Household Saving in Germany:

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Lothar Essig

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University of Mannheim

Abstract: This paper presents selected highlights drawn from the German SAVE surveys in 2001 and 2003, expanding the findings of Börsch-Supan and Essig (2003) along three lines. First, it analyses the households' assessment of their general, economic and financial well-being in the past, present and future. Second, it reports findings for the respondents' information level on, and expectations about, the public pension system. Third, it presents answers to a newly developed set of questions about risk. Specifically, it tests the reliability of the experimental question design and links self-assessed risk to respondents' financial behavior.

Keywords: household surveys; savings behavior; risk.

JEL classification: D12

** *Address:* Mannheim Research Institute for the Economics of Aging (MEA)
        University of Mannheim
        D-68131 Mannheim, Germany
E-mail: lothar_essig@web.de
Fax: +49-621-181-1863

1 Introduction

This paper presents an extension to the paper of Börsch-Supan and Essig (2003), *"Saving in Germany"* which evaluated the 2001 *SAVE* study to shed light on the savings behavior of German households.

The main findings of Börsch-Supan and Essig (2003), briefly, are: Overall, they find extraordinarily stable savings patterns. More than 40% of German households save regularly a fixed amount. About 25% of German households plan their savings and have a clearly defined savings target in mind. Most of German household saving is in the form of contractual saving, such as saving plans, whole life insurance and building society contracts; see Walliser and Winter (1999) for review. This makes the flow of saving rather unresponsive to economic fluctuations, such as income shocks. Most households prefer to cut consumption if ends do not meet. In particular the elderly do not like to use credit cards, and they eschew debt.

This paper will add new insight to the results from Börsch-Supan and Essig (2003) with the new available *SAVE* data from the year 2003.[1] These new data are composed by two different subsamples. The first one is a panel sample from households being asked in both available waves, while the second one is an additional 'refreshment sample'. Methodological aspects of the *SAVE* data will not be discussed in this paper; they are summarized in Essig (2005). In order to distinguish year and sample effects, all results will be presented pooled and separately for each subsample if possible.[2]

At the time field work for this survey has been done (June 2001 and June 2003) several political incidents had strong influence

The gap between the June 2001 and June 2003 - when the field work has been done -was a time of destructive political events worldwide, beginning with the attacks against the WTC, followed by the war against Afghanistan and ending with the third, still ongoing gulf war. These events brought up a time of insecurity all over the world.

In Germany, two additional events took place in that time span. First, the Euro was introduced as hard cash in Germany on January 1, 2002[3], and ever since there was a discussion of an additional inflation induced by that introduction. Even the German Minister of Finance, Hans Eichel, publicly called to boycott presumed inflationary industries using the Euro to 'raise prices and profits' in May

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[1] This paper was written excluding the 2004 TPI subsample, cf. Essig (2005), since this subsample was not available until the end of August 2004. An exception is Section 4 where results for the new included risk variables are presented.
[2] Panel analysis is, by construction, only possible for the CAPI 2001 and 2003 subsamples.
[3] while it was already introduced as the official currency of the European Monetary Union on January 1, 1999.

2002. While some researches demonstrate that this inflationary feeling is due to risen prices of only some products in the basket[4], see Ifo Institut (2002), others refer to psychological phenomena like biased assimilation and attitude polarization, see Frey *et al.* (2002). Second, even though the demographic changes of the aging population in Germany are well known for years, there has not been a large public debate on the pension and social security system in Germany. This definitely changed with the installation of the so-called 'Ruerup-Commission'[5] in 2003; recommendations of the commission were also published before the field work of the second wave. The main message of the commission's report are, very briefly, that private old-age provision and health-care will become more and more important. Even if the majority of the population might have implicitly doubted the long-run stability of the social security systems, the problem is now much more obvious.

So, indeed, the situation in 2003 is different to the one in 2001 in many respects. And for that reason reading the *SAVE* data again might be an instructive exercise.

The plan of this paper is as follows. Section 2 discusses the present, the past and the future of the Germans' judgement of their well-being in the light of the possible worsening of the population's confidence. Section 3 reports findings for respondents' information level on and expectations for the public pension systems. Section 4 describes results for the recently included[6] risk questions. It tests the reliability of the experimental question design and links self-assessed risk to respondents' financial behavior. Section 5 summarizes the findings on these three topics.

Due to sampling issues of the *SAVE* dataset (see Essig (2005)), three major questions will be discussed in this paper. First, will there be difference in the strict panel structure of the data, i.e., what are, if any, the changes between 2001 and 2003 of households being exclusively observed in both years? This clearly offers the most interesting research fundament since values can compare households one by one. Second, do households differ in the two 2003 subsamples? If not, this would allow pooling of the two 2003 subsamples, as was the case in 2001, see Börsch-Supan and Essig (2003). Third, pooling subsamples in years, are there significant changes between 2001 and 2003? The abundance of tables and figures requires showing only significant ones. All other not shown but mentioned results will be available by the author on request.

All presented values underlying every table and figure in this paper will be weighted across subsamples. See Essig (2005), for a discussion of the data's representativeness and the construction of used weights. The chosen weights from that chapter refer to the dimensions subsamples, net

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[4] which were often due to higher taxes, e.g. on alcohol and tobacco.
[5] Cf. the report of the Kommission zur Nachhaltigkeit der Finanzierung der sozialen Sicherungssysteme (2003).
[6] In the *SAVE* 2004 wave, surveyed in June/July 2004.

household income, and age.

2   Well-being and living situation

This section shows values for the respondents' evaluation of the present, the past and the future. Börsch-Supan and Essig (2003) found that the majority of those surveyed consider that their situation is really positive, what may be a surprise because of the Germans' rather pessimistic reputation. The question asked here is whether these findings can be affirmed two years later.

2.1   The present

What variables would be influenced by the time change between 2001 and 2003? This is the topic of this subsection. As argued in the introduction, the exogenous shocks in 2001, 2002 and 2003 might have caused or induced a change of behavior. But has it also changed personal contentment? This will be analyzed looking at five variables: health, work, housing, income, and the general living situation.[7] It might well be the case that in general, respondents feel worse in general 2001 than in 2003 (living situation), but when directly asked to certain specific categories, one does not observe significant changes at all.

2.1.1   Panel results

Figure 1 compares households observed in both years,[8] while Figure 2 shows the distribution of the differences between the two years. Taking a scale from 0 to 10, which ranges from "completely discontent" to "very content", the majority of those surveyed classed themselves in the middle (the rating 5) or to the right of this (values 6 to 10). One can see no tremendous change in the pictures of the satisfaction items. The influence of deteriorated exogenous factors on the individual well-being is thus not directly reflected in the contentment variables. Running *Ordered probit* regressions[9] separate for all of these five variables on a constant and a dummy for the second wave one can see the results suggested by Figure 1 proved: only in the regression of the general living contentment

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[7] The exact wording was: "You will see a list of things that carry a certain significance in life. Please state according to a scale of 1 to 10 in how far you are content with the respective aspect. 0 means very discontented and 10 means very content. How content are you in regard to: (a) your health? (b) Your job? (c) Your housing? (d) Your income? (e) Your standard of living in general?".

[8] A so-called 'flag' filter (a variable controlling for respondent identity within each household) was introduced to eliminate observations when a respondent change in 2003 was suspected (e.g., the partner of the year 2001 is the respondent in 2003); this was done when the gender of the interviewee differed. One thereby loses 4 observations (2 in each wave since only a fully balanced panel is considered.). A different flag filter based on the interviewee's birth year proved to be problematic since it changed sometimes only by one year, leaving the possibility that respondents rather fib about their age (32 cases) than actually observing a real respondent change. This is much less less likely for the gender variable, reducing the type-I - error (incorrectly dropping observations) practically to zero.

[9] Not shown here, but available on request.

variable shows a significant deterioration in 2003 can be observed. This seems to back the hypothesis from the previous paragraph that respondents, when asked specifically, will not translate these changed environmental conditions into an adaption of evaluating present contentment.[10]

2.1.2 Other results

Figure 3 andFigure 4 show the analog results for the comparison of the two *SAVE* 2003 subsamples and between the pooled 2001 and 2003 subsamples. The figures leave us with two insights. First, there are no profound differences between the two *SAVE* 2003 subsamples,[11] and second, the satisfaction level did not change in a large scope between 2001 and 2003. A figure comparable to Figure 2 is of course not feasible since this can only be done when we observe households more than once.

2.2 The past

2.2.1 Panel results

These assessments are supported by past experience. Table 1 focuses the attention on the income situation. Those surveyed were asked to compare their current income situation with the situation five years ago.[12] The table shows that more households are in a significantly better situation than are in a significantly worse situation. The improvement in income in the middle category is particularly noticeable: whereas 25.1% of households verify that their income situation is 'slightly better' than it was five years ago, only 13.8% ascertain that they are in a slightly worse position. Just under a third of those households surveyed remain at the same level.[13]

Table 1: Change of the income situation

	2001				
2003	Significantly better	Slightly better	About the same	Slightly worse	Sign. worse
Significantly better	**28**	16	9	3	0

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[10] Calculating t tests for the means of these variables, we see in every case lower means in 2003 than in 2001, only one of them (for housing) being significant. The problem of this procedure is that values of these variables cannot be interpreted as cardinal values.

[11] Remember, all tables and figures present weighted values.

[12] The exact wording was: "Is your income situation, compared with five years ago (a) significantly better (b) slightly better (c) about the same (d) slightly worse (e) significantly worse?" This question was followed by: "During the last five years, did your income (a) Fluctuate significantly (b) Fluctuate slightly (c) Not fluctuate at all?"

[13] Zaller (1992) investigates variability over time for attitude changes within a four months period. The five item answers (where one of them was a "don't know"-item) were only equivalent in 48% of the cases; in Table 1, we find equivalent answers after two years in 38.5% of the cases (which are marked along the cross-diagonal in the table). On the one hand, keeping the Zaller's results in mind, one has to be careful interpreting the observed changes as real time effects; on the other hand, we observe a skewness towards a more pessimistic assessment, analog to the results in Section 2.1.

31.5%	11.4%	6.5%	5.9%	0.0%
Slightly better	28	**54**	26	7	7
31.5%	**38.6%**	18.8%	13.7%	18.0%
About the same	17	46	64	15	8
19.1%	32.9%	**46.4%**	29.4%	20.5%
Slightly worse	9	14	25	**14**	8
10.1%	10.0%	18.1%	**27.5%**	20.5%
Significantly worse	7	10	14	12	16
7.9%	7.1%	10.1%	23.5%	**41.0%**

Source: SAVE 2001 / 2003.

Note: Row values add to 100% per column.

The direct comparison of the evaluation of the income situation is shown in Figure 5. Compared to the evaluation in 2001, the evaluation in 2003 is more evenly distributed: the share of respondents claiming that their income situation worsened in the last five years almost doubled in 2003 compared to 2001.

Table 2: Income fluctuations during the last 5 years

	2001		
2003	Significant fluctuation	Slight fluctuation	No fluctuation at all
Significant fluctuation	**35**	41	16
	40.7%	18.7%	11.3%
Slight fluctuation	37	**121**	62
	43.0%	**55.3%**	43.7%
No fluctuation at all	14	57	64
	16.3%	26.0%	**45.1%**

In households where any change at all occurred, it appears that these tended to be minimal, as can be seen in Table 2. Only around a quarter of those surveyed indicated significant fluctuations in income.

2.2.2 Other results

Figure 6 expands the results from the past section to all *SAVE* 2001 and 2003 subsamples. The results show that differences between the two years, if pooling the subsections by year, is not pronounced.

2.3 The future

From this view of the past it might be interesting to compare the results to the view of the future. Figure 9 shows the future expectations of the households surveyed. First, I look at the situation of the individual. The perspectives for their own health, the health of their partners and their own financial situation are largely seen in a positive light. This is all the more astonishing because the

overall economic situation at the time the survey was conducted in spring 2001 and 2003 already showed considerable signs of a downturn - a fact that was very clear in the survey (chart on the left "Economic trends in Germany"). The objection that the households in *SAVE* are considerably wealthier than in the average population if no weighting is applied (see Essig (2005)) does not explain this observation, because the weighted income does not show any statistically significant differences over and above the 2000 and 2002 micro-census.

The insight gained at the end of this section is that, in contrast to current voices of foreboding in respect of the downturn in the economy (which tends to be cyclical and therefore perhaps not so very surprising for many people) but also the threat to economic growth resulting from the general pessimism following the terrorist attacks, it can be seen that people give their responses in a context of a healthy assessment of their own situation and an economic basis of this kind.

2.3.1 Panel results

In contrast to the results for the *present* contentment variables presented in Section 2.1.1, we see a rather pronounced shift for the *expectations* of the economic situation. Figure 7 and Figure 8 show that especially for the economic development of Germany, households became more pessimistic in 2003; the lowest value, zero, indicating a pure pessimistic expectation, was chosen five times as often in 2003 than in 2001 (from 3 to 15% of all respondents). In contrast, the own health situation as well as the health situation of the partner has not changed significantly. This supports the hypothesis from the introduction that indeed households adapted to the changed environmental conditions; Figure 7 and Figure 8 also prove that there is no general gloomy prophecy but households rather know to differ between dimensions indeed affected by environmental changes between 2001 and 2003 of the kind we discussed before, and dimensions like health, which are rather exogenous due to these changes. Another interesting result which is also known from other studies and from psychological literature can be seen in Figure 7 and Figure 8: households tend to think that they might not be beaten as hard as the average when conditions worsen.

Effects on financial behavior Given the reduced optimism concerning Germany's future economic development, one might interested whether this translates into changed financial behavior. I will examine this question by two topics. First, will the precautionary saving motive become more important, and second, do households hold less stocks.[14]

Table 3 shows differences for stock ownership rates stratified by expectations for Germany's

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[14] The small sample size for this panel analysis is a serious issue and limits some analysis to bivariate correlation tables. This leaves room for more detailed analysis at a later stage of the *SAVE* panel when more observations will be available.

economic development. Pessimists were defined as respondents whose difference between the expectations of 2001 and 2003 was below the median value of -2. The significant larger drop of ownership rates of the pessimists seems to support the findings of Börsch-Supan and Essig (2003) that intentions, or in this case, assessments, are supported by households' actions.

Table 3: Differences in stock ownership rates by expectations for Germany's economic development

	2001	2003	Difference
Non-Pessimists	29.7%	23.1%	6.6%
Pessimists	32.5%	22.4%	10.2%

Notes: Unweighted values. The *difference-in-difference* value of 3.6% is significant at the 1%-level.

Saving motives The *SAVE* questionnaire asks for judging the importance of nine savings motives on a scale from 0 to 10, where 0 means 'completely unimportant' and 10 'very important', respectively.[15] Figure 12 shows the panel results for nine savings motives as the share of respondents judging the motives being important (defined as judgements ranging from 8 to 10).

The analogue presentation to the previous paragraph can thus be done only implicitly since the answers to the savings motives are measured on an ordinal scale (cf. Footnote 10), and so a *difference-in-difference* approach is presented implicitly in Figure 12. We see slightly positive differences for the pessimistic households.

To identify the effect of deteriorated confidence in Germany's economic development, I apply the following methodology. Again, pessimists were defined as respondents whose difference between the expectations of 2001 and 2003 was below the median value of -2. This adaption of expectations will be called the 'treatment', i.e. whether respondents reacted to the possibly changed economic environment. On the other hand, the 'control group' are respondents who did not adjust their expectations in that manner. Since the CAPI subsample was observed in 2001 and 2003, it is possible to control for effects which were experienced by both groups ('time effect'). When a control group is present, the design in psychology has been called the untreated control group design with pretest and posttest; see Meyer (1995). This can be identified with the *difference-in-difference* technique.

Table 4 shows results from *difference-in-difference* ordered probit regressions of savings motives on dummy variables for the year 2003 and for pessimistic households[16].

Again, the outcome, *savingmotiveXi*, was modeled by the following equation

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[15] Essig (2005) analyzes the importance of each of the nine saving motives in detail. In this paper, the point of interest is whether we can observe changes in judging the savings motives *over time*.

[16] Pessimism, again, is defined as the difference between the expectations of 2001 and 2003 being below the median value of -2.

$$savingmotiveX_i = \alpha + \beta Time_i + \gamma Pessimist_i + \delta\left(Time_i \cdot Pessimist_i + \varepsilon_i\right) \qquad (1)$$

where

α = constant term

β = time trend common to control and treatment group

γ = treatment group specific effect (to account for average permanent differences between treatment and control) δ = true effect of treatment

εi = random, unobserved 'error' term which contains all determinants of *savingmotiveXi* which the model omits

Of course, this is not some *difference-in-difference* model in the classical sense, since in this model here, respondents self-selected themselves into the treatment group. In other words, I take account for the fact that the time trend is not common to all respondents, dividing them into two different groups. The objections to such an approach are summarized in Meyer (1995) who gives an excellent review for the validity threats to models of this kind.

Table 4: Ordered probit estimates: savings motives by time and pessimism

	Purchase of real estate		Precautions for unexpected events		Paying off debts		Old-age provision		Travelling	
	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$
Time effect	-0.099 -	0.227	**-0.202 -**	0.009	-0.045	0.572	-0.010 -	0.902	-0.090	0.234
Group effect	0.397	0.212	**0.485**	0.092	0.071 -	0.812	0.402	0.168	**0.530 -**	0.071
Treatment effect	0.304	0.365	**0.762**	0.012	0.100	0.750	0.368	0.232	**0.621**	0.045

	Major purchases		Education / support of children /grandchildren		Bequests for children / grandchildren		Taking advantage of state subsidies	
	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$
Time effect	**-0.284**	0.000	-0.035 -	0.653	-0.079 -	0.326	-0.023 -	0.769
Group effect	-0.051	0.859	**0.661**	0.037	0.358	0.268	0.381	0.214
Treatment effect	0.143	0.638	**0.546**	0.100	0.253	0.455	0.251	0.437

Notes: Cut-off parameters are not reported. Significant parameters are highlighted.

Table 4 reveals three very interesting results. First, respondents becoming more pessimistic significantly rate the precautionary savings motive more importantly (the highly significant positive *treatment* dummy takes account for that fact). Second, savings for non-durable consumption like travelling is negatively affected by pessimistic evaluations. Third, the old-age provision savings motive does not seem to be affected by more pessimistic economic evaluations (all parameters being insignificant in that regression), not even a pure time effect seems to be relevant. Coming back to the reasoning in Section 1, one can state the following: events having taken place between 2001 and 2003 affect the evaluation of Germany's economic development in a negative way. Respondents whose drop in this rating is more negative than the median also rate the precautionary

savings motive as well as supporting their off spring more important. The ongoing discussion about the German pension system and the rising importance of private contributions for old-age did not seem to affect respondents' evaluation of this savings motive.

3 Pensions

The German private pension system ("public retirement insurance" / 'Gesetzliche Rentenver-sicherung' *[GRV]*) which covers about 85% of the German workforce[17] has undergone continuous reforms concerning retirement *payments*[18] and *pathways* into retirement[19]. Börsch-Supan and Wilke (2003) provide a description of the recent history of institutional changes of the German pension system.

This section will not go into details of the pension system's institutional background. Rather, it checks whether the broad discussion on the future of the German pension system which was intensified by the 2001 "Riester"-Reform and reinforced by proposals of the 2003 Ruerup-commission induced changes of expectations concerning the generosity of the pension system with respect to the replacement rate (direct financial effect) and the pension entry age (indirect financial effect).

Equation 2 presents a simplified stylized model for the effects of the two mentioned parameters:

$$PW_A = \sum_{t=A}^{T} \frac{1}{1+r_t} \alpha_t Y_{A-1} \qquad (2)$$

where

α_t = pension replacement rate in year t

Y_{A-1} = income in last year before pension entry

T = time of death

A = pension entry age

PW = discounted pension wealth

r_t = discount factor in year t

While T and r_t are exogenous for the insured persons, this is only true for the pension entry age A and the replacement rate α, when there exists no compulsory retirement age. In an actuarial fair pension system, α and A are directly connected: the higher the pension entry age, the higher will be

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[17] Cf. Berkel and Börsch-Supan (2003).
[18] Cf. Börsch-Supan *et al*. (2004b).

the replacement rate to compensate for (1) the shorter time span of pension receipts until T and (2) for higher accrued claims during the working life (since the expected pension wealth should equal the accrued pension contributions at time A). Actuarial fairness would then determine the replacement rate α_t to ascertain this equality. Departures from actuarially fair replacement rates generate incentive effects, mostly to early retirement due to more 'generous' pension reforms. Many studies have looked at these incentives effects by microeconometric modelling (Börsch-Supan (1992), Schmidt (1995), Siddiqui (1997), Börsch-Supan (2000), Börsch-Supan (2001), and Börsch-Supan *et al.* (2004b). See also Börsch-Supan *et al.* (2004a) for a review on the Germans' knowledge on the pension system and willingness to accept pension reforms.

This section is structured as follows. First, I will analyze whether the mentioned discussion about the future of the German security systems induced changes on respondents' information level by exploring refusals and 'don't know' answers to pension parameter questions. As a second step, I examine whether respondents changed and their expectations concerning parameters of Equation 2, namely, the pension entry age, A, and the replacement rate, α. Third, I will inspect the importance of private pensions before and after the pension reform discussion.

3.1   Information level on pension parameters

Table 14 shows probit regression results for refusals for the expected pension entry age. Several results are worth noting. First, as expected, refusal is a function of age. But interestingly, the age polynomial's *minimum* is about 37 - 38 years.[20] One would rather suspect that the closer one is away from the event of pension entry, the higher the probability that the actual year is known.[21] Interpreting refusals for this question as insecureness for knowledge, this seems surprising. Second, the year dummy for 2003 is highly negative significant in the respondents' regression. This can be interpreted that respondents in the year 2003 cared more about retire-ment than in 2001. Third, there seems to be evidence that refusals and therefore knowledge about own and partner's pension entry is correlated: respondents giving answers for themselves have a higher probability of answering also to the partner's question.

3.2   Pension age

In the *SAVE* questionnaire, several pension related questions were asked. As mentioned in the introduction, one of the interesting research topics of savings behavior is the relevance of

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[19] Cf. Berkel and Börsch-Supan (2003).
[20] This means that after that age, nonresponse will rise with age.

households' information and expectations about their pension level. As mentioned earlier in Section 2, one would expect some reaction from households to changed economic and political environments. Apart from relatively soft questions like expectations, we are interested whether there is also some significant reaction concerning more specific questions. One major debate of the year 2003 was the adaption of Germany's pension system to the challenge of demographic changes. By that time, one of the most discussed questions was the increase of the normal pension entry age from 65 to 67 years. Did respondents react to that discussion, and if so, how large was the reaction? Table 5 shows average pension entry ages, observed ones (from the *GSOEP* and the *VDR*) and expected values from *SAVE*.

Table 5: Estimated and expected pension entry age

	SOEP 1999[a]	*VDR* 2001[b]	*SAVE* 2001[c]		*SAVE* 2003 [c]	
	Men	Women	Men and Women	Men	Women	Men	Women
Mean	59.7	60.7	60.2	62.9	61.9	63.5	63.0
Median	/	/	/	64	62	65	65
Standard deviation		/	/	3.22	2.89	4.01	3.72
Standard error	/	/	/	0.10	0.16	0.14	0.13
N	/	/	/	941	340	852	830

[a] *Source:* Berkel and Börsch-Supan (2003).
[b] *Source:* Own calculations / data were supported by Christina B. Wilke.
[c] *Notes:* Weighted values, pooled over subsamples. T-Tests for differences between 2001 and 2003 *SAVE* values are significant.

The expected pension entry age is higher in *SAVE* than average observed values in the *GSOEP* and in data we received from the *Verband der Rentenversicherungsträger (VDR)*. This divergence can have several sources. One might be that respondents are more confident concerning their future health or employment situation, or they are more pessimistic with regards to future pension regulations.

Table 13 shows regression results from the expected pension entry age on a set of household and respondent characteristics. The strong positive significant effect of the time gap from 2001 to 2003 seems to support the formerly stated hypothesis that expectations have differed between and 2003. Also, while in the second specification dummies for both 2003 subsamples are significantly positive, they are not significantly different from each other. The time effect is strong. A very good and likely explanation is the exacerbated pension system discussion in and 2003.

Given these findings, a compelling question arises: Do changed expectations concerning the future pension entry age alter the savings motive for old-age provision? The reason for that might

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[21] Or, that the variance of knowledge is a positive function of time to retirement: the closer the retirement age, the better the knowledge and the smaller the variance.

be that respondents whose expected pension entry age difference between 2003 and 2001 is above the median might be more pessimistic concerning the future generosity of the pension system; their loss of faith in the pension system might therefore correspond to a higher emphasize for private old-age provisions.[22]

The results for this procedure are insignificant. In that sense, the evaluation of the importance of savings motives is not affected by the changes in expectations concerning pension entry age. Adding first differences in expectations for the future development of Germany's economic situation does not bring qualitative changes.

3.3 Pension levels

How well are people informed about pension levels? This is as much a serious question as the estimated pension entry age.

Table 15 lists probit estimation results for 'don't knows' and refusals for the replacement rates of pension payments in relation to the last income before retirement, while Table 16 lists results for the estimation for partner's values.[23]

Coefficients for age are highly significant[24] as one would expect them to be: the closer a person comes to retirement, the higher the probability that he will inform himself about future pension payments. Astonishingly, the coefficients for females are insignificant when looking at the information level for the partner; the female dummy in the refusal regression is even signif-icantly negative. Since typically males are the financial officers[25] in a household and typically have more complicated working histories which in turn make replacement rate calculation more complicated[26], one would suspect their knowledge on their partner's replacement rates to be higher. This is not supported by the data.

3.3.1 Pension level and pension age

As Equation 2 implies, pension entry age and the replacement rate are positively interrelated, since the replacement, if adapted actuarially fair, is the degree of freedom parameter to equal retirement

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[22] Raising the pension entry age actually *stabilizes* the pension system and should induce *more* faith in the public pension system. The argument here works the other way around: if there is a necessity to cut benefits (in any form, like reducing the pension payment period by altering the entry age), one might begin to wonder how weak the system already is.

[23] The exact wording of the question was: "What percentage of your last wage/salary do you estimate your pension and your partner's pension will be?"

[24] with a negative influence on the 'don't know' and a positive influence on the 'refusal' probability.

[25] E.g. in about 75% of respondents claiming to be the household's financial officer are male in the GSOEP.

[26] Opposingly, one could argue that women's pensions levels are more difficult to calculate (effect of chid-raising allowance, incomplete work histories, low wages etc.), but the author favors the previous argument.

contributions and pension payments *when the pension entry age is chosen*.

Table 6: Expectations for pension entry age and replacement rates by age

Age	Men		Women	
	Pension entry age	Replacement rate	Pension entry age	Replacement rate
under 30	63.6	51%	63.7	48%
30-39	64	58%	62.7	52%
40-49	63	59%	62.8	59%
50-59	62.8	63%	62.9	62%
60 and older	64.1	59%	63.2	62%

Notes: Means for weighted values. Random sample 2003 only. Self-employed respondents were excluded.

3.4 Private pensions

This Section compares the ownership rates for private pensions between 2001 and 2003.

Table 7: Ordered probit estimates: savings motives by time and pessimism

	2001				2003			
	Men		Women		Men		Women	
Age	Age	Repl. rate	Age	Repl . rate	Age	Repl . rate	Age	Repl. rate
under 30	62.7	59.7%	61.8	52. 9%	63.7	52 .4%	63.7	48.4%
30-39	63.2	61.3%	61.6	60. 9%	64.0	58 .8%	62.8	52.7%
40-49	62.5	61.8%	61.8	62. 0%	63.1	60 .7%	62.7	59.6%
50-59	62.5	65.9%	61.4	61. 1%	63.0	63 .8%	62.8	61.4%
60 and older	64.2	63.9%	63.2	61. 1%	64.1	59 .8%	63.1	61.6%

Notes: Means for weighted values. Self-employed respondents were excluded.

Table 8: Private pension ownership rates

	2001		2003	
	N	Percent	N	Percent
Private Pensions	297	16.53	529	20.4
Occupational pensions		./.	285	10.99
`Riester' pensions		./.	122	4.7
Other private pensions		./.	219	8.45
Refusals	15	0.83	265	10.22
Number of observations		1797		2593

Note: Unweighted values.
[a] Difference in question design: in 2003, private pensions were asked for each category separately, whereas in 2001, the question directly addressed to all forms of private pensions.
[b] Observations differ from full sample (1829 obs. in 2001 and 2667 in 2003) because of not returned drop-off parts.

Table 8 lists descriptive findings of private pension ownership rates for 2001 and 2003. At first glance, the different rates for item nonresponse seem disturbing, but since the questioning was slightly more complex for 2003, this can easily explain the different rates. The ownership rate presented for 2003 therefore can be viewed as a lower bound for ownership, since the rate was calculated *assuming the missing values to be zero*. Just calculating the ratio for the values present

would raise it from 20.4% to 22.7%, and assuming all missing values were indeed respondents *not willing to admit or not knowing* the ownership, the ratio would rise to 30.6% as an upper bound.

Table 17 shows probit regression results for private pension ownership. Again, the time effect is strongly significant: the ownership rates rose between 2001 and 2003.

Table 18 depicts probit estimation results for the three second pillar pension types the *SAVE* questionnaire asks for. Income and age are significant for occupational pension schemes and other private old-age provisions, while income is insignificant for 'Riester'-type pensions -an interesting insight. Further, as already was pointed out by Börsch-Supan and Essig (2003), there is evidence for a relationship between households' self-assessment and actual behavior: the old-age provision motive is highly significant in any of the three regressions - the higher the rated importance of savings for old-age, the higher the probability to own any of the second pillar or two third pillar pension types. For the 'Riester'-type pensions, the motive to take advantage of state/tax subsidies is also highly significant.

3.4.1 Private pensions: panel results

Table 9 shows private pension ownership rates for households asked in 2001 and 2003.

Table 9: Private pension ownership rates: panel results

2003	2001			
	No	Yes	Refusals	Total
No	**279**	21	2	302
	71.4%	31.8%	50.0%	65.5%
Yes	91	39	1	131
	23.3%	**59.1%**	25.0%	28.4%
Refusals	21	**6**	1	28
	5.4%	9.1%	**25.0%**	6.1%
Total	391	66	**4**	461

Private pension ownership more than doubled. This result has to be taken with caution, as already mentioned in Section 3.4, since the questionnaire has changed between both periods of time.[27]

4 Risk behavior

I now turn to topic remote to ones discussed in the two previous sections. In this section, I will present first empirical results for risk measures, which I will link to financial behavior.

Table 10: Risk assessment question

"To what extent do the following statements apply to you. Please answer on a scale of 0 to 10, where 0 means 'does not apply at all' and 10 means 'applies very well'. I do not mind taking risks with respect to:
1. My own health
2. My career
3. In money matters
4. With respect to leisure time and sports
5. When driving"

The *SAVE* survey contains risk variables on five different domains: health, job, financial, leisure and sports, and when driving. Additionally, the *SAVE* 2005 sample will include questions for engaging on four different activities, followed by a judgement on how risky these activities are evaluated. In very recently received data[28], these questions were already included to pretest their feasibility in the field. Moreover, the new risk engagement and evaluation questions allow a consistency test for the existing five risk domain questions.

This section proceeds in the following way. First, I briefly summarize the sets of risk questions contained in *SAVE* and show descriptive and regression results for the newly added questions. Second, I describe the influence of risk measures on the financial behavior, mainly, on the portfolio composition.

4.1   Risk variables in *SAVE*

4.1.1   Risk assessment questions

In order to allow to link savings behavior to risk, the *SAVE* survey contains risk questions common to all subsamples. The exact format of that question is shown in Table 10.

Weber *et al.* (2002) distinguish between five content domains:[29] Financial, health/safety, recreational, ethical and social decisions. Applying this scheme to the risk questions in *SAVE*, we see that the five direct risk questions distinguish between 3 content domains: (a) Health /Safety (1. + 5.), (b) financial (3.) and (c) recreational (4.). Considering the results from Weber *et al.* (2002), the correlation coefficients between the risk domains would be positive, but significantly lower than

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[27] And since in 2003, the survey design was more detailed than in 2001, it is possible that this leads to overestimation, or, in 2001, to underestimation of private pensions rates, and thereby, pension wealth.

[28] The 2001 TPI subsample was surveyed again in June/July 2004; data were received by August 20, 2004. This panel panel sample contains 487 observations, which corresponds to a relatively high net percentage of 74% of the original 660 observations from 2001. I will not refer to any other survey results except the risk questions in this paper.

[29] This bases on the work of Slovic and Lichtenstein (1986).

1.[30] Table 11 shows that the highest correlation coefficient is 0.61 - well below 1.

Table 11: Correlations between risk domains

	Health	Career	Money matters	Leisure and sports	When driving
Health	1				
Career	0.4852	1			
Money matters	0.4277	0.5211	1		
Leisure and sports	0.5061	0.5264	0.5419	1	
When driving	0.4418	0.4583	0.5001	0.6072	1

Notes: N = 4476. Weighted values by income and age.
Source: All *SAVE* subsamples

The distributions of responses for the risk variables are shown in Figure 14, separately for each subsample. Two things are worth noting. First, the value 0 is used particularly often in respect of health, driving and investments, whereas 5 is fairly frequent for career and leisure/sport. Zero values are also given more frequently by the respondents in the Random Route subsample. Second, changes over time within subsamples, e.g. between the two times the TPI sample was surveyed, are very low, thus indicating a high stability of the answers.

In Table 19 and Table 20, the results of Figure 14 are analyzed multi-dimensionally. In the 2001 and 2004 TPI samples, respondents have a higher probability associating higher values to the risk-assessment than the respondents in the 2001 CAPI set for all risk categories. Freelancers and self-employed respondents describe themselves as showing more risky behavior in the fields of career and money matters, which coincidences with the widespread outlook for these two employment categories. Income variables are jointly significant for the risk categories money matters, leisure and sports, and when driving, but not for career and health categories. A higher schooling degree also raises the probability for higher risk values in four of the five categories. Still, one puzzling result is that civil servants do not describe themselves as being less risky in career matters. Women have an overall lower probability of associating high values to risk assessment. This is also in line with other findings from sociopsychological literature, cf. Slovic (1997). Age is jointly significant for all risk domains; age decreases the probability for high risk values. This means that older respondents, though not having to care for children, are more risk averse.

Table 12: Risky activities

"Four different activities are described below. What is the probability that you would do one of the

    1. Walking around alone in an unknown neighborhood
    2. Investing 5% of your yearly income in one stock

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[30] Simply spoken, this accounts for the fact that the preference for one risk domain is *relatively* offset by a less pronounced risk preference in a different domain.

3. Putting a day's income on a bet
4. Go climbing"

4.1.2 Risky activities

It has been found in the psychological sciences that risk-taking is influenced by both, the characteristics of the decision-maker and by the situation (cf. Bromiley and Curley (1992)). The *SAVE* TPI 2004 subsample thus was enriched by additional questions: engaging on four different activities. The exact wording is shown in Table 12. The following two subsections present the results for these variables using the data from the *SAVE* TPI 2004 subsample; a more thorough analysis will be possible after the reception of the 2005 Random Route subsample data.

This question is followed by the request to judge the riskiness of each of the listed activities on a scale from 0 to 10. The descriptive results are shown in Figure 15. It can be well seen that on average, risk evaluation and the probability for exercising the activity are negatively correlated, thus indicating that the questions were very well understood. Furthermore, and quite amazing, response rates are close to 100%.

4.1.3 Interaction of both sets of risk variables

The next step of analysis is to analyze the link between the two blocks of risk questions. This is done by regressing the probabilities of exercising each of the four activities on a set of respondent and household characteristics and the risk judgement of the corresponding activity, as well as the five abstract risk variables using an Ordered Probit regression model. The results, which are shown in Table 21, prove two things. First, the findings of Figure 15 that risk judgement and exercise are positively correlated also holds in a more differentiated framework: for each regression, the risk judgement associated with the risky activity is strongly negative significant. Second, for each activity, the risk assessment question corresponding to each risky activity is positively significant. A high self-assessed risk for leisure and sports raises the probability of walking alone through an unknown neighborhood, which is also true for money matters risk and investing 5 % of household income in one stock and for betting a day's income; risking more concerning own's health raises the probability of climbing. These results show that obviously the abstractness of the risk questions does not prevent respondents giving thoughtful and coherent answers. The next section will thus analyze the connection of risk assessment and financial behavior.

4.1.4 Lottery questions

Before leaving this field, it might be interesting to take a look at a third set of risk attitude questions. In 2004 and 2005, *SAVE* contains so-called lottery questions. Lottery, or gamble questions, can be used to elicit individual value functions[31], see Farquhar (1984), Abdellaoui (2000), Pennings and Smidts (2003), or Wakker and Deneffe (1996). While lottery questions are a relatively common tool in the economic literature to assess risk parameters, it is less common in the psychological literature in which risk is assessed by directly asking for certain situations/events. The risk associated with these situations then has to be evaluated by the respondent; see Weber *et al.* (2002).

In the *SAVE* lottery questions, respondents are given a set of hypothetical choices where each choice is between a certain cash value and the toss of a coin when head pays a different value from tail. In the first three lottery questions, the value of a head draw increases from 1,700 to 2,000 and 2,300 €, where tail pays nothing and the certain cash value is 1,000 €. In the second set of lottery questions, the certain cash value is 0, head brings a loss of 100 €, and the value of a tail draw changes from -150 to -200 and to -250 €.[32] Figure 16 show the share of respondents choosing the toss of a coin when the expected value of the lottery is increased. Again, as with the risk activity questions, we see that values are consistent, since the fraction of respondents choosing the risky alternative rises when the incentives to do so are increased. The risky alternative choice is also more frequent for the second set of lotteries when payments are on a lower level, even if the the risky choice of the last question of the first set offers the highest gain over the certainty equivalence. Overall, the choice probabilities for the coin toss are relatively low given that, at least in the second set and partly in the first set, the choice of the uncertain alternative offers the higher expected value.

Table 22 shows Probit and Ordered Probit regression results for the sets lottery questions. For the Ordered Probit case, the dependent variable was constructed in the following way. It takes on the value 0 if no lottery was chosen, 1 if only the lottery with the highest payoff, 2 if additionally the lottery with the second highest and 3 if the lottery with the lowest expected payoff was chosen. In most cases, respondents choosing lower expected value payoff lotteries also chose higher payoff lotteries. This can be seen by comparing the results from the Ordered Probit regression results with

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[31] Value functions assign subjective values to a stated (objective) value, cf. Schunk and Betsch (2004).
[32] This means that in the first set, a large number of repetitions would present the choice between 1,000 and 850, then 1000 and 1000, then 1000 and 1150 €, while in the second set, the values are 0 and 25, 0 and 50, and 0 and 75 €. Risk neutral agents would simply compare these values and choose the alternative with the higher payments, while risk avers agents need to be reimbursed for the taken risks, and risk seeking agents are willing to pay for the chance of a higher gain.

the Binary Probit regressions[33], which are very similar. A very interesting effect, again, is that the shown risk and lottery questions are reasonably connected. In Table 22, I included for all four regression types three risk variables dealing with monetary risk. This is the direct self-assessed general monetary risk questions, the probabilities of investing 5% of net income in a stock and for betting a day's income. The risky activity most directly connected to lotteries is betting. It is positively significant in all four regressions which means that respondents more willing to place money on a bet are also more likely to accept the lottery instead of the security equivalent. In the second set of lotteries, monetary risk taking also rises the probability of choosing the lottery. Nearly every other personal and household characteristic does not provide additional explanatory power.

Of course, one might tend to argue that TPI sampled households are highly selective since they are used to those kinds of questions. This is not the entire truth. TPI comprises topics from market research, consumption and living habits, to political and personal attitudes to the knowledge about newest technologies. Additionally, in the case of the lottery and risk questions, the two set of questions were rather remote in the questionnaire; between the two blocks lie about 25 minutes of interview time,[34] where the most complex interview part is in between. Even more surprising is the strong consistency of the data.

Summarizing the results, the risk data are a promising base to work with. Skeptics might check the additional data when risk questions will be incorporated into the Random Route and CAPI panel subsamples in 2005.

In the following subsection, I will investigate the interrelation between risk questions and portfolio compositions, controlling for personal and household characteristics.

4.2   Risk and portfolio composition

This section checks whether self-assessed risk affects financial behavior; I investigate this by using portfolio shares of financial wealth asset categories.

4.2.1   Portfolios in *SAVE*

In this paragraph, I will very quickly review the portfolio choice for *SAVE* 2001 and 2003. This work has been done prior to the arrival of the *SAVE* 2004 subsample.

Figure 13 shows ownership rates for the six financial wealth categories. Ownership rates are

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[33] The dependent variable takes on the value 1 if any of the lotteries was chosen instead of the risk-free payoff and 0, otherweise.
[34] Compared with the interview time from CAPI interviews; TPI interview mode is P&P thus offering no time tracking.

comparable between subsample but for one item: stock ownership is more than twice as high for the TPI 2001 subsample compared to the RR 2003 sample, considering weighted values. The values are altogether higher than compared to the *EVS* for stock ownership.

Figure 17 shows the portfolio shares of each financial category to total financial wealth.[35] Again, subsample effects are strong: The relative value of saving accounts is almost twice as high in the RR 2003 sample as in the TPI 2001 sample. This cannot be attributed to a low number of cases: the number of observations for *conditional* stock asset shares in the TPI sample is 160, as much as for the CAPI 2001 sample, and more than for the RR 2003 sample. Dividing Figure 17 into three age classes adds the insight that especially younger households in the TPI sample are more prone for stock holding, cf. Figure 18.

4.2.2 Regression results

I proceed in the following way. Since the additional risk and lottery questions are not available but for the TPI 2004 subsample, I limit the analysis to the set of risk questions present in all subsamples. This means that there is only one question connected to monetary behavior, which will be included in the analysis: self-assessed risk for money matters. Respondent were also given a question to what extent seven statements apply to them. I picked one of them, optimism[36], which in several other analyses seemed to characterize households very well.

Since not every household holds all financial wealth categories, an OLS approach would not account for this selectivity. I therefore apply the Heckman selection model. Finding the correct exclusion restrictions is not an easy task since most variables are very likely to affect both, asset ownership and the amount invested. Specification problems quickly lead to non-convergence of the ML-estimation of the selection model. I therefore apply a very slim specification for the regression stage which lead to convergence for all six asset categories.[37]

The regression results are presented in Table 23 - Table 25.[38] For the two most extreme asset categories[39], saving accounts and stocks/fonds, the effects are very pronounced. Risk averse households have a higher probability for saving account ownership, and their portfolio share rises with risk aversion, as the negative significant coefficient for monetary risk indicates. For stocks and

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[35] As numbers might be difficult to retrieve, results are also depicted in Figure 26.

[36] One of the seven questions was also whether respondents were pessimistic. This statement is basically redundant, but was added as a plausibility check. The consistency of the response to the two contrary statements optimism and pessimism is very high. The response scale ranges from 0 to 10 for the statements, and, hence, the sum of the evaluations for optimism and pessimism should equal 10. 79% of respondents had this sum ranging from 8 to 12.

[37] This was a second order polynomial for net income and age, and the risk variable.

[38] I included the TPI 2004 panel for these regressions.

[39] in the sense of return risk

fonds, the opposite applies. The probability of ownership rises with risk preference, and also the relative amount of financial wealth invested in stocks.

For the other four wealth categories, the effects are a little less clear. Bond ownership rises with risk preference, but not the portfolio share, which also applies to private old-age provisions.[40] As for whole life insurances, risk preferences increases the ownership probability, but affects the portfolio share negatively.

5 Conclusions

This paper adds three branches to the investigation of Börsch-Supan and Essig (2003). The first one is whether a deterioration in households' contentment and confidence can be observed on a general level. While the judgement of the present and the past is comparable between 2001 and 2003, the evaluations for future expectations became more pessimistic. This can be linked to a re-evaluation of the savings motive for old-age, which became more important.

The second checks whether this deterioration translates into one specific aspect for households' saving behavior: the old-age provision, namely the public pension system. I observe two things: the nonresponse and the 'don't know' level have fallen between 2001 and 2003. The political discussion thus might have been the catalyst to induce more individual concern for the respective pension situation. Second, a slight rise of the expected pension entry age and a drop in the expected pension level can be observed. This does not translate into an adaption of the evaluation of savings motives.

Risk assessment theoretically seems a promising procedure when determining household financial behavior. The empirical implementation in *SAVE* was done including 5 risk questions covering 3 risk domains. Using the 'monetay risk' variable, I find significantly higher proba-bilities of stock ownership and portfolio shares. The opposite is true when looking at saving accounts.

In addition to these results, I analyze the experimental risk questions included in *SAVE* 2004. In contrast to possibly sceptical objections to this kind of risk questions, these results prove two things. First, nonresponse is neglectably low. Considering the unusual character of these questions even for interview-skilled TPI respondents, this is a very positive result. Second, responses are sensible for both sets of risk questions, lotteries and risk assessments / risky activities. Risk assessment can be linked to financial behavior, as the regression results indicate. This is a promising base for further analysis concerning risk and portfolio choice. The *SAVE* 2005 samples will show whether the response quality level can be maintained for less interview skilled

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[40] In 2001, this category was asked less differentiated than in 2003 and 2004; I therefore summarize the three questions for private pensions from 2003 and 2004 in one category.

respondents.

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Tables

Table 13: Expected pension entry age

	Coef.	P>t	Coef.	P>t
Net HH income / 10000	0.395	0.207	0.396	0.172
(Net HH income) squared / 10000	0.000	0.363	0.000	0.309
Age	**-0.074**	0.054	**-0.074**	0.054
Age squared	**0.001**	0.047	**0.001**	0.046
Secondary school (D)	**0.474**	0.006	**0.487**	0.005
Graduation diploma (D)	**0.707**	0.002	**0.710**	0.002
University degree (D)	**1.253**	0.000	**1.256**	0.000
Partner (D)	**-0.365**	0.021	**-0.394**	0.014
East Germany (D)	0.027	0.881	0.026	0.887
Female (D)	**-0.724**	0.000	**-0.726**	0.000
Job: blue collar (D)	0.330	0.115	0.324	0.122
Job: civil servant (D)	**-1.190**	0.000	**-1.188**	0.000
Job: freelancer (D)	**1.271**	0.006	**1.285**	0.006
Job: self employed (D)	0.171	0.564	0.171	0.563
Work parttime (D)	0.084	0.758	0.068	0.801
Work little (D)	**0.797**	0.009	**0.773**	0.011
Work not (D)	0.250	0.322	0.233	0.357
Unemployed (D)	-0.350	0.223	-0.345	0.229
Village (D)	-0.140	0.545	-0.119	0.608
Year 2003 (D)	**0.814**	0.000		
Sample: CAPI 2001 (D)			-0.276	0.201
Sample: Panel 2003 (D)			**0.579**	0.031
Sample: RR 2003 (D)			**0.647**	0.003
Constant	64.064	0.000	64.276	0.000
Number of obs		2799		2799
Prob > F		0.000		0.000
R-squared		0.048		0.048
Adj. R-squared		0.041		0.041
Root MSE		3..496		3.496

Table 14: Probit regression results for nonresponse to the pension entry age

	Respondent				Partner					
	Coeff.	P > z	Coeff.	P > z	Coeff.	P > z	Coeff.	P > z	Coeff.	P >
Net HH income/10'	-0.163	0.415	-0.1630.41	0.593	-0.294	0.177	-0.292	0.18	-0.620	0.01
Net HH income/10' sq.	0.053	0.0640	0.041	0.064	0.064	0.125	0.064	0.12	0.112	0.02
Age/10	-0.443	0.010	-0.469	0.006	-0.820	0.000	-0.827	0.000	-0.912	0.00
Age/10 squared	0.060	0.001	0.063	0.001	0.107	0.000	0.108	0.000	0.121	0.00
Secondary school (D)	-0.148	0.098	-0.178	0.044	-0.050	0.568	-0.053	0.54	-0.014	0.88
Graduation diploma (D)	-0.265	0.033	-0.262	0.033	-0.275	0.036	-0.280	0.032	-0.276	0.07
University degree (D)	-0.093	0.441	-0.092	0.441-	30.441	0.737	-0.09	0.737	0.006	0.96
Partner (D)	0.116	0.194	0.166	0.056						
East Germany (D)	-0.104	0.308	-0.110	0.278	-0.259	0.015	-0.262	0.014	-0.294	0.01
Female (D)	0.107	0.227	0.129	0.141	-0.359	0.000	-0.350	0.000	-0.779	0.00
Job: blue collar (D)	0.038	0.732	0.058	0.598	-0.110	0.336	-0.107	0.34	-0.170	0.20
Job: civil servant (D)	-0.117	0.478	-0.121	0.459	-0.207	0.193	-0.208	0.22	-0.222	0.23
Job: freelancer (D)	-0.031	0.902	-0.059	0.815	-0.676	0.072	-0.678	0.07	-0.694	0.10
Job: self-employed (D)					-0.260	0.132	-0.256	0.137	-0.533	0.01
Work parttime (D)	-0.059	0.691	-0.034	0.817	-0.358	0.065	-0.351	0.069	-0.218	0.36
Work little (D)	0.160	0.291	0.398	0.187	-0.022	0.016	-0.016	0.92	0.152	0.39
Work not (D)	0.473	0.000	0.503	0.000	0.317	0.004	0.321	0.003	0.398	0.00
Unemployed (D)	-0.362	0.011	-0.362	0.011	-0.301	0.053	-0.292	0.059	-0.400	0.02
Village (D)	-0.110	0.410	-0.152	0.249	0.036	0.761	0.033	0.78	0.030	0.82
Sample: CAPI 2001 (D)	-0.290	0.004			-0.004	0.966	-0.072	0.37		
Sample: Panel 2003 (D)	-1.047	0.000			-0.145	0.292	0.625	0.153		
Sample: RR 2003 (D)	-0.524	0.000			-0.053	0.606				
Year 2003 (D)			-0.424	0.000	0.613	0.167			0.096	0.31
Refusal respondent(D)									2.434	0.00
Constant	-0.327	0.403	-0.494	0.193	0.613	0.167	0.625	0.15	0.477	0.34
Number of obs	2879		2879		2250		2250		2250	
LR chi2	129.1		110.73		274.81		274.24		704.71	
Prob > F	0.000		0.000		0.000		0.000		0.000	
Pseudo-R squared	0.076		0.066		0.141		0.141		0.362	
Log likelihood	-780.487		-789.6772		-835.104		-835.387		-620.155	

Notes: Observations were excluded if partner was retired or self-employed.

Table 15: Probit regression results for 'don't know' and refusals for own pension replacement rates

	Don't Know				Refusal				Don't Know or Refusal			
	Coef	P>z	Coeff	P>z	Coeff	P>z	Coeff	P>	Coeff	P>z	Coeff	P>
Net HH income/10'	-	0.038	-0.213	0.03	0.008	0.968	0.126	0.53	-0.210	0.033	-0.203	0.0
Net HH income/10'	0.020	0.157	0.021	0.13	-0.015	0.734	-0.040	0.40	0.017	0.227	0.016	0.2
Age/10	0.247	0.102	0.245	0.10	-0.575	0.000	-0.563	0.00	-0.244	0.079	-0.241	0.0
Age/10 squared	-	0.006	-0.048	0.00	0.080	0.000	0.078	0.00	0.018	0.273	0.017	0.2
Secondary school	-	0.136	-0.088	0.15	30.136	0.246	-0.119	0.14	-0.137	0.029	-0.142	0.0
Graduation	-	0.048	-0.167	0.04	-0.134	0.234	-0.121	0.27	-0.225	0.008	-0.224	0.0
University degree	-	0.118	-0.136	0.11	-0.204	0.084	-0.211	0.07	-0.220	0.010	-0.219	0.0
Partner (D)	0.030	0.599	0.015	0.79	-0.228	0.004	-0.148	0.05	-0.060	0.296	-0.042	0.4
East Germany (D)	0.028	0.675	0.029	0.66	0.059	0.511	0.057	0.04	0.046	0.487	0.045	0.4
Female (D)	0.134	0.031	0.131	0.03	0.135	0.097	0.144	0.07	0.194	0.002	0.196	0.0
Job: blue collar (D)	-	0.1190	-0.122	0.11	0.085	0.0	0.103	0.31	-0.084	0.256	-0.080	0.2
Job: civil servant	-	0.000	-0.599	0.00	-0.050	0.746	-0.060	0.69	-0.543	0.000	-0.544	0.0
Job: freelancer (D)	0.193	0.242	0.197	0.23	0.250	0.627	0.099	0.11	0.115	0.115	0.250	0.1
Job: self employed												
Work parttime (D)	0.164	0.092	0.160	0.09	0.011	0.936	0.020	0.88	0.163	0.093	0.167	0.0
Work little (D)	0.166	0.117	0.158	0.13	0.326	0.016	0.356	0.00	0.326	0.003	0.334	0.0
Work not (D)	0.252	0.005	0.248	0.00	0.495	0.000	0.507	0.00	0.538	0.000	0.543	0.0
Unemployed (D)	0.020	0.845	0.020	0.84	-0.248	0.051	-0.241	0.05	-0.155	0.143	-0.155	0.1
Village (D)	-	0.511	-0.047	0.58	30.276	0.06	-0.06	0.33	-0.081	0.346	-0.093	0.2
Sample: CAPI	0.113	0.149			-0.524	0.000			-0.136	0.077		
Sample: Panel	0.034	0.730			-0.617	0.000			-0.244	0.012		
Sample: RR 2003	-	0.964			-0.417	0.000			-0.209	0.006		
Year 2003 (D)			-0.068	0.21			-0.133	0.07			-0.130	0.0
Constant	-	0.291	-0.249	0.42	0.079	0.828	-0.326	0.35	0.978	0.001	0.872	0.0
Number of obs	2835		283		283		2835		283		2835	
LR chi2	181.16		178.88		126.78		97.84		242.76		239.4	
Prob > F	0.000		0.000		0.000		0.000		0.00		0.00	
Pseudo-R squared	0.047		0.046		0.065		0.062		0.06		0.06	
Log likelihood	-1835.521		-1836.659		-917.202		-931.671		-1839.564		-1841.207	

Notes: Observations were excluded if respondent was retired or self-employed.

Table 16: Probit regression results for 'don't know' and refusals for partner's pension replacement rates

	Don't Know				Refusal				Don't Know or Refusal			
	Coef	P>z	Coeff	P>z	Coeff	P>z	Coeff	P>z	Coeff	P>z	Coeff	P>
Net HH income/10'	-	0.002	-0.569	0.00	-0.118	0.60	-0.054	0.81	-0.625	0.00	-0.597	0.0
Net HH income/10'	0.086	0.018	0.085	0.01	0.031	0.48	0.018	0.69	0.100	0.00	0.094	0.0
Age/10	-	0.753	-0.054	0.76	-0.472	0.02	-0.451	0.03	-0.394	0.03	-0.385	0.0
Age/10 sq.	0.00	0.981	-0.001	0.96	0.066	0.00	0.063	0.00	0.045	0.03	0.044	0.0
Secondary school	-	0.680	-0.032	0.66	-0.095	0.25	-0.09	0.25	-0.087	0.25	80.198	0.1
Graduation	-	0.310	-0.105	0.31	-	0.44	-0.095	0.47	-0.164	0.12	-0.165	0.1
University degree	0.023	0.820	0.023	0.82	-0.361	0.00	-0.354	0.01	-0.159	0.12	-0.156	0.1
East Germany (D)	-	0.848	-0.016	0.84	-0.070	0.04	-0.072	0.51	-0.048	0.56	-0.051	0.5
Female (D)	0.009	0.912	0.008	0.91	-0.097	0.35	-0.078	0.44	-0.041	0.61	-0.033	0.6
Job: blue collar (D)	-	0.209	00.20	0.21	0.025	0.22	0.098	070	-0.107	0.09	80.268	0.2
Job: civil servant	-	0.259	00.25	0.26	0.1290	0.12	0.031	0.14	00.259	0.80	-0.031	0.7
Job: freelancer (D)	-	0.225	-0.260	0.22	-0.031	0.91	-0.088	0.76	80.225	0.21	-0.275	0.1
Work parttime (D)	0.103	0.381	0.103	0.37	-0.090	0.58	-0.073	0.65	0.5	0.58	0.078	0.5
Work little (D)	-	0.311	-	0.13	0.053	0.75	0.088	0.60	10.4	0.39	-0.091	0.4
Work not (D)	-	0.388	-0.095	0.38	0.230	0.10	0.245	0.08	0.030	0.79	0.040	0.7
Unemployed (D)	0.104	0.426	0.3	0.42	0.120	0.94	0.3	0.93	0.119	0.37	0.120	0.3
Village (D)	-	0.011	-0.267	0.00	0.131	0.13	0.089	0.48	-0.187	0.06	-0.211	0.0
Sample: CAPI	-	0.612			-0.384	0.00			-0.240	0.00		
Sample: Panel	-	0.358			-0.350	0.02			-0.286	0.01		
Sample: RR 2003	-	0.174			-0.218	0.04			-0.233	0.00		
Year 2003 (D)			-0.092	0.18			-0.053	0.55			-0.113	0.1
Constant	0.599	0.136	0.568	0.15	-0.091	0.85	-0.348	0.46	1.664	0.00	1.503	0.0
Number of obs	1922		192		192		192		192		192	
LR chi2	38.67		38.3		51.6		39.0		53.4		45.7	
Prob > F	0.007		0.00		0.00		0.00		0.00		0.00	
Pseudo-R squard	.0145		0.01		0.03		0.02		0.02		0.01	
Log likelihood =	-1312.436		-1312.573		-695.871		-702.207		-1255.600		-1259.466	

Notes: Observations were excluded if partner was retired or self-employed.

Table 17: Probit regression results for private pension ownership

	Coeff.	*P> z*	Coeff.	*P> z*
Net HH income/10'	**0.310**	0.050	**0.288**	0.069
Net HH income/10' sq.	**-0.082**	0.033	**-0.075**	0.050
Age/10	**0.533**	0.000	**0.515**	0.000
Age/10 squared	**-0.066**	0.000	**-0.064**	0.000
Secondary school (D)	**0.123**	0.051	**0.126**	0.046
Graduation diploma (D)	**0.285**	0.001	**0.277**	0.001
University degree (D)	**0.252**	0.002	**0.256**	0.002
Partner (D)	**0.161**	0.007	**0.142**	0.018
East Germany (D)	-0.016	0.804	-0.015	0.820
Female (D)	-0.030	0.606	-0.020	0.729
Job: blue collar (D)	-0.114	0.162	-0.115	0.157
Job: civil servant (D)	**-0.389**	0.001	**-0.386**	0.001
Job: freelancer (D)	**0.293**	0.080	**0.293**	0.081
Job: self-employed (D)	**0.503**	0.000	**0.513**	0.000
Work parttime (D)	-0.039	0.706	-0.038	0.709
Work little (D)	**-0.415**	0.000	**-0.419**	0.000
Work not (D)	**-0.446**	0.000	**-0.443**	0.000
Unemployed (D)	0.010	0.926	0.012	0.916
Village (D)	**0.200**	0.013	**0.213**	0.008
Sample: CAPI 2001 (D)			**-0.231**	0.003
Sample: Panel 2003 (D)			**0.426**	0.000
Sample: RR 2003 (D)			**0.324**	0.000
Year 2003 (D)	**0.492**	0.000		
Constant	**-2.203**	0.000	**-2.008**	0.000
Number of obs	3894		3894	
LR chi2	398.84		409.23	
Prob > F	0.000		0.000	
Pseudo-R squared	0.102		0.105	
Log likelihood	-1748.039		-1742.840	

Notes: A t-test showed that the hypothesis of equality of the two 2003 subsample dummies could not be rejected.

Table 18: Probit regression results for ownership of different private pension types

	Occ. pensions[a]				Other old-age provisions	
	Coeff.	$P > z$	Coeff.	$P > z$	Coeff.	$P > z$
Net HH income/10'	**0.540**	0.023	0.235	0.765	**1.092**	0.083
Net HH income/10' sq.	**-0.115**	0.043	-0.399	0.505	**-0.852**	0.070
Age/10	**0.549**	0.001	**0.763**	0.008	**0.437**	0.032
Age/10 squared	**-0.050**	0.003	**-0.099**	0.002		0.005
Secondary school (D)	0.121	0.224	**0.254**	0.049	-0.092	0.398
Graduation diploma (D)	**0.394**	0.005	0.282	0.102	0.115	0.413
University degree (D)	**0.312**	0.016	0.192	0.285	**0.252**	0.060
Partner (D)	0.135	0.147	**0.235**	0.073	-0.057	0.577
East Germany (D)	**-0.558**	0.000	**0.241**	0.057	0.109	0.309
Female (D)	-0.020	0.825	0.013	0.914	-0.085	0.366
Job: blue collar (D)	-0.161	0.221	0.228	0.189	-0.176	0.235
Job: civil servant (D)			0.057	0.813	-0.086	0.649
Job: freelancer (D)					**0.574**	0.031
Job: self-employed (D)			0.165	0.468	**0.747**	0.000
Work parttime (D)	**-0.285**	0.050	0.196	0.304	-0.031	0.846
Work little (D)	**-0.557**	0.001	-0.054	0.815	**-0.372**	0.064
Work not (D)	**-0.694**	0.000	0.059	0.729	**-0.266**	0.051
Unemployed (D)	**-0.526**	0.023	0.237	0.206	-0.107	0.551
Village (D)	**0.267**	0.047	0.089	0.598	0.079	0.576
Saving Reason: State subsidies			**0.053**	0.000		
Saving Reason: Old-age provision	**0.027**	0.038	**0.046**	0.019	**0.072**	0.000
Constant	**-2.563**	0.000	**-3.982**	0.000	**-2.473**	0.000
Number of obs	2002		2158		2209	
LR chi2	190.65		116.21		209.74	
Prob > F	0.000		0.000		0.000	
Pseudo-R squared	0.129		0.131		0.152	
Log likelihood	-646.715		-385.181		-582.202	

[a] Self-employed, civil servants and freelancers were excluded from the regression.

Table 19: Ordered probit regressions: self-assessed risk: health, career, money matters

	Health		Career		Money matters	
	Coeff.	P> z	Coeff.	P> z	Coeff.	P> z
Net income / 10,0000	0.106	0.730	0.124	0.687	0.736	0.016
(Net inc./ 10,000) sq.	-0.105	0.0	-0.067	0.823	-0.365	0.215
Age / 10	0.726	0.000	0.704	0.000	0.583	0.000
Age / 10 sq.	-0.053	0.000	-0.055	0.000	-0.075	0.000
Secondary school (D)	0.004	0.919	0.061	0.147	0.067	0.107
Graduation diploma (D)	0.018	0.757	0.153	0.009	0.273	0.000
University degree (D)	-0.040	0.449	0.143	0.009	0.214	0.000
Kids (D)	-0.008	0.892	0.005	0.930	-0.145	0.013
Kids living in same house (D)	0.050	0.285	0.042	0.388	0.061	0.204
Job: blue collar (D)	0.046	0.408	-0.087	0.121	-0.127	0.026
Job: civil servant (D)	0.072	0.357	-0.018	0.813	0.113	0.145
Job: freelancer (D)	0.158	0.215	0.552	0.000	0.273	0.031
Job: self-employed (D)	0.101	0.204	0.374	0.000	0.287	0.000
Retired (D)	-0.023	0.779	-0.368	0.000	-0.054	0.516
Work parttime (D)	0.014	0.853	0.116	0.030	-0.030	0.688
Work little (D)	0.120	0.115	0.116	0.137	0.900	0.900
Work not (D)	-0.068	0.319	-0.264	0.000	-0.180	0.010
Unemployed (D)	-0.014	0.866	0.213	0.012	-0.074	0.382
Unemp.> 1 month (D)	0.146	0.002	0.128	0.007	0.014	0.772
Unemp.> 6 months (D)	-0.047	0.385	70.385	0.536	0.033	0.544
Partner (D)	-0.024	0.661	0.010	0.865	0.055	0.321
Separated or divorced (D)	0.217	0.001	0.140	0.035	0.162	0.013
Widowed (D)	0.158	0.019	0.117	0.091	0.145	0.036
Female (D)	-0.258	0.000	-0.304	0.000	-0.407	0.000
Sample: TPI 2001 (D)	0.230	0.000	0.337	0.000	0.190	0.001
Sample: CAPI 2003 (D)	0.009	0.891	-0.046	0.496	0.030	0.651
Sample: RR 2003 (D)	0.055	0.264	0.149	0.004	0.027	0.592
Sample: TPI 2004 (D)	0.266	0.000	0.361	0.000	0.119	0.066
Number of obs	4516		4176		4483	
LR chi2(29)	290.51		727.77		636.18	
Prob > chi2	0.000		0.000		0.000	
Pseudo R2	0.0161		0.0416		0.0373	
Log likelihood	-8896.788		-8379.676		-8214.139	
F-Test income variables	0.940		0.863		0.003	
F-Test age variables	0.001		0.0010		0.001	

Notes: Self-assessed risk is coded from 0 to 10, where 0 means 'does not apply at all' and 10 'does fully apply'. The wording of the questions is shown in Table 10.

Table 20: Ordered probit regressions: self-assessed risk: leisure and sports, when driving

	Leisure and sports		When driving	
	Coeff.	P> z	Coeff.	P> z
Net income / 10,000	0.552	0.071	0.637	0.039
(Net inc./ 10,000) sq.	-0.274	0.363	-0.420	0.160
Age / 10	-0.201	0.012	-0.171	0.046
Age / 10 sq.	0.001	0.932	0.003	0.721
Secondary school (D)	0.030	0.461	0.121	0.004
Graduation diploma (D)	0.175	0.002	0.187	0.001
University degree (D)	0.138	0.008	0.140	0.010
Kids (D)	0.001	0.984	-0.079	0.185
Kids living in same house (D)	-0.012	0.797	0.022	0.653
Job: blue collar (D)	0.016	0.776	-0.017	0.762
Job: civil servant (D)	0.060	0.435	-0.105	0.179
Job: freelancer (D)	0.201	0.112	0.054	0.674
Job: self-employed (D)	0.084	0.287	0.109	0.169
Retired (D)	0.013	0.870	0.036	0.671
Work parttime (D)	0.061	0.398	-0.059	0.432
Work little (D)	0.124	0.1020	-0.102	0.198
Work not (D)	-0.156	0.021	-0.274	0.000
Unemployed (D)	-0.002	0.982	0.007	0.932
Unemp.> 1 month (D)	0.096	0.037	0.066	0.164
Unemp.> 6 months (D)	-0.120	0.025	-0.045	0.419
Partner (D)	-0.023	0.677	0.010	0.866
Separated or divorced (D)	0.093	0.150	0.191	0.004
Widowed (D)	0.130	0.054	0.004	0.949
Female (D)	-0.385	0.000	-0.446	0.000
Sample: TPI 2001 (D)	0.318	0.000	0.094	0.098
Sample: CAPI 2003 (D)	0.062	0.335	-0.069	0.299
Sample: RR 2003 (D)	0.113	0.021	0.042	0.401
Sample: TPI 2004 (D)	0.357	0.000	0.235	0.000
Number of obs	4477		4364	
LR chi2(29)	786.13		603.74	
Prob > chi2	0.000		0.000	
Pseudo R2	0.0416		0.0359	
Log likelihood	-9062.239		-8110.990	
F-Test income variables	0.030		0.056	
F-Test age variables	0.000		0.000	

Notes: Self-assessed risk is coded from 0 to 10, where 0 means 'does not apply at all' and 10 'does fully apply'. The wording of the questions is shown in Table 10.

Table 21: Ordered probit regressions: exercising risky activities

	Walk alone at night		5% in stocks		Bet a day's inc.		Climbing	
	Coeff.	*P > z*	Coeff.	*P > z*	Coeff.	*P > z*	Coeff.	*P > z*
Net income / 10,000	-0.852	0.269	**1.893**	0.015	**2.668**	0.002	**2.786**	0.002
(Net inc./ 10,000) sq.	0.323	0.402	**-0.726**	0.063	**-1.117**	0.016	**-1.206**	0.006
Age / 10	0.790	0.101	0.072	0.884	-0.218	0.679	0.296	0.606
Age / 10 sq.	**-0.090**	0.077	-0.023	0.90	0.007	0.907	-0.069	0.266
Secondary school (D)	**0.276**	0.037	0.292	0.031	**0.269**	0.068	**0.287**	0.066
Graduation diploma (D)	**0.303**	0.091	0.343	0.062	0.148	0.453	0.021	0.919
University degree (D)	0.142	0.409	0.259	0.51	-0.125	0.515	-0.048	0.817
Kids (D)	**0.368**	0.076	0.1440	0.515	0.244	0.288	0.144	0.554
Kids living in same house (D)	-0.050	0.741	0.134	0.391	-0.101	0.549	-0.027	0.882
Job: blue collar (D)	0.000	0.999	0.023	0.0	-0.049	0.802	0.302	0.124
Job: civil servant (D)	0.067	0.771	-0.060	0.801	0.035	0.887	0.136	0.613
Job: freelancer (D)	**0.894**	0.091	-0.350	0.504	-0.617	0.282	-0.641	0.295
Job: self-employed (D)	-0.222	0.346	0.118	0.613	**0.567**	0.017	-0.195	0.471
Retired (D)	-0.102	0.733	10.2	0.451	**0.070**	0.378	0.070	0.843
Work parttime (D)	0.058	0.812	-0.182	0.445	**0.485**	0.054	0.244	0.362
Work little (D)	-0.140	0.603	0.316	0.217	0.071	0.801	-0.143	0.637
Work not (D)	0.074	0.784	0.404	0.118	-0.001	0.996	0.278	0.374
Unemployed (D)	-0.016	0.958	-0.504	0.102	0.95	0.782	-0.235	0.531
Unemp.> 1 month (D)	-0.007	0.962	0.111	0.448	0.036	0.819	-0.035	0.835
Unemp.> 6 months (D)	-0.027	0.884	0.026	0.892	-0.146	0.0230	0.023	0.920
Partner (D)	0.077	0.775	**0.635**	0.025	-0.205	0.487	0.361	0.268
Separated or divorced (D)	-0.009	0.973	0.446	0.102	-0.260	0.382	-0.314	0.306
Widowed (D)	0.243	0.392	0.568	0.1590	0.348	0.242	0.159	0.619
Female (D)	**-0.861**	0.000	-0.180	0.248	-0.140	0.418	-0.105	0.573
Risk judgement of act.	**-0.247**	0.000	**-0.171**	0.000	**-0.179**	0.000	**-0.225**	0.000
Risk: health	0.013	0.596	-0.033	0.179	0.003	0.922	0.020	0.476
Risk: career	0.016	0.512	0.008	0.759	0.017	0.541	0.016	0.567
Risk: money matters	-0.014	0.610	**0.147**	0.000	**0.115**	0.000	**-0.075**	0.022
Risk: leisure and sports	**0.048**	0.064	0.011	0.686	0.022	0.459	**0.176**	0.000
Risk: driving	0.016	0.520	-0.013	0.608	**0.054**	0.052	0.031	0.308
Number of obs	434		432		433		434	
LR chi2(29)	300.79		178.08		191.32		229.23	
Prob > chi2	0.000		0.000		0.000		0.000	
Pseudo R2	0.1524		0.102		0.1334		0.1649	
Log likelihood	-836.62743		-783.98228		-621.18513		-580.62361	

Notes: Self-assessed risk is coded from 0 to 10, where 0 means 'does not apply at all' and 10 'does fully apply'. The wording of the questions is shown in Table 12.

Table 22: Ordered probit and probit regressions: lottery questions

	Lottery	set 1			Lottery	set 2		
	Ordered probit reg.		probit reg.		Ordered probit reg.		Probit reg.	
	Coeff.	P> z	Coeff.	P> z	Coeff.	P> z	Coeff.	P> z
Net income /	0.056	0.981	0.065	0.9810	0.078	0.971	0.110	0.960
(Net inc./ 10,000) sq.	0.504	0.855	0.197	0.950	2.161	0.441	1.790	0.547
Age / 10	0.751	0.435	0.666	0.509	-0.405	0.504	-0.365	0.555
Age / 10 sq.	-0.101	0.345	-0.092	0.409	0.052	0.419	0.051	0.435
Secondary school (D)	0.159	0.503	0.239	0.339	0.052	0.766	0.101	0.562
Graduation diploma (D)	-0.104	0.741	0.032	0.921	-0.441	0.070	-0.390	0.115
University degree (D)	0.156	0.615	0.351	0.278	0.045	0.834	0.116	0.604
Kids (D)	-0.185	0.577	-0.348	0.322	-0.355	0.188	-0.370	0.177
Kids living in same house (D)	-0.199	0.475	-0.099	0.738	0.0510	0.959	-0.051	0.794
Job: blue collar (D)	0.184	0.507	0.304	0.305	0.446	0.049	0.445	0.059
Job: civil servant (D)	-0.506	0.297	60.297	0.197	-0.251	0.446	-0.286	0.406
Job: freelancer (D)	0.227	0.782	0.439	0.614	-0.210	0.788	-0.114	0.870
Job: self-employed (D)	0.083	0.802	0.115	0.744	0.187	0.508	0.169	0.573
Retired (D)	-0.384	0.509	-0.311	0.605	-0.482	0.199	-0.618	0.107
Work parttime (D)	0.119	0.768	0.012	0.976	-0.427	0.221	-0.368	0.281
Work little (D)	0.093	0.844	0.129	0.788	0.647	0.041	0.821	0.013
Work not (D)	0.255	0.584	0.257	0.3580	0.358	0.261	0.451	0.174
Unemployed (D)	-0.976	0.127	-1.145	0.3110	-0.311	0.417	-0.423	0.284
Unemp.> 1 month (D)	-0.177	0.460	-0.087	0.728	-0.198	0.294	-0.190	0.334
Unemp.> 6 months (D)	0.379	0.238	0.428	0.4280	0.144	0.154	0.364	0.144
Partner (D)	-0.081	0.846	-0.088	0.846	-0.131	0.710	-0.239	0.502
Separated or divorced (D)	0.105	0.813	0.063	0.896	0.470	0.167	0.520	0.136
Widowed (D)	0.109	0.781	0.7810	0.673	-0.177	0.643	-0.100	0.793
Female (D)	-0.312	0.275	-0.242	0.406	0.180	0.359	0.269	0.181
Risk: money matters	0.002	0.960	-0.008	0.868	0.093	0.003	0.106	0.002
Risky act.: invest 5% in stocks	0.054	0.107	0.075	0.036	-0.029	0.272	-0.019	0.491
Risky act.: bet a day's inc.	0.169	0.000	0.172	0.000	0.080	0.007	0.092	0.004
Constant			-2.637	0.253			-0.286	0.849
Number of obs	434		434		427		435	
LR chi2(29)	82.25		84.32		54.14		64.11	
Prob > chi2	0.000		0.000		0.002		0.000	
Pseudo R2	0.1945		0.265		0.078		0.1246	
Log likelihood	-170.301		-116.925		-319.951		-225.121	

Table 23: Portfolio shares: saving accounts and building society contracts. Heckman selection regression

| | Saving accounts | | | | Buiding society contracts | | | |
| | Regression stage | | Selection stage | | Regression stage | | Selection stage | |
	Coeff.	*P > z*	Coeff.	*P > z*	Coeff.	*P > z*	Coeff.	*P > z*
Net income / 10,000	-0.375	0.011	1.883	0.000	1.229	0.000	2.493	0.000
(Net inc./ 10,000) sq.	0.159	0.246	-1.310	0.00	-1.100	0.000	-2.140	0.000
Age / 10	-0.199	0.000	-0.055	0.63	0.154	0.038	0.500	0.000
Age / 10 sq.	0.026	0.000	0.018	0.11	-0.023	0.002	-0.063	0.000
Secondary school (D)			0.119	0.04			0.056	0.036
Graduation diploma (D)			0.192	0.03			0.099	0.025
University degree (D)			0.035	0.66			0.113	0.002
Kids (D)			-0.005	0.95			0.032	0.383
Kids living in same house (D)			-0.145	0.03			-0.003	0.917
Job: blue collar (D)			-0.057	0.49			0.070	0.055
Job: civil servant (D)			0.188	0.13			0.051	0.264
Job: freelancer (D)			-0.161	0.41			-0.063	0.389
Job: self-employed (D)			-0.347	0.00			-0.008	0.884
Retired (D)			0.180	0.12			0.006	0.910
Work parttime (D)			-0.338	0.00			-0.003	0.949
Work little (D)			-0.328	0.00			0.000	0.999
Work not (D)			-0.352	0.00			0.040	0.469
Unemployed (D)			-0.171	0.15			-0.054	0.456
Unemp.> 1 month (D)			0.129	0.07			0.032	0.301
Unemp.> 6 months (D)			-0.190	0.01			-0.039	0.260
Partner (D)			0.167	0.03			0.036	0.382
Separated or divorced (D)			-0.190	0.04			-0.024	0.650
Widowed (D)			-0.042	0.68			0.093	0.064
Female (D)			0.075	0.19			0.010	0.765
Exp.: Germany's ec. developm			-0.006	0.64			0.004	0.511
Exp.: own ec. developm.			0.085	0.00			0.019	0.004
Sample: TPI 2001 (D)			0.195	0.02			0.136	0.001
Sample: CAPI 2003 (D)			-0.096	0.31			0.096	0.045
Sample: RR 2003 (D)			-0.292	0.00			0.063	0.070
Sample: TPI 2004 (D)			0.011	0.91			0.179	0.000
Self-assess: optimist			-0.008	0.45			-0.005	0.378
Risk: money matters	-0.027	0.000	-0.021	0.05	-0.003	0.624	-0.001	0.960
Constant	0.879	0.000	-0.500	0.12	-0.682	0.000	-2.248	0.000
Number of obs			2755				2755	
Uncensored obs			1641				701	
Prob > chi2			0.000				0.000	
Log likelihood			-2168.966				-1474.937	
Rho			0.628				0.997	
Sigma			0.379				0.566	
Lambda			0.238				0.564	

Table 24: Portfolio shares: whole life insurances and private old age provisions. Heckman selection regression

	Whole life insurances				Private old age provisions			
	Regression stage		Selection stage		Regression stage		Selection stage	
	Coeff.	$P>z$	Coeff.	$P>z$	Coeff.	$P>z$	Coeff.	$P>z$
Net income / 10,000	0.031	0.859	1.777	0.000	-0.870	0.000	1.420	0.028
(Net inc./ 10,000) sq.	-0.078	0.554	-0.897	0.042	0.511	0.013	-0.947	0.104
Age / 10	0.336	0.000	0.952	0.000	0.354	0.004	0.876	0.000
Age / 10 sq.	-0.035	0.000	-0.107	0.000	-0.037	0.008	-0.106	0.000
Secondary school (D)			0.190	0.005			0.060	0.500
Graduation diploma (D)			0.104	0.293			0.207	0.090
University degree (D)			0.108	0.232			0.253	0.027
Kids (D)			-0.004	0.965			-0.118	0.364
Kids living in same house (D)			0.033	0.687			0.042	0.693
Job: blue collar (D)			-0.066	0.473			0.041	0.713
Job: civil servant (D)			-0.025	0.841			-0.344	0.035
Job: freelancer (D)			0.182	0.383			0.255	0.285
Job: self-employed (D)			0.083	0.542			0.588	0.000
Retired (D)			0.115	0.409			-0.164	0.412
Work parttime (D)			-0.096	0.443			0.001	0.992
Work little (D)			-0.112	0.416			-0.235	0.192
Work not (D)			-0.227	0.060			-0.200	0.199
Unemployed (D)			-0.184	0.228			0.226	0.210
Unemp.> 1 month (D)			0.142	0.076			0.037	0.712
Unemp.> 6 months (D)			-0.163	0.076			0.044	0.710
Partner (D)			0.155	0.108			-0.112	0.391
Separated or divorced (D)			-0.073	0.503			-0.295	0.056
Widowed (D)			-0.246	0.041			-0.078	0.605
Female (D)			-0.055	0.434			-0.068	0.455
Exp.: Germany's ec. developm			0.005	0.745			0.010	0.600
Exp.: own ec. developm.			0.075	0.000			0.020	0.301
Sample: TPI 2001 (D)			0.237	0.008			0.011	0.437
Sample: CAPI 2003 (D)			0.016	0.878			0.000	0.982
Sample: RR 2003 (D)			-0.162	0.055			0.244	0.040
Sample: TPI 2004 (D)			-0.074	0.520			0.581	0.000
Self-assess: optimist			-0.003	0.804			0.256	0.023
Risk: money matters	-0.013	0.002	0.016	0.174	0.006	0.375	0.761	0.000
Constant	-0.263	0.245	-3.345	0.000	-0.419	0.186	-3.474	0.000
Number of obs	2755				2755			
Uncensored obs	790				289			
Prob > chi2	0.000				0.000			
Log likelihood	-1477.699				Twostep			
Rho	0.3687				0.2984			
Sigma	0.2924				0.2769			
Lambda	0.1078				0.0826			

Table 25: Portfolio shares: bonds and stocks, fonds. Heckman selection regression

	Bonds				Fonds, Stocks			
	Regression stage		Selection	stage	Regression stage		Selection	stage
	Coeff.	*P > z*	Coeff.	***P > z***	Coeff.	*P > z*	Coeff.	***P > z***
Net income / 10,000	-0.200	0.360	1.046	0.103	0.098	0.632	2.181	0.000
(Net inc./ 10,000) sq.	0.043	0.739	0.005	0.993	-0.111	0.438	-0.918	0.064
Age / 10	-0.110	0.150	0.366	0.058	-0.106	0.124	0.385	0.019
Age / 10 sq.	0.013	0.071	-0.023	0.235	0.013	0.072	-0.029	0.081
Secondary school (D)			0.202	0.042			0.322	0.000
Graduation diploma (D)			0.159	0.277			0.397	0.000
University degree (D)			0.313	0.007			0.442	0.000
Kids (D)			-0.063	0.656			-0.151	0.179
Kids living in same house (D)			-0.108	0.349			-0.016	0.859
Job: blue collar (D)			-0.115	0.421			-0.099	0.362
Job: civil servant (D)			-0.160	0.361			-0.120	0.370
Job: freelancer (D)			-0.057	0.845			0.227	0.308
Job: self-employed (D)			0.039	0.830			0.011	0.942
Retired (D)			-0.017	0.930			-0.109	0.489
Work parttime (D)			-0.194	0.325			0.139	0.330
Work little (D)			-0.219	0.289			-0.034	0.829
Work not (D)			0.021	0.905			0.013	0.923
Unemployed (D)			-0.158	0.512			-0.030	0.869
Unemp.> 1 month (D)			-0.223	0.071			0.084	0.341
Unemp.> 6 months (D)			0.224	0.119			-0.252	0.020
Partner (D)			0.099	0.436			0.168	0.127
Separated or divorced (D)			-0.252	0.130			-0.058	0.664
Widowed (D)			0.082	0.627			0.096	0.502
Female (D)			0.083				0.004	0.959
Exp.: Germany's ec. developm			-0.008	0.665			0.025	0.123
Exp.: own ec. developm.			0.083	0.000			0.084	0.000
Sample: TPI 2001 (D)			0.068	0.599			0.562	0.000
Sample: CAPI 2003 (D)			0.111	0.432			0.066	0.593
Sample: RR 2003 (D)			-0.176	0.129			-0.027	0.782
Sample: TPI 2004 (D)			-0.199	0.224			0.473	0.000
Self-assess: optimist			0.011	0.550			-0.015	0.324
Risk: money matters	-0.013	0.189	0.067	0.000	0.020	0.010	0.127	0.000
Constant	0.665	0.082	-3.653	0.000	0.426	0.064	-3.649	0.000
Number of obs			2755				2755	
Uncensored obs			232				548	
Prob > chi2			0.007				0.002	
Log likelihood			-679.936				-1170.428	
Rho			-0.024				0.176	
Sigma			0.234				0.302	
Lambda			-0.006				0.053	

Table 26: Financial wealth allocations by subsamples and income

	TPI 2001			CAPI 2001			CAPI 2003			RR 2003		
	Own	inc.[b]	PF	Own.	inc.	PFsh.	Own.	inc.	PF	Own.	inc.	PFs
N [c]	657		324	1125		576	462		208	1973		773
Saving accounts	71.2 467	2128.4	33.4% 264	70.8% 797	2247.0	48.7% 481	62.1% 287	2357.8	48.9% 170	58.9% 1162	2754.2	57.4 614
Build.soc. contracts	45.0 296	2143.8	17.2% 164	25.6% 288	2268.2	11.3% 175	25.6% 118	2339.6	9.2% 66	23.9% 471	3156.1	13.2 221
Whole life ins.	50.0 328	2330.5	22.9% 184	39.2% 441	2460.7	215.8% 256	26.3% 150	2299.7	21.3% 85	26.3% 520	3210.2	15.8 212
Private old-age	19.7 129	1896.0	6.3% 52	11.7% 131	2577.5	2.7% 58	26.6% 119	2512.5	7.0% 44	20.2% 380	3189.8	4.2% 93
Bonds	16.7 109	2412.4	4.2% 54	13.3% 150	3402.3	4.8% 79	11.6% 54	2703.2	5.5% 29	7.8% 153	2908.1	3.3% 64
Stocks/ Fonds	38.6 253	2309.6	16.1% 160	23.8% 268	3091.4	8.2% 160	20.10 93	2810.6	8.2% 47	5.1% 298	3513.1	6.1% 123
None of items	12.8 84	1117.4		16.5% 185	1242.1		23.9% 185	1242.1		25.2% 497	1978.6	
Refusals	0.8% 5	1022.6	43.5% 249	1.2% 14	1638.9	38.7% 364	8.7% 33	2327.7	2.6% 69	12.6% 267	3413.9	47.6 703

Notes: Weighted values. Percentages and absolute observations presented.
[a] Ownership of the asset category.
[b] Conditional income means on item ownership.
[c] Nonmissing observations on ownership question.

Figures

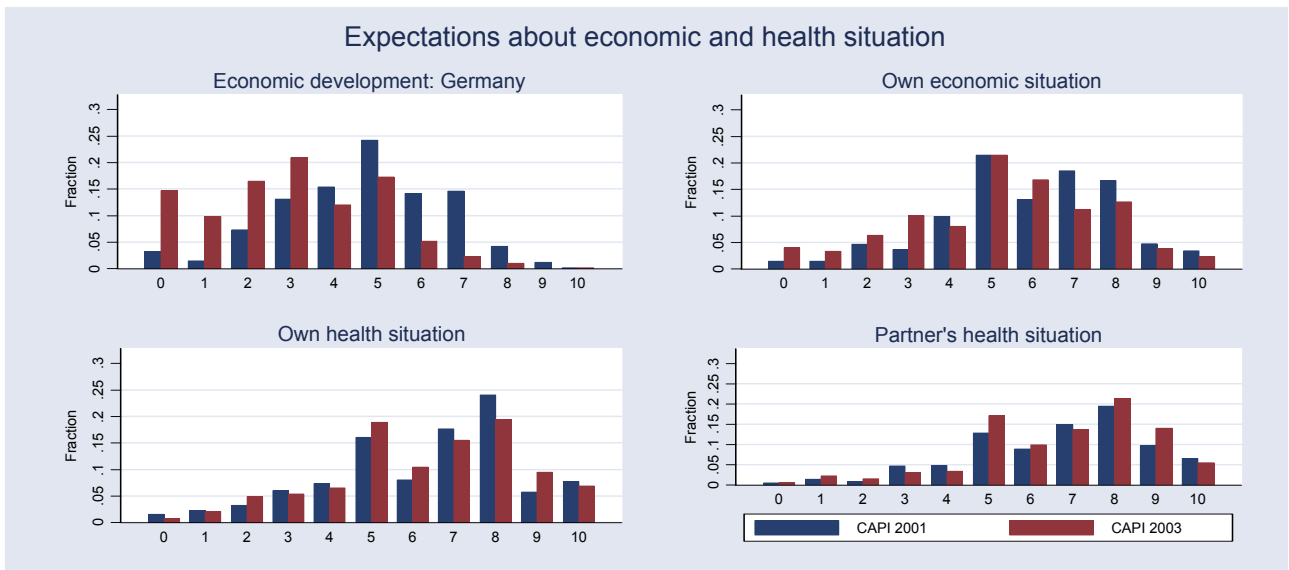**Figure 1:** Contentment with health, work, housing, income, and the general living situation
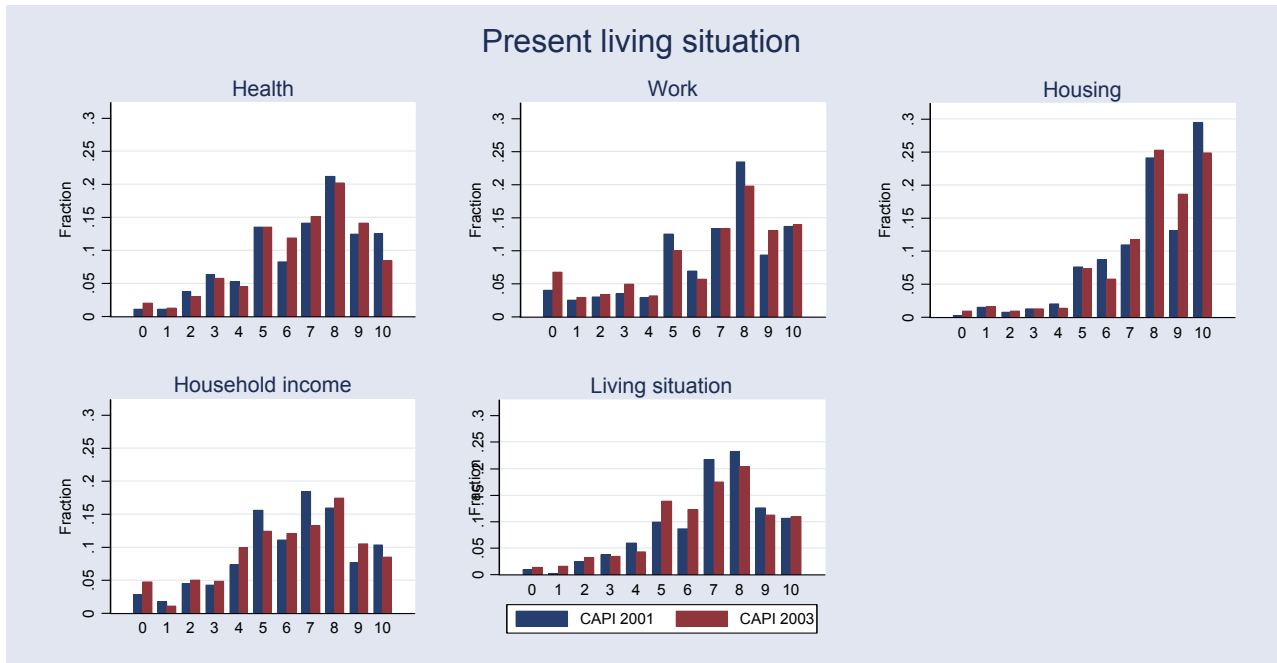
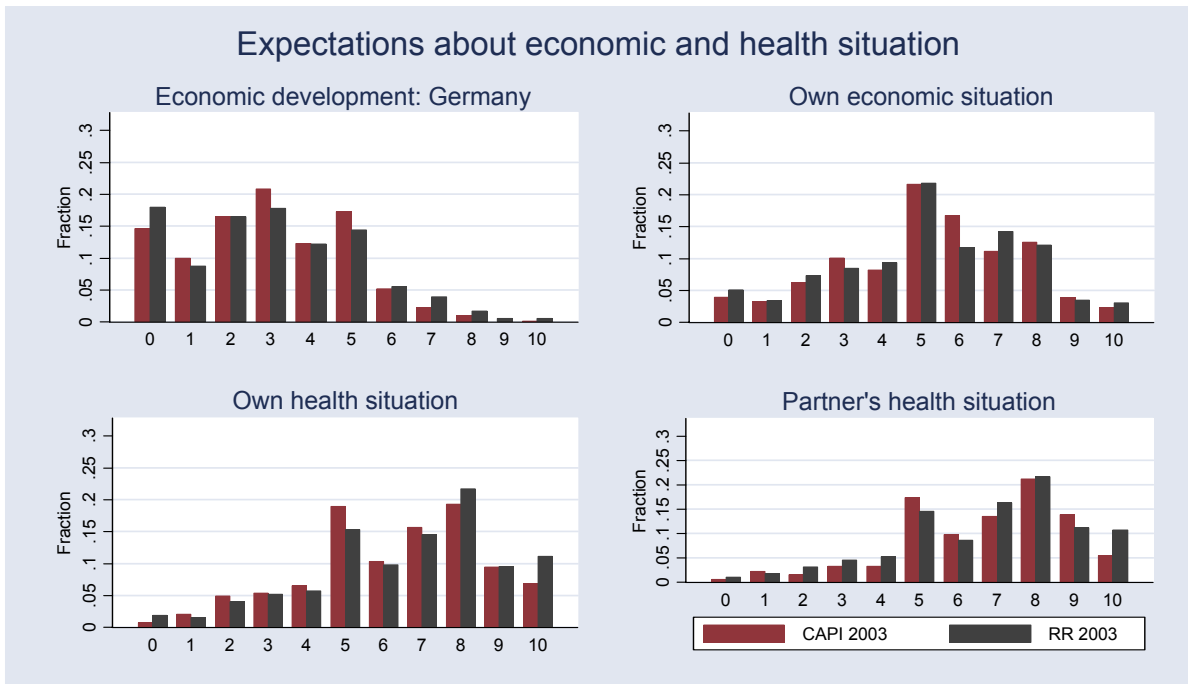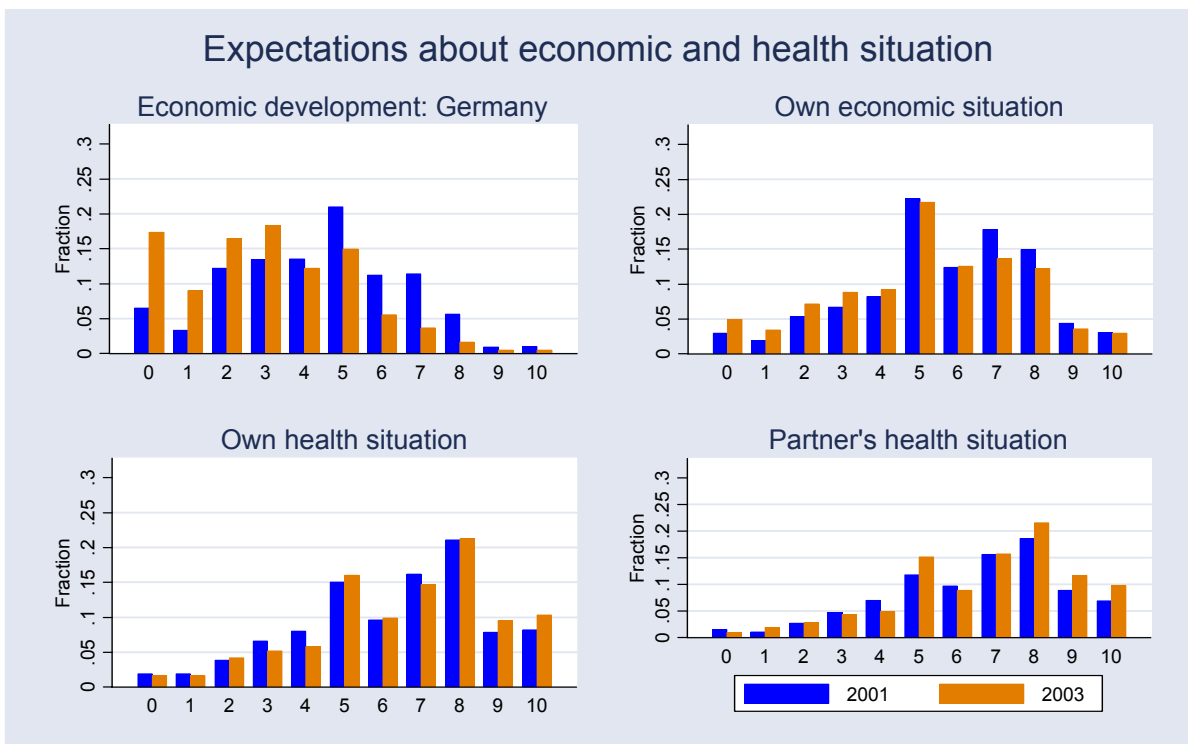*Notes:* Weighted values by subsample, hh income, and age. Panel results: observations if observed in 2001 and 2003 CAPI samples. Answers are measured on a scale from 0 to 10, where 0 means `completely dissatisfied' and 10 `totally satisfied'.

Figure 2: Differences in contentment with health, work, housing, income, and the genereal living situation
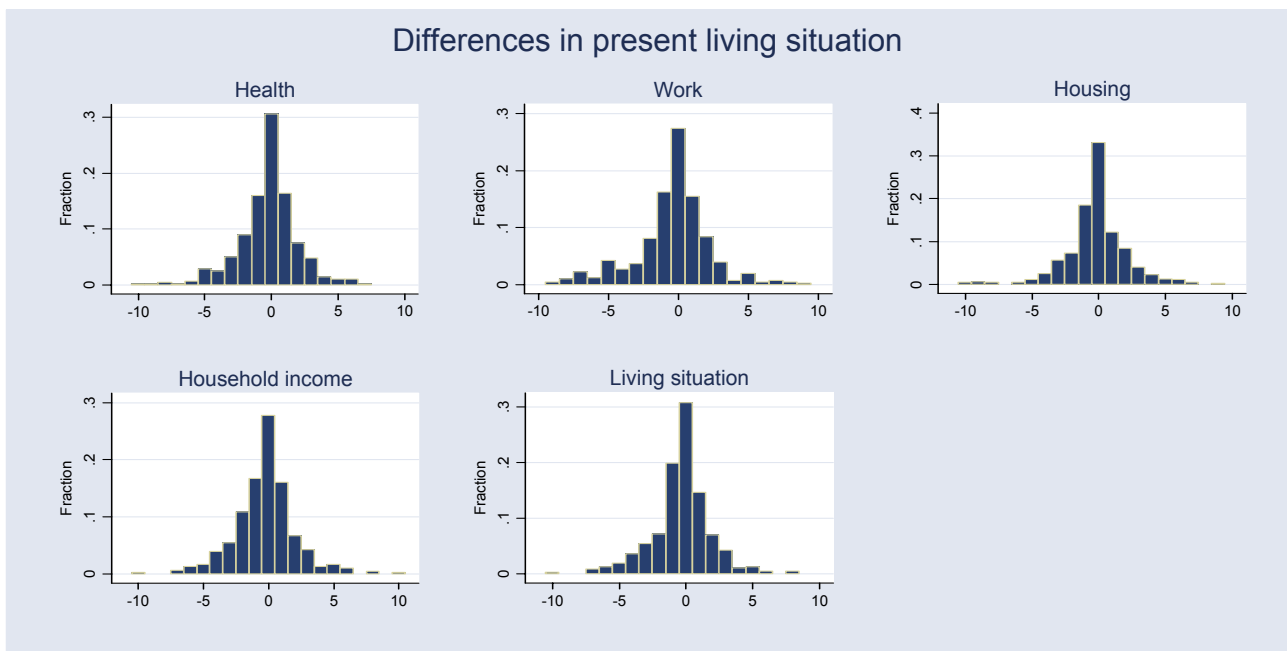
Notes: Weighted values by subsample, hh income, and age. Panel results: observations if observed in 2001 and 2003 CAPI samples.

Figure 3: Contentment with health, work, housing, income, and the general living situation
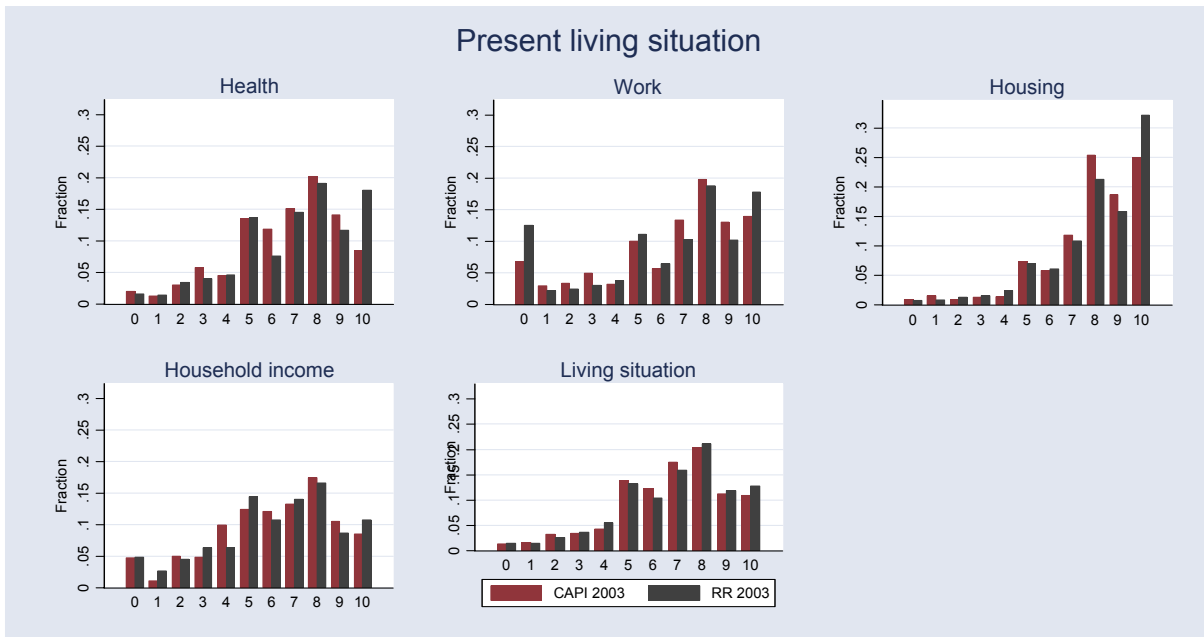
Note: Weighted values by subsample, hh income, and age. Values for both 2003 subsamples.

Figure 4: Contentment with health, work, housing, income, and the general living situation
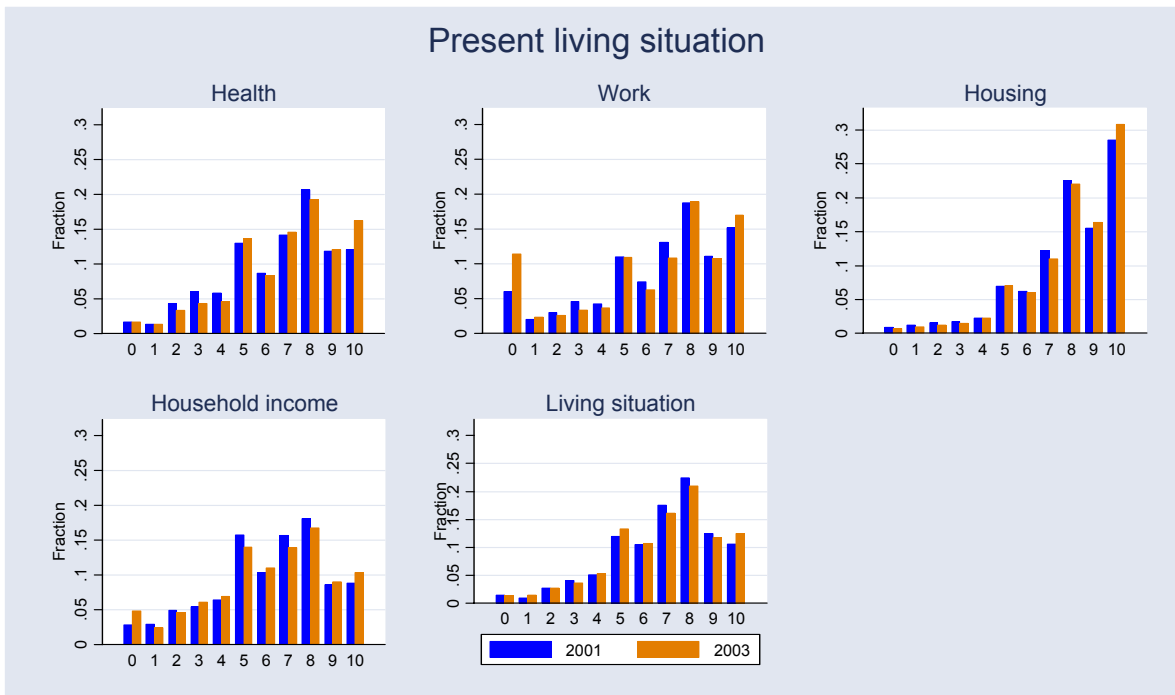
Note: Weighted values by subsample, hh income, and age. Pooled samples in 2001 and 2003.

Figure 5: Income development: panel comparison
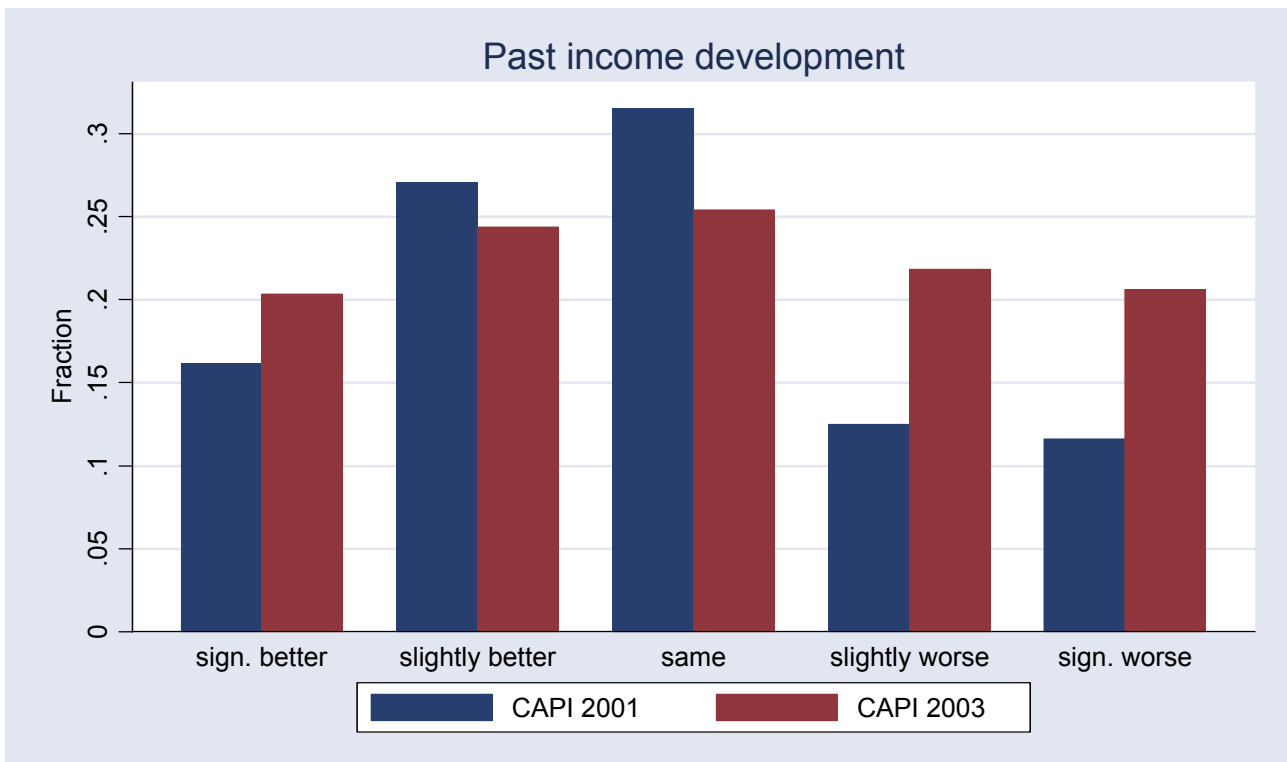
Note: Weighted values by subsample, hh income, and age. Panel results: observations if observed in 2001 and 2003 CAPI samples.

Figure 6: Income development: all *SAVE* subsamples
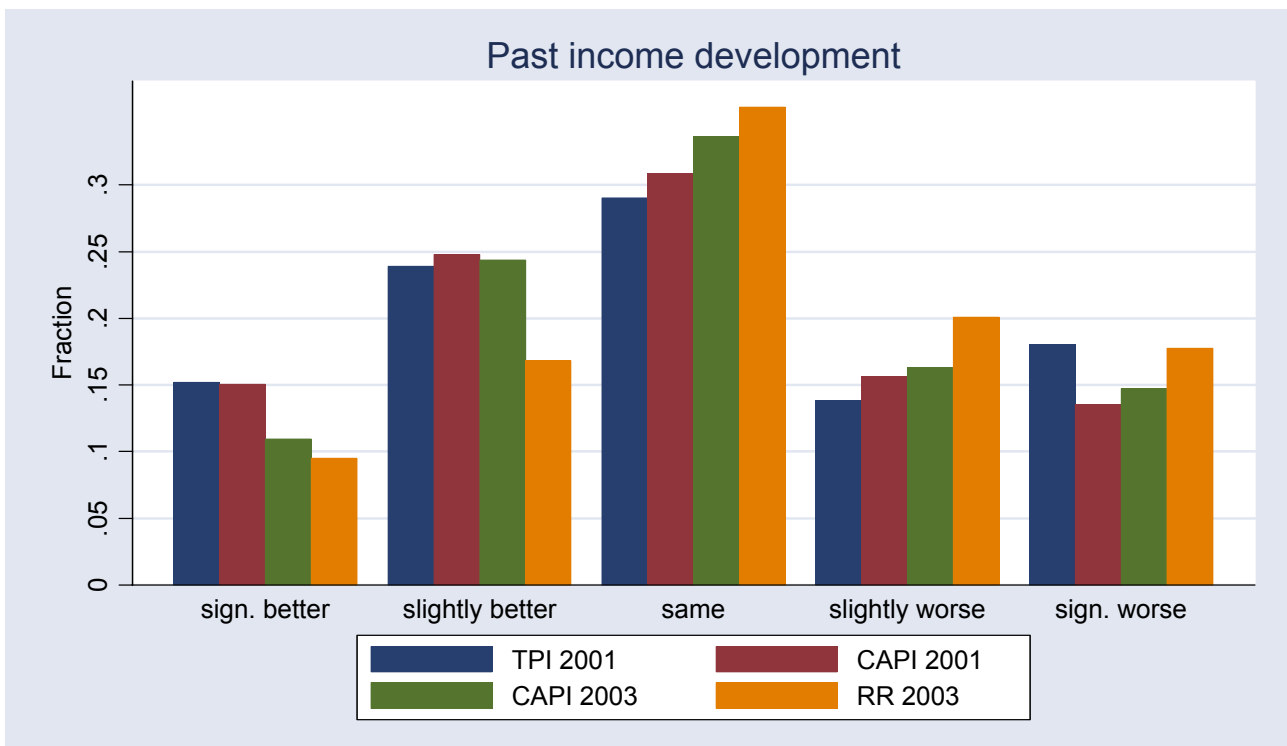
Note: Weighted values by subsample, hh income, and age.

Figure 7: Expectations for health and financial situation

Notes: Weighted values by subsample, hh income, and age. Panel results: observations if observed in 2001 and 2003 CAPI samples.

Figure 8: Differences in expectations for health and financial situation
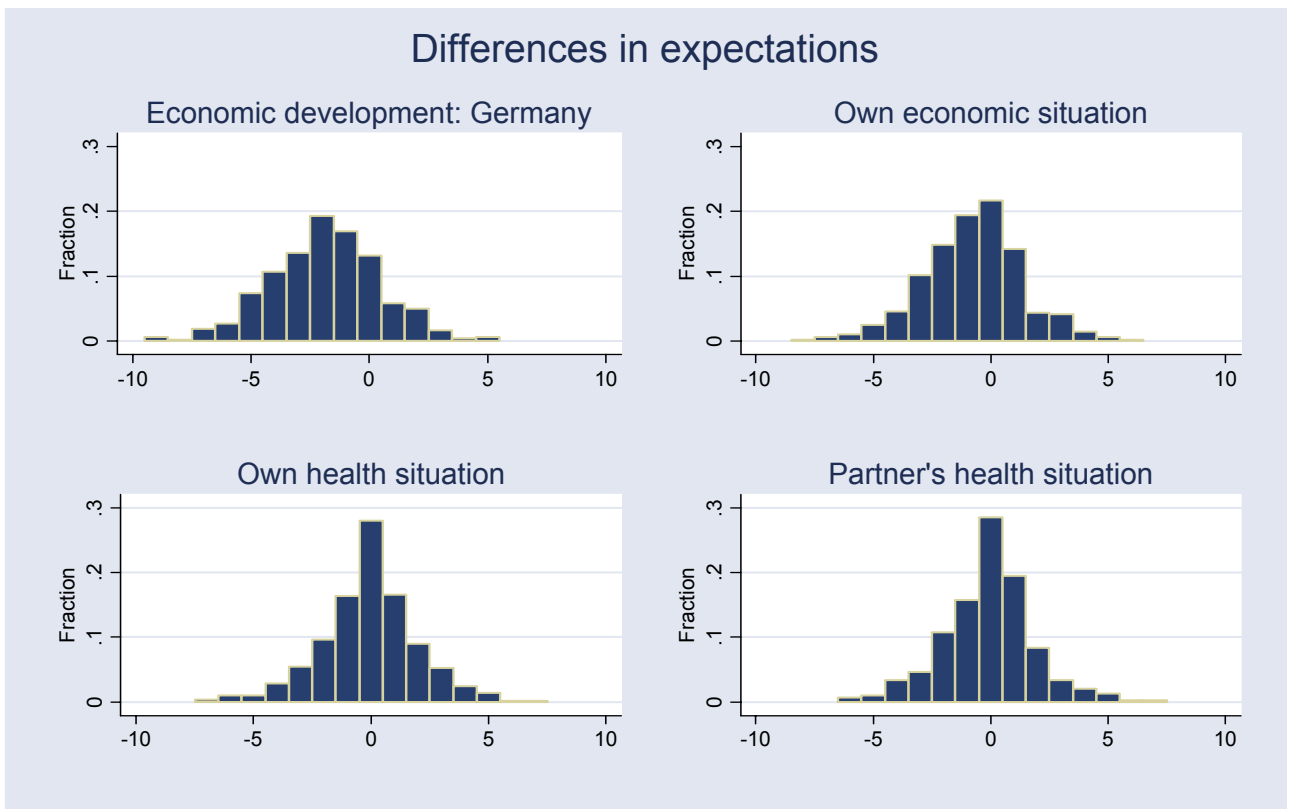
Notes: Weighted values by subsample, hh income, and age. Panel results: observations if observed in 2001 and 2003 CAPI samples.

Figure 9: Expectations for health and financial situation

Note: Weighted values by subsample, hh income, and age.

Figure 10: Expectations for health and financial situatio

Notes: Weighted values by subsample, hh income, and age. Pooled samples in 2001 and 2003.

Figure 11: Importance of different saving motives
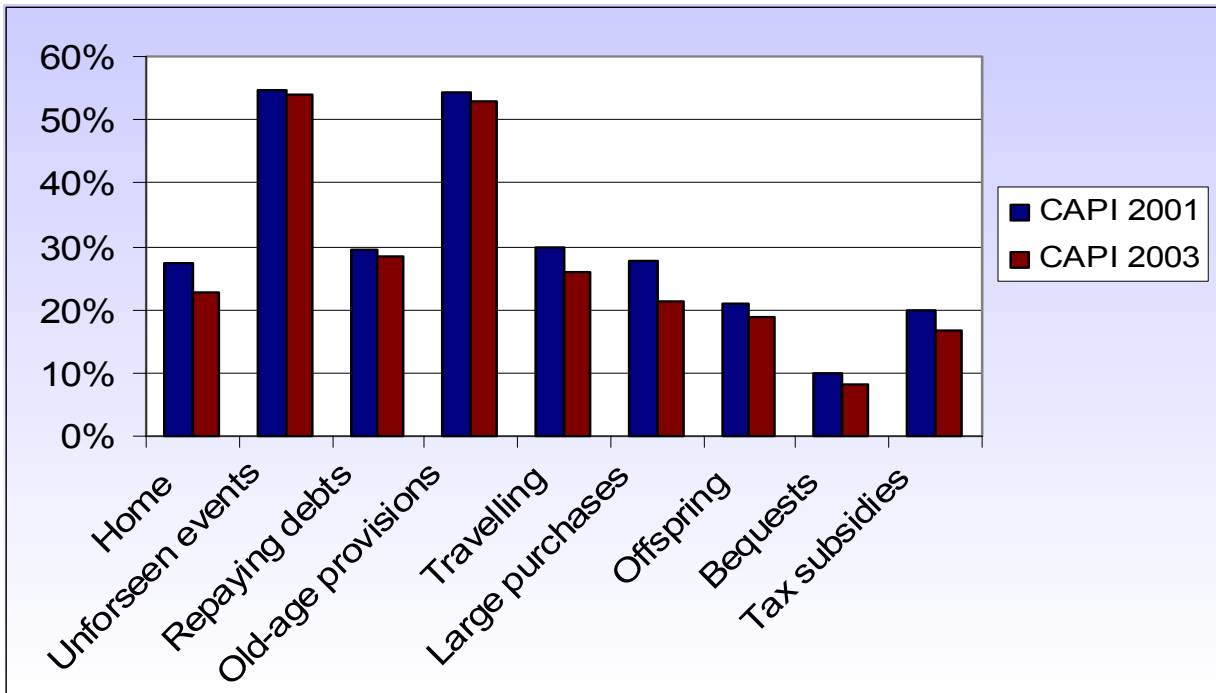
Notes: Weighted values.

Figure 12: Differences in savings motives by expectations for Germany's economic development
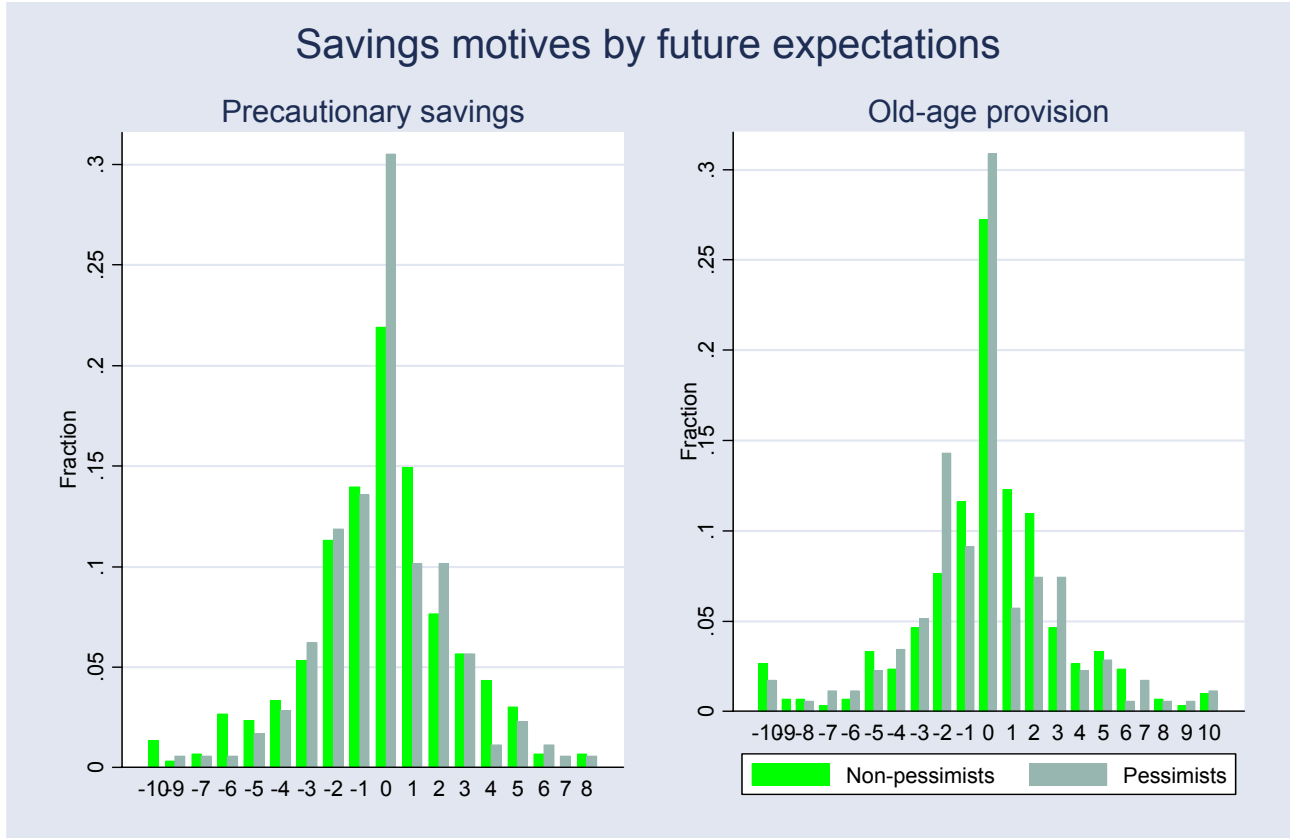
Notes: Unweighted values. Pessimists are defined as respondents whose expectation for Germany's economic development deteriorated by more than two points on a scale from 0 to 10.

Figure 13: Investment allocation of financial assets (ownership rates)
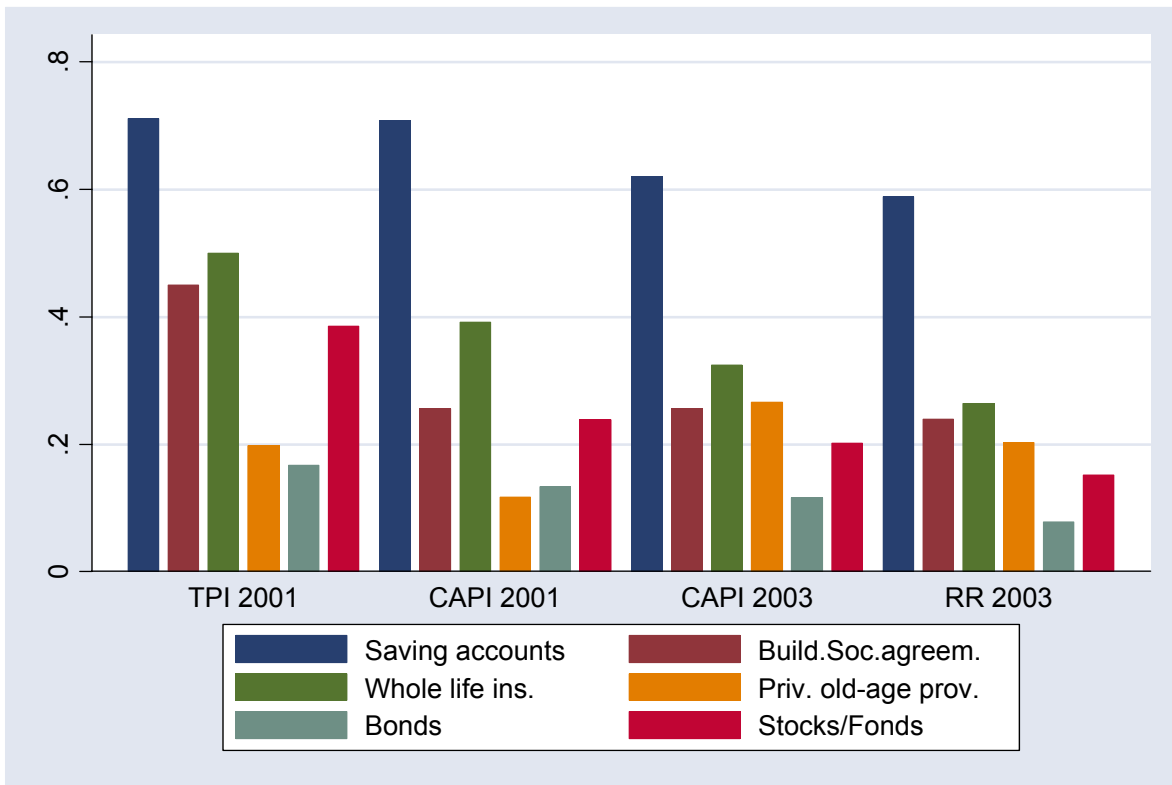
Notes: Weighted values. Private old-age provision question changed between 2001 and 2003.

Figure 14: Risk taking
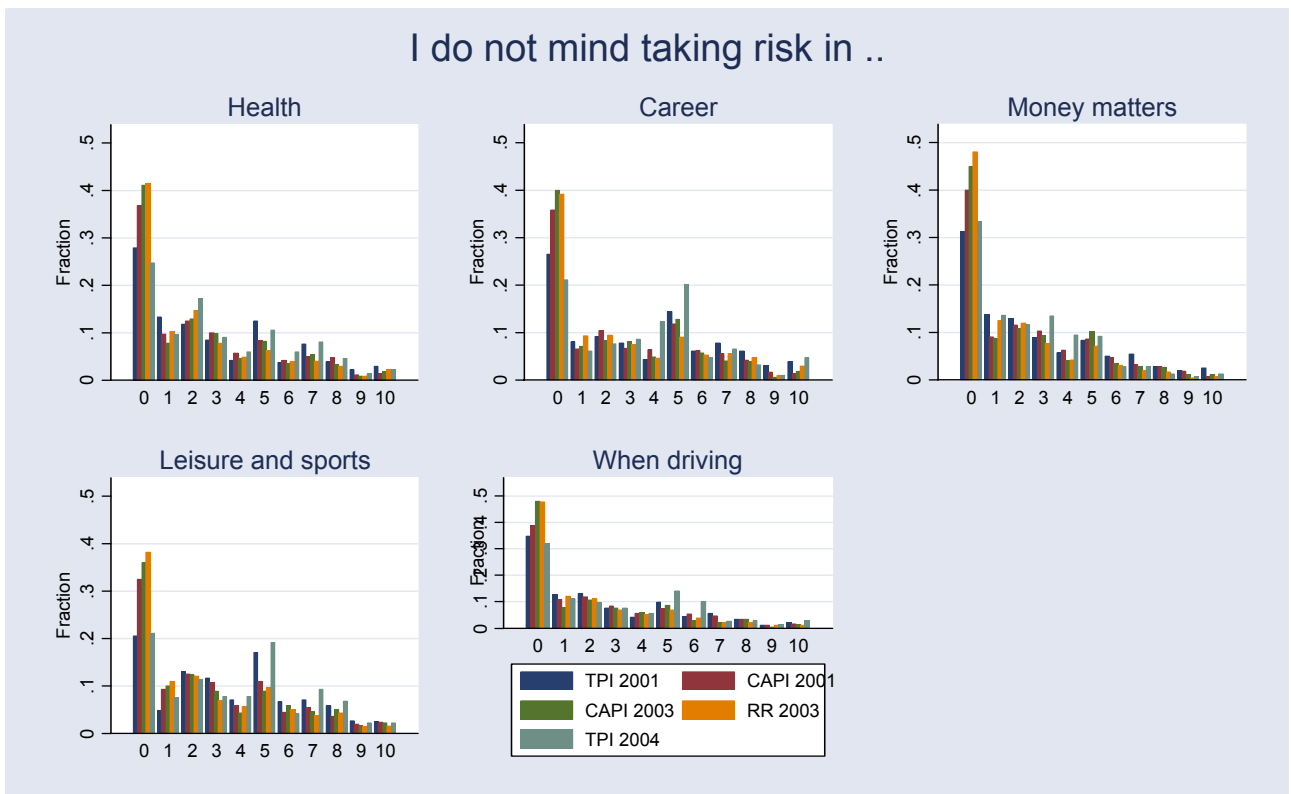
Note: Weighted values by subsample, hh income, and age.

Figure 15: Risk judgement and involvement probabilities
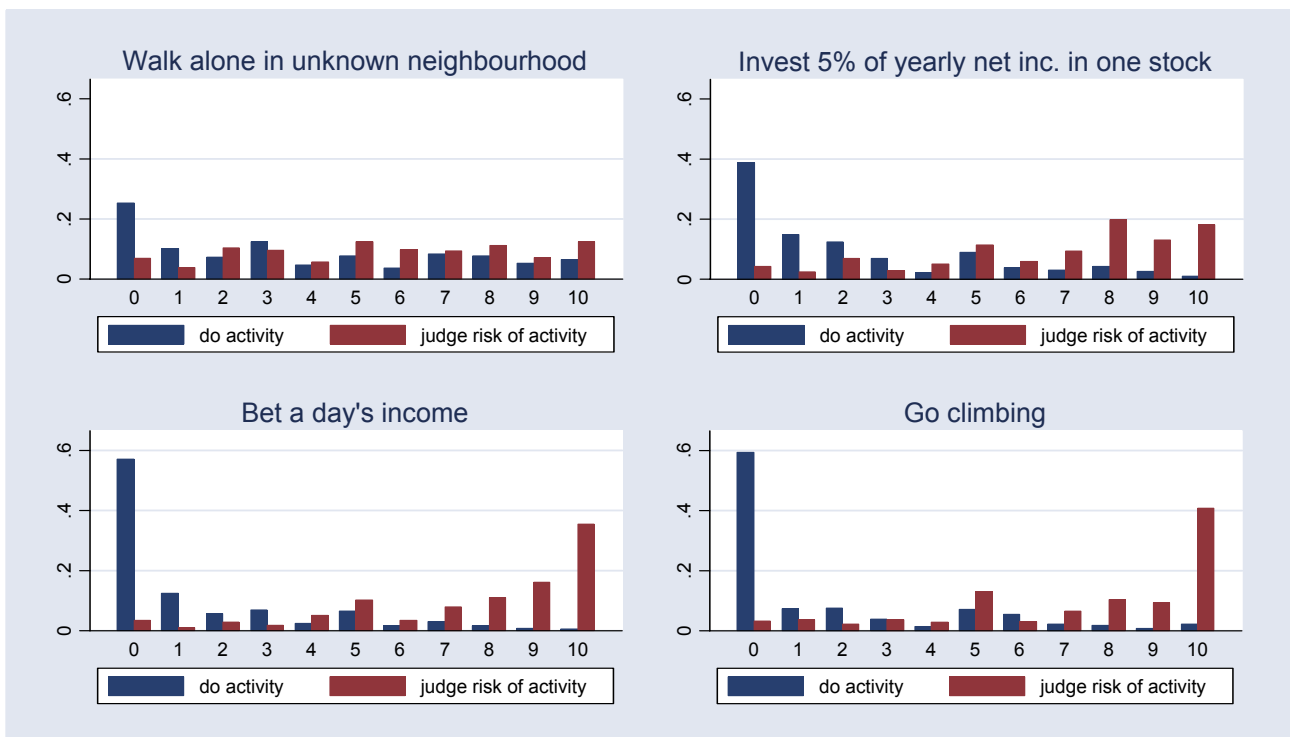
Notes: Weighted values by subsample, hh income, and age. Values for the 2004 TPI subsample only. Weighted values. 0 means very unprobable to engage in activity / not judging risky at all.

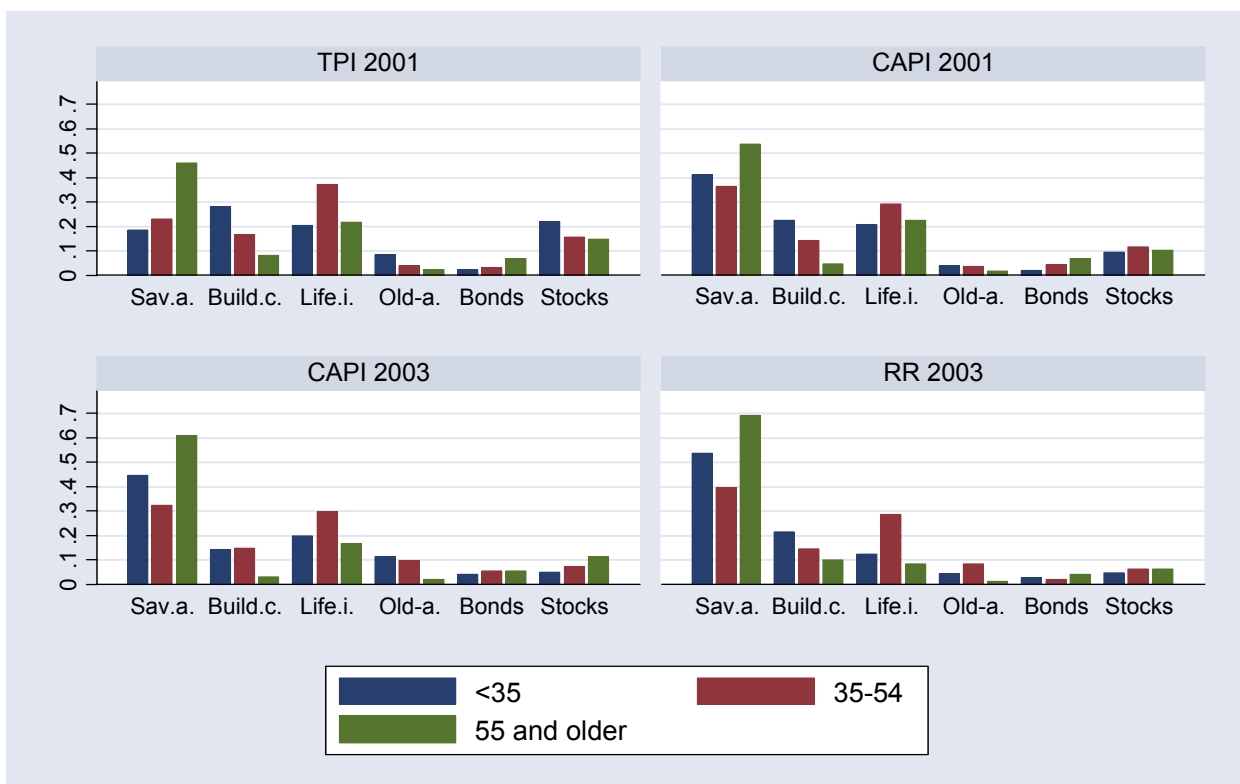**Figure 16:** Likelihood of choosing lotteries with different expected values
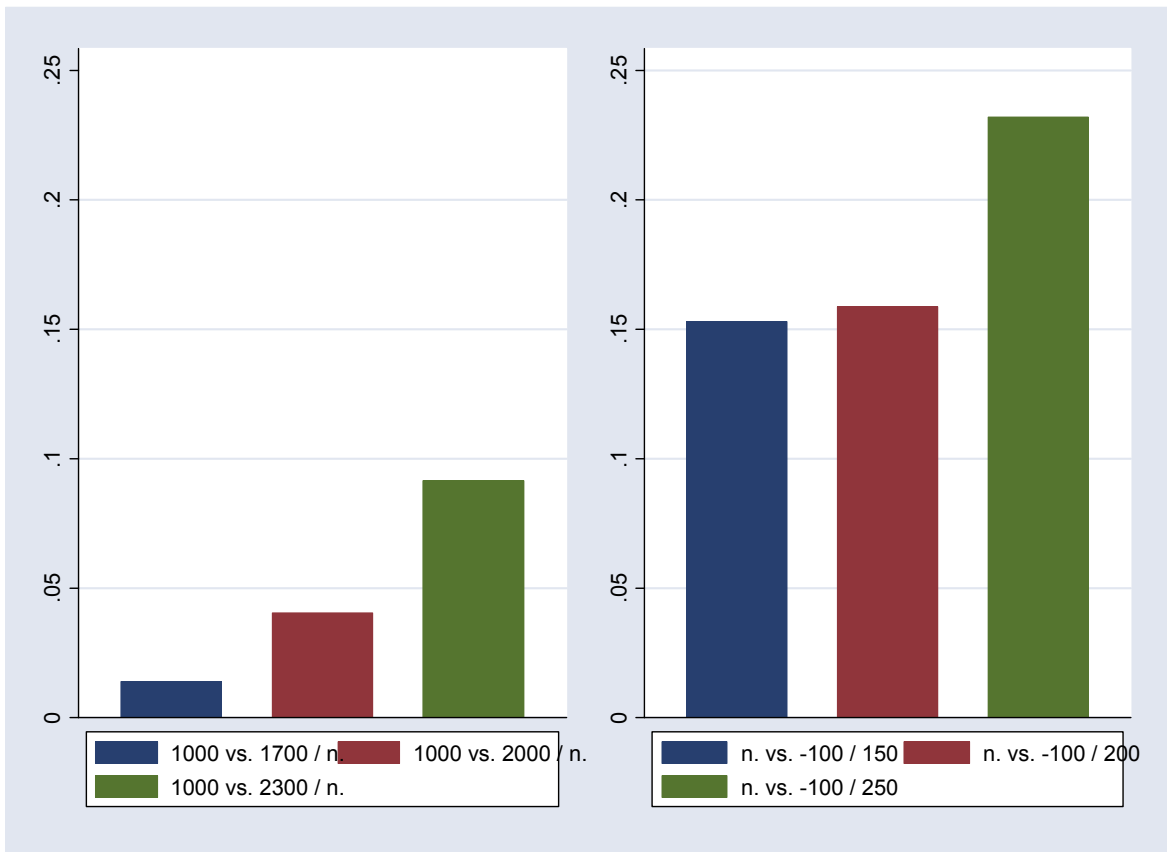
Notes: Weighted values by subsample, hh income, and age. Values for the 2004 TPI subsample only.

Figure 17: Portfolio compositions of by subsamples
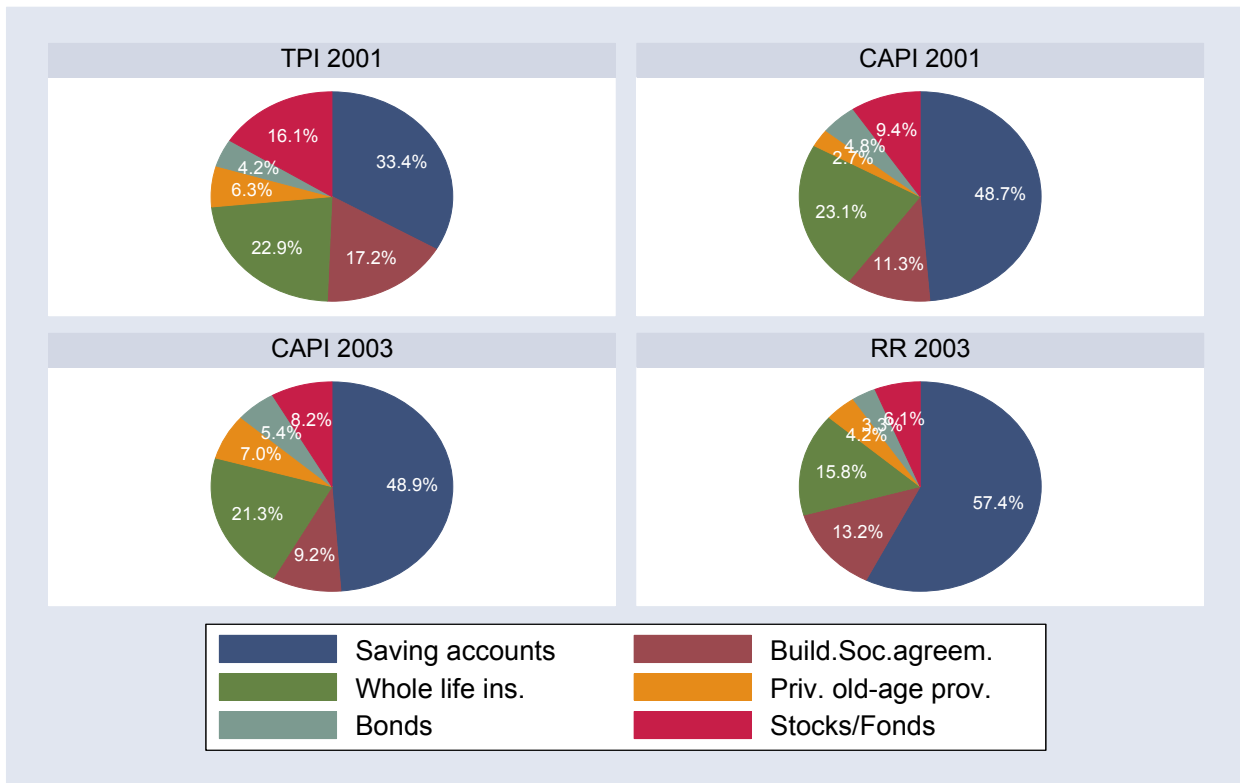
Notes: Weighted values. Private old-age provision question changed between 2001 and 2003.

Figure 18: Portfolio compositions by age classes

Notes: Weighted values. Private old-age provision question changed between 2001 and 2003.

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