

# Subjective inheritance expectations and economic outcomes.

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## Abstract

In this paper we investigate whether and to what extent the expectations on receiving an inheritance act as a driver in economic choices; the fact of expecting a wealth endowment in the future should play a relevant role, particularly if the entity of it is large. In our analysis, we use the DNB Household Survey (DHS) from Netherlands integrated with a specific module that we designed on reporting subjective probabilities on receiving an inheritance and the amount (in intervals) in the next ten years. Based on these expectations, we look at whether the expected inheritance acts as a deterrent to saving; results suggest, in line with our expectations, that individuals perceive expected inheritances as a potential increase of personal wealth leading toward a reduction in savings.

## Introduction

A large strand of literature has focused on the effect of unexpected income receipt and windfall gains on consumption and saving decisions. The economic rationale, following the life cycle/permanent income hypothesis (Deaton et al. (2002)) suggests that households should just react to unexpected shock in income and wealth, while expected ones should be already incorporated into the optimal consumption and saving patterns.

The timing of expected income receipt should, thus, not matter in consumption decisions. Based on these theoretical implications, the empirical literature have considered both expected and unexpected income/wealth changes to test whether theoretical implications hold, and under what circumstances (see Borella et al. (2009), Garcia et al. (1997)). Wealth changes and their impact on consumption choices have been looked at in many aspects, with reference to real estate wealth change (Calcagno et al., 2009) including inheritance receipt and their impact on labour supply (see

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Brown et al. (2010)). However, as inheritance does not come as a shock for many of the receivers, little is known about expectations on inheritance and their impact on economic choices.

Inheritance can be conceived as an "unearned income" which should affect earnings, consumption, savings, and other economic outcomes (Imbens et al. (2001)): Brown et al. (2010) use inheritance receipt as a wealth shock and find that it is associated with a significant increase in the probability of retirement, especially when the inheritance is unexpected. The role of wealth in modelling labour decisions has been broadly considered (see Krueger & Pischke (1991), Brown et al. (2010), Bloemen & Stanca (2001) on early retirement, Bloemen & Stanca (2001) on labour market participation and Imbens et al. (2001), Henley (2004) on hours worked); however, subjective expectations on bequests can also act as a possible engine driving labour market and savings intentions; along this line, inheritance might, for example, affect labour supply (Joulfaian & Wilhelm (1994)): indeed, Bloemen & Stanca (2001) found wealth to have a significantly positive impact on the reservation wage and a negative impact on the employment probability (higher levels of wealth result in higher reservation wages and higher reservation wages are associated with a lower employment probability). Recent evidence focuses on the effect of receiving an inheritance on the Labour Force Participation (LFP) in married couples: bequests might, indeed, act as trigger in increasing the bargaining power of the recipient affecting his/her LFP providing new evidence on the ability of spouses to commit to a fully efficient allocation of resources within the household (Blau & Goodstein (2016)). Bequests represents a component of wealth: Joulfaian (2006) finds that wealth increases by only a fraction of the inheritances received, and imply a marginal propensity to consume significantly higher than that predicted within the perfect foresight or consumption smoothing frameworks.

Among the literature, there have also been many findings on the intention to bequeath: recent ones discuss different alternative assumptions concerning household preferences and show that these assumptions have various implications for bequest motives and bequest division from an inter-country difference point of view (Horioka, 2014); concerning the relationship between actual inheritances and economic decisions, there is some evidence on the effect of actual inheritance on economic behaviour (Brown et al., 2010). Indeed, along this line, another link to be taken into account is between inheritances and bequests; recent findings suggest that the experience of inheriting can enhance the intention to bequeath (Stark & Nicinska, 2015).

At least to our knowledge, still almost few evidence has been found on possible link between inheritance expectations and individuals' economic behaviours. This represents one of the main reasons why this paper wants to study whether subjective expectations of receiving an inheritance in the future can, in some way, affect financial decisions of individuals. The degree of uncertainty surrounding the size and timing of the receipt of inheritances may influence the pattern of life cycle saving (Weil (1996)) so, expecting a wealth endowment in the future (compared to already having received it) should play a relevant role in shaping the behaviour of people, particularly if the entity of bequests is huge since large inheritances might lead to a decline both in labour force participation and savings (Joulfaian (2006)).

We contribute to the literature by proposing a new source of analysing the relationship between bequests and savings: this represents the main reason why we want to investigate whether there exists a link, and what is the extent of it, between the expectations on bequests and economic decisions (such as savings). In order to do so, our empirical methodology will involve the use of the DNB Household Survey (DHS), a Dutch panel dataset collected by the CentERdata that allows to study both psychological and economic aspects of financial behaviour: this panel survey

was launched in 1993 and comprises information on work, pensions, housing, mortgages, income, possessions, loans, health, economic and psychological concepts, and personal characteristics. The dataset is particularly suited for our analysis since it includes many questions about sources of income the respondents may have, it contains very detailed information on assets, liabilities and mortgages but, since we are interested in questions concerning the probability of receiving inheritance in the future period, we devised a special module which comprehends few questions that integrate and enrich the dataset providing new information on inheritance expectations.

The direct measurement of expectations has developed throughout the early 1990s since expectations are a key interest in intertemporal economic models and measuring expectations is useful to avoid making strong assumptions (Manski (2002), Manski (2004)); along this line, the measurement of expectations in terms of probabilities has become very important in economics. Elicitation of probabilistic expectations has several desirable features such as ease of interpretation, ability to characterize uncertainty, possibility of exploiting the algebra of probability to check the internal consistency of a respondent's elicited expectations about different events and interpersonal comparability allowing to reach conclusions about the correspondance between subjective beliefs and "frequentist realities" (Dominitz (1998), Dominitz & Manski (1997), Manski (2004)).

De Bresser & van Soest (2015) analyse the determinants of satisfaction with various dimensions of pension arrangements, emphasizing the role of subjective expectations regarding retirement income; the main focus was toward the validity of subjective expectations elicited through probabilistic measures and with the causal impact of expectations on well-being. Indeed, analysing the predictive power of expectations can provide insights into the validity of expectations data; even if it is impossible to verify whether reported probabilities reflect the actual beliefs held by respondents, it can be possible to assess the internal consistency and plausibility of responses: evidence suggests that responses have such "face validity" when the questions concern well-defined events that are relevant to respondents' lives (Manski (2004)). In doing so, De Bresser & van Soest (2015) apply two different methods to construct subjective replacement rate distributions from the reported probabilities. The first, proposed in Dominitz & Manski (1997), fits an assumed underlying (log-normal) distribution for each observation by minimizing the squared difference between the probabilities implied by the assumed distribution and those reported in the data; the second approach, adapted from Bellemare et al. (2012), uses spline interpolation to fit a subjective distribution that passes through the points corresponding to the probabilities reported by the respondents. This procedure is non-parametric, in the sense that it does not assume any parametric form of the underlying distribution.

The rest of the paper is arranged as follows: Section 1 and Section 2 describe the data and the empirical methodology, Section 4 concludes the paper.

## 1 Data

The empirical analysis involves the use of the DNB Household Survey (DHS), a Dutch panel study collected by the CentERdata, a survey agency at Tilburg University specialized in internet surveys, that allows to study both psychological and economic aspects of financial behaviour; this panel survey was launched in 1993 and comprises information on work and pensions, accommodation and mortgages, income and health, assets and liabilities, economic and psychological concepts. The questionnaires are sent to the respondents via Internet, the respondents fill in the questionnaires at their home computers, and then answers are sent back in the same way: this implies that the

questionnaires are self-administered and individuals can answer at the most comfortable time for them. It is important to notice that the selection of panel members of the survey is not dependent on the access to internet: indeed, households without a computer or an internet connection are provided with the necessary equipment.

## 1.1 Inheritance expectations

The dataset is particularly suited for our analysis since it includes many questions about sources of income the respondents may have and it contains very detailed information on assets, liabilities and mortgages; however, since we were interested in questions concerning the probability of receiving inheritance in the future period, we devised a special module which comprehends few questions that integrate and enrich the dataset providing new information on inheritance expectations: the questionnaire was fielded from 25 November to 29 November 2016. The response rate was 83.8% (2,196 out of 2,621 respondents). We merge our module on inheritance expectations with the 2016 assets and liabilities questionnaire and the economic and psychological concepts. It is important to say that we allow for continuous responses (i.e. the choice of the chance of receiving an inheritance) instead of a binary (yes/no) variable; we think that in this way responses might be more accurate since individuals are in some way forced to reflect more deeply on the question.

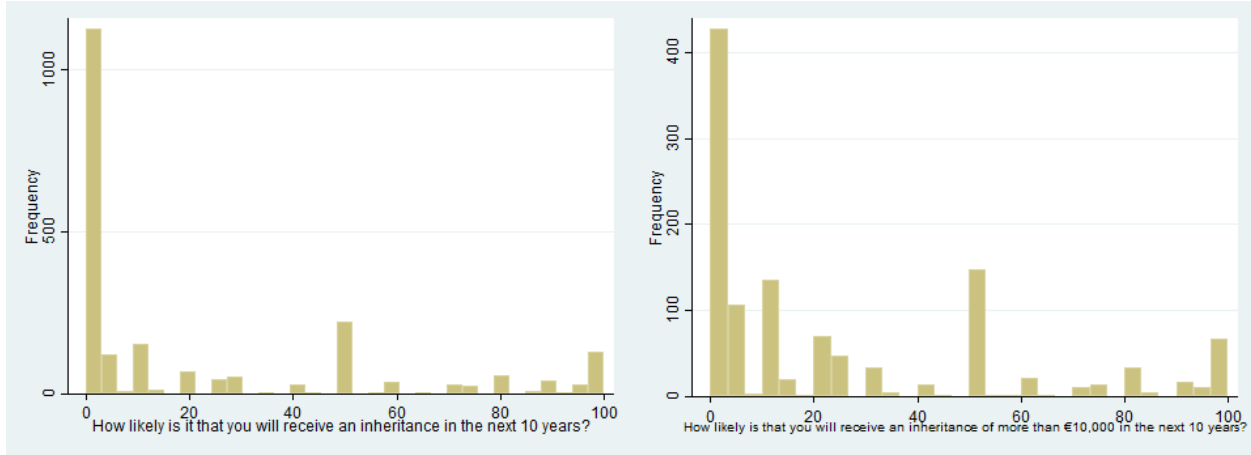
### Questions from the module on inheritance expectations

- Q1. How likely is it that you will receive an inheritance in the **next 10 years**? [*if Q1 > 0 then go to Q2*]
- Q2. And how likely is that you will receive an inheritance of **more than 10,000 euros** in the **next 10 years**? [*if Q2 > 0 then go to Q3.*]
- Q3. And how likely is that you will receive an inheritance of **more than 25,000 euros** in the **next 10 years**? [*if Q3 > 0 then go to Q4.*]
- Q4. And how likely is that you will receive an inheritance of **more than 50,000 euros** in the **next 10 years**?

*Fill a percentage here from 0 to 100 percent. Example, if you are sure that you will receive an inheritance in the next 10 years, enter 100 percent. But if there is perhaps still a small chance that you will not receive, fill example, 97 percent or less. If you are completely confident that you will not receive any inheritance in the next 10 years, enter 0 percent. But if there is perhaps still is that you will receive it's a small chance, enter for example, 3 percent or more. And if you think the risk is about half, fill 50 percent, or more or less like that better suits what you think.*

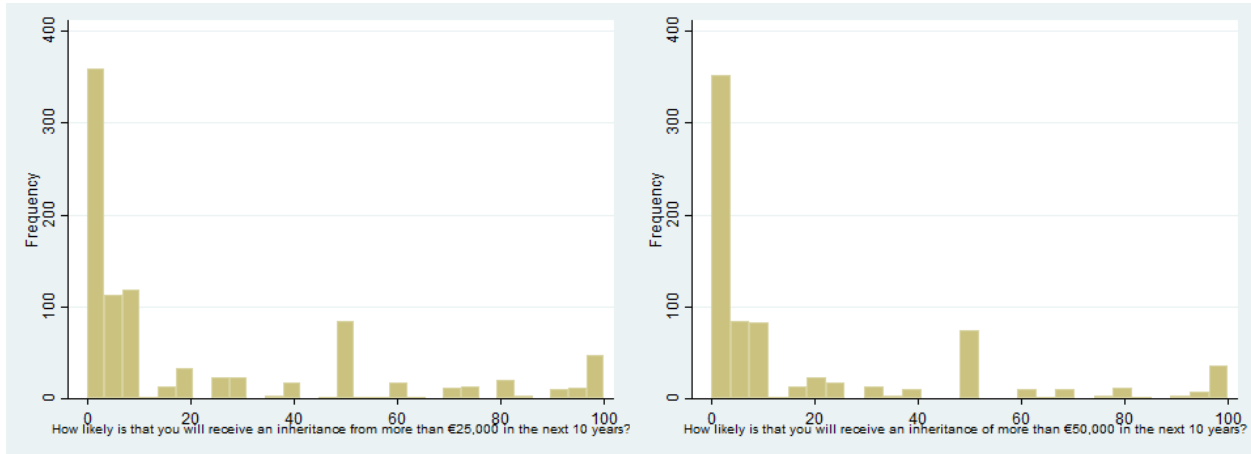
The following figures (*Fig.1a - Fig.1d*) represent the subjective inheritance expectations.

Figure 1: Subjective inheritance expectations in 10 years



(a) Expected Inheritance

(b) Expected Inheritance greater than 10,000€



(c) Expected Inheritance greater than 25,000€

(d) Expected Inheritance greater than 50,000€

### 1.1.1 Are the Expectations Responses Coherent?

Willingness to answer the questions does not necessarily imply that the responses are meaningful; indeed, one possible problem with this probabilistic approach in submitting these questions might be related to "anchoring" problems wherein respondents' beliefs are influenced by the questions that interviewers happen to pose (Morgan et al., 1992). Suppose, for example, that a respondent expects her/his chances of receiving an inheritance greater than 50k; then, by firstly asking the probability of receiving an inheritance greater than 10k, the respondent may be influenced to think that this amount is objectively reasonable and so may report a higher probability than believed a priori (Dominitz & Manski, 1997). At this point, it could be useful to attempt in understanding if respondents report their expectations coherently.

### 1.1.1.1 Response Rates

The special module on inheritance expectations has been submitted to 2,621 household members from the CentER panel: among those, 421 individuals does not answer to the questionnaire, 2,196 completed it while 4 members do not complete the survey. The overall response rate has been 83,8%.

Table 1: Response Rates

	Number of Respondents	Response Rate (%)
Expected inheritance	2,196	83.78
Expected inheritance > 10k	1,205	45.97
Expected inheritance > 25k	934	35.63
Expected inheritance > 50k	761	29.03

Analysing the obtained answers, it is interesting to report that there have been 992 who report not to have at all chances of receiving an inheritance, 271 have no chance of bequest greater than €10,000, 172 have zero chance of an inheritance greater than €25,000 and 166 have not all probability of getting an inheritance greater than €50,000.

It might be also interesting to notice that 197 members report the same probability values at all four questions about chances of receiving inheritances: among those, 175 individuals report the same probability value different from 0 or 100 chance. Eventually, there are 22 cases in which the probability of receiving an inheritance for all four cases is always 100<sup>1</sup>.

### 1.1.1.2 Consistency of probabilities

Even if probabilistic questions might lead to few problems, as previously presented, they present some desirable features such as allowing to analyse the predictive power of expectations providing in this way insights into the validity of expectations data. Along this line, it can be possible to assess the internal consistency and plausibility of responses. So, at this point of our analysis, the next step concerns the validity of subjective expectations elicited through the probabilistic measures and the causal impact of expectations on well-being; focusing on the predictive power of expectations can provide consistency of the probabilistic measures and give insights into the validity of expectations data. To do so, we follow the approach proposed by De Bresser & van Soest (2015) who perform two different methods to build subjective distributions from reported probabilities: the parametric one proposed in Dominitz & Manski (1997) and the non-parametric approach of Bellemare et al. (2012).

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<sup>1</sup> It could be reasonable to think that estimation results might be biased by reporting a higher probability in all cases a priori (Dominitz & Manski, 1997) so we conduct some robustness checks such as for example not taking into account those who report a chance of 100 in all cases: however, even without these cases, the sign and significance of estimation results do not change

### 1.1.2 Some descriptive statistics on inheritance expectations data

Here, we report how the chances of receiving an inheritance look like among different age categories; it seems that among people between 45 and 54 years old the probabilities of receiving an inheritance in the next years are higher compared to the other categories (which seems reasonable and in line with expectations).

Table 2: Mean chances of receiving an inheritance by age categories

Age categories	Chances bequest	Chances inh > 10k	Chances inh > 25k	Chances inh > 50k
16-34 years	22.93	13.48	12.35	10.56
35-44 years	31.46	24.00	19.55	16.22
45-54 years	38.57	37.48	32.21	25.34
55 years and older	14.31	26.33	26.74	24.89
Total	21.72	25.48	23.22	19.65

The table reports the means of chances of receiving an inheritance in all four cases. Statistics are weighted by sample weights.

Table 3: Mean chances of receiving an inheritance by age categories and gender

Gender	16-34 years	35-44 years	45-54 years	55 years and older	Total
Male	19.90	33.41	38.46	16.30	22.32
	9.44	24.87	35.18	27.08	26.06
	5.57	17.49	29.58	24.54	21.61
	5.02	14.35	21.86	22.64	18.08
Female	24.87	29.98	38.73	11.52	21.04
	15.81	23.34	40.94	24.91	24.81
	16.47	21.34	36.06	32.15	25.19
	13.70	17.75	30.75	30.27	21.50
Total	22.93	31.46	38.57	14.31	21.72
	13.48	24.00	37.48	26.33	25.48
	12.35	19.55	32.21	26.74	23.22
	10.56	16.22	25.34	24.89	19.65

The table reports the means of chances of receiving an inheritance differentiated by age and gender; the first row of each column reports mean chances of receiving an inheritance, the second row reports mean chances of receiving an inheritance greater than €10,000, the third one chances of receiving an inheritance greater than €25,000, and the fourth row reports chances of receiving an inheritance greater than €50,000. Statistics are weighted by sample weights.

Our analysis focuses on the effect of probability of receiving an inheritance on savings; it should

be emphasized that consumption cannot be estimated since in the DHS dataset there is no information concerning consumption; for this reason, here it follows a description of the construction of the main variable reporting savings.

## 1.2 Savings Measure

In order to construct a reliable measure for savings, we try to combine the traditional approach in the literature (i.e. approximating savings as the difference between financial assets across years) and a different approach proposed by Alessie & Teppa (2010) in which they exploit different questions concerning saving behaviours and expenditures habits present in the DHS dataset. In constructing the delta in financial assets between 2015 and 2016, we have used information about wealth; we took the most liquid assets (checking accounts, savings or deposit accounts, deposit books, savings certificates, savings arrangements) and subtracted the most liquid liabilities (private loans, extended lines of credit). Hence, following the Alessie & Teppa (2010) way of dealing with the proxy for savings, we firstly use the information about whether any money has been put aside in the previous 12 months; in the case in which there is an assertive answer, individuals are asked to report the amount saved in the same period.

Table 4: Did your household put any money aside in the past 12 months?

	Freq.	Percent	Cum.
Yes	1,476	70.35	70.35
No	622	29.65	100.00
Total	2,098	100.00	

Therefore, for those who state to put aside money, if the change in financial wealth corresponds to the class of money put aside then savings are set equal to the change in the financial wealth; in the opposite case, if the change in financial wealth does not correspond to the class of money put aside then savings are set equal to the midpoints<sup>2</sup> for each class of the variable reporting the amount of money put aside. Secondly, for those who declare to not having put any money aside, we cross this information with another question present in the survey, i.e. "*Over the past 12 months, would you say the expenditures of your household were higher than the income of the household, about equal the income of the household, or lower than the income of the household?*".

Table 5: Expenditures trends over the past 12 months

	Freq.	Percent	Cum.
Higher than the hh income	332	15.82	15.82
Almost equal to the hh income	969	46.19	62.01
Lower than the hh income	797	37.99	100.00
Total	2,098	100.00	

<sup>2</sup> Following the approach proposed in the paper by Alessie & Teppa (2010), since respondents report the amount of money put aside in classes, we constructed the variable by taking the midpoints for each class.



So, for those who asserted to have put no money aside and whose expenditures were equal to the income of the household, we set zero as the amount of savings (meaning that they did not save as well as not dissaved); for those who claimed to have put no money aside and whose expenditures were higher than the income of the household, we set the (negative) delta of financial wealth signalling that they dissaved; eventually, for those who claimed to have put no money aside but whose expenditures were lower than the income of the household, we set the (positive) delta of financial wealth (meaning that they saved).

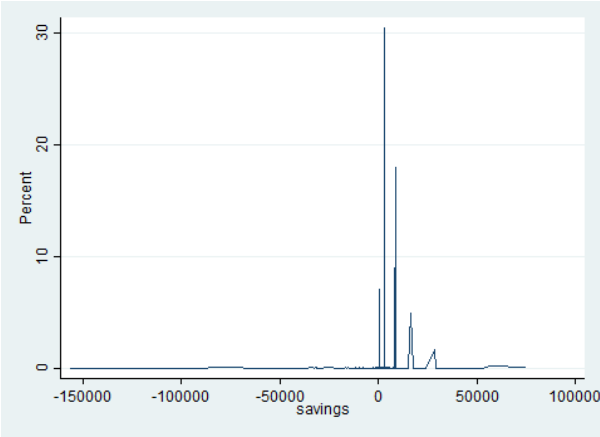
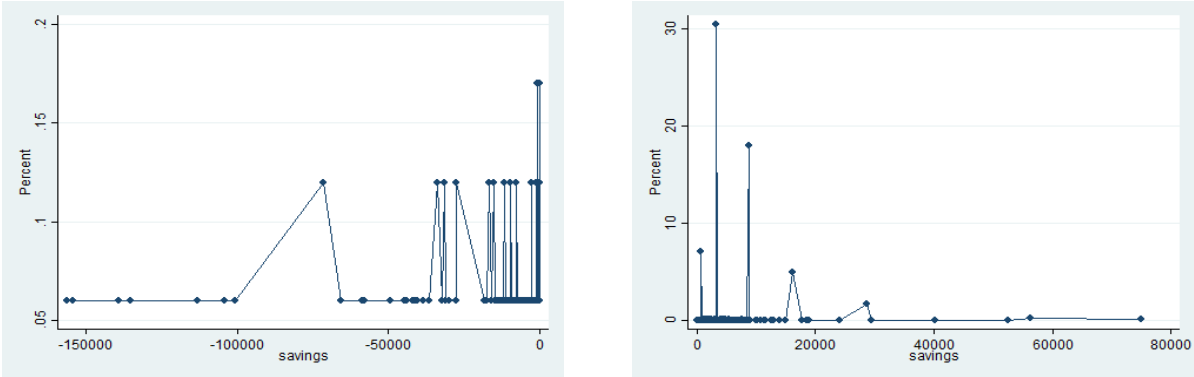


Figure 2: Savings Distribution

As shown in Figure 2 which reports the original distribution of savings, there is a significant number of zeros which can create some difficulties in understanding how individuals manage their savings; for this reason, we split the distribution differentiating between those below or above zero.



(a) Savings below zero

(b) Savings above zero

Figure 3: Savings Distribution (2)

It can be noticed that there is a considerable number of negative savings so, since wealth regressions might be sensitive to outliers and, in order to avoid sensible biases in our estimation, we trimmed the savings variable and exclude outliers of its distribution <sup>3</sup>.

<sup>3</sup> Looking at the distribution, both for negative and positive values, we exclude the points too far from the general

## 2 Empirical Analysis

The empirical strategy focuses on the effect of probability of receiving an inheritance on savings:

$$Y = \alpha + \beta * prob\_inh^* + \gamma * X + \epsilon$$

where  $Y$ , our dependent variable, identifies the savings while  $X$  collects all demographic and socio-economic control variables such as gender, age, income, level of education, etc.

### 2.1 OLS Estimation

Results from the OLS estimation are presented in Table 6: the sign of the coefficients related to the probability of receiving an inheritance leads toward the direction that we expected; unfortunately, they are not statistically significant<sup>4</sup>. It seems like there is an age effect suggesting that as long as age increases the individual tend to save less.

In the following sections, we try developing different specifications both for the dependent variables and the model. In fact, we change the specification of the variables related to expected inheritance transforming them into percentage values in order to see if maybe the magnitude and the interpretation of the relative coefficients might improve.

### 2.2 Probit Estimation

Since results from OLS regression were not particularly promising, we built the dependent variable of our model as a dummy variable which takes value of 1 if savings are positive and 0 otherwise. Then, we run a Probit model using the regressors present in the OLS regression.

Results in Table 8 confirm the sign obtained in the OLS regression again in line with our expectations. Moreover, coefficients related to inheritance expectations (except for the case of receiving an inheritance greater than 25K) are statistically significant. It is worth noticing that there seems to be a gender effect suggesting that women tend to save more compared to men: this might be due to the more conservative and less-risky attitudes of female individuals which can lead toward saving. Along this line, Seguino & Floro (2003) argues that increases in women's wages as well as increases in their share of income lead to higher rates of aggregate saving; this can be due to the different propensities to save probably related to variations in external factors that affect saving behaviours. Concerning the variable about the single status, which identifies a one component household without children, it can make sense to think that a single might lean to dissave compared to someone that lives with a partner/spouse or someone with children.

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trend so around -50,000 for the negative variables and around 30,000 euros for the positive savings

\* This variable identifies four different cases:

- Chances of receiving an inheritance in next ten years
- Chances of receiving an inheritance greater than €10,000 in next ten years
- Chances of receiving an inheritance greater than €25,000 in next ten years
- Chances of receiving an inheritance greater than €50,000 in next ten years

<sup>4</sup> We also perform a quantile regression with the aim of checking whether the results obtained through OLS might be biased by outliers but results are again not statistically significant and the signs did not always lead toward the expected direction; this might suggest that there is a negative but not linear relationship between savings and expected inheritances

Table 6: OLS Regression

Dependent variable: Savings				
prob_inh	-0.955 (10.791)			
prob_inh_10k		-19.198 (16.003)		
prob_inh_25k			-16.636 (21.336)	
prob_inh_50k				-41.059 (29.147)
female	-130.356 (485.585)	946.970 (635.749)	1117.270 (808.859)	1743.381* (924.991)
age	-93.791*** (20.708)	-39.527 (24.711)	-53.020* (31.858)	-62.290* (34.451)
income	0.040** (0.018)	0.033** (0.016)	0.037* (0.020)	0.035* (0.018)
retired	597.065 (713.375)	-770.514 (1206.829)	-409.964 (1727.726)	-264.726 (2051.843)
education	257.411 (328.114)	362.207 (463.580)	-2.893 (555.472)	-111.216 (611.405)
single	-1636.542*** (517.851)	-1278.429** (636.732)	-399.898 (799.081)	-77.299 (925.203)
_cons	7836.868*** (1614.360)	5350.788** (2106.702)	6523.141** (2598.937)	7438.837** (2918.794)
$R^2$	0.055	0.036	0.028	0.048
Observations	1049	588	458	384

Robust standard errors in parenthesis. Significance levels: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

### 2.3 Ordered Probit Estimation

The last attempt consists in constructing our dependent variable reporting savings in the household as a three categories variable by differentiating between those who dissave, neither dissave or save, and those who save<sup>5</sup>.

Table 7: New specification of dependent variable reporting saving behaviour

Saving, no savings or dissaving	Mean savings	Frequency in percentage values
Dissave	-9937.852	9.78
Neither save or dissave	0	18.96
Save	6137.386	71.26
Total	3401.199	100.00

The table reports the new specification of dependent variable reporting saving behaviour. Statistics are weighted by sample weights.

<sup>5</sup> This variable takes *value 1* if savings are below zero (dissaving), *value 2* if savings are exactly equal to zero, *value 3* if savings are greater than zero (saving).

Results with Ordered Probit confirm once again the negative sign obtained both with the previous specifications (see Table 9). Coefficients related to inheritance expectations (except again for the case of receiving an inheritance greater than 25K) are statistically significant. In general, all results lead toward the same direction across the different models and specification; it might be worth focusing on the income effect: results seem to be in line with the literature stating that propensity to save and to consume differ substantially across income groups and that high-income households save a greater fraction of income than low-income households (Dynan et al. (2004), Fan (2006) and Huggett & Ventura (2000)).

Table 8: Probit Model

Dependent variable: Dummy variable savings				
prob_inh	-0.091** (0.042)			
prob_inh_10k		-0.100** (0.050)		
prob_inh_25k			-0.039 (0.057)	
prob_inh_50k				-0.105* (0.058)
female	0.061** (0.029)	0.085** (0.037)	0.080** (0.040)	0.086** (0.040)
age	-0.006*** (0.001)	-0.003 (0.002)	-0.006*** (0.002)	-0.007*** (0.002)
income(log)	0.071*** (0.016)	0.070*** (0.022)	0.076*** (0.024)	0.048** (0.023)
retired	0.032 (0.036)	-0.091 (0.063)	0.055 (0.054)	0.068 (0.049)
education	0.026 (0.020)	0.023 (0.024)	-0.013 (0.028)	-0.038 (0.028)
single	-0.113*** (0.035)	-0.079* (0.045)	-0.042 (0.049)	-0.011 (0.048)
_cons				
Observations	1029	576	448	379

Marginal effects reported. Robust standard errors in parenthesis. Significance levels: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

Table 9: Ordered Probit

Dependent variable: three categories savings				
prob_inh	-0.0814**			
	(0.0391)			
prob_inh_10k		-0.1081**		
		(0.0485)		
prob_inh_25k			-0.0551	
			(0.0555)	
prob_inh_50k				-0.0965*
				(0.0576)
female	0.0442	0.0783**	0.0628	0.0629
	(0.0280)	(0.0360)	(0.0407)	(0.0415)
age	-0.0058***	-0.0024	-0.0050***	-0.0063***
	(0.0013)	(0.0016)	(0.0019)	(0.0018)
income(log)	0.0551***	0.0572***	0.0592***	0.0314
	(0.0128)	(0.0189)	(0.0202)	(0.0195)
retired	0.0497	-0.0506	0.0660	0.0850**
	(0.0350)	(0.0556)	(0.0485)	(0.0411)
education	0.0255	0.0313	-0.0027	-0.0265
	(0.0189)	(0.0233)	(0.0259)	(0.0257)
single	-0.0903***	-0.0585	-0.0229	0.0077
	(0.0325)	(0.0406)	(0.0448)	(0.0422)
Observations	1029	576	448	379

Marginal effects reported. Robust standard errors in parenthesis. Significance levels:  
 \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

### 3 Can expecting an inheritance have an impact on individuals' willingness to leave bequests?

The analysis conducted so far aims at contributing to the understanding of the dynamics of wealth distribution, intergenerational transmission of income and wealth dispersion; a link that is worth to be considered is the one between inheritances (specifically expected inheritances) and bequests. The experience of inheriting can enhance the intention to bequeath Stark & Nicinska (2015); in the same way, also expectation of inheriting can have a positive impact on the intention to bequeath.

For this reason, we exploit, as dependent variable of some regressions, the questions reporting the chances of leaving an inheritance, leaving an inheritance greater than 10,000, 100,000 and 500,000€. Results in Table 10 are not particularly encouraging and the direction of the effect of expected inheritances on intention to bequeath seems misleading; this can be in some way related also to the fact that we have a small sample (due to the inclusion of the categories of expected inheritances greater than 25,000 and 50,000€ whose respondents were very few compared to the whole sample). However, it can be noticed that, even if not always significant, expecting an inheritance greater than 25K might increase intentions to leave an inheritance.

Table 10: Impact of inheritance expectations on intention to bequeath

	Bequest	Bequest > 10k	Bequest > 100k	Bequest > 500k
prob_inh	0.001 (0.066)	-0.027 (0.069)	-0.044 (0.071)	-0.023 (0.036)
prob_inh_10k	-0.096 (0.121)	-0.126 (0.123)	-0.221* (0.118)	0.016 (0.086)
prob_inh_25k	0.180 (0.147)	0.333** (0.137)	0.487*** (0.153)	-0.081 (0.077)
prob_inh_50k	-0.028 (0.103)	-0.051 (0.091)	-0.047 (0.120)	0.150** (0.060)
female	1.204 (2.784)	-1.899 (3.067)	0.478 (3.378)	-0.735 (1.811)
age	-0.440*** (0.138)	-0.166 (0.144)	0.041 (0.153)	-0.061 (0.081)
income(log)	4.551** (1.828)	6.252*** (1.930)	4.635** (1.965)	1.333 (1.107)
retired	26.371*** (4.850)	22.038*** (5.097)	21.047*** (6.412)	9.606** (3.998)
education	-0.529 (1.910)	0.059 (2.154)	0.320 (2.280)	-0.065 (1.262)
single	-9.675*** (3.193)	-10.655*** (3.567)	-7.464* (3.837)	-2.423 (2.316)
_cons	40.967** (19.068)	6.246 (19.459)	-17.515 (20.021)	-1.984 (11.498)
$R^2$	0.098	0.132	0.139	0.059
Observations	433	426	417	374

Robust standard errors in parenthesis. Significance levels: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

In order to see if there is effectively a relationship between expecting an inheritance and being inclined to bequeath, we try to consider as main regressor reporting expectations just the probability of receiving a "general" inheritance without any amount specified. By doing so, it seems like that expecting to receive an inheritance might increase the chances of leaving a bequest and a bequest greater than 10,000€(significant at 1% significance level); for the cases of a huge bequest like 100,000 or 500,000€, data do not seem to signal any effect of expecting an inheritance.

Table 11: Impact of inheritance expectations on intention to bequeath (2)

	Bequest	Bequest > 10k	Bequest > 100k	Bequest > 500k
prob_inh	0.136*** (0.030)	0.078*** (0.030)	0.043 (0.038)	0.010 (0.023)
female	1.349 (2.087)	-2.956 (2.176)	-1.616 (2.456)	-1.131 (1.345)
age	-0.345*** (0.085)	0.114 (0.088)	0.180* (0.096)	-0.073 (0.055)
income(log)	6.087*** (1.260)	5.323*** (1.410)	2.382 (1.599)	0.887 (0.851)
retired	18.848*** (2.947)	16.334*** (3.005)	15.004*** (3.552)	2.918 (2.066)
education	4.037*** (1.438)	2.837** (1.437)	1.915 (1.672)	0.392 (1.025)
single	-8.699*** (2.320)	-12.941*** (2.440)	-8.491*** (2.685)	1.329 (1.976)
_cons	-1.318 (13.433)	-7.669 (14.448)	-4.620 (16.088)	1.216 (9.290)
$R^2$	0.100	0.122	0.074	0.008
Observations	1242	1104	1032	813

Robust standard errors in parenthesis. Significance levels: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$ .

## 4 Final Remarks

In this paper we investigate whether and to what extent expecting an inheritance acts as driver in economic choices; in particular, we focus on the effect on savings and on the intention to bequeath. In doing so, we use a Dutch dataset integrated with a specific module that we designed on reporting subjective probabilities on receiving an inheritance and the relative amount (in intervals) in the next ten years. Results show that individuals perceive the expected inheritances as a potential increase of personal wealth which leads to a reduction in savings; moreover, expectations seem to matter also in the enhancement of the intention to bequeath: indeed, expecting to receive an inheritance increases the chances of leaving a bequest.

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## Appendix

### A.1. Descriptive Statistics from Regressions Sample

Table 12: Descriptive Statistics

Statistics	Mean	Standard Deviation	Median	Min	Max	N
prob_inh	.2294897	.327251	.03	0	1	1411
prob_inh_10k	.2700129	.3231576	.1	0	1	776
prob_inh_25k	.2476721	.315674	.1	0	1	610
prob_inh_50k	.2009216	.2935451	.05	0	1	510
savings	3461.238	8215.375	3250	-71555.36	29500	1706
female	.4601407	.4985548	0	0	1	1706
age	54.93787	16.07343	57	21	93	1706
income (log)	9.945206	.8841276	10.12	3.68	12.90	1231
retired	.3065651	.4612024	0	0	1	1706
education	2.777843	.7159104	0	0	1	1697
single	.2004689	.4004687	0	0	1	1706
leave_inh	58.73833	35.06784	70	0	100	1242
leave_inh_10k	62.76902	33.84606	70	0	100	1104
leave_inh_100k	38.12791	36.55742	25	0	100	1032
leave_inh_500k	8.264453	18.16103	0	0	100	813