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SUBJECTIVE INHERITANCE EXPECTATIONS AND ECONOMIC OUTCOMES

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Subjective Inheritance Expectations and Economic Outcomes *

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Abstract

In this paper we investigate whether and to what extent inheritance expectations act as a driver of economic choices. We use the DHS dataset merged with a specific module on subjective probabilities on inheritance receiving and its amount foreseen in the next ten years. Hence, we analyze whether the expected inheritance acts as a deterrent to saving. Results suggest that individuals perceive the expected inheritances as a potential increase of personal wealth, which leads to a reduction in savings. Expectations appear to matter also in the enhancement of the intention to bequeath and in future work versus leisure choices.

JEL codes: D14, D84, D91
Keywords: Subjective expectations, Savings, Inheritance

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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 shocks in income and wealth, while expected shocks are already incorporated in the optimal consumption and saving pattern. Thus, the timing of expected income receipt should not matter for consumption decisions. Based on these theoretical implications, the empirical literature has considered both expected and unexpected income and wealth changes to test whether and under what circumstances these theoretical implications hold (see, e.g., Borella et al. (2009), Garcia et al. (1997)). Wealth changes and their impact on consumption choices have been studied in several ways, e.g., exploiting changes in real estate wealth (Calcagno et al., 2009) or considering the impact of inheritance receipt on labour supply and retirement ((Brown et al., 2010)). An inheritance can be conceived as "unearned income" which may 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. Along this line, an inheritance, like any other form of unearned income, will likely have an effect on household decisions such as the allocation of time to leisure or work and consumption.

Inheritances can to some extent be anticipated, however, and according to theory, the anticipated and unanticipated parts will have different effects. Existing studies usually focus on the unanticipated part. In this paper we focus on the effect of the anticipated part, and analyze inheritance expectations and their impact on several economic choices, in particular household savings, the intention to leave a bequest, and expected labor supply at an older age.

The role of wealth in modelling labour decisions has been broadly considered (see Krueger & Pischke (1991), Brown et al. (2010), Bloemen & Stancanelli (2001) on early retirement, Bloemen & Stancanelli (2001) on labour market participation and Imbens et al. (2001), Hen-

ley (2004) on hours worked). Joulfaian & Wilhelm (1994) analyzed the effect of receiving an inheritance on labour supply. Bloemen & Stancanelli (2001) found that wealth has a significantly positive impact on the reservation wage and a negative impact on the reemployment probability for the unemployed – higher levels of wealth result in higher reservation wages and higher reservation wages are associated with a lower reemployment probability. Recent evidence focuses on the effect of receiving an inheritance on the labor force participation (LFP) of married couples: receiving an inheritance might, indeed, act as trigger in increasing the bargaining power of the recipient affecting their LFP, providing new evidence on the ability of spouses to commit to a fully efficient allocation of resources within the household (Blau & Goodstein, 2016). Joulfaian (2006) finds that wealth increases by only a fraction of the inheritances received, and implies a marginal propensity to consume significantly higher than that predicted within the perfect foresight or consumption smoothing frameworks.

The existing literature also has many findings on the intention to bequeath. Recent studies discuss different assumptions concerning household preferences and show that these assumptions have varying 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 receiving an inheritance on economic behaviour (Brown et al., 2010). In this context, another potential 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). There is also some evidence on the effect of an actual inheritance on economic behaviour, rather than an expected inheritance (Brown et al., 2010).

The role of expectations has been widely considered in the economic literature, as an important driver shaping economic and financial decisions. Expectations on a future inheritance could represent an important factor affecting labour outcomes as well as saving choices. To the best of our knowledge, the existing literature provides little evidence on the possible link between inheritance expectations and individuals' economic decisions. This constitutes one of the main reasons why this paper aims at studying whether subjective ex-

pectations of receiving an inheritance in the future do, in some way, affect financial decisions. The expectation as well as the degree of uncertainty on the size and timing of the receipt of an inheritance may influence the pattern of life cycle saving (Weil, 1996). Expecting a wealth endowment in the future (compared to already having received it) should then play a relevant role in shaping people's economic behavior, particularly if the amount is large. According to theory, large inheritances in particular may lead to a decline both in labour force participation and savings (Joulfaian, 2006).

The life cycle model predicts that the perspective of receiving a wealth endowment in the future will positively affect current consumption decisions and, if leisure is a normal good, will induce them to supply less labor over the life cycle, or retire earlier. Moreover, we expect that it makes individuals more willing to leave a bequest, Our empirical methodology will involve the use of the DNB Household Survey (DHS), a Dutch panel data set collected by the CentERdata that allows to study both psychological and economic aspects of financial behavior. This panel survey was launched in 1993 and comprises information on work, pensions, housing, mortgages, income, ownership of durable goods and assets, loans, health, economic and psychological concepts, and personal characteristics. This data set 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. Since we are interested in questions concerning the probability of receiving an inheritance in the future, we devised a special module which comprehends questions that enrich the DHS data set with new information on inheritance expectations.

The direct measurement of expectations has developed since the early 1990s, as expectations are a key interest in intertemporal economic models and measuring expectations is useful to avoid making strong assumptions (Manski (2002), Manski (2004)). In line with this development, 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 correspondence between subjective beliefs and "frequentist realities" (Dominitz (1998), Dominitz & Manski (1997), Manski (2004)).

Along this line, with the aim of understanding economic behavior, validity may be defined by the correspondence between survey reports of expectations and the actual subjective expectations which determine individual behavior. According to Dominitz (1998), it is unreasonable and unnecessary to hope for perfect correspondence. Often, in the absence of expectations data, researchers are left to infer expectations from realizations. Conversely, having at their own disposal individuals' expectations, De Bresser & van Soest (2015) analyzed the determinants of satisfaction with various dimensions of pension arrangements, emphasizing the role of subjective expectations regarding retirement income; their main focus was the validity of subjective expectations elicited through probabilistic measures and the causal impact of expectations on well-being. Indeed, analyzing the predictive power of expectations can provide insights into the validity of expectations data - even if it is not possible to verify whether reported probabilities reflect the actual beliefs held by respondents, it might 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)). 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. The latter is a non-parametric procedure, in the sense that it does not assume any parametric form of the respondents' underlying subjective distributions.

Previous research indicates that subjective expectations correlate with background char-

acteristics in plausible ways (Manski, 2004). Subjective probabilities have been tested and validated particularly in the domain of survival expectations, which are a crucial component in a range of economic decisions such as how to save for retirement and how to spend savings once retired (O'Dea et al. (2018), O'Donnell et al. (2008)). The validity of expectations data has been established for individual mortality (van Santen et al., 2012); indeed, younger cohorts and women underestimate their chances of a long life more than older cohorts and men (e.g., Hamermesh (1985); Wenglert & Rosen (2000); Hurd & McGarry (2002); Banks et al. (2004); Gan et al. (2005); Elder (2013); O'Donnell et al. (2008); Teppa & Lafourcade (2013); Kutlu-Koc & Kalwij (2017)).

Our results show that expected inheritances are negatively associated with savings. Although we cannot exclude that confounding factors drive both inheritance expectations and savings, we think a causal interpretation is plausible: individuals perceive the expected inheritances as an increase of expected lifetime wealth, and this raises their optimal consumption and reduces their savings; moreover, expecting a larger inheritance also reduces intended labor supply at an older age, in the sense of reducing the probability of working full-time at any point after age 62. This is in line with the notion that leisure is a normal good – increasing lifetime income raises the demand for leisure. Finally, we find that expecting a larger inheritance enhances the intention to bequeath. This can be rationalized with a life cycle model with bequest motive, implying that the optimal bequest will increase with lifetime income. It may also have a less economic explanation: expecting an inheritance indicates the presence of a family norm that makes leaving a bequest more desirable. Eventually, all our results are in line with our expectations and robust, even when dropping individuals who already benefited of a wealth endowment, i.e., individuals whose propensity of saving might have already been shaped through previous money transfers.

The remainder of the paper is organized as follows: Section 1 describes the data. Section 2 discusses the empirical methodology and the main results for the analysis of savings. In Section 3, we consider the effect of inheritance expectations on working intentions at older age and on bequest intentions. Section 4 concludes the paper.

1 Data

The empirical analysis involves the use of the DNB Household Survey (DHS), a Dutch panel study collected the CentERdata, a research institute affiliated with Tilburg University[1] specialized in Internet surveys. DHS 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, and economic and psychological concepts. The questionnaires are administered through the Internet, so the questionnaires are self-administered and individuals can answer at a convenient time during a five days period. Respondents are members of the CentERpanel, originally based upon a random sample from the non-institutionalized Dutch adult population. Panel members are invited to answer questions every week or every two weeks; among these questionnaires are the DHS modules. It is important that the selection of panel members of the survey is not dependent on access to Internet: households without a computer or an internet connection are provided with the necessary equipment.

1.1 Inheritance Expectations

The DHS data set is particularly suited for our analysis since it includes rich information on, for example, sources of income, savings and saving attitudes, liabilities and mortgages. In addition, since we were interested in questions concerning the probability of receiving a (large) inheritance in the future, we designed a special module which comprehends several questions that enrich the data set with new information on inheritance expectations, and invited the respondents of the CentERpanel to participate in this specific survey. This questionnaire was fielded from 25 November to 29 November 2016. The overall 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 from DHS.

It is important to say that for the inheritance expectations, we allow for continuous re-

[1] See https://www.centerdata.nl/en

sponses instead of binary (yes/no) answers – respondents report the *chances* of receiving an inheritance. In this way responses will be more accurate, since individuals are in some way forced to reflect more deeply on the question. Moreover, their answers can capture uncertainty. As argued by Manski (2004), if people can express their expectations in probabilistic form, elicitation of subjective probability distributions should have compelling advantages relative to verbal questioning. Probability provides a well-defined absolute numerical scale for responses; hence, there is reason to think that responses may be also interpersonally comparable.

The wording of the four subjective probability questions on the inheritance is given below.

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.*]

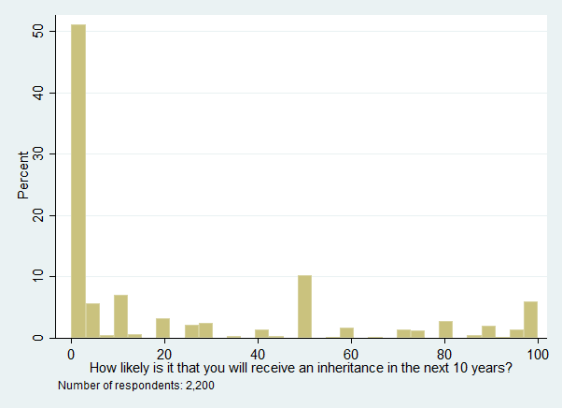
Q3. And how likely is that you will receive an inheritance of **more than 25,000 euros** in the **next 10 years**? [*if* $Q3 > 0$ *then go to Q4.*]

Q4. And how likely is that you will receive an inheritance of **more than 50,000 euros** in the **next 10 years**?

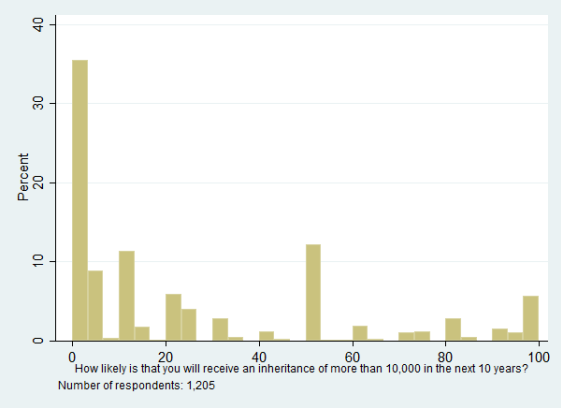
Fill a percentage here from 0 to 100 percent. For example, if you are certain that you will receive an inheritance in the next 10 years, then enter 100%. But if there is still a small chance that you will not receive it, then you enter 97% or less. If you are fully convinced that you will receive no inheritance in the next 10 years, enter 0%. But if there is still a small chance that you will receive it, then you enter for example 3 percent or something more. And if you think the odds are about half, then you fill in 50%, or slightly more or less if that fits better with what you think.

In principle, question $Q2$ is asked only if the answer to question $Q1$ is positive, and the same logic applies to the subsequent questions ($Q3$ and $Q4$). Figures 1a - 1d present the distributions of the reported subjective probabilities. About half of the respondents report a zero probability of receiving any inheritance. Among those who report a non-zero probability of receiving an inheritance, a large minority (35%) is certain that the amount will be lower than €10,000 (Figure 1b). Similarly, many respondents indicate that their inheritance will always be lower than €25,000 or €50,000. As often with subjective probability questions, there is some bunching at 50% and at other round numbers (10%, 20%, etc.) but this does not seem to be excessive. Results of Kleinjans & van Soest (2014) suggest that these features do not affect the determinants of the subjective probabilities.

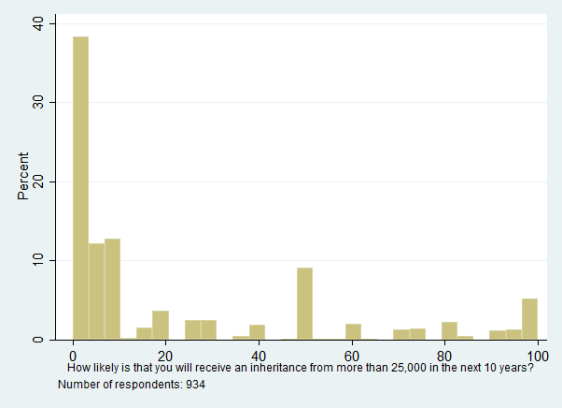
Figure 1: Subjective inheritance expectations in 10 years



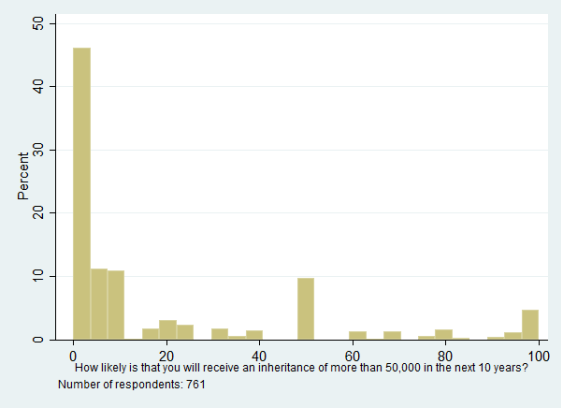
(a) Expected Inheritance



(b) Expected Inheritance greater than €10,000



(c) Expected Inheritance greater than €25,000



(d) Expected Inheritance greater than €50,000

Response Rates and Consistency of Reported Probabilities

The special module on inheritance expectations has been submitted to 2,621 household members from the CentER panel: among those, 421 individuals do not answer to the questionnaire, 2,196 complete it, and 4 respondents start but do not complete the survey. The overall response rate is 83,8%. Among respondents, 992 individuals report to have zero chances of receiving an inheritance, 271 of the others report no chance of receiving an inheritance greater than €10,000, 172 of the remaining respondents have zero chance of an inheritance greater than €25,000 and 166 report a zero probability of getting an inheritance greater than €50,000.

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

The number of respondents report individuals who answer the module we submitted; the response rate is computed on the whole sample invited to participate in the module (2,621 individuals).

According to the literature, common concerns with probabilistic questions are non-response, focal points (e.g., answering 0 percent, 50 percent, or 100 percent) and different degrees of rounding (Kleinjans & van Soest, 2014). 197 respondents report the same probability values at all four questions about chances of receiving inheritances. Among these, 175 report a value different from (0 or) 100 percent; there are 45 cases in which individuals always report a probability of 50 percent. It seems likely that these are focal answers. The 22 respondents who always report a probability of 100 percent might indeed know for sure that they will receive an inheritance of more than €50,000.[2]

[2] We reran all regressions also without these always 50 and always 100 observations; results stay virtually the same except the probability of receiving an inheritance greater than €25,000 where the direction is the same but it appears not to be significant.

Another check on internal consistency and plausibility of the responses is to consider whether the reported probabilities obey the logical rule that they should be non-increasing: our data show that the rate of inconsistency is very low, around 2% out of the whole sample; to be more precise, just 46 individuals out of the 2,196 report a non-increasing sequence of probabilities.

The subjective probabilities give points on each respondent's subjective probability distribution of the amount that will be inherited. We use them to estimate each respondent's subjective distribution through the parametric approach proposed in Dominitz & Manski (1997) ; in Appendix C, we show the implementation details and descriptive statistics for the parametric approach comparing them with the reported probabilities of our survey.

In Table 2, we report how the chances of receiving an inheritance vary across different age categories; it appears 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; this evidence seems reasonable since individuals in that age category, identifying those with older (grand)parents, could represent the ones with more "solid" and relatively well formed inheritance 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	10.72	7.39	5.30
35-44 years	31.46	20.37	14.64	10.56
45-54 years	38.57	28.68	20.80	14.06
55 years and older	14.31	8.70	6.07	4.24
Total	21.72	13.71	9.73	6.80

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

In order to understand what the determinants of the probabilities of receiving an inheritance are, we perform a two limit Tobit model explaining each of the inheritance probabilities, with left censoring of zero values and a censor from above at 100. The possible determinants we consider are individual socio-demographics such as gender, age, educational level, income (expressed in logarithmic form).

Results are presented in Table 3. Female has a negative but insignificant effect, education appears to matter (low educated have low expectations compared to those with university education, which is the reference category).

Table 3: Determinants of Subjective Inheritance Expectations

	Chances inherit	Chances inherit >10k	Chances inherit >25k	Chances inherit >50k
Female	-0.0332	-0.0478	-0.0127	-0.0139
	(0.0324)	(0.0338)	(0.0355)	(0.0386)
Age	-0.0044***	-0.0020	-0.0013	-0.0010
	(0.0014)	(0.0015)	(0.0016)	(0.0017)
Income(log)	0.0867***	0.0719***	0.0699***	0.0633***
	(0.0195)	(0.0206)	(0.0218)	(0.0239)
Educational Levels				
Primary	-0.1632*	-0.2736**	-0.2064*	-0.2788**
	(0.0976)	(0.1068)	(0.1094)	(0.1300)
Lower Vocational	-0.1293**	-0.2027***	-0.2624***	-0.2864***
	(0.0526)	(0.0553)	(0.0594)	(0.0666)
Intermediate General	-0.0033	-0.0621	-0.0528	-0.0453
	(0.0591)	(0.0611)	(0.0633)	(0.0679)
Intermediate Vocational	-0.0333	-0.0666	-0.0858*	-0.1076*
	(0.0481)	(0.0493)	(0.0509)	(0.0551)
Higher Vocational	-0.0735	-0.1205***	-0.1025**	-0.1069**
	(0.0455)	(0.0465)	(0.0478)	(0.0515)
Retired	-0.3031***	-0.3120***	-0.3073***	-0.3225***
	(0.0455)	(0.0491)	(0.0528)	(0.0599)
Single	-0.0752*	-0.1273***	-0.1202***	-0.1156**
	(0.0401)	(0.0428)	(0.0447)	(0.0490)
Child(ren)	0.0222	-0.0099	-0.0093	-0.0193
	(0.0479)	(0.0496)	(0.0514)	(0.0560)
No Money Support to Child	-0.0747*	-0.0800*	-0.1151***	-0.1094**
	(0.0399)	(0.0417)	(0.0437)	(0.0482)
No Allowance as Child	-0.0661*	-0.1506***	-0.1482***	-0.1540***
	(0.0347)	(0.0373)	(0.0399)	(0.0446)
No SaveTeach as Child	-0.1084**	-0.0941**	-0.0888*	-0.0951*
	(0.0440)	(0.0473)	(0.0504)	(0.0568)
Left-censored Observations	565	723	814	918
Uncensored Observations	685	527	436	332
Observations	1250	1250	1250	1250
Log-likelihood	-598.7655	-525.1897	-472.5047	-413.8759

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Furthermore, focusing on the bottom part of Table 3, it is interesting to notice that being retired has a negative impact on inheritance expectations as well as declaring not to have received allowances during childhood or adolescence; it seems plausible that people no longer in the labour force have potentially already received an inheritance and people who are less used to dealing with financial concepts have lower inheritance expectations.

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. The next section therefore focuses on the construction of savings measures from the available data.

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. Therefore, for those who stated 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[3] for each class of the variable reporting the amount of money put aside. Secondly,

[3] 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.

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 to the income of the household, or lower than the income of the household?*". In Figure 4, we report the distribution of the savings; it appears that there is a high concentration on "quite low" levels of savings.

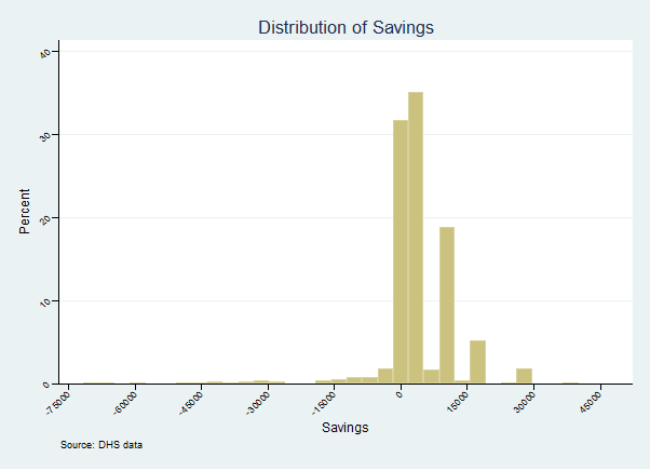


Figure 2: Savings Distribution

Our sample allows us to split the variable reporting savings into three categories: 1) negative savings, corresponding to higher than income expenditures; 2) zero savings for those who stated to have put no money aside and whose expenditures were equal to the income of the household 3) positive savings for those whose expenditures were lower than the household income.

Table 4: Saving behaviour - Descriptive Statistics

Saving, no savings or dissaving	Average savings	Frequency in percentage values
Dissave	-9937.85	9.78
Neither save or dissave	0	18.96
Save	6137.39	71.26
Total	3401.20	100.00

The table provides descriptive statistics of the dependent variable reporting saving behaviour. Statistics are weighted by sample weights.

2 Empirical Analysis

In order to detect the impact of probability of receiving an inheritance on savings behaviour, we first estimate a Probit model in which the dependent variable is specified as a dummy variable taking value one when savings are positive and zero otherwise. Second, since we are able to differentiate between three categories of saving attitudes, we perform an Ordered Probit where the dependent variable assumes value 1 if individuals dissave, 2 if they neither save or dissave and 3 if they save.

Our main regressors are the four subjective probabilities of inheritance expectations which were presented in Section 1.1, the chances of receiving any inheritance in the next ten years, of receiving an inheritance greater than €10,000, greater than €25,000, or greater than €50,000. We also control for all demographic and socio-economic variables such as gender, age, income, level of education, etc.; see Section 1. Among the control variables we also include three additional regressors: a dummy variable equal to one if the individual is not planning to give large amounts of money to child(ren) as well as two variables concerning attitudes towards lack of receiving allowances and having learned to put money away as a child.

2.1 Probit Results

To understand whether inheritance expectations increase or decrease the tendency to save, we first use as the dependent *savings* variable a dummy taking value 1 if savings are positive and 0 otherwise.[4]

Results are presented in Table 5. The coefficients of the probability of receiving an inheritance have the expected sign and are significant at the 5% level. Expecting a (large) inheritance decreases the probability of saving a positive amount by a magnitude ranging from 9 to 13 percentage points.[5]

[4] Using the savings variable in its original form and running an OLS regression, results show a negative but insignificant relationship with the subjective probabilities.

[5] We only include one subjective probability at time; including all four probabilities makes all probabilities insignificant due to multi-collinearity (results not presented).

Women have an around 5 percentage points higher probability of saving than men and the difference is significant. This effect might be due to higher risk aversion and a larger interest in precautionary savings among women. In line with this result, Seguino & Floro (2003) argue that increases in women's wages as well as increases in their share of income lead to higher rates of aggregate saving.

Looking at civil status, the ex-ante expectation is that *singles* might be less oriented to save compared to those living with a partner or with children. Results confirm this prediction, showing that singles have lower probability of saving.

Another interesting result is related to the variable reporting the intention of giving financial support to children. Results show that those who do not intend to give financial support to their children have an around 7 percentage points lower probability to save than those who are willing to financially support their child(ren) and this difference is significant. It suggests that inter-vivos transfers to children are an important motive to save. Moreover, those who did not learn as a child to put money away (i.e., saving) have a significantly lower probability to save than those who did.

Instead of including one of the four subjective inheritance probabilities, we also used the four probabilities to estimate each respondent's complete subjective distribution following Dominitz & Manski (1997), and used the mean and variance of each respondent's subjective distribution as regressors. Results are presented in Table 6. They are again with the previous findings, showing a negative and statistically significant relationship between an individual's expected inheritance amount and their saving propensity. We find no significant effect of the subjective variance, suggesting that uncertainty about the inheritance has no influence on the decision to save or not.

Table 5: Impact of Inheritance Expectations on Saving - Probit Regression

Dependent Variable: Saving==1				
Probability Inheritance	-0.1093***			
	(0.0350)			
Probability Inheritance 10k		-0.1266***		
		(0.0422)		
Probability Inheritance 25k			-0.0912*	
			(0.0481)	
Probability Inheritance 50k				-0.1105**
				(0.0550)
Female	0.0481*	0.0490**	0.0505**	0.0507**
	(0.0246)	(0.0246)	(0.0246)	(0.0246)
Age	-0.0041***	-0.0039***	-0.0039***	-0.0039***
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Income(log)	0.0508***	0.0492***	0.0479***	0.0476***
	(0.0134)	(0.0134)	(0.0134)	(0.0133)
Educational Levels				
Primary	-0.0202	-0.0259	-0.0168	-0.0168
	(0.0718)	(0.0726)	(0.0707)	(0.0707)
Lower Vocational	-0.0478	-0.0529	-0.0474	-0.0472
	(0.0438)	(0.0439)	(0.0436)	(0.0437)
Intermediate General	-0.0152	-0.0208	-0.0174	-0.0175
	(0.0491)	(0.0496)	(0.0493)	(0.0494)
Intermediate Vocational	-0.0402	-0.0435	-0.0416	-0.0424
	(0.0430)	(0.0432)	(0.0431)	(0.0432)
Higher Vocational	-0.0651	-0.0698*	-0.0640	-0.0639
	(0.0418)	(0.0419)	(0.0416)	(0.0417)
Retired	0.0181	0.0181	0.0242	0.0250
	(0.0306)	(0.0306)	(0.0303)	(0.0303)
Single	-0.0860***	-0.0860**	-0.0833**	-0.0829**
	(0.0332)	(0.0334)	(0.0333)	(0.0333)
Child(ren)	0.0304	0.0320	0.0335	0.0334
	(0.0406)	(0.0409)	(0.0411)	(0.0411)
No Money Support to Child	-0.0710**	-0.0725**	-0.0728**	-0.0724**
	(0.0311)	(0.0311)	(0.0313)	(0.0312)
No Allowance as Child	-0.0203	-0.0247	-0.0208	-0.0206
	(0.0253)	(0.0256)	(0.0255)	(0.0254)
No SaveTeach as Child	-0.0765**	-0.0733**	-0.0724**	-0.0716**
	(0.0351)	(0.0349)	(0.0348)	(0.0348)
Observations	1250	1250	1250	1250
Log-likelihood	-585.2520	-585.6043	-588.1056	-587.9578

Marginal effects reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Impact of Mean and Variance of Inheritance Expectations on Saving

Dependent Variable: Saving==1	
Mean Subjective Expectations	-0.1266**
	(0.0547)
Variance Subjective Expectations	-0.4356
	(0.2921)
Female	0.0485**
	(0.0246)
Age	-0.0040***
	(0.0011)
Income(log)	0.0511***
	(0.0134)
Educational Levels	
Primary	-0.0046
	(0.0691)
Lower Vocational	-0.0321
	(0.0439)
Intermediate Vocational	-0.0226
	(0.0444)
Higher Vocational	-0.0493
	(0.0443)
University	0.0171
	(0.0451)
Retired	0.0167
	(0.0307)
Single	-0.0870***
	(0.0333)
Child(ren)	0.0298
	(0.0406)
No Money Support to Child	-0.0702**
	(0.0311)
No Allowance as Child	-0.0219
	(0.0255)
No SaveTeach as Child	-0.0762**
	(0.0351)
Observations	1250
Log-likelihood	-584.5042

Marginal effects reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

2.2 Ordered Probit Estimation

As indicated at the end of Section 1.2, we also use a more refined measure of saving, differentiating three (ascending) categories: 1) dissavers (savings below zero); 2) neither savers nor dissavers (savings approximately zero); 3) savers (savings above zero). See the previous section for details, particularly the descriptive statistics in see Table 4.

The ordered probit results confirm the negative effect of inheritance expectations on the tendency to save; see Tables 7 and 8. The coefficients related to inheritance expectations are statistically significant. In general, the results for different models and specifications all point in the same direction. Saving is negatively associated with age and strongly positively associated with income. The latter is in line with the extensive literature stating that the 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)). Controlling for income and other variables, there is not much of a relation between saving and education level.

Given that coefficients on Ordered Probit are not very informative, we present marginal effects of the main explanatory variables of interest, the inheritance probabilities, in Table 8. The table reports the marginal effects on the three different outcomes (i.e., dissaving, neither saving or dissaving, and positive savings). Results are consistent with the Probit results, showing that, for example, an increase of one percentage point in probability of receiving an inheritance gives a 4 percentage points higher probability of dissaving. Other interesting results concern the effect related to the variables on planning to give large amounts of money to child(ren) or not being taught to save during childhood: it seems that individuals who were not taught to save money or (almost) never received an allowance as a child show higher probabilities of dissaving compared to others.

Excluding respondents who already received a transfer

In the Netherlands gifts and inheritances are subject to different tax rules, depending on, for example, the "intergenerational relationship" between the provider and recipient of the

Table 7: Impact of Inheritance Expectations on Saving - Ordered Probit Regression

Dependent Variable: Saving				
Probability Inheritance	-0.3756***			
	(0.1250)			
Probability Inheritance 10k		-0.4736***		
		(0.1540)		
Probability Inheritance 25k			-0.3662**	
			(0.1776)	
Probability Inheritance 50k				-0.4013**
				(0.2006)
Female	0.1379	0.1406	0.1458	0.1458
	(0.0919)	(0.0922)	(0.0917)	(0.0917)
Age	-0.0163***	-0.0154***	-0.0153***	-0.0153***
	(0.0042)	(0.0043)	(0.0042)	(0.0042)
Income(log)	0.1514***	0.1463***	0.1418***	0.1394***
	(0.0417)	(0.0417)	(0.0414)	(0.0414)
Educational Levels				
Primary	-0.1132	-0.1372	-0.1054	-0.1028
	(0.2502)	(0.2493)	(0.2477)	(0.2478)
Lower Vocational	-0.1559	-0.1772	-0.1591	-0.1553
	(0.1471)	(0.1466)	(0.1454)	(0.1462)
Intermediate General	-0.0732	-0.0951	-0.0827	-0.0830
	(0.1739)	(0.1735)	(0.1731)	(0.1734)
Intermediate Vocational	-0.1590	-0.1737	-0.1680	-0.1687
	(0.1484)	(0.1482)	(0.1477)	(0.1481)
Higher Vocational	-0.2362*	-0.2559*	-0.2356*	-0.2338*
	(0.1401)	(0.1398)	(0.1388)	(0.1394)
Retired	0.1339	0.1272	0.1471	0.1534
	(0.1155)	(0.1162)	(0.1151)	(0.1150)
Single	-0.2423**	-0.2444**	-0.2360**	-0.2327**
	(0.1047)	(0.1052)	(0.1049)	(0.1045)
Child(ren)	0.1312	0.1365	0.1415	0.1423
	(0.1429)	(0.1436)	(0.1435)	(0.1432)
No Money Support to Child	-0.2808**	-0.2868**	-0.2874**	-0.2853**
	(0.1165)	(0.1170)	(0.1170)	(0.1164)
No Allowance as Child	-0.1062	-0.1243	-0.1103	-0.1080
	(0.0901)	(0.0903)	(0.0901)	(0.0900)
No SaveTeach as Child	-0.2280**	-0.2210**	-0.2177**	-0.2145**
	(0.1060)	(0.1058)	(0.1056)	(0.1055)
Observations	1250	1250	1250	1250
Log-likelihood	-753.4352	-753.0394	-755.4256	-755.6451

Coefficients reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Marginal Effects of Inheritance Expectations from Ordered Probit Regression

Outcome Variable: Dissaving				
Probability Inheritance	0.0462***			
	(0.0156)			
Probability Inheritance 10k		0.0582***		
		(0.0193)		
Probability Inheritance 25k			0.0454**	
			(0.0223)	
Probability Inheritance 50k				0.0498**
				(0.0251)
Outcome Variable: Neither Saving or Dissaving				
Probability Inheritance	0.0537***			
	(0.0183)			
Probability Inheritance 10k		0.0679***		
		(0.0225)		
Probability Inheritance 25k			0.0524**	
			(0.0255)	
Probability Inheritance 50k				0.0574**
				(0.0289)
Outcome Variable: Saving				
Probability Inheritance	-0.0999***			
	(0.0332)			
Probability Inheritance 10k		-0.1260***		
		(0.0409)		
Probability Inheritance 25k			-0.0978**	
			(0.0474)	
Probability Inheritance 50k				-0.1072**
				(0.0535)
Observations	1250	1250	1250	1250

Marginal effects reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

transfer. Gifts to children are tax exempt up to an amount of €5,304 (for 2016) per annum; gifts to other parties are exempt up to an amount of €2,122 (for 2016) per annum. The marginal tax rate on an inheritance can amount to 20% for children and 40% for others.[6] As a consequence, there is a tax incentive for intervivos transfers instead of leaving a bequest. This may have two implications: first of all, individuals are in some way "prepared" to the concept of receiving a gift or an inheritance at some point of their life; secondly, the propensity of saving might be shaped through these money transfers.

In order to analyze whether our results might be in some way driven by those who already received an inheritance or a gift, we conducted a robustness check dropping those who already benefited of a wealth endowment. The models are the same (i.e., dependent and independent variables), only the sample differs. In Appendix B, we show results from a Probit model without individuals who benefited from a wealth endowment in the previous year: signs and statistical significance of the coefficients related to inheritance expectations are confirmed; marginal effects of inheritance expectations appear to be a little bit higher than results obtained without dropping those who already received an inheritance.

3 Bequest and Retirement Intentions

In the previous section, we have seen that inheritance expectations predict household savings behaviour. In the current section, we analyse whether the same inheritance expectations also help to predict two other outcomes: the intention to leave a bequest, and the intention to work full-time after age 62.

Willingness to Leave a Bequest

As argued by Stark & Nicinska (2015), it is plausible that the receipt of an inheritance will create an environment that is conducive to making bequests, such that bequeathing will correlate positively with inheriting. However, the argument could also run in the opposite direction: people who did not receive an inheritance and who found it difficult to get on

[6] Information provided by the *Belastingdienst*, the Dutch Tax and Customs Administration.

in life without the support provided by an inheritance will not want their children to be subject to a similar experience. This assumes, of course, that people are altruistic towards their children.

We exploit a survey question on the chances of leaving a bequest[7] as a new dependent variable of our model. A huge portion of our sample appears to be willing to leave an inheritance in the future (almost the 88%); in Appendix B, we report the distribution.

In order to see if there is a relationship between expecting an inheritance and being inclined to bequeath, we consider as main explanatory variables of interest the mean and variance of each respondent's distribution.[8] Exploiting the reported probability of the willingness to bequeath, we perform a two-limit Tobit model; the results, reported in Table 9, indicate a positive and significant (at the 1% level) relationship between the expected inheritance amount and the chances of leaving a bequest; no significant effect of the subjective variance is found.[9] Other interesting results come to light from this analysis: income plays an important role - indeed it is reasonable to expect that rich households have higher chances of leaving a bequest to their relatives; another noticeable result comes from being a single household, indeed being alone in the household might imply lower probabilities of bequeathing to someone.

Of course, when analyzing these results, it has to be taken into account that willingness to bequeath can be related to unobservable family norms about bequest which also affect inheritance expectations. Indeed, Wilhelm (1996) assumes that parents suffer from a fixed psychic cost if they deviate from equal division of post mortem bequests, while Laitner (1997) argues that social norms may explain why intergenerational transfers are equally divided between siblings; in families where parents think leaving an inheritance is the norm, children could think the same. In such families, parents will more often leave a bequest, and children will expect to do the same.

[7] The exact text of the question is "*What is the chance that you will leave an inheritance (including possessions and valuable items)?*" where individuals can indicate a number from 0 to 100 - 0 means 'no chance' and 100 means 'absolutely sure'.

[8] Using the separate subjective inheritance probabilities gives qualitatively similar results (not reported).

[9] We also perform a linear regression model; results (not reported) are exactly the same showing the positive effect of inheritance expectations on willingness to bequeath.

Table 9: Chances of Leaving a Bequest

Dependent Variable: Willingness to Bequeath	
Mean Subjective Expectations	0.1918***
	(0.0519)
Variance Subjective Expectations	0.3325
	(0.2787)
Female	0.0045
	(0.0223)
Age	-0.0044***
	(0.0010)
Income(log)	0.0528***
	(0.0130)
Educational Levels	
Primary	-0.0174
	(0.0629)
Lower Vocational	-0.1046***
	(0.0363)
Intermediate General	-0.1491***
	(0.0418)
Intermediate Vocational	-0.1449***
	(0.0347)
Higher Vocational	-0.0491
	(0.0327)
Retired	0.1935***
	(0.0304)
Single	-0.0803***
	(0.0273)
Child(ren)	0.1798***
	(0.0335)
No Money Support to Child	-0.2105***
	(0.0276)
No Allowance as Child	-0.0030
	(0.0234)
No SaveTeach as Child	-0.1123***
	(0.0290)
Left-censored Observations	140
Uncensored Observations	1110
Observations	1250
Log-likelihood	-584.9415

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Working after Age 62

The effect of wealth on labour market behaviour has been broadly considered in the literature (Doorley & Pestel, 2016); a wealth endowment may affect labour decisions: see Krueger & Pischke (1991), Brown et al. (2010), Bloemen & Stancanelli (2001) on early retirement, Bloemen & Stancanelli (2001) on labour market participation, and Imbens et al. (2001), Henley (2004) on hours worked. Expecting an inheritance implies a larger expected lifetime income. Like any other asset, this may negatively affect labour supply (Joulfaian & Wilhelm, 1994): indeed, Bloemen & Stancanelli (2001) found wealth to have a significantly positive impact on the reservation wage and a negative impact on the employment probability. Similarly, wage expectations influence occupational and inter-temporal labour supply decisions as well as consumption and savings decisions; see, e.g., Dominitz (1998), who analyzes the cross-sectional variation in expectations, revisions of expectations between the spring and the fall of 1993, and the relationship between 1993 expectations and the distribution of spring 1994 earnings realizations.

We exploit a survey question reporting the chances of working at an age greater or equal to 62 years old to construct the dependent variable for work (or retirement) intentions. The exact text of the question is "*What are the chances, you think, of you having a full time paid job at the age of 62 or older?*" where individuals can indicate a number from 0 to 100 - 0 means 'no chance' and 100 means 'absolutely sure'. In Appendix B, we report the distribution of this variable. The probability is zero for around 21.8 percent of all observations and 100 for almost the 24 percent; the average probability is 56 percent. We use the same regressors as in the previous analysis. Also in this case, we perform a two-limit Tobit model directly exploiting the chances of working at an age greater or equal to 62 years. Table 10 presents the results. We find a negative and statistically significant effect of the expected inheritance on the probability of working at any age greater or equal to 62 years, in line with what we would expect if leisure is a normal good. The uncertainty about the inheritance (the subjective variance) is positive but not significant.[10] Another interesting result is the gender

[10] We also perform a linear regression model; results (not reported) are exactly the same showing the positive effect of inheritance expectations on willingness to bequeath.

difference: women have lower chances of working after age 62, in line with the lower labour market participation rate among women.

Table 10: Impact of Inheritance Expectations on Probability of Working

Dependent Variable: Probability of Working	
Mean Subjective Expectations	-0.2003**
	(0.0879)
Variance Subjective Expectations	0.5684
	(0.4614)
Female	-0.3344***
	(0.0423)
Age	-0.0097***
	(0.0022)
Income(log)	0.1050***
	(0.0315)
Educational Levels	
Primary	-0.6600***
	(0.2212)
Lower Vocational	0.0689
	(0.0775)
Intermediate General	0.0182
	(0.0822)
Intermediate Vocational	-0.0525
	(0.0608)
Higher Vocational	0.0188
	(0.0567)
Retired	-1.0101***
	(0.2862)
Single	0.0059
	(0.0551)
Child(ren)	0.0170
	(0.0626)
No Money Support to Child	0.0268
	(0.0543)
No Allowance as Child	-0.1277**
	(0.0520)
No SaveTeach as Child	0.0314
	(0.0628)
Left-censored Observations	118
Uncensored Observations	417
Observations	535
Log-likelihood	-348.9402

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4 Final Remarks

In this paper we investigated whether and to what extent expecting an inheritance acts as driver in economic choices. In particular, we focus on the effect on savings, on the intention to leave a bequest, and on the intention to work at any point in time after reaching age 62. We use Dutch survey data with a specific module designed to extract subjective probabilities on receiving an inheritance and the expected amount in the next ten years.

Results show that individuals perceive the expected inheritances as a potential increase of personal wealth. This 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. Finally, in line with the notion that expecting an inheritance increases expected life-time income and leisure is a normal good, larger chances on a (large) inheritance reduce the probability to work at a later age. These results are quite robust for the choice of the sample, the measure of savings, and the measure of inheritance expectations. Constructing the subjective distributions of the inheritance, we find no significant effects of the uncertainty about the inheritance.

All in all, our results convincingly show that subjective probabilities of inheritance receipt have predictive power for economic outcomes and intentions that are robust and in line with theoretical predictions, providing support for the use of the subjective probability reports in empirical models of economic behaviour.

We are aware that this work has several limitations that should be kept in mind when considering the results: We cannot claim that all the effects we find are causal – there might be issues of endogeneity, e.g. related to unobservable features of parents (e.g., propensity to save, health status, age, economic situation, etc.) that might shape inheritance expectations. Future research is needed to study the causal mechanisms in depth, taking into account other financial aspects such as debts, equity, investments, etc.

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A Appendix A

A.1 Descriptive Statistics from Regressions Sample

Table A.1: Descriptive Statistics

	Mean	SD	Median	Min	Max	N
Probability Inheritance	0.22	0.32	0.03	0	1	1250
Probability Inheritance 10k	0.14	0.26	0.00	0	1	1250
Probability Inheritance 25k	0.10	0.23	0.00	0	1	1250
Probability Inheritance 50k	0.07	0.19	0.00	0	1	1250
Savings	0.80	0.40	1.00	0	1	1250
Female	0.44	0.50	0.00	0	1	1250
Age	56.49	16.07	60.00	16	91	1250
Income	26591.00	21570.76	23925.32	40	402384	1250
Income(log)	9.92	0.90	10.08	4	13	1250
Retired	0.34	0.47	0.00	0	1	1250
Primary Education	0.03	0.18	0.00	0	1	1250
Lower Vocational Education	0.23	0.42	0.00	0	1	1250
Intermediate General Education	0.10	0.30	0.00	0	1	1250
Intermediate Vocational Education	0.21	0.41	0.00	0	1	1250
Higher Vocational Education	0.27	0.44	0.00	0	1	1250
University Education	0.15	0.36	0.00	0	1	1250
Single	0.22	0.42	0.00	0	1	1250
Child(ren)	0.72	0.45	1.00	0	1	1250
Leave Inheritance	0.88	0.32	1.00	0	1	1250
Probability Working 62 years old	0.78	0.41	1.00	0	1	535
No Money Support to Child	0.53	0.50	1.00	0	1	1250
No Allowance as Child	0.32	0.47	0.00	0	1	1250
No SaveTeach as Child	0.15	0.36	0.00	0	1	1250

Table A.2: Description of the Variables

	Main Variables Description
Age	Age of the individual
Child(ren)	Do you have any children?
Educational Levels Dummies	
Higher Vocational	High vocational level education
Intermediate General	Intermediate general level education
Intermediate Vocational	Intermediate vocational level education
Lower Vocational	Lower vocational level education
Primary	Primary school level education
University	University level education
Female	Gender of the individual is a woman
Income	Income earned in 2016
Income(log)	Income earned in 2016, expressed in logarithmic form
Leave Inheritance	What is the chance that you will leave an inheritance
No Allowance as Child	When you were between 8 and 12 years of age, did you receive an allowance from your parents then?
No Money Support to Child	Do you give large amounts of money to your children in order to transfer part of your capital to them, or are you planning to do so in the future?
No SaveTeach as Child	Did your (grand)parents stimulate you to save money between the age of 12 and 16?
Probability Inheritance	How likely is it that you will receive an inheritance in the next 10 years?
Probability Inheritance 10k	And how likely is that you will receive an inheritance of more than €10,000 in the next 10 years?
Probability Inheritance 25k	And how likely is that you will receive an inheritance of more than €25,000 in the next 10 years?
Probability Inheritance 50k	And how likely is that you will receive an inheritance of more than €50,000 in the next 10 years?
Probability Working 62 yrs	What are the chances, you think, of you having a full time paid job at the age of 62 or older?
Retired	Dummy variable indicating whether or not the individual is retired
Savings	Dummy variable indicating whether the individual saves money or not
Single	One component household without children

B Appendix B

B.1 Impact of inheritance expectations without people who already received an inheritance

Dependent Variable: Saving==1				
Probability Inheritance	-0.1203***			
	(0.0377)			
Probability Inheritance 10k		-0.1345***		
		(0.0461)		
Probability Inheritance 25k			-0.0955*	
			(0.0527)	
Probability Inheritance 50k				-0.1129*
				(0.0614)
Female	0.0456*	0.0465*	0.0477*	0.0475*
	(0.0256)	(0.0257)	(0.0257)	(0.0257)
Age	-0.0040***	-0.0038***	-0.0037***	-0.0037***
	(0.0012)	(0.0012)	(0.0011)	(0.0011)
Income(log)	0.0480***	0.0461***	0.0450***	0.0445***
	(0.0140)	(0.0140)	(0.0139)	(0.0139)
Educational Levels				
Primary	-0.0326	-0.0370	-0.0270	-0.0268
	(0.0772)	(0.0776)	(0.0756)	(0.0755)
Lower Vocational	-0.0632	-0.0675	-0.0611	-0.0606
	(0.0471)	(0.0472)	(0.0468)	(0.0468)
Intermediate General	-0.0329	-0.0389	-0.0348	-0.0354
	(0.0540)	(0.0546)	(0.0542)	(0.0543)
Intermediate Vocational	-0.0463	-0.0503	-0.0477	-0.0477
	(0.0460)	(0.0463)	(0.0462)	(0.0462)
Higher Vocational	-0.0770*	-0.0813*	-0.0744*	-0.0742*
	(0.0450)	(0.0451)	(0.0447)	(0.0447)
Retired	0.0169	0.0185	0.0247	0.0258
	(0.0322)	(0.0320)	(0.0318)	(0.0317)
Single	-0.0891***	-0.0889**	-0.0858**	-0.0849**
	(0.0345)	(0.0347)	(0.0346)	(0.0345)
Child(ren)	0.0274	0.0307	0.0322	0.0315
	(0.0424)	(0.0428)	(0.0430)	(0.0430)
No Money Support to Child	-0.0642**	-0.0663**	-0.0667**	-0.0659**
	(0.0325)	(0.0326)	(0.0327)	(0.0326)
No Allowance as Child	-0.0201	-0.0248	-0.0204	-0.0205
	(0.0264)	(0.0267)	(0.0265)	(0.0265)
No SaveTeach as Child	-0.0786**	-0.0751**	-0.0749**	-0.0741**
	(0.0360)	(0.0358)	(0.0358)	(0.0357)
Observations	1183	1183	1183	1183
Log-likelihood	-567.9248	-568.6986	-571.1507	-571.1192

Marginal effects reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

B.2 Willingness to leave a bequest

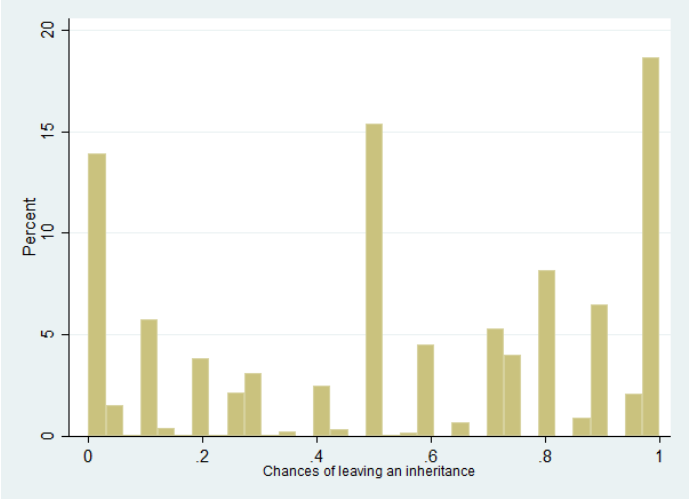

Figure 3: Willingness to bequeath

B.3 Working after age 62

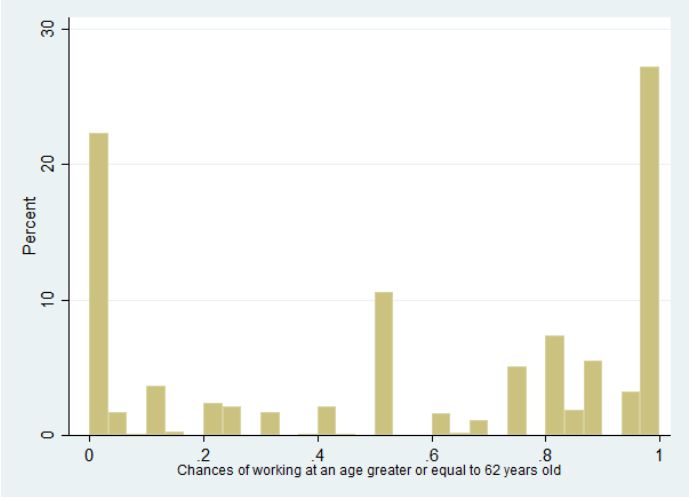

Figure 4: Work (or retirement) intentions

C Appendix C

C.1 Subjective Distributions of Inheritance Expectations

As explained in Section 1 discussing the consistency of probabilities, we present the approach to derive subjective probability distributions from the observed inheritance expectations data. These probabilities are interpreted as points on the subjective cumulative probability distribution function of the inheritance expectations of individuals from our sample.

C.1.1 Parametric Approach

The parametric approach, proposed by Dominitz & Manski (1997), assumes that the reported probabilities follow from some parametric underlying distribution. Given the distribution and the reported inheritance expectations IE_k, the parameters θ_i of the distribution can be estimated by fitting the probabilities implied by the distribution, $F(IE_k; \theta_i)$, to those reported in the data.

Assuming that subjective distributions are lognormal, we can write $F(IE_k; \theta_i)$ as:

$$F(IE_k; \theta_i) = 1 - \Phi\left(\frac{ln[IE_k] - \mu_i}{\sigma_i}\right)$$

where $\Phi(\cdot)$ is the standard normal cdf and μ_i and σ_i are individual specific parameters to be estimated.

The objective function defining the best possible fit chosen by Dominitz & Manski (1997) is the sum of the squared differences between implied and reported probabilities. Along this line, for each i, we choose the pair (μ_i, σ_i) that solves the least squares problem:

$$\min_{\mu_i, \sigma_i} \sum_{k=1}^{4} [F_{ik} - F(IE_k; \mu_i, \sigma_i)]^2$$

Once the parameters of the lognormal distribution are estimated, we can compute the descriptive statistics of the subjective inheritance expectations.

In Table C.1, it follows the comparison between the observed (original) inheritance expectations and the ones reconstructed through the parametric approach previously presented.

Table C.1: Descriptive Statistics

	Mean	Standard Deviation	Median	Min	Max	N
Probability Inheritance	0.22	0.32	0.03	0	1	1238
Probability Inheritance 10k	0.14	0.26	0.00	0	1	1238
Probability Inheritance 25k	0.10	0.23	0.00	0	1	1238
Probability Inheritance 50k	0.07	0.19	0.00	0	1	1238
Subjective Inheritance	0.20	0.31	0.00	0	1	1238
Subjective Inheritance 10k	0.13	0.25	0.00	0	1	1238
Subjective Inheritance 25k	0.09	0.22	0.00	0	1	1238
Subjective Inheritance 50k	0.06	0.19	0.00	0	1	1238

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