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Household Saving in Germany
Results of the First SAVE Study

Axel Börsch-Supan and Lothar Essig

10.1 Introduction

This paper takes a fresh look on the saving behavior of German households. It exploits newly collected data, the first wave of the so-called SAVE panel. It is a preliminary look, since many aspects of saving can only be understood using longitudinal data—savings, after all, is an intertemporal decision. Further waves of the SAVE study will be collected in 2005. This paper reports on the initial wave that was collected in 2001.

While the topic of savings is by no means uncharted territory—see the recent comprehensive surveys by Deaton (1992), Browning and Lusardi (1996), and Attanasio (1999)—the savings behavior of households is still not well understood. This is astonishing, since the allocation of available income into spending and saving is one of the most important economic decisions made by a household. The intertemporal aspect of saving is fundamental for our understanding of how a household plans for the long term. How far ahead and how accurately do households look into the future? To what extent do they plan at all? Which rules and mechanisms do

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households employ when they decide about saving? These are the core questions that we try to answer in this paper.

Saving behavior encompasses not only the sober economic thinking by perfectly informed planners but also (often only seemingly) unstructured reactions deeply rooted in human psychology and sociocultural norms. Actual behavior may deviate (e.g., Thaler and Shefrin 1981; Laibson 1997; O'Donoghue and Rabin 1999) from the models that economists are used to working with (e.g., Kotlikoff 1989; Hurd 1990; Jappelli and Modigliani 1998). To understand saving, it therefore helps to be open for economic as well as psychological and sociological explanations. The SAVE panel attempts to collect a large set of variables that shed light on many household characteristics. Moreover, saving behavior, whether soberly planned or driven by intuition and conventions, is shaped by the institutional and political environment, notably the social safety net, tax rules, and capital market regulations (see Poterba 1994 and Börsch-Supan 2003). To understand saving, it therefore helps to exploit institutional variation. This paper on German saving behavior should therefore be seen in connection with—as well as in contrast to—the large literature on saving behavior of U.S. households.

Our poor understanding of saving behavior has far-reaching consequences for economic policy. We do not understand well, for instance, to what extent saving must be encouraged so that enough savings are available for financing the investment that forms the basis for long-term growth of our economy. Payments toward a saving scheme increase the after-tax interest rate and thus the return on the funds saved. If the substitution effect prevails, measures designed to encourage saving will achieve what they are meant to do. However, there is also an income effect. If households have a specific target in mind—say, an automobile, a foreign trip, a house, or a certain sum for their old age—then a higher return only means that the state is now helping and that they themselves have to save less to achieve the same goal. In this case, savings subsidies are only a windfall; they do not increase savings within the economy as a whole and may even reduce aggregate savings, if the taxes necessary to finance the subsidies are raised with inefficiencies.

A particular case in point is retirement saving and its role in pension reform. In fact, we do not have a reliable empirical basis on which to assess whether the recent German pension reform named after former labor secretary Walter Riester will be successful in creating new saving. As with other multipillar pension reforms, Riester reduced the generosity of pay-as-you-go pensions and hoped that households would fill the so-created pension gap by saving in individual accounts, which are heavily subsidized. There are several unresolved issues here. First, the substitution between pay-as-you-go "virtual" saving and the "real" saving in these new accounts: will such saving exactly compensate for the reductions in pay-as-you-go pensions? Or will substitution be less than perfect? Second, will the

Fig. 10.1 Saving rates according to income quartile and mean value, 1993 income and expenditure survey

Source: Börsch-Supan et al. (2001) based on income and expenditure surveys 1978–1993.

new retirement saving simply displace other saving? Will the increase in savings made in life insurance and pension funds coincide with a reduction of saving, for example, in home ownership and real estate? We do not have good answers to these questions. One purpose of the SAVE panel is to shed light on them during an important transition period, when the new multi-pillar pension system in Germany will slowly replace the monolithic pay-as-you-go pension system, in which 85 percent of retirement income was the state-provided pension.

Germany is an interesting country in which to study household saving behavior since it appears to contradict the familiar textbook version of the life-cycle theory of consumption and saving. Figure 10.1 shows the saving rate of Germans according to their age and income. It is based on data from the Income and Expenditure Survey conducted by the Federal Statistical Office, which collects data from a very large number of households (approximately 50,000). The saving rate is calculated as net expenditure on wealth formation (expenditure for real estate and financial assets, including capital repayment but minus borrowings), divided by the net income of the household.[1] The Income and Expenditure Survey is carried out every five years. Figure 10.1 relates to 1993, the last year for which detailed information that can be compared with the previous year is available.[2]

Figure 10.1 shows the average saving rate, which is constructed from flow data: sum of purchases of assets within a year, minus sales of assets during this year, divided by net household income in the year under review. Figure 10.1 also shows the saving rate of three income levels, the median income and the lower and upper quartile.

1. Cf. Börsch-Supan et al. (1999).

2. An analysis of the 1998 German income and expenditure survey (EVS) has not been made because comparison is difficult. See text for details.

Two aspects do not match the pattern predicted by naive textbook theory. First, we do not see borrowings from young households—they are clearly constrained. This may not be particularly surprising. Second, and more striking, is that nearly everyone—whether in the middle income bracket or richer—also saves substantial amounts in old age. Only households that earn less than 25 percent of average income spend more between the ages of sixty and seventy-five than they save.

An important purpose of the SAVE panel is therefore to shed light on the many facets of saving behavior that can enrich the life-cycle hypothesis to make it fit actual behavior better. Extensions in four directions appear particularly promising:

- Pay more attention to the complex institutional background, in particular the social insurance system.
- Study the approximation properties when households use rules of thumb in place of perfect economic optimization, and understand the welfare loss involved.
- Try to measure the influence of psychological factors such as risk aversion and self-control.
- Understand how households learn about saving decisions from their family and social environment.

Along these lines, this paper highlights first and large descriptive results of the first wave of the SAVE study. Section 10.2 describes this new survey. Section 10.3 reports on methodological aspects such as representativity and item-nonresponse patterns. Sections 10.4 to 10.6 present the substantive results: section 10.4, qualitative and quantitative saving measures; section 10.5, saving motives; and section 10.6, saving rules. Section 10.7 concludes with some preliminary suggestions relevant to public policy.

10.2 The SAVE Survey

In Germany there is currently no survey that records detailed savings data in conjunction with sociological and psychological characteristics. The socioeconomic panel (SOEP) only records rough indicators, such as "Did you spend all of your income last year or was there anything left over?" and "Do you have a savings book?" and so on, but it does not cover the quantitative composition and any change in the amount of wealth. The position was similar for the "debit and credit" surveys, which contain binary data (yes/no) on portfolio composition; they detailed a large set of investment forms but did not quantify the portfolio shares.

The EVS, conducted every five years by the Federal Statistical Office, with its detailed information on the amount and composition of income, expenditure, and wealth, is the main source of data on the savings behav-

Table 10.1 Structure of the questionnaire of the SAVE survey

Part 1: Introduction, determining which person will be surveyed in the respective household
Part 2: Basic socioeconomic data of the household
Part 3: Qualitative questions concerning saving behavior, income, and wealth
Part 4: Budget balance: Quantitative questions concerning income and wealth
Part 5: Psychological and social determinants of saving behavior
Part 6: Conclusion: Interview situation

ior of households in Germany.[3] The 1993 EVS also contains the most important sociodemographic characteristics for all persons living in the household, while other surveys only contain information on the reference person. In the light of the squeeze on public funds, the 1998 EVS has again been slimmed down drastically, and in some areas it bears very little resemblance to earlier surveys. It still covers a very large number of households, but several variables that are important for savings behavior are now missing. Sociological and psychological characteristics as well as many economic characteristics important for an understanding of savings are absent, because these expensive surveys are primarily intended for the administrative work of the Federal Statistical Office and not for research purposes.

Weaknesses of existing data material can only be rectified by new surveys. We departed from the Dutch CentER Panel and the U.S. Health and Retirement Survey as examples and cooperated with the Mannheim Center for Surveys, Methods, and Analyses (ZUMA) and Infratest-Burke (Munich) to produce a questionnaire consisting of six parts. The questionnaire has been designed in such a way that the interview should not exceed forty-five minutes. On average, households took between thirty-one and thirty-two minutes. Table 10.1 provides an overview of the SAVE questionnaire.

The brief first part explains the purpose of the questionnaire and describes the precautions that have been taken in respect of data protection. We feel that this introduction is important because the survey deals with sensitive issues such as personal finances. The interviewer then asks to speak to a member of the household who knows about income and assets. If this person is not at home, the interviewer must make a return visit—up to five times, if necessary.

Part 2 lasts about fifteen minutes and is the standard initial interview, in which questions are asked about the composition and socioeconomic

3. Papers using these data include Börsch-Supan (1992, 1994a,b), Reil-Held (1999), and Schnabel (1999).

structure of the household, including age, education, and participation in the labor force of the person surveyed and his or her partner.

Part 3 contains qualitative questions on saving behavior, such as the importance of a series of savings motives, whether there is actually anything left over to save, how regularly savings are made, and so on. Questions are also asked about decision processes, possible rules of thumb, and past patterns of behavior, as well as their parents' attitude to money.

Part 4 is the critical part of the questionnaire because this is where a complete balance sheet of the household is ascertained. A detailed survey is made of income according to source, changes in income, the level of assets according to the various kinds of wealth, and changes in the types of wealth over the last year. Apart from financial assets, the questions also cover private and company pensions, ownership of property, and business assets. Questions are also asked about debt. Part 4 is kept separate from the other parts. We will come back to this feature.

Part 5 contains questions about psychological and social factors. It includes the social environment, expectations about the economic situation, health and possible future events, life expectancy, and general attitudes to life.

Part 6 ends the interview with standard questions about the interview situation and leaves both the person surveyed and the interviewer considerable scope for their own comments. We received comments about confidentiality as well as the length and accuracy of the questionnaire. Questions are also asked about Internet access and willingness to participate in future waves of the survey, as required under German law.

A survey of this kind is an experiment in Germany. Apart from the income and expenditure survey, no German survey to date has attempted to produce such a detailed assessment of income, savings, and wealth. When one combines this economic information with the questions about psychological and social factors, the survey provides a multifaceted picture of the household surveyed. We think that only such a detailed picture will help us understand the savings behavior of a household. The price of this complex picture is a questionnaire that demands considerable patience and willingness on the part of the household to answer the questions.

The survey was carried out in five different variants (see table 10.2). The variants in this initial wave were designed in order to find the best possible combination of accurate answers and willingness to answer. Later waves will use only one variant. The first four variants were computer-aided personal interviews (CAPIs) carried out by Infratest-Burke (Munich) on a representative quota-sample. The quotas were in proportion to current official population statistics (the 2000 microcensus) and related to age, whether the respondent is a wage earner or a salaried employee, and household size. The sample augmentation in the 2005 wave will be random-route

Table 10.2 Survey variants: Sampling and interview techniques

	CAPI		CAPI-D		
	Numeric	Categorial	Via pick-up service	Via mail	Access panel
Interview technique	CAPI	CAPI	CAPI	CAPI	PAPI
Type of random sample	Quota sample	Quota sample	Quota sample	Quota sample	Access panel
Questions concerning income and fortune	In DM	Brackets	In DM	In DM	In DM
Design of part 4	Part of CAPI	Part of CAPI	Drop-off (via pick-up)	Drop-off (via mail)	Part of PAPI
No. of interviews	295	304	294	276	660

samples. In contrast, the fifth survey method was a conventional paper-and-pencil questionnaire (PAPI), given to a so-called Access Panel operated by the Test Panel Institute (TPI) Wetzlar. Both surveys recorded information from households where the head of the household is between eighteen and sixty-nine years old.

The only difference among the first four variants lies in part 4 of the questionnaire. In variants 1 and 2 of this part, all questions are answered in the presence of the interviewer. The difference between variants 1 and 2 is that the quantitative questions were presented once in numerical form as deutsche mark (DM) amounts ("How high do you estimate your household income is in DM?") and once as categories in specified ranges, disguised in such a way that it would be difficult for the interview to interpret them: "Does your income fall within range *R?*" in which case the respondent is given a picture in which range *R,* say around DM 2,000–2,500, has been defined.

Because many of these questions relate to intensely personal matters of income and wealth, we went one step further in variants 3 and 4. Here the entire part 4 was skipped in CAPI and left with the respondent (termed "drop off," abbreviated below as CAPI-D), so that the respondents could fill it out at their leisure and without their answers being seen by the interviewer. With variant 3, the interviewer came back personally and collected that part of the questionnaire; with variant 4, the questionnaire had to be returned by mail. If this was not done within a specified number of days, the respondent was reminded of this by telephone several times.

Table 10.2 summarizes these five survey variants. In total, 1,829 households were surveyed. The survey took place in early summer 2001. The fieldwork for the personal interviews took place between May 29 and June 26, 2001, whereas the fieldwork for the Access Panel (cf. below) took place between June 29 and July 24, 2001.

10.3 Quality of the SAVE Data

This section discusses the quality and representativity of the SAVE data, in particular item nonresponse. To what extent do those surveyed refuse to answer the sensitive questions? Can we keep within the agreed interview time, or do the respondents lose interest in the survey after the assessment of income and wealth in part 4? How representative are the 1,829 successful interviews? Do the results in these surveys reflect the areas also covered by official statistics? And naturally: which variant of the survey proved to be the most successful for larger-scale studies of this kind?

10.3.1 Response Rate and Representative Nature of the Survey

The response rate for part 4 of the surveys, which was left with respondents in the CAPI-D survey variant, was surprisingly high. In the version where the interviewer collected this part of the survey personally, only 2 percent of those surveyed refused to return the completed part 4. However, even when this part had to be returned by mail, nearly 91 percent of respondents did as requested.

Willingness to participate in a repeat survey on the same subject was also high for German households. This figure was between 59 percent and 66 percent for the CAPI variants and 90 percent for the Access Panel. It is therefore entirely feasible to establish a panel, in particular because second-stage panel mortality is typically very low. Finally, it can be seen from the comments in the box provided for "Comments on the interview" that the vast majority of those surveyed found the subject matter of the interview interesting and the questions to be acceptable, in spite of the fact that they were often of a personal nature.

Table 10.3 shows how representative the SAVE sample is in comparison with the 2000 microcensus. The figures in this table compare the proportion of households in an age and income class with the comparable proportion of the same type of households in the microcensus. A figure of 1.2 means that the microcensus covers 20 percent more households of this type than are present in our random sample. If we take the microcensus as the benchmark, a figure of less than 1 indicates underrepresented household types and figures over 1 indicate overrepresented household types.

In comparison to the microcensus, our random sample contains considerably more middle-aged households but fewer older households. This applies to both sample groups (CAPI variants and Access Panel). Young households are represented approximately correctly. With regard to income, we can see a really pronounced shift toward richer households. This is particularly pronounced in the Access Panel: here the microcensus indicates four times as many households with a monthly net income of less than DM 2,500 (approximately 1,300 euros) than in our sample group but

Table 10.3 **Representativity of the SAVE quota sample**

Age	Low income (up to 2,500 DM)		Average income (2,500–5,000 DM)		High income (over 5,000 DM)		All income categories	
	CAPI variants	Access panel	CAPI variants	Access panel	CAPI variants	Access panel	CAPI variants	Access panel
Up to 35 years	1.24	3.43	0.78	0.74	2.63	2.61	0.88	1.06
	(77)	(17)	(120)	(77)	(52)	(32)	(249)	(126)
35–55	1.14	3.33	0.76	0.71	0.69	0.44	0.79	0.67
	(67)	(14)	(226)	(148)	(198)	(190)	(491)	(352)
55+	3.28	6.45	1.09	1.36	0.86	0.70	1.41	1.62
	(58)	(18)	(182)	(89)	(94)	(70)	(334)	(177)
All age categories	1.79	4.51	0.88	0.90	0.72	0.52		
	(202)	(49)	(528)	(314)	(344)	(292)		

Notes: Relative frequency in the micro-census 2000 divided by relative frequency in the SAVE random sample. Number of observations are shown in parentheses. Currency during the survey was the DM. 2,500 (5,000) DM equal 1,280 (2,550) Euros. One Euro is roughly about $1 in terms of purchasing power parity.

only half as many households with an income of over DM 5,000 (approximately 2,600 euros). In order to compensate for this "distortion," we are weighting all the results of the tables and graphics in sections 10.5 and 10.6 using the figures in table 10.3.

10.3.2 Refusal to Answer Individual Sections

One of our main concerns was that the persons surveyed would refuse to answer precisely those questions that were most important for understanding savings behavior, since these were, at the same time, also the questions that were the most difficult and/or most personal for the respondents.

Systematic refusal to answer was not a problem in respect of household income. In all variants of the survey, we initially tried to ask about income in deutsche marks. Approximately 14.4 percent of those surveyed did not want to answer this. These respondents were then shown size classifications in which 63.3 percent of those surveyed indicated an income range. Consequently, information on income was available for 94.7 percent of households. When it came to providing information on wealth, the number of those refusing to answer was considerably higher. In fact, the refusal rates for individual questions ("item nonresponse") vary greatly between individual items and between survey variants—a very important outcome of this experimental survey in terms of the methodology. Details are shown in the appendix; they can be summarized as follows:

- As a rule, the rate at which households refused to respond was between a quarter and a third. These levels reflect the situation in surveys in

Great Britain and the United States. This clearly refutes the frequently held view that, in contrast to those countries, you cannot ask about financial matters in Germany.

- An important exception was the CAPI variant in which the respondents had to disclose to the interviewer their wealth in deutsche marks. Here the refusal to answer was very high. This confirms the obvious: anonymity is extremely important.
- A second exception was the question about a private insurance. This concept was clearly not understood by the majority of households.

10.3.3 Quality of Answers

Ultimately, it is important to understand the quality of the answers in respect of the range of fluctuations and outliers, and the extent to which they concur with related sets of data. This, too, is covered in detail in the appendix. Compared to official statistics, the age of the respondents is lower than the age of the head of household recorded there. There are two reasons for this bias (in spite of weighting; see table 10.3). First, in many cases the persons responding to our survey are the wives of the heads of household recorded in the 2000 microcensus and the 1998 income and consumption survey and, in a typical German marriage, wives are approximately three years younger than their husbands. Second, our random sample does not cover households in which the heads of household are substantially older than sixty-nine.[4]

With regard to the size of the household, it is noticeable that the Access Panel contains considerably more households made up of a husband and wife with children than do the four CAPI variants. However, overall the household size of the SAVE random sample agrees exactly with the size of household in the 2000 microcensus.

A good match has also been achieved for the household's net income vis-à-vis the familiar sets of data that are often used. In all types of the survey, respondents were initially asked to give their household income as a figure. If they refused, respondents then chose categories for their answers, which would then be anonymous for the interviewer. There was, therefore, no difference between the survey variants in recording income.[5]

Table 10.4 shows that the mean value of the net income recorded in the SAVE study is in very close agreement with the net household income recorded in the 2000 microcensus. It is only slightly higher than the figure in the SOEP and lower than the figure in the EVS.

A comparison of financial assets is more difficult, because only very little

4. According to the terms of reference in respect of the quota, the survey should only cover respondents aged between eighteen and sixty-nine (cf. section 10.3). In actual fact, there are a few respondents in the random sample who are younger and a few who are older.

5. In twenty-one cases the monthly income was confused with the annual income, and the coding was corrected accordingly.

Table 10.4 **Comparison of mean household net income (euros)**

	SAVE 2001	MZ 2000	SOEP 1999	EVS 1998
Mean	2,020	1,995	1,896	2,247
Median	1,841		1,636	1,900
Standard error	28.8		16.0	6.9

Notes: The SAVE value is the mean of all variants of the SAVE Study. The MZ 2000 value is the average across grouped numbers. EVS 1998 figures based on own calculations.

Table 10.5 **Comparison of the mean total wealth (euros)**

	CAPI		CAPI-D		Access		EVS
	Numeric	Categorial	Pick-up	Mail	panel	SAVE	1998
Mean	73,823	102,521	100,756	105,473	143,828	112,773	113,639
Median	7,792	19,940	18,867	36,813	51,129	26,178	38,685
Standard error	12,052	15,489	18,419	13,118	14,619	7,180	810
No. of households	119	202	176	168	328	993	49,720

Notes: All values of the SAVE-Study weighted according to table 10.3. The SAVE value is the mean across all variants of the SAVE Study. EVS values based on own calculations.

official statistical data is available. We define financial wealth as the value of all financial investments (total of deposits in savings accounts, amounts saved under a building society savings agreement, the market value of whole life insurance policies and private pension schemes, bonds, equities, mutual funds, investment funds, and real estate investment trusts). This includes all individual items ascertained in part 4 of the questionnaire.[6]

In contrast to net household income, the questions relating to wealth were asked differently in the individual variants of the survey, as described in table 10.2. We are therefore interested in whether outcomes differ according to variant (see table 10.5).

In view of the high standard error—wealth fluctuates widely between households—the mean figures for wealth are statistically identical in the majority of CAPI survey variants. However, in the survey variant that was not anonymous (first column: "CAPI numerical"), overall wealth was considerably lower. Here the answer is often a series of zeros, which tends to indicate that the respondents wished to conceal the fact that they were refusing to answer rather than the fact that they do not have available the specific details on their assets. The households that make up the Access Panel are considerably wealthier—or it may be that we manage to make a better record of their wealth than we do in the other households. In other

6. Two individual items had to be recoded as "missing" because it was clear that they were implausible.

respects, the mean values are considerably higher than the medians, due to the well-known asymmetry of the wealth distribution.

How do the data on wealth compare with the figures given in the official statistics? This can be seen in the last two columns of table 10.5. Overall, both the mean value and the median of wealth in the SAVE study are lower than the figures recorded in the 1998 EVS. The difference is, however, only barely statistically significant and concurs with the higher income of EVS households.

Finally, we compared the saving rate in the SAVE study with the EVS saving rate (see table 10.6). The saving rate is defined as the sum of savings that were the subject of direct questions ("Can you tell me how much money you and your partner saved in total in the year 2000?") divided by the net income. New borrowings are deducted from this figure; repayments are added to the savings. These savings do not contain real savings—in other words, expenditure on durable consumer goods, housing, and so forth. In view of the considerable influence outliers have on saving rates, we use more robust medians and avoid means.

The median saving rate in our SAVE study (i.e., calculated across all survey variants) was 12 percent. As would be expected in view of the higher wealth of the Access Panel—as compared with the other respondents—the saving rate of the Access Panel is also higher. In other respects, the difference in the saving rates in the CAPI variants of the SAVE study is not statistically significant. The saving rate of SAVE respondents was 1.1 percentage points higher than the saving rate in the sample group of the EVS income and consumption survey (10.9 percent). However, this difference is not statistically significant.

The SAVE and EVS saving rates are, however, substantially higher than the saving rate calculated by the German Bundesbank and cited in official statistics, which was 9.8 percent in 1999. The reason for this is that the Bundesbank "saving rate of private households" also includes private nonprofit organizations (such as trade unions and churches), whereas households in the SAVE study and the EVS are only private households in the strict sense of the word.

Table 10.6 **Comparison of saving rates (%)**

	CAPI		CAPI-D		Access		EVS
	Numeric	Categorial	Pick-up	Mail	panel	SAVE	1998
Median	11.7	11.4	10.7	9.6	14.2	12.0	10.9
Standard error	1.2	0.9	1.1	1.4	1.2	0.6	0.0
No. of households	126	153	114	126	349	868	45,375

Notes: All values of the SAVE Study weighted according to table 10.3. EVS values based on own calculations.

10.3.4 Lessons for Further Waves

Germans are prepared to give information about their wealth and how they save, not much different from U.S. households. However, measures must be put in place during both the interview and subsequent analysis to provide a credible assurance that the respondents' anonymity will be preserved.

The information from the SAVE study corresponds closely with the information that we have obtained from the official statistics (here, in particular, the 2000 microcensus and the 1998 income and consumption survey) and the SOEP. This applies to demographic indicators such as age and size of household, as well as for the most important economic values of this study—in other words, income, wealth, and saving rate.

Which variant of the survey proved to be the best? If we take as our benchmark the attitude as regards refusing to answer and the representative nature of the information, the CAPI in combination with one part handled on a drop-off basis appeared to be the best method. While the Access Panel delivered excellent results in respect of accuracy and willingness to answer, this panel appears to be substantially self-selected toward larger and richer households.

10.4 Qualitative and Quantitative Saving Measures

While the primary purpose of the initial wave was methodological, we also evaluated the answers of the respondents in order to understand which substantive results can be expected from a panel survey. We first turn to the qualitative saving questions. In general, the households gave a rather positive assessment of their situation in life: most households surveyed have adequate income available to save ("saving capability"), and they appear to have a sufficiently positive view of the future to also want to save ("willingness to save"). In brief: the majority of Germans save, and the Germans who do so put away substantial amounts.

10.4.1 Qualitative Information on Savings

We begin with the "warm-up question" on how the households surveyed manage to balance income and expenditure in general. Table 10.7 shows the questions and different responses for those households in the upper and lower income brackets. Approximately half of those surveyed had "some money left at the end of the month," whereas the number of households who "always had a lot of money left" or "only had some money left if additional one-off revenues came in" were about the same.

Nearly two-thirds of German households and over three-quarters of households in the richer half of the income bracket are "capable of saving." However, approximately one in five households states that the money was

Table 10.7 Saving capability (%)

"*If you think back, how well did you get along with your revenues in the year 2000? Which of the following best describes your experience?*"

	All households	Income *below* median	Income *above* median
At the end of the month, there was always a lot of money left.	14.6	7.0	22.1
At the end of the month, there was often some money left.	49.4	45.7	53.1
There was only some money left if additional one-off revenues came in.	14.8	16.7	12.9
Often, there was not enough money left at the end of the month.	17.1	24.3	9.9
At the end of the month, there was never enough money left.	4.3	6.4	2.1

Note: Weighted averages across survey variants, see table 10.3.

"often" or "never" enough—and surprisingly this also includes 12 percent of households whose income puts them in the richer bracket of German households.

10.4.2 Quantitative Information on Saving

These qualitative answers can be translated into hard figures. We first ascertain a rather broad and vague number of the total amount saved ("Can you tell me how much money you and your partner saved in total in the year 2000?"). Borrowings are then deducted from this; debt repayments are added to savings. The median saving rate of 12 percent is approximately the same as the figure we know from the EVS—as we have already established in table 10.6. Table 10.8, which shows the saving rate as a function of the saving capability listed in table 10.7, shows that the answers are intuitively plausible. The households with savings capability save at a rate that is nearly three times as high as those households where funds are always short.

It is interesting that even in households who say that "there was never enough money left at the end of the month," the saving rate was over 7 percent. This is an interesting finding. One explanation is that contractual saving—such as building society contributions, parts of the premium to whole life insurance contracts, or debt repayments which are typically paid by automatic withdrawal from checking accounts in Germany—is not counted in this one-item question. We see evidence for this explanation in the course of the paper.

Table 10.9 presents euro amounts of saving and its components. In 2000 the households in our SAVE sample saved nearly €4,850, in a colloquial

Table 10.8 Saving rate and saving capability (%)

	At the end of the month, there was always a lot of money left.	At the end of the month, there was often some money left.	There was only some money left if additional one-off revenues came in.	Often, there was not enough money left at the end of the month.	At the end of the month, there was never enough money left.	All
Mean	22.8	13.8	11.9	10.4	7.4	14.8
Median	20.2	11.6	9.4	8.7	7.8	12.0
Standard error	1.3	0.8	1.2	1.6	2.9	0.6

Note: Weighted averages across survey variants, see table 10.3.

Table 10.9 Gross and net savings

	Gross savings	Net new debt	Net savings
	Absolute values for 2000 (euros)		
Mean	4,842.1	–179.8	5,338.6
Median	2,556	0	3,068
Standard error	401.1	335.2	643.4
No. of households	1,039	1,534	905
	Saving rates (%)		
Mean	13.2	–1.9	14.8
Median	10.2	0	12.0
Standard error	0.3	1.3	0.6
No. of households	1,001	1,486	868

Notes: Weighted averages across survey variants, see table 10.3. Saving rates are monthly savings divided by monthly net income. Medians are not additive.

sense of the word (gross savings, i.e., purchase of new savings investments minus the sale of old savings investments) and on average paid off around €180 more of debts than they took out in new borrowings. Net new debt is therefore negative, and savings in an economic sense (i.e., the net savings) is greater than gross saving. However, many households do not have any outstanding debt, hence the low mean value and a median of zero. Among the approximately 900 households for which current data on borrowings and savings formation were available, the net savings were around €5,350 in 2000. This corresponds to a saving rate of 14.8 percent.

The medians are substantially below the mean values, which indicates that the distribution is skewed: many households save very little, but some households save a great deal. Even so, half of households saved €3,070 net in 2000—in other words, more than 12 percent of net income.

Figure 10.2 provides more detailed information about the distribution of the saving rate. The majority of households save between 8 and 12 percent of their net household income. Only around 4 percent state that they liqui-

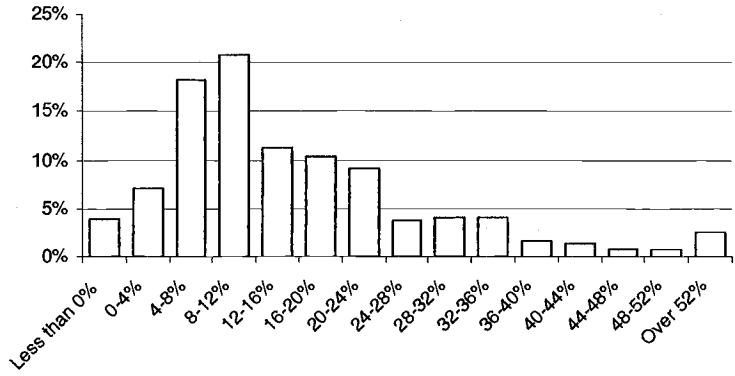

Fig. 10.2 Distribution of net savings

Notes: Weighted averages across survey variants, see table 10.3. The saving rates are monthly savings divided by net income per month.

date more savings than they invest in other savings instruments. The proportion of high saving rates is extraordinary. Around 11 percent of households maintain that they save a third or more of their net income. Out of the nearly 3 percent of particularly high saving rates (over 50 percent of net income) at the right-hand extremity of the distribution chart, some are likely to be implausible, although it is quite possible that a considerable amount is saved in the case of lump-sum receipts (such as an inheritance). We will look at this again later on.

10.4.3 Assets

These savings accumulate to the stock of assets. We differentiate between financial and real estate assets. Financial wealth is defined as the value of all financial investments (the total of deposits in savings accounts, amounts saved under a building society savings agreement,[7] the market value of whole life insurance policies and private pension schemes, bonds, equities, mutual funds, investment funds, and real estate investment trusts). Real estate assets are made up from the value of self-used real estate, the value of other property, business assets, and other assets (jewelry, antiques, etc.). Total wealth is ultimately the sum of financial assets and real estate assets minus any outstanding loans.

If individual parts of questions were not answered, total wealth could not be reconstructed without making further assumptions. In these cases, total wealth was coded as "missing." A total of 993 households provided a complete set of data on assets, that is, 54 percent of all respondents.

Over 80 percent of households were able to give a figure for the wealth

7. Building society savings contracts are an important savings vehicle in Germany. See Börsch-Supan and Stahl (1991b) for a description and analysis.

they possess (i.e., a positive amount; see table 10.10). Around 46 percent of SAVE households state that they own property, generally a residential property they use themselves. This figure lies between the official statistics (EVS 1998: 47 percent) and the SOEP (approximately 41 percent). Around 44 percent of households have debt. For the majority of households, these are mortgages or building loans on their owned home.

In the case of 82 percent of households who held positive wealth, this figure was around €143,000. Financial assets were only around €32,000. In contrast, the average value of the property owned was €208,000. The value of residential property correlates closely to the value of financial assets, as table 10.11 shows. Households with high financial assets also live in expensive houses, whereas households who rent their accommodation also

Table 10.10 **Total wealth and single asset types**

	Total wealth	Financial assets	Self-used real estate	Debt	Business assets
Proportion of households that own this kind of wealth (%)	82.4	83.5	45.8	43.6	4.0
Households that own this asset type:					
Number	818	900	793	728	71
Mean (euros)	142,284	31,878	208,279	52,768	213,305
Median (euros)	64,934	13,294	191,734	19,429	40,903
Standard error (euros)	8,512	1,864	6,292	2,857	40,890

Notes: Weighted averages across survey variants, see table 10.3. "Owning" of an asset type means that the household lists a positive amount for this asset type. Total wealth was only calculated for those households which provided data on all asset types. Since some households listed certain asset types (i.e., financial assets), but refused to provide information about others, the proportion of households with positive total wealth lies below the proportion of households with positive financial assets.

Table 10.11 **Correlation between financial and housing wealth**

	Value of owner-occupied housing				
	Not applicable	Below 128k Euro (250k DM)	128–256k Euro (250–500k DM)	256–512k Euro (500–1,000k DM)	Above 512k Euro (1 million DM)
Mean	15,900	19,303	35,485	58,963	1,286,517
Median	3,681	10,226	18,560	29,655	132,936
Standard error	1,440	3,582	3,125	9,210	35,828
No. of households	582	84	266	118	13

Note: Weighted averages across survey variants, see table 10.3.

Table 10.12 **Wealth and saving capability (euros)**

	At the end of the month, there was always a lot of money left.	At the end of the month, there was often some money left.	There was only some money left if additional one-off revenues came in.	Often, there was not enough money left at the end of the month.	At the end of the month, there was never enough money left.
Mean	277,642	115,187	75,636	43,014	21,531
Median	155,944	53,123	11,862	1,636	0
Standard error	37,547	6,959	10,974	6,982	7,512

Note: Values weighted across survey variants, see table 10.3.

have the least financial assets. These types of assets are therefore not substitutes but complementary forms of investment.

The distribution of wealth is very skewed. Many households have few assets, but some households have very considerable assets. If one looks at the distribution of wealth by income group, we obtain the following picture: The poorer half of earners only own just under 20 percent of total wealth, whereas the 10 percent of households in our SAVE study with the highest incomes own approximately 33 percent of total wealth. As expected, there is a high correlation between qualitative saving capability and wealth (see table 10.12). In the case of households in which "there was never enough money left" at the end of the month, the average total wealth was around €22,000. More than half of these households stated that they did not have any assets at all, whereas households who "always had a lot of money left" had assets of €280,000 on average, and more than half owned more than €156,000.

10.4.4 Age Structure of Savings

Since this only one cross section, we cannot distinguish age from cohort effects in saving. We thus cannot make inferences on life-cycle behavior, but at least we can say something about how the elderly save or dissave in the year 2001.

Table 10.13 shows us that a majority of older households in 2001 "always have a lot of money left" or "often have some money left" at the end of the month, actually considerably more often than is the case for younger households. On average, at least, old age is currently not a time in life when German savers have a bad time. When we look at actual savings, the figures also do not provide evidence for dissaving in old age. Figure 10.3 shows the saving rate (thicker bars) and absolute savings (thinner bars). While older (earlier born, if one prefers the cohort interpretation) households save less than younger ones, both the saving rate and absolute saving remain positive.

Table 10.13 Who is able to save? Age pattern (%)

Saving capability	Age		
	Under 30	30–59	60 and over
At the end of the month, there was always a lot of money left.	9.7	13.2	14.5
At the end of the month, there was often some money left.	47.2	45.0	58.0
There was only some money left if additional one-off revenues came in.	14.3	17.8	10.8
Often, there was not enough money left at the end of the month.	23.1	19.5	12.9
At the end of the month, there was never enough money left.	5.8	4.5	3.8

Note: Weighted averages across survey variants, see table 10.3.

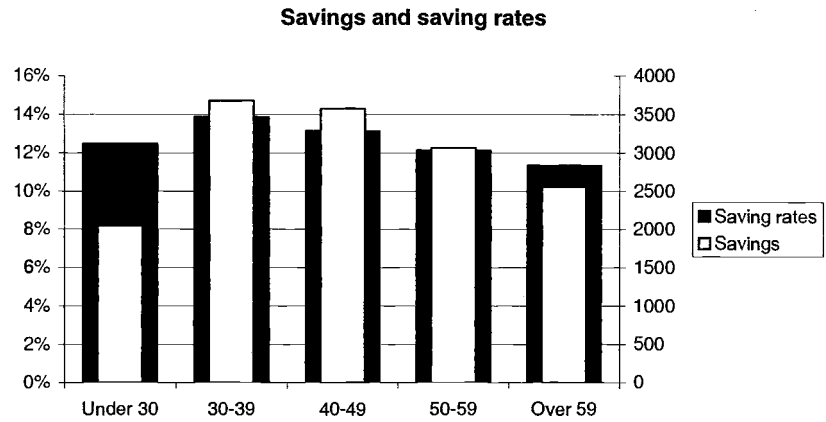

Fig. 10.3 Age pattern of savings
Notes: Values weighted according to table 10.3. Amounts in euros.

10.5 Savings Motives

There are many reasons for saving a portion of one's income, including short-term reasons, such as saving for next summer's vacation, and long-term reasons, such as saving for retirement.[8] Figure 10.4 shows the importance which the households in our survey attached to nine reasons for saving:

8. The literature on savings motives is extensive. This is not the place to review it. Among economists, most attention has been given to retirement savings (Modigliani and Brumberg 1954; Feldstein 1974), precautionary savings (Abel 1985; Carroll 1992; Carroll and Samwick 1998; Lusardi 1997), and bequest motives (Bernheim, Schleifer, and Summers 1985; Hurd 1987).

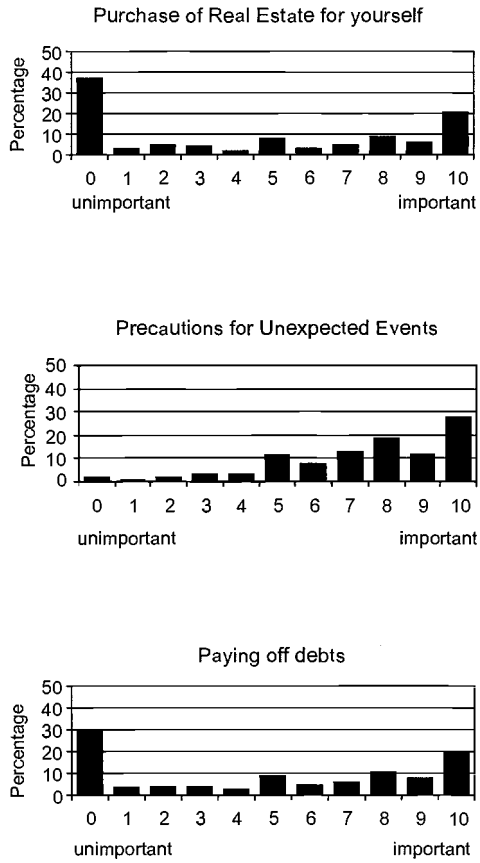

Fig. 10.4 Reasons for saving
Note: Weighted averages across survey variants, see table 10.3.

- Saving to buy their own home
- Saving as a precaution for unexpected events
- Saving to pay off debts
- Old-age provision
- Saving to go on vacation
- Saving to make a major purchase (car, furniture, etc.)
- Saving for education or for supporting children and/or grandchildren
- Saving to provide bequests for children or grandchildren
- Saving to take advantage of state subsidies (e.g., a subsidy for building society savings)

Each reason for saving had to be rated on a scale from 0 (no importance) to 10 (very important).

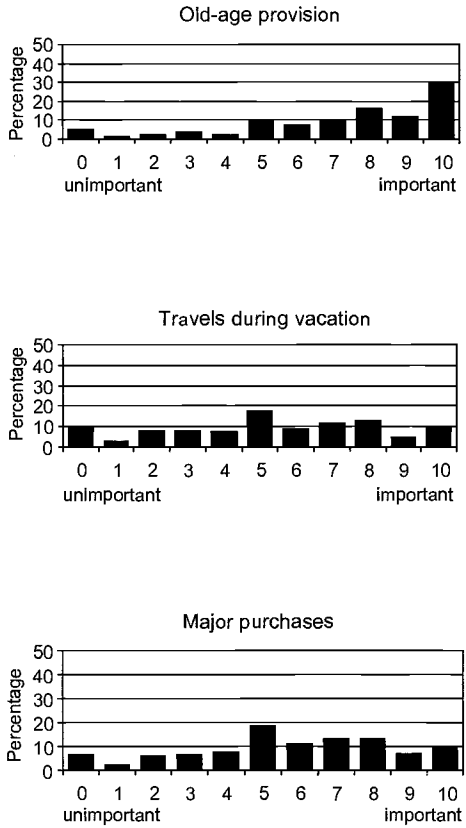

Fig. 10.4 (cont.)

What is immediately noticeable are qualitative differences. Some motives have a clear maximum at 10, others at 0, and a third group is bimodal. In the case of buying a home and repaying debts, the emphasis is on the two extremes—nearly all households consider that these two reasons for saving are either of absolutely no importance or are really important. The reason is obvious: "saving to buy one's own home" is an important reason for saving, either for those who already own their own home or for those who want to become a home owner. Equally, the answer in respect of "repaying debts" is almost exclusively linked to the current debt situation of the households.

Nearly all households rated "saving as a precaution" and "saving for old age" as important. The number of households who considered saving for unforeseen events to be of lesser importance (rated between 0 and 4 on the 10-point scale) was only 4.0 percent, and the number of households who felt the same about savings as provision for old age was only 8.6 percent.

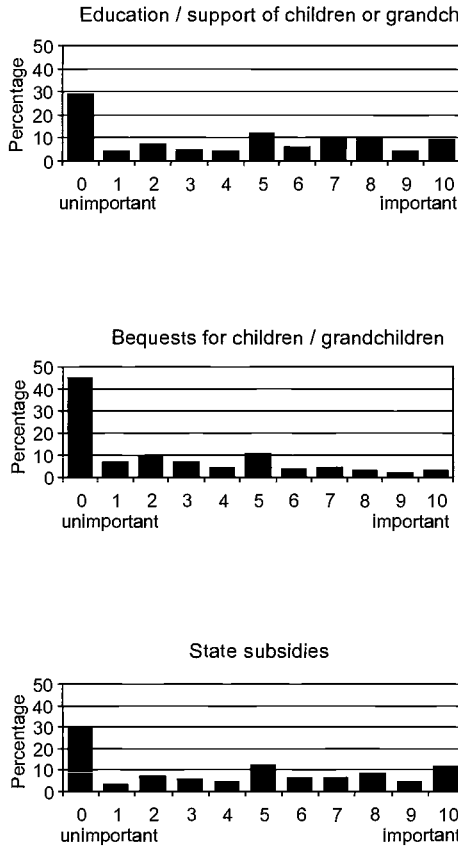

Fig. 10.4 (cont.)

Conversely, saving for educating or supporting children or grandchildren was only accorded secondary importance, as was—surprisingly—saving to provide an inheritance to children or grandchildren. With regard to inheritance, nearly 40 percent of households were of the opinion that this was an absolutely unimportant reason (classification of 0). Exploiting state incentives to save also did not turn out to be a primary reason for saving. This prompts doubts concerning the effectiveness of the various savings policies, including the huge new incentives to take out a private pension and home ownership subsidies. This must be seen in the context of respondents' answers on saving for old-age provision and for acquiring their own home: it is apparent that the primary reason (adequate income in old age, owning one's own home) is considerably more important than the secondary reason (tax incentives). If tax incentives are only a second-

ary reason for saving, the danger of windfalls is high. Further evidence is needed, however, to make a sound judgment on this finding.

Figure 10.4 contains declarations of intent. Are these intentions also credible? A particular opportunity to verify savings intentions is offered by unexpected lump-sum payments (e.g., inheritances or gifts), because they—according to economic theory—are supposed to be mainly used for saving and less for consumption. Table 10.14 shows what households did who received a particularly high lump sum. The column "Frequency of the investment" shows the percentage of households who used the lump-sum payment for the purpose indicated in the first column. For example, 11.2 percent of households paid part of their lump sum into a savings account (or a similar form of investment). As multiple answers could be given and the households often divided the lump sum for different purposes, these percentages often add up to more than 100 percent.

Table 10.14 Use of large lump sum payments

"*In 2000, did you or your partner receive extraordinarily high revenues or inheritance of over 1,000 DM? What did you and/or your partner do with the money? Which of the following applies? Please only list amounts of at least DM 500.*"

	Frequency of the investment (%)	Number	Median expenditure share (%)	Number	Average expenditure share (%)	Number
Dedicated savings[a]	11.2	57	40.0	42	7.0	46
Other financial saving[b]	24.8	119	72.7	103	19.3	108
Purchase of real estate[c]	6.0	25	91.3	15	24.6	19
Renovation or expansion[d]	21.9	114	51.3	95	11.9	109
Purchase of commodities[e]	25.4	129	42.9	112	9.4	122
Travel[f]	26.6	134	44.4	115	3.9	130
Articles for everyday life[g]	34.0	171	26.3	132	2.5	145
Paying off debt[h]	21.7	111	60.0	95	8.8	104
Other[i]	8.7	41	71.4	33	12.6	36

Note: Weighted averages across survey variants, see table 10.3. "Median expenditure share" is the median of the expenditure ratio (expenditure for the respective use divided by lump sum). "Average expenditure share" is the total sum of expenditures for the respective use divided by the total sum of investments (total sums across all respondents).

[a]Dedicated saving account (building society, whole life insurance, individual pension)

[b]Other financial saving (e.g., purchase of stocks or securities)

[c]Purchase of an apartment or a house

[d]Renovation or expansion of an apartment or a house

[e]Purchase of commodities (e.g., a car or furniture)

[f]Travels during vacation

[g]Articles for everyday life

[h]Paying off debt

[i]Other

The column "Median of the expenditure share" describes the percentage of lump sums used for the respective purpose (we are using the more robust median rather than the mean value). The number "40%" in the first line thus means that, of those who have paid part of their lump sum into a savings account, the median share used for that purpose was 40 percent. This column therefore describes the intensity of a usage for those who selected that usage.

Finally, the penultimate column ("Average expenditure share") shows what happened to the overall sum of all lump-sum payments—these percentages therefore add up to 100 percent. If we come back to the example given in the first line, in total only 7 percent of the total amount received as lump sums found its way into savings accounts, whereas 93 percent was used for other purposes. This last column therefore states what is important for the economy as a whole.

While the most frequently stated use of the lump sum (34 percent) was for "articles for everyday life," households who stated this spent only around a quarter of the lump sum on it. From an aggregate point of view, this usage category thus only played a secondary role, with 2.5 percent of the overall total lump sum spent on it. Other short-run expenditure is money spent on vacations—in total, around 4 percent. Thus, less than 10 percent of lump-sum income is spent on short-term consumption.

From this aggregate view, investment in real estate, shares and securities—in other words, savings in the form of property and financial assets—play a much more important role. What is noticeable with these investments is that those households who operate them concentrate on them to a very great extent. More than 90 percent of the lump-sum payments is used for real estate if this type of usage is chosen. Including conventional savings investments, building society savings agreements, whole life insurance policies, and private pensions, more than half of the lump-sum income is used directly for savings. On top of this, renovations and repayment of debts account for around a further 20 percent. Consumer durables fall in the gray area between consumption and investment, and account for just under 10 percent of the total additional income.

Hence, although table 10.14 is based on relatively few households—so the results must be interpreted cautiously—a rather clear overall picture emerges. It confirms that the proportion of additional revenue used for consumption is negligible, while most goes toward savings.

We now return to the initial question and ask ourselves whether the intentions in figure 10.4 correspond to actual behavior. They do, at least as shown in table 10.15, in which we compare the actual use of unexpected lump-sum payments (here coded as "yes" or "no," according to whether the lump sum has been used for purpose x) with the corresponding savings motives (here coded in three categories: purpose x was an "important" or "indifferent" or "unimportant" reason to save).

Table 10.15 **Consistency of words and actual behavior (importance of saving reason by actual use of lump sum)**

	Reason for saving:							
	Travel		Pay off debt		Purchase of own home		Larger purchases (cars, furniture)	
	Use of lump sum for:							
	Vacation		Pay off debt		Purchase of real estate		Durables (cars, furniture)	
	No	Yes	No	Yes	No	Yes	No	Yes
Unimportant	22.9	4.4	34.5	4.2	35.4	5.0	12.5	6.7
Indifferent	55.4	47.9	22.9	29.6	18.7	19.8	55.0	68.1
Important	21.7	47.6	42.6	66.1	45.9	75.3	32.6	25.2
No. of households	364	134	387	111	473	25	369	129

	Reason for saving:							
	Old-age provision		Unexpected events		Old-age provision		Unexpected events	
	Use of lump sum for:							
	Dedicated savings (Whole life insurance, individual pension)				Other savings (stocks, securities)			
	No	Yes	No	Yes	No	Yes	No	Yes
Unimportant	5.1	4.0	2.7	2.1	4.9	5.4	2.6	2.8
Indifferent	28.8	15.4	36.3	40.9	27.5	26.7	38.1	32.8
Important	66.1	80.6	61.0	57.0	67.6	67.9	59.3	64.4
No. of households	441	57	441	57	379	119	379	119

Note: Weighted averages across survey variants, see table 10.3.

Example: Of those respondents who did not use their lump sum for vacation spending, 22.9 percent assessed travel as an unimportant reason for saving.

Among those who listed "vacation" as an important reason for saving, more than twice as many households actually spent a lump-sum payment on vacation trips (47.6 percent vs. 21.7 percent). A similar correlation exists for repayment of debts (66.1 percent vs. 42.6 percent) and for purchasing real estate (75.3 percent vs. 45.9 percent).

The preference for old-age provision is also quite clearly reflected in the type of investment selected. Over 80 percent of households who state that old-age provision is an important reason for saving invest a portion of their lump-sum payment in a whole life insurance policy or a private pension. This contrasts with a figure of 45.9 percent for those who "save as a precaution" (households that save for nonspecific and unforeseen events). These households tend to invest the unexpected lump-sum amounts in shares and securities (64.4 percent). It is only when it comes to purchasing consumer durables that this picture becomes less clear. Overall, therefore, intentions are quite well backed up by actual deeds, at least among those who received an unexpected lump-sum payment.

The saving motives have a clear age and income structure, as can be seen in table 10.16.

Older and richer households find saving for unforeseen events more important than do younger people (67.7 percent vs. 57.9 percent vs. 54.7 per-

Table 10.16 **Saving motives, by age and income (%)**

	Age group (year)			Income group (DM)		
	Under 35	35–54	>55	Under 2,500	2,500–<5,000	>5,000
Saving for unexpected events						
Unimportant	3.8	4.6	1.9	6.9	2.8	2.8
Indifferent	41.5	37.4	30.4	41.1	35.8	35.9
Important	54.7	57.9	67.7	52.0	61.5	61.4
Saving for old-age provision						
Unimportant	7.6	7.1	18.0	11.9	8.3	5.5
Indifferent	37.3	31.7	21.9	32.7	31.5	32.6
Important	55.1	61.2	60.1	55.4	60.1	61.9
Purchase of own home						
Unimportant	26.4	48.3	55.6	54.2	44.1	31.8
Indifferent	28.8	18.6	10.2	23.9	20.1	16.9
Important	44.8	33.1	34.3	21.9	35.8	51.3
Travel and vacation						
Unimportant	14.8	21.1	22.1	26.7	18.0	14.4
Indifferent	55.2	50.5	49.2	47.1	50.5	58.6
Important	30.0	28.4	28.7	26.2	31.5	27.1
Larger purchases						
Unimportant	7.5	14.5	26.5	24.8	11.0	7.5
Indifferent	58.0	56.0	48.8	51.0	55.3	59.8
Important	34.5	29.4	24.7	24.3	33.7	32.7

Note: Weighted averages across survey variants, see table 10.3.

cent) and poorer people (61.4 percent vs. 61.5 percent vs. 52.0 percent). The differences in income may be surprising, because richer households would find it easier to finance unforeseen events from their regular income. The income effect is also reflected in saving for old-age provision: richer households place more emphasis on this than do poorer households (61.9 percent vs. 60.1 percent vs. 55.4 percent). Finally, and as one would expect, saving for one's own home is reflected in a very distinct age and income profile: considerably more younger (44.8 percent) and, above all, richer (51.3 percent) households save for their own home. The picture is very similar with respect to major purchases (34.5 percent and 32.7 percent).

10.6 Saving Rules

In many regards, this section is the core section of this paper. It reports on our attempt to use direct and indirect questions to shed light on how German households save; that is, which rules they apply to determine the amount of savings. The section investigates saving behavior in a very fundamental sense (see Lettau and Uhlig 1999).

10.6.1 Direct Questions about Saving Behavior

Table 10.17 lists the answer to the question "Which of the following sentences best describes your own personal saving behavior?" The households were asked to choose one alternative. They were only allowed to select one option so that the result would produce a clear rating.

Table 10.17 shows that the largest proportion of households—around 40 percent—save a fixed amount, and they do this regularly. A further fifth also save regularly, but they adjust the amount they save to the circumstances. Thus, nearly 60 percent of all households save on a regular basis.

Table 10.17 **Self-assessment of saving behavior (%)**

	I regularly save fixed amount.	I regularly save, but the amount is flexible.	I save only if there is money left to save.	I do not have the financial capability to save.	I do not save. I would rather enjoy life.
All	40.1	18.4	23.1	16.0	2.4
Age					
Under 35	49.2	13.8	20.8	15.3	0.9
35–55	38.3	18.4	23.8	17.7	1.8
55 and older	29.7	27.2	25.0	10.1	8.1
Income					
Up to 2,500 DM	18.8	11.5	33.5	33.8	2.4
2,500–5,000 DM	43.7	20.6	21.3	11.8	2.8
Over 5,000 DM	58.6	21.7	13.9	4.9	1.2

Note: Weighted averages across survey variants, see table 10.3.

For just under a quarter of households the decision whether to save anything is primarily guided by available income. Sixteen percent of the households state that they do not have sufficient financial capacity to save, and only a very few accord themselves the freedom of just living for the day.

We have deliberately asked about the primary behavioral pattern in order to force the households to give a clear answer. However, the fact that one of the category headings in table 10.18 has been selected does not rule out that actual behavior may be more complicated, and may consist of several behavioral patterns. For instance, a household may save a fixed amount on a regular basis but also save additional sums if the amount of income they receive turns out to be particularly high.

The extraordinary point about the answers in table 10.17 is how many households emphasize the regular nature of their savings. Rather than just making use of short-term fluctuations in income, they make savings from long-term elements of income; a fixed amount is then frequently saved for a long period.

This regularity is extraordinary—particularly among young people: Nearly half (49.2 percent) of those under thirty-five save a fixed amount on a regular basis. Hardly any households in this age group state that they only enjoy life (0.9 percent), whereas a more than proportionally large number of older households do this. In spite of this, the majority of these older households (56.9 percent) save something—again a confirmation of the fact that older households in Germany do not dissave.

Household income plays the role one would expect. The rich are more likely to save regularly, while a third of those households that have an income of under DM 2,500 state that they do not have the financial capability to save.

Part of the striking regularity of German saving behavior can be explained by a small set of firm savings objectives. This is shown in table

Table 10.18 Fixed savings targets

		Saving goal (euros)		Time (years)	
	Percentage	Mean	Median	Mean	Median
All	25.5	53,515	15,339	6.5	4
Age					
Under 35	30.1	79,516	25,565	6.5	5
35–55	24.3	45,999	15,339	7.3	4
55 and older	21.5	15,481	5,113	2.8	5
Income					
Up to 2,500 DM	23.4	15,049	5,113	4.5	2
2,500–5,000 DM	24.6	40,799	11,760	6.4	2
Over 5,000 DM	29.4	89,862	51,129	8.3	6

Notes: Weighted averages across survey variants, see table 10.3. Only households that save according to the first three columns in table 10.17 (1,555 households in total).

10.18. A good quarter of the 81.6 percent of households who answered the above question by stating that they saved in some form (either regularly or irregularly) have a set savings objective in mind.

Young people have more often than average a fixed savings goal in mind (30.1 percent). The amount is rather high (€79,250 average, €25,564 median). We speculate that the main reason is the purchase of their own home. Among those aged fifty-five and over, the time scale is relatively short term. The savings goal is more likely to be an expensive holiday immediately after retirement. The income pattern is as expected: richer households aim to save more and look further into the future than is the case for households with lower incomes.

10.6.2 Indirect Questions about Saving Behavior

The discipline noticeable in table 10.18 is also reflected in the fact that more than one in six households kept a record of household expenditure. This is almost exactly the same proportion as those respondents whose parents had a housekeeping book, at least according to the information provided by the households. It is noticeable that richer households are more likely to keep a record of expenditure than households with lower incomes (see table 10.19).

Keeping a record of household expenditure appears to be an inheritable trait that is passed from one generation to another. The proportion of those households who kept a record of expenditure is almost five times higher among those respondents whose parents kept such a record than among those whose parents did not (see table 10.20).

Table 10.19 Keeping record of the household budget, by income (%)

"*Do you or your partner maintain a book of all household expenditures?*"

	Below 2,500 DM	2,500–<5,000 DM	>5,000 DM	All	Parents
No	87.9	82.4	79.7	83.1	83.0
Yes	12.1	17.6	20.3	16.9	17.0

Note: Weighted averages across survey variants, see table 10.3.

Table 10.20 Inheritance of record keeping (%)

	Record keeping by parents	
Record keeping by respondents	No	Yes
No	89.8	53.7
Yes	10.2	46.3

Notes: Weighted averages across survey variants, see table 10.3. The correlation coefficient is 0.37.

10.6.3 How to Invest

The way in which savings are invested in Germany is extremely conservative. Figure 10.5 shows that over 70 percent of households have conventional savings accounts and around 40 percent have building society savings contracts and whole life insurance policies. On the other hand, fewer than 20 percent of households have bonds or a private pension in their portfolio. Thirty percent of households state that they hold shares, equities, or real estate funds.

Portfolio choice fluctuates considerably according to age and income, as can be seen in table 10.21.

Younger households are much more likely to have building society savings contracts, whole life insurance policies, a private pension, and equities. An age or life-cycle effect most probably explains the investment in building society savings and whole life insurance policies, while the higher investments in equities and funds are more likely due to a cohort effect. Persons born later have become familiar with new types of financial investments at an earlier age than their parents, who grew up in a Germany that used passbook savings as the main instrument of savings. While Germany had a stock and bond market fever between the two world wars, hyperinflation and World War II changed investment behavior back to a very conservative portfolio, until quite recently. Wealthier households have larger holdings of all financial investments. This effect is especially pronounced in the case of whole life insurance policies and stocks and shares.

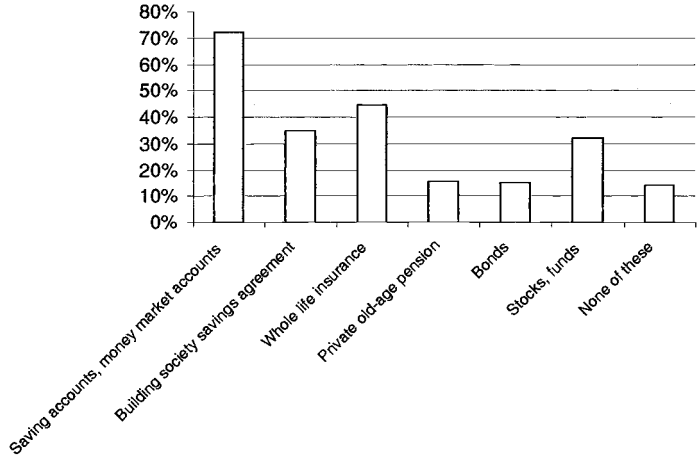

Fig. 10.5 Investment of financial assets

Notes: Portion of households that own a certain asset type. Weighted averages across survey variants, see table 10.3.

Table 10.21 **Investment of the financial assets, by age and income (%)**

	Savings accounts, money market accounts	Building society savings agreements	Whole life insurance	Private old-age pension	Bonds	Stocks, funds	None of these
Age							
Under 35	71.7	48.0	46.2	22.0	13.2	41.7	12.5
35–54	71.0	33.3	47.7	15.6	16.3	30.1	14.9
Over 54	79.3	15.4	26.3	3.0	16.0	19.5	13.0
Income							
<2,500 DM	53.9	22.7	21.9	12.0	7.9	15.1	32.5
2,500–5,000 DM	77.9	35.0	49.8	13.4	14.6	26.7	8.1
≥5,000 DM	83.7	49.0	61.6	23.1	24.1	54.9	3.2

Notes: Portion of households that own a certain asset type. Weighted averages across survey variants, see table 10.3.

10.7 Conclusions

Overall, our findings show a savings pattern that is extraordinarily stable and sound. Germans save regularly, in a manner that is planned, and often with a clearly defined purpose in mind. German households appear not to save in order to balance out transitory income fluctuations. Rather, they appear to save also out of income components that are stable in the long run. It is worth noting at this point that German labor income has less individual variation than U.S. earnings have (see Börsch-Supan and Lusardi 2003). This should reduce the precautionary savings motive, all else being equal, relative to the United States. In addition, German public pension replacement rates are much higher than those of the U.S. social security systems. This should reduce the savings motive for old-age provision relative to the United States. Our findings on German savings motives, however, contradict these predictions: we found that precaution and old-age provision are the two most important savings motives in Germany. These motives are still taken seriously. In connection with less-developed credit markets (see Jappelli and Pagano 1989), this may explain the high saving rate relative to the United States in spite of "objectively" less uncertainty.

We finish this paper with a few remarks on what we can learn about economic policy. One of the greatest challenges that Germany will face in the future is demographic change. In thirty years' time, for each person aged twenty-five to sixty there will be over twice as many people aged over sixty than exist today. Will higher or lower amounts be saved in the wake of this demographic change? Should we be concerned about overall economic growth because older households do not wish to save? The SAVE survey shows that the tendency to save, even in old age, is still great. Older house-

holds save nearly as enthusiastically as households in the thirty to sixty age range. If one applies today's age-specific saving rates to the age structure of the population as it will be in the future, demographic change will have negligible effects on the aggregate household saving rate. Hence, if—and this is a big if—there is no behavioral change, saving will not be a concern. Other concerns about the effect of an aging population on overall economic growth will be more important—for instance, the burden of social security contributions, or the dramatic reduction in the available workforce. Changes in behavior, however, cannot be ruled out, and they might be precipitated by the current pension reform process, since more funded retirement saving is likely to induce a more pronounced hump-shaped saving profile and actual dissaving in old age.

The German pension reform of 2001 enacted by Riester will place more emphasis on private provision. To what extent must saving be encouraged to achieve this? Our results show that hardly any households save primarily because they are given subsidies to do so. The original reason—provision for old age—is, in contrast, emphasized as an important primary reason by nearly all households. In a country like Germany, which has a high saving rate—quite different from the United States—tax incentives might therefore have considerable windfall effects, in particular for the middle class.

Finally, a time-honored crucial policy question is whether pension reform will create new savings or simply displace old savings. For instance, will the amount by which investments in life insurance policies and pension funds increase be offset by a parallel drop in assets in other types of investments—housing, for example? We will need the 2003 and 2005 panel waves to answer this important question. It cannot be answered with a single cross section because it is necessary to observe changes; that is, potential movements of funds from one form of saving into other types of investment. This paper shows that the first wave of the SAVE study has produced interesting data with reasonable item response rates, comparable to U.S. surveys. It has shown that the impossibility of collecting data on wealth in Germany is a myth. It is fruitful, therefore, to focus further research activities on establishing a panel of saving data in Germany.

Appendix

Item Nonresponse and Data Quality

This appendix documents the extent to which those surveyed refused to answer specific questions ("item nonresponse").

Table 10A.1 shows the extent to which individuals refused to answer

Table 10A.1 Item nonresponse: Financial assets (%)

	CAPI		CAPI-D		
	Numeric	Categorial	Pick-up	Mail	Access panel
Existence of financial assets	1.7	0.7	2.7	1.2	0.5
Nonresponse rate: Value of the following components of financial assets:					
Savings accounts	47.0	18.1	25.4	18.8	17.9
Building societies	44.7	16.9	27.8	30.1	24.4
Whole life insurances	57.1	30.3	35.1	30.1	37.8
Individual pensions	76.8	39.2	54.5	45.6	50.4
Bonds	48.7	23.8	46.1	33.7	35.1
Stocks and mutual funds	53.1	22.2	25.0	19.1	20.0

Note: Portion of households that gave account of which types of assets were existent (first line) and how great the assets were (other lines, in relation to asset type).

Table 10A.2 Item nonresponse: Value of the owner-occupied dwelling (%)

	CAPI		CAPI-D		
	Numeric	Categorial	Pick-up	Mail	Access panel
No information about housing situation	0.0	0.0	3.1	0.0	0.9
Value of the owner-occupied dwelling	23.5	6.2	4.4	5.8	2.3

Note: Portion of the households that provided valid information.

questions about assets and borrowings. The first question asks which types of financial assets are held by the household. This is a simple yes/no question for six broad categories of financial assets. There were hardly any households who could not or would not provide any information on this topic in the presence of an interviewer and with the Access Panel. Refusal to answer was at a similarly low level among households who were asked to complete the questionnaire themselves and send it back. Of the nearly 91 percent who complied with the request, the willingness to provide information was very high in all areas. The same phenomenon can also be seen in the questions about home ownership (table 10A.2) and the situation as regards loans (table 10A.3).

However, there were then also a high percentage of households who did not know or were unwilling to divulge the amount in DM of one or other type of asset. Failure to provide information was noticeably high in the case of private pensions and in the case of survey variant 1, in which respondents were asked to give an exact figure in DM during the oral interview (CAPI numerical). Whereas the latter can be attributed to the lack of privacy, the fact that they did not know is more likely to be a reason for the

Table 10A.3 **Item nonresponse: Loans and mortgages (%)**

	CAPI		CAPI-D		
	Numeric	Categorial	Pick-up	Mail	Access panel
No information about credit history	1.4	0.3	3.4	1.6	1.1
No information about types of loans	0.3	0.0	2.1	0.0	0.2
Refusal rate: Amount of the following types of loans:					
Building society loan	37.0	19.2	11.5	14.7	6.5
Mortgages	18.9	25.0	4.3	6.05	2.9
Consumer loans	8.7	15.6	6.8	4.8	9.8
Intrafamiliar loans	28.6	33.3	27.4	0.0	9.7
Other	11.1	25.0	10.1	12.5	7.0

Note: Portion of households that provided information about whether there are loans to be paid off (first line), which kinds of loans are existent (second line), and how high the loans were (other lines, in relation to type of the loan).

high numbers who refused to answer in the case of the private pension. The reason for assuming this is that refusal to answer was high both in the second variant too, in which respondents were asked to reply in the form of coded ranges (CAPI categorical), and in the case of forms that respondents completed themselves.

Apart from the CAPI survey variant with missing numerical data and data on a private pension, the item nonresponse rates are within the usual range. In particular, they broadly correspond to the item nonresponse rates of surveys in the United States and Great Britain. This disproves the assumption that is often made that, in contrast to these countries, it is impossible to conduct surveys in Germany about money matters.

Table 10A.2 shows the refusal rate in respect of the value of the home owned by the respondent and in which he or she lives. Apart from the survey variant in which the respondent has to disclose the value of the house to the interviewers (CAPI numerical), the rate of refusal is very low.

The picture for the level of debt is also similar. Item response rates are highest for the two survey variants completed entirely using CAPI technology. The figures fluctuate more because only around 41 percent of SAVE households have outstanding loans.

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Comment

Andrew A. Samwick

This is a fascinating chapter about a new survey of saving in Germany. The authors are to be commended for producing an original approach to the study of household saving. Rather than attempting to infer the models, methods, or motivations that govern household saving behavior from data on household budget sets, the SAVE survey asks them questions to elicit the answers directly. It represents a useful first step in forming a more complete understanding of the extent to which households systematically plan their savings over the life cycle and ultimately how faithfully those plans are realized.

My starting point differs from the one expressed by the authors in the motivating statement "The savings behavior of households is not well understood." I will certainly stipulate that we do not know everything about savings behavior, but I believe it is time for researchers to consider what we do know about saving in motivating and framing their further work. For example, I started working in this literature about a dozen years ago, and my current understanding of savings has evolved over that time into a mixture that is equal parts Deaton (1991, 1992), Carroll (1992, 1994), and Laibson (1997). Here is what we know. The model is forward looking, with precautionary motives and impatience for the typical household. Households may implement the model through various approximations or rules of thumb. Households make systematic mistakes in processing information and in adhering to plans. There is also evidence that heterogeneity in

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preferences, such as the rate of time preference, is also important (see Samwick 1998a, for example).

Fortunately, the SAVE survey is so broad in its choice of questions that it likely includes novel information for researchers who have widely different current views about how households save. Of the many novel tabulations in the paper, I will summarize three that I found particularly interesting, given my own background in savings and portfolio research in the United States.

The first is that financial planning is an acquired taste. Table 10.13 reports the answers to a question about whether there is typically money left over at the end of the month, separately for those under thirty, thirty to fifty-nine, and sixty and over. The comparisons are suggestive that the probability of having money left over increases with age. Further evidence on the main point was presented in an earlier version of the chapter, which reported that households were over four times more likely to keep a record of household expenditures if their parents did. The comparisons would be more persuasive if the authors conditioned on income and included standard errors, so that statistical significance might also be inferred. Both comparisons should nonetheless give pause to economists who typically leave the process by which households learn how to match expectations with outcomes out of their models.

The second is that there are considerable differences by age in the savings patterns of German households. For example, table 10.17 shows that saving at regular intervals is more a characteristic of households under thirty-five than households between thirty-five and fifty-five years of age. Table 10.18 reports a higher frequency of target saving behavior among younger households as well. These facts are true despite the correlation of regular saving and target saving with income, which is (presumably) positively correlated with age. Table 10.21 gives an indication that some of these disparities could be related to the types of portfolio investments that typify each age group. The youngest group of households has a greater likelihood of participating in a building society saving arrangement or a private old-age pension. This is true despite the positive relationship between these investments and income.

The same age patterns are evident for ownership of stocks and mutual funds. Households under thirty-five are twice as likely as households over fifty-four to own stocks, again despite the positive correlation of income with both age and stock ownership. These age profiles for pensions and stocks are opposite of what researchers have found in the United States (see, for example, Poterba and Samwick 2001) and suggest the need for a more careful study of cohort or cultural factors in saving behavior.

The third finding that I think is useful is that while not all households save for the same specific reasons, the number of unique motives is relatively small. Figure 10.4 presents histograms of the strength of each of nine

possible motivations for saving. Retirement, uncertainty, and housing are prominent motives. In the United States (which has a lower saving rate overall), similar questions also yield "education" as a less important but nontrivial motive. Specifically enumerating household reasons for saving leads to several important insights.

First, different motives can lead to different behavior. Saving for education, housing, and to a large extent uncertainty (early in the life cycle) may take the form of target saving. For target saving, income effects due to interest rate changes are likely to overwhelm substitution effects. As discussed in Samwick (1998b), large income effects suggest a negative effect of tax preferences on total saving.

Second, specific questions on savings motives are a useful way to track changes in the population. In the U.S. Survey of Consumer Finances, similar questions are asked about the relative importance of savings motives. Comparing the results in Samwick (1998b) for the 1992 survey with those in Samwick (2000) for the 1998 survey shows that motives shifted over time. In 1992, uncertainty is reported as the most important motive for all ages under fifty-five. In 1998, retirement is the most important motive at all ages before retirement. Since the tabulations condition on age, they are not the result of a demographic shift. Some explanations are seasonal, such as the change in the level and direction of the stock market at the time. Others are more systematic, such as the greater availability of investor-directed 401(k) plans over time. Identifying the factors that generate these changes could help in formulating tax policy that more effectively promotes household saving.

Finally, the presence of multiple reasons for saving highlights an important shortcoming in the current saving literature. Almost no one writes down a model of saving in which there is more than one motive for saving apart from traditional life-cycle concerns. The current state of the art is a stochastic life-cycle model, in which both retirement and uncertainty motives are included, perhaps with a detailed budget set that includes both taxable and tax-deferred savings accounts. With the continuing improvements in computer power, it is now feasible to also add housing and education purchases to the model. The key aspects of these two motives are that they occur early in the life cycle and may have characteristics of target saving. One element of savings behavior that really is poorly understood is the interaction of savings motives over the life cycle, and surveys such as SAVE can be used to guide future modeling efforts.

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