completed questionnaire. One member in the household provides the household data and updates this information at regular time intervals.

Part of the interview time available in both the LISS and the Immigrant panel is reserved for the LISS Core Study. This longitudinal study is repeated yearly and is designed to follow changes in the life course and living conditions of the panel members. In addition to the LISS Core Study there is ample room to collect data for different research purposes.[4]

For the purpose of this paper we use three waves of the LISS panel for which information on household spending is available. In particular we use three waves of the "Time Use and Consumption" module collected between 2009 and 2012. For each wave respondents are asked to report the total average amount of money spent per month at the household level. We then merge this module with the "Assets" and the "Housing" modules belonging to the LISS Core Study.

In this paper we select the following variables.

Financial variables (at the household level)

Total annual household spending - The variable is computed as the self-reported monthly household spending multiplied by twelve. The monthly expenditures come from the following set of questions.

[4]A full description of the LISS panel, including sample weights and recruitment procedures, is provided on: http://www.lissdata.nl/lissdata/Home.

The following questions are about the expenditure pattern of your household. Can you indicate for each type of expenditure how many euros your household spends on this on average, per month? Consider as reference period the past 12 months.
(-) mortgage: interest plus amortization (what matters is the gross amount, so before tax deduction);
(-) rent (NOT including costs of gas and electricity)
(-) general utilities (heating, electricity, water, telephone, Internet, etc; but NO insurances);
(-) transport and means of transport (public transport; own car: gasoline/diesel and maintenance, but NOT insurances or the purchase of e.g. a car or [motor] bike);
(-) insurances (home insurance, car insurance, health insurance, etc.);
(-) childrens daycare (day care center, out-of-school supervision, guest parents, homework guidance, etc.)
(-) alimony and financial support for children not (or no longer) living at home;
(-) debts and loans (but NOT the mortgage);
(-) day trips and holidays with the whole family or part of the family (flight tickets, hotel, restaurant bills for the family, etc.)
(-) expenditure on cleaning the house or maintaining the garden;
(-) eating at home (food, drinks, candy, etc.);
(-) other.

Total household assets - Computed as the sum of balance of the household's current accounts, savings accounts, term deposit accounts, savings bonds or savings certificates; total sum of the guaranteed minimum payout of your single-premium or life annuity insurances, or the total savings amount of your endowment insurance; total value of your investments (growth funds, share funds, bonds, debentures, stocks, options, warrants); value set by the most recent municipal property appraisal (Dutch: Wet Waardering Onroerende Zaken, WOZ).

Total household financial assets - This is a subcomponent of total household assets above, from which housing wealth is excluded.

Housing wealth - This is a subcomponent of total household assets above, namely the value set by the most recent municipal property appraisal (Dutch: Wet Waardering Onroerende Zaken, WOZ). This wealth component is also self-reported by the household.

Mortgage - remaining debt of all mortgage(s) or loan(s) at the end of the year.

Net housing wealth - Computed as the difference between housing wealth and mortgage.

Net annual household income - Computed as monthly household income multiplied by twelve.

Background characteristics (at the head-of-household level)

- Age - discrete variable. We also experimented with age class dummies.
- Partner - indicator variable taking value 1 if the partner is present, 0 otherwise.
- Number of household members - discrete variable.

An important determinant of household consumption is labour status. Following the literature (Berger-Thomson, Chung and McKibbin (2009); Christelis, Georgarakos and Jappelli (2014) among others), we also experimented with indicators for job (in)security. The LISS panel provides rather rich information on labour history and on expectations about future labour trends. We exploited questions about the probability of loosing job in the next 12 months and the probability of finding a job within 12 months. Both these variables, however, turned out to be totally insignificant. This finding is also documented in Hurd and Rohwedder (2013) with U.S. data, who found no significant effect on the subjective probability of unemployment on total spending in fixed-effects estimations.

Financial fragility groups

We identify potentially-at-risk households by computing two ratios:

- *Debt-to-assets ratio (DA)* - We consider the ratio between mortgage debt and total assets described above, in levels.
- *Debt-to-income ratio (DI)* - We consider the ration between mortgage debt and yearly net income, in levels.

In addition, we experiment with the *Net housing wealth (NHW)* distribution.

Table A reports the summary statistics of the main variables of interest used in the empirical analysis.

Table A about here

3 Empirical models and results

The focus of this paper is to quantify the effect that changes in financial assets and income have on household consumption in the Netherlands. We strictly follow Christelis, Georgarakos and Jappelli (2014) as we use a linear specification, in which the percentage change in consumption is regressed over the percentage changes in the value of total financial wealth and in household income. We also control for several changes over time in a vector of demographic characteristics. The corresponding equation reads as follows:

$$\Delta \ln C_{ht} = \alpha_h + \beta \Delta \ln FA_{ht} + \gamma \Delta \ln HHI_{ht} + \eta \Delta \ln Z_{ht} + \epsilon_{ht} \quad (1)$$

where C_{ht} represents total household spending, α_h is the household fixed effect capturing time-invariant unobserved heterogeneous characteristics such as household preferences, FA_{ht} represents household total financial assets, HHI_{ht} represents household annual net income and Z_{ht} is a vector of the head of household's background characteristics (namely age, number of children, presence of a partner). All variables are observed at the household level h and at time t. The error term is denoted by ϵ. We estimate equation (1) with fixed effects. We are particularly interested in the parameters β and γ, representing the elasticity of consumption with respect to total financial assets and to income, respectively. From those estimated parameters we can then easily compute the corresponding marginal propensities to consume.

3.1 Total financial assets and income

Table 1 reports the results for the whole sample (specification (1)) and by debt-to-assets ratio (specification (2) and (3)). Total financial assets and income are estimated significantly (at the 5-percent and at the 1-percent level, respectively) and with the expected positive sign for the total sample. The implied computed MPCs are 0.04 for total financial assets and 0.21 for household income. This means that for an extra unit of total financial assets, household consumption increases by 4 cents; similarly, a one euro increase in household income raises consumer spending by 21 cents. These findings are in line with the international microeconomic evidence. Christelis, Georgarakos and Jappelli (2014) find a MPC out of financial wealth equal to 3.3 percentage points experienced by the US households aged 50 or older in the years immediately after the collapse of Lehman Brothers. A number of other studies based on U.S. data show that the range of the MPC out of the stock

market is between 0.01 and 0.06 (see Poterba (2000), Morris and Palumbo (2001), Lettau and Ludvingson (2004), Carrol, Otsuka and Slacalek (2011) among others). Most estimates of the aggregate MPC out of income coming from survey data range between 0.2 and 0.6 (see Jappelli and Pistaferri (2006), Jappelli and Pistaferri (2011) among others).

When splitting the sample by debt-to assets ratio, we see from Table 1, columns (2) and (3), that less fragile households (defined as those who have a debt-to-assets ratio less than 0.10) display a MPC which is double of the MPC of more fragile households (defined as those who have a debt-to-assets ratio greater than 0.10). The MPC out of household income of the former group is 0.44 whereas that of the latter groups is 0.21. Home ownership does not seem to have any significant impact on the consumption behaviour (specification (4)).

Table 1 about here

Table 2 reports the results for the whole sample and by debt-to-income ratio. We distinguish debt-to-income ratio less than 1.9 (specification (2)) from debt-to-income ratio greater than 1.9 (specification (3)). We then also consider more extreme cases with debt-to-income ratio greater than 5 (specification (3)).

We find that higher levels of fragility are associated to relatively higher levels of MPCs out of household income. The trend for MPCs out of total financial assets is rather stable across fragility groups.

Table 2 about here

3.2 Housing wealth

The literature based on data from Anglo-Saxon countries shows that MPCs out of financial wealth is usually lower than MPCs out of housing wealth, in an order of magnitude of 4 percent versus 9 percent, respectively (see Case, Quigley, and Shiller (2005), Carrol, Otsuka and Slacalek (2011) among others). Tang (2006) claims that in Australia a permanent dollar increase in housing wealth leads to a six percent rise in consumption, three times the effect of financial wealth. The estimates from the euro area are rather different. Skudelny (2008) shows that, for the euro area, the marginal propensity to consume out of financial wealth ranges between 1.3 to 3.5 cents per euro, while housing wealth effects do not seem to be significant. Guiso, Paiella and Visco (2006) find that in Italy home owners have a positive wealth elasticity, while renters have it negative and it counteracts the housing wealth effect at the aggregate level. Paiella (2007) uses data from Italy again and finds 4.2 percent

for total wealth, 9.2 percent for financial wealth and 2.4 percent for housing wealth. These findings for Italy are supported also by Bassanetti and Zollino (2010) who estimate the size of the marginal propensity to consume out of housing wealth about 1.5-2 cents, against values of 4-6 cents for the propensity to consume out of each euro increase in financial wealth.

Our data do not allow to measure the MPC out of housing wealth directly due to massive measurement errors. However we perform some analysis by splitting the sample on the basis of housing wealth as follows. Table 3 reports the results for the whole sample and by net housing wealth, defined as the self-reported WOZ-value and the remaining mortgage on that property. We first consider households with both negative and positive net housing wealth, within the range of -300,000 and +300,000 euros (specification (2)). We then consider households with negative (and zero) net housing wealth (specification (3)) and those with strictly positive net housing wealth (specification (4)).

It turns out that households with non-positive net housing wealth have much higher MPCs than those with positive net housing wealth (0.35 vs. 0.06 respectively), even if for the latter sub-group the elasticity is not estimated significantly different from zero. Consistently with other fragility indicators the pattern for MPCs out of total financial assets is rather flat across the net housing wealth distribution.

Table 3 about here

3.3 Household heterogeneity

Economic theory, empirical evidence, and common sense support the proposition that the marginal propensity to consume out of wealth is smaller for richer households. One potential explanation is the different role of liquidity constraints across the wealth distribution. The rationale behind this is the pivotal role of individual heterogeneity in asset accumulation. Heterogeneity, both ex-ante (consumers differ with respect to their degree of impatience) and ex-post (consumers are hit by different idiosyncratic shocks), leads households to hold different wealth positions which are associated with different MPCs.

In order to test this hypothesis for the Netherlands, we estimate an alternative model where we dig into the role of financial wealth by considering financial assets in quintiles. In this framework estimates cannot be interpreted as elasticities any longer, and as a consequence MPCs cannot be computed. Nevertheless the flexibility of this model formulation allows to better understand how consumption behaviour changes along the distribution of percentage changes in financial wealth.

We observe from Table 4 that for lower quintiles the consumption response is significant and larger in magnitude than for higher quintiles of financial assets. Therefore, our data overall support the international evidence on the role of (financial) wealth. Johnson, Parker and Souleles (2006) study the effect of the 2001 tax rebates in the US on consumption at the time households receive additional income and find that households with low income or low assets spent a significantly greater share of their rebates. This result is found also in Berger-Thomson, Chung and McKibbin (2009), in their analysis of the effect of two policy changes (to income tax rates and lump-sum transfers) in Australia.

In addition, we observe that higher percentage changes in the value of financial assets are positively associated with percentage changes of consumption, and that the relationship is not strictly monotonic. We see that pooling the data produces more interesting results.

Table 4 about here

In order to further investigate the role of the net housing wealth on household consumption, we run a slightly different version of this alternative model by splitting the sample among households reporting negative net housing wealth and households reporting positive net housing wealth. Table 5 reports the results.

We notice that for so-called "under water" households (specification (2)) the consumption response is significant at the 5-percent level and much smaller in magnitude than for household who report a positive net housing wealth (specification (3)).

Table 5 about here

4 Concluding remarks

Household private consumption is a rather stable component of GDP representing more than half of GDP in most European countries. However, since the onset of the recent financial crisis consumption has dropped markedly in many countries, including the Netherlands. Since the wake of the Great Recession household consumption has seen a renewed interest among researchers and policy makers.

This paper focuses on the effect of changes in income and financial assets on household consumption in the Netherlands over the period 2009-2012 for about 4,600 households. Our methodology falls into the microeconomic literature as we use survey household data.

The empirical evidence is based on the LISS panel, an on-line longitudinal survey representative of the Dutch-speaking population conducted and administrated by CentERdata at Tilburg University since October 2007. For the purpose of this paper we use three waves of the LISS panel for which information on household spending is available. In particular, we use three waves of the "Time Use and Consumption" module collected between 2009 and 2012. For each wave respondents are asked to report the total average amount of money spent per month at the household level. We then merge this module with the assets and the housing modules belonging to the LISS Core Study. We follow Christelis, Georgarakos and Jappelli (2014) as we use a linear specification with fixed effects, in which the percentage change in consumption is regressed over the percentage changes in the value of total financial wealth and in household income. We can produce the elasticities of consumption with respect to total financial assets and to income, from which we can easily compute the corresponding marginal propensities to consume.

We find a point estimate of the marginal propensity to consume of 0.21 out of household income, that is in line with the international microeconomic evidence. We also find that less fragile households (defined as those with debt-to-assets ratio below 0.10) display a MPC which is double of the MPC of more fragile households (0.44 vs 0.21, respectively). The point estimate for the MPC out of total financial assets equals 0.04, in line with the early work of Modigliani (1971). The economic interpretation is that for an extra unit of total financial assets, household consumption increases by 4 cents.

We also find that households with non-positive net housing wealth have much higher MPCs than those with positive net housing wealth (0.35 vs. 0.06 respectively), even if for the latter sub-group the elasticity is not estimated significantly different than zero. Consistently with other fragility indicators the pattern for MPCs out of total financial assets is rather flat across the net housing wealth distribution.

In order to test the hypothesis that the MPC out of wealth is smaller for richer households for the Netherlands, we estimate an alternative model where financial assets are considered in quintiles. We find that for lower quintiles the consumption response is significant and larger in magnitude than for higher quintiles of financial assets. This indicates that the hypothesis is confirmed by Dutch data as well.

This paper seems to suggest that policies aiming at sustaining pre-crisis private consumption levels, and aggregate demand at last, should take household heterogeneity (both cross-sectional and over time) into serious consideration. The household sector is unlikely to respond homogeneously across the wealth distribution, highlighting the role of liquidity constraints and access to credit in household consumption behaviour.

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Table A: Summary statistics - LISS panel

Statistics	**Mean**	**Std.Dev.**	**Min.**	**Max.**	**N.Obs**
Financial variables (at the household level)					
Total spending (in euros)	1,476	1,910	0	80,937	16,385
Total assets	201,397	309,693	1	8,608,035	7,773
Total financial assets (TFA)	20,535	140,257	-11,000	8,135,049	16,385
Housing value (WOZ)	75,007	172,122	0	8,470,000	16,385
Mortgages	31,129	97,151	0	5,100,000	16,385
Net housing wealth	43,879	160,330	-4,817,500	8,470,000	16,385
Annual net income (HHI)	2,991	5,255	0	295,195	15,057
Background characteristics (at the head-of-household level)					
Age in years	49	17	16	97	16,385
Partner (indicator variable)	0.75	0.43	0	1	16,385
Number of household members	2.65	1.34	1	8	16,385
Fragility indicators					
Debt-to-asset (DA) ratio	2.09	19.18	0	600	34,171
Debt-to-income (DI) ratio	4.17	6.70	0	277	3,469

Table 1: MPCs out of TFA and Income - total and by DA ratios

	(1)	(2)	(3)	(4)
	Total	DA1	DA2	DA3
Total fin. assets (logs)	0.025**	0.007	0.027**	0.026*
	(2.22)	(0.16)	(2.28)	(1.69)
Annual net income (logs)	0.363***	0.770*	0.366***	0.139
	(3.48)	(1.69)	(3.38)	(1.01)
Age	0.005	-0.062**	0.007	0.012
	(0.77)	(-2.18)	(0.90)	(1.19)
N. household members	0.042		0.042	0.041
	(0.85)		(0.83)	(0.74)
Partner	-0.020		-0.024	0.117
	(-0.21)		(-0.24)	(0.58)
Constant	5.487***	5.721	5.389***	7.477***
	(5.02)	(1.32)	(4.77)	(5.37)
Implied MPC out of TFA	0.04**	0.01	0.05**	0.04*
Implied MPC out of HHI	0.21***	0.44*	0.21***	0.08
N.Obs.	3696	118	3578	1787

DA1 represents debt-to-assets ratio ≤ 0.10

DA2 represents debt-to-assets ratio > 0.10

DA3 represents debt-to-assets ratio > 0.10 and home ownership

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: MPCs out of TFA and Income - total and by DI ratios

	(1) Total	(2) DI1	(3) DI2	(4) DI3
Total fin. assets (logs)	0.025**	0.082	0.023*	0.031**
	(2.22)	(1.62)	(1.95)	(2.17)
Annual net income (logs)	0.363***	0.204	0.410***	0.593***
	(3.48)	(0.51)	(3.59)	(3.81)
Age	0.005	0.001	0.005	-0.001
	(0.77)	(0.05)	(0.69)	(-0.15)
N. household members	0.042	-0.427	0.058	0.053
	(0.85)	(-0.98)	(1.06)	(0.75)
Partner	-0.020		-0.046	-0.089
	(-0.21)		(-0.47)	(-0.81)
Constant	5.487***	7.887**	5.026***	3.357**
	(5.02)	(2.02)	(4.18)	(1.98)
Implied MPC out of TFA	0.04**	0.14	0.04*	0.05**
Implied MPC out of HHI	0.21***	0.12	0.24***	0.34***
N.Obs.	3696	327	3369	2643

DI1 represents debt-to-income ratio ≤ 1.9

DI2 represents debt-to-income ratio > 1.9

DI3 represents debt-to-income ratio > 5

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: MPCs out of TFA and Income - total and by net housing wealth

	(1) Total	(2) NHW1	(3) NHW2	(4) NHW3
Total fin. assets (logs)	0.025**	0.024**	0.031*	0.014
	(2.22)	(2.00)	(1.87)	(0.81)
Annual net income (logs)	0.363***	0.387***	0.605***	0.108
	(3.48)	(3.75)	(3.73)	(0.70)
Age	0.005	0.006	0.005	0.009
	(0.77)	(0.91)	(0.48)	(0.88)
N. household members	0.042	0.044	0.038	0.051
	(0.85)	(0.92)	(0.54)	(1.08)
Partner	-0.020	-0.017	-0.005	0.196*
	(-0.21)	(-0.30)	(-0.06)	(1.73)
Constant	5.487***	5.200***	2.860	7.977***
	(5.02)	(4.86)	(1.62)	(5.47)
Implied MPC out of TFA	0.04**	0.04**	0.05*	0.02
Implied MPC out of HHI	0.21***	0.22***	0.35***	0.06
N.Obs.	3696	3391	2187	1204

NHW1 represents net housing wealth -300,000 $<$ +300,000 euros

NHW2 represents net housing wealth ≤ 0

NHW3 represents net housing wealth > 0

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Consumption behaviour across changes in TFA quintiles - total and by wave

	(1) Total	(2) Wave1	(3) Wave2
Total fin. assets 2nd quintile (logs)	0.520***	1.002***	0.055
	(2.88)	(2.79)	(0.78)
Total fin. assets 3rd quintile (logs)	0.424**	0.311	0.481**
	(2.39)	(1.20)	(1.99)
Total fin. assets 4th quintile (logs)	0.478**	0.327	0.605*
	(2.26)	(1.33)	(1.83)
Total fin. assets 5th quintile (logs)	0.242	0.349	0.144
	(1.40)	(1.31)	(0.63)
Housing value (logs)	-0.029	0.012	-0.082
	(-0.53)	(0.16)	(-0.80)
Annual net income (logs)	0.034	0.140	-0.146
	(0.14)	(0.44)	(-0.40)
Age	-0.007		0.247
	(-0.05)		(0.73)
N. household members	-0.027	-0.076	0.033
	(-0.20)	(-0.35)	(0.18)
Partner	0.352**		0.378*
	(2.21)		(1.68)
Constant	-0.057	-0.170***	-0.486
	(-0.26)	(-3.31)	(-0.72)
N	545	242	303

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Consumption behaviour across changes in TFA - total and and by net housing wealth

	(1)	(2)	(3)
	Total	Negative NHW	Positive NHW
Total fin. assets (logs)	0.067	0.030	0.001
	(1.53)	(0.68)	(0.02)
Annual net income (logs)	0.124	0.562**	1.370*
	(1.53)	(1.97)	(1.90)
Age	-0.047	-0.160	-0.337*
	(-0.46)	(-1.59)	(-1.88)
N. household members	0.005	0.008	-0.023
	(0.07)	(0.04)	(-0.09)
Partner	-0.026	-0.070	-0.450
	(-0.20)	(-0.16)	(-0.62)
Constant	0.358*	0.740***	1.188***
	(1.77)	(4.06)	(3.72)
N	495	1368	742

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

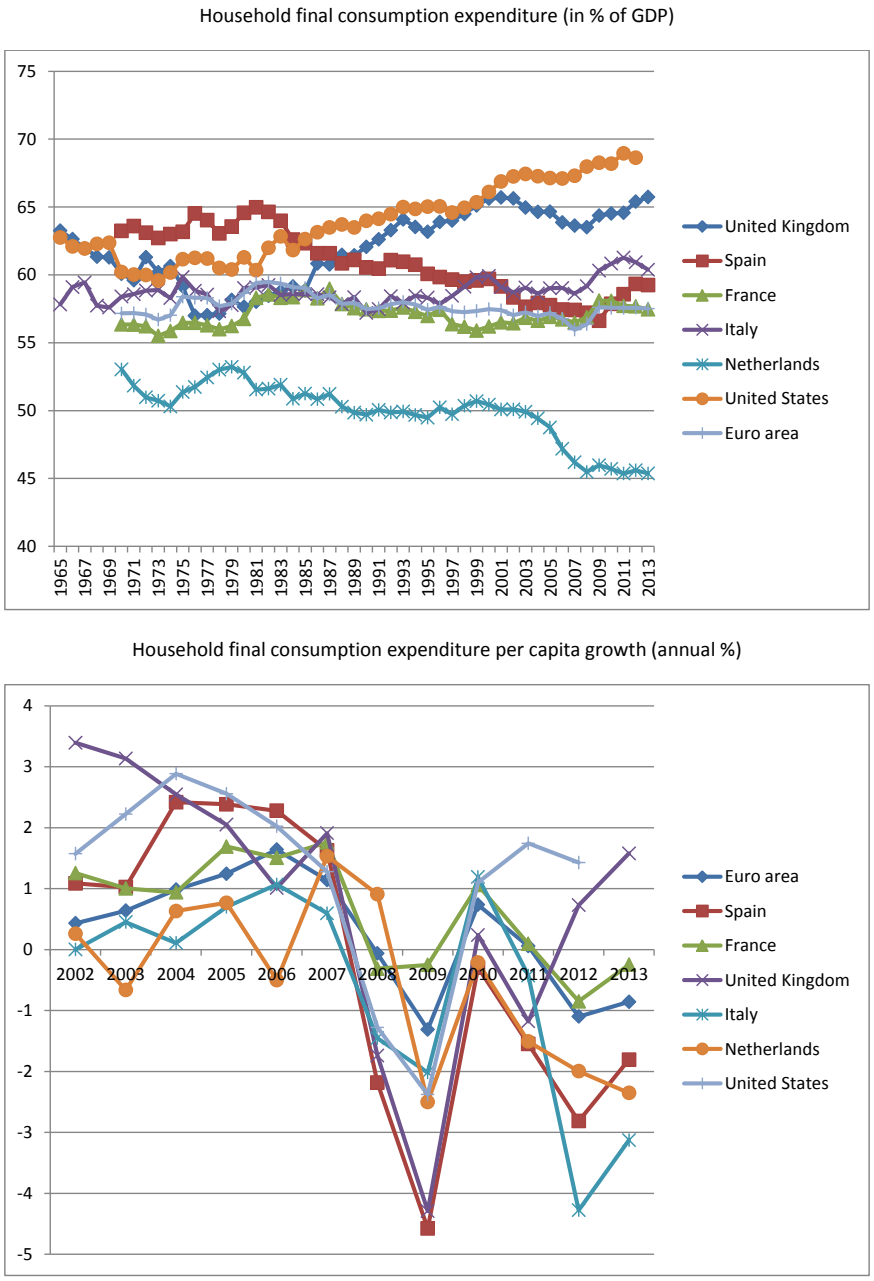

Figure 1: *Household final consumption, as % of GDP (top chart) and per capita growth (bottom chart).*

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