

Research Report

The Development of German Installment Loans among the Elderly

ALMOST 20% OF THE GERMAN POPULATION CURRENTLY HOLDS A CONSUMER LOAN. DESPITE ITS OBVIOUS IMPORTANCE FOR A PRIVATE HOUSEHOLD'S BALANCE SHEET, WE KNOW SURPRISINGLY LITTLE ABOUT IT. ONE PURPOSE OF THIS STUDY IS TO GIVE AN OVERVIEW OF THE GERMAN CONSUMER/INSTALLMENT LOAN MARKET. WE COMPARED FIVE WIDELY ACCEPTED DATA SOURCES AND FOUND DIFFERENCES IN THE LOAN PARTICIPATION RATE, EVEN ON AN AGGREGATED NATIONWIDE LEVEL. IN A SECOND STEP, WE TRY TO FIND REASONS FOR EXTRAORDINARY HIGH GROWTH RATES AMONG SENIORS' DEBT PARTICIPATION RATES.

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Introduction

The global nutrition company Nestlé starts a health food segment especially for the elderly. The German retailer Edeka puts magnifying glasses on its shopping carts so seniors can read price tags and nutrition information of products. Firms do discover the "silver agers" as an important target group, but they do it slowly (Kapalschinski, 2011; Heide and Müßgens, 2012). Do banks also adapt to changing demographics? Are seniors themselves in need of financing (part of) their consumption?

We study the participation in the German consumer debt market (i.e., what percentage of the population holds an installment/consumer loan at a certain point in time) and we

find that participation rates grew faster for older age groups than for the younger population. This could have various reasons: The growth could originate in a particular group of banks or single market players who put special effort in servicing senior citizens. The stronger growth for the elderly could also be driven by a certain loan type, e.g., car financing or smaller point-of-sale loans at retailers, such as electronic stores (hypothesis 1). Some lenders could have had policies in place which discriminated against age, but loosened these internal rules throughout the observation period (hypothesis 2). Decreasing pension income or financial trouble in general could lead to the necessity of financing a bigger portion of consumption (hypothesis 3) or the opposite could be true

that especially the wealthier seniors take advantage of loss leaders (e.g., point-of-sale 0% financing) and therefore take debt without having the necessity for it (hypothesis 4).

Market overview

Before analyzing participation rates for separate age groups, we take a step back to get a general overview of the German consumer loan market. For this purpose, we compare five data sets which all provide information on households' debt holdings. The data is from the leading credit information bureau SCHUFA AG as well as from an undisclosed leading market research institute. The SCHUFA data set consists of information on every

German citizen who has held at least one installment loan (mostly used as consumer loan) between 2000 and 2010. This data is matched with population data from the Federal Statistics Office, which allows us to calculate participation rates of granular groups with a common indication of gender, age and district ("Landkreis") in the respective year. The data of the market research institute is a survey-based household panel for the period 2005 to 2011. Besides socio-economic factors, the survey asks about holding consumer debt among other financial factors.

We compare these two data sets with three publicly available and commonly used data

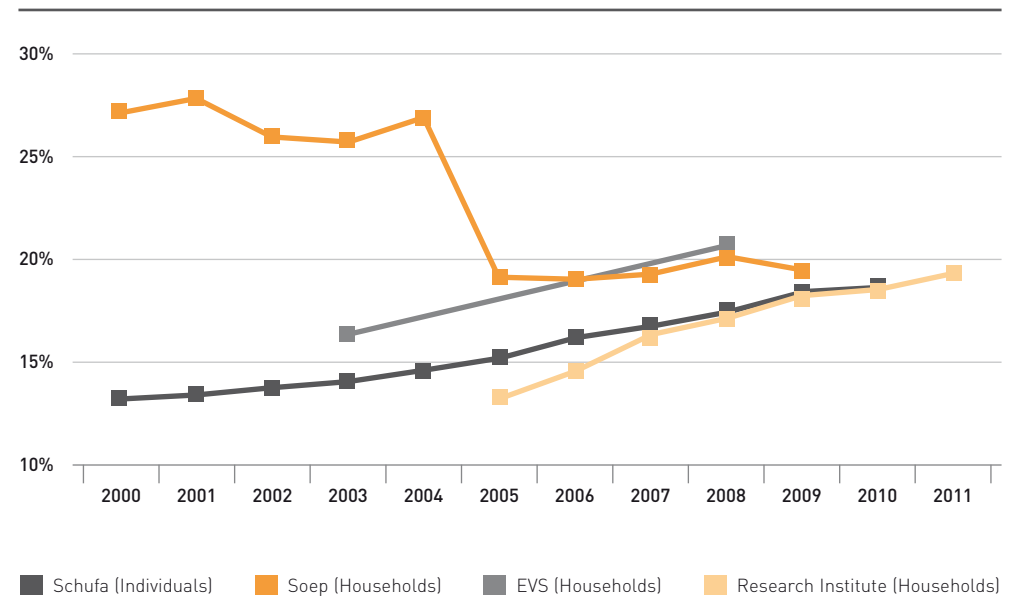


Figure 1: Consumer credits participation rate – data comparison

sources, which include information on German household debt, namely the absolute debt values in EUR of the German central bank Bundesbank, and the survey-based data of the DIW (SOEP data) and the Federal Statistics Office [EVS data]. Calculating debt participation rates does not result in a consistent picture (Figure 1), e.g., SOEP estimates twice as many debt holders than SCHUFA in 2000. This huge gap between SOEP and the remaining data in 2000-2004 can most likely be explained by a survey change in 2005: The DIW started to use a more precise wording in its consumer debt question, which caused fewer panelists to include their mortgage in their answer to this question.

Therefore, neglecting SOEP data from 2000-2004, the remaining data shows quite homogeneous growth trends over the observation period, even though still on different absolute levels, which can partially be explained by different scopes and definitions (e.g., consumer vs. installment loan). However, this common growth speaks for a general representativeness of the two main data sets.

Regional factors influencing debt frequency

To contribute to a general understanding of consumer debt usage in Germany, we also show how regional socio-economic differences influence the likelihood of having a loan. We estimate the debt participation rate of the aforementioned groups who are defined by common gender, age, district and year in an OLS-regression. The results show that age is highly significant for debt hold-

ing, which is in line with empirical studies on other countries and the widely accepted Life-Cycle Theory (Modigliani and Brumberg, 1954) as well as the Permanent Income Hypothesis (Friedman, 1958). Using debt financing is therefore most likely between the age of 30 and 49. Regional factors can also influence a person's likelihood of taking debt, e.g., a high unemployment rate has a statistically significant negative impact, while high (average) disposable income has a positive impact on the participation rate.

The regression analysis also shows strong time effects, i.e., the coefficients for year dummies are statistically significant and increase over time. This means that regional differences can only partially explain variations in debt participation and that unobservable factors, such as supply side effects, play a similar or even more important role. Regressing each age group separately reveals even higher time effects for older age groups up to the age of 60. This indicates that age groups' debt participation has grown with a different pace. This can also be seen in Figure 2, where compound annual growth rates (CAGR) of debt participation are compared for different age groups. The older an age group, the higher was the growth rate between the respective observation period (2000-2010 for SCHUFA data, 2005-2011 for data of the research institute). This holds also true when we control for the abovementioned socioeconomic regional factors in an OLS regression.

Possible Growth Drivers for Loans to the Elderly

What drives higher growth rates of seniors' debt participation? We test the following hypotheses to prove or to rule out possible reasons:

- H1: Recently developed/stronger marketed loan types, such as point-of-sale loans, especially focus on an older target group.
- H2: Some banks had discriminated against age, mainly because they see a high default risk among the elderly due to a higher death rate. The number of banks with such discrimination rules in place had decreased between 2000 and 2010 or banks relax the relevant rules, i.e., by applying a higher cut-off age.

H3: Poverty among the elderly increased and therefore older people with lower income and no wealth are mainly responsible for the growth.

H4: (opposite of H3): People who do not necessarily need debt financing due to own funds started to use consumption loans due to convenience, such as 0%-financing.

To test whether strong growth among the elderly can be narrowed down to a certain bank type (i.e., savings banks, co-operative banks, private banks, car banks, other banks) or a certain loan purpose (for this cause loan purpose is roughly estimated by loan amount; H1), we calculate separate growth rates per age group and per

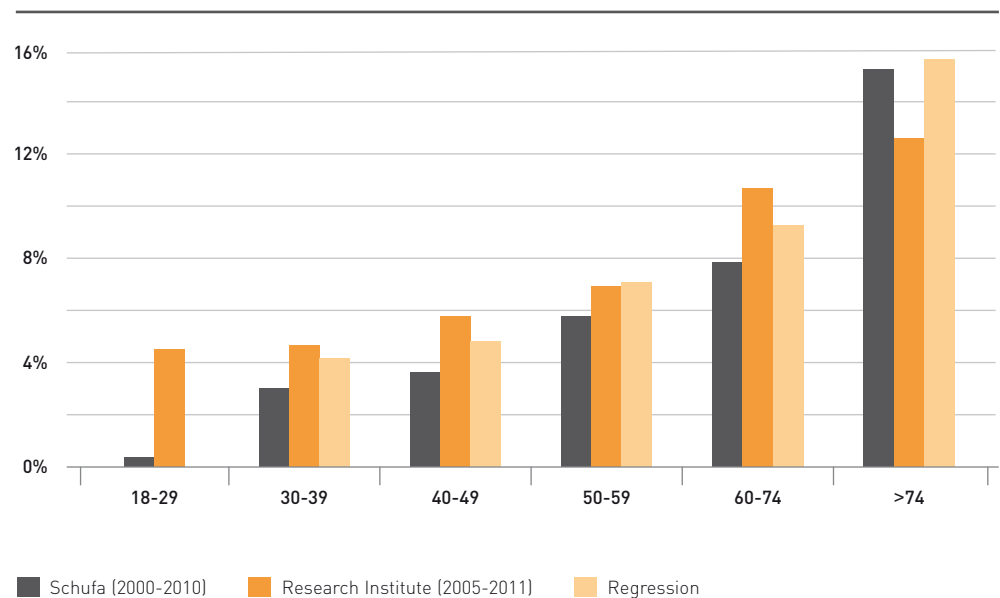


Figure 2: Compound annual growth rates of participation rates by age group

		Discrimination rule		Market
		Stopped	No change	
Banks (always active)		49	301	
in%		14%	86%	
CAGR 2000-2010		6.7%	5.2%	4.6%
% of new loans 2000		33.4%	51.1%	100%
% of new loans 2010		40.8%	53.9%	100%
% of new loans to seniors, 2000		31.8%	51.6%	100%
% of new loans to seniors, 2010		42.1%	52.5%	100%
CAGR 00-10	age 18-29	3.0%	1.9%	1.3%
	age 30-39	2.8%	1.4%	0.8%
	age 40-49	8.8%	7.1%	6.5%
	age 50-59	11.5%	9.7%	9.1%
	age 60-74	12.0%	9.5%	9.2%
	age >74	33.6%	17.3%	20.1%

Figure 3: Change of discrimination rules

bank type/loan amount. This would certainly not be sufficient to prove the hypothesis to be valid, but since all bank types and all loan amounts show the same growth rate pattern for age groups as the aggregate numbers do, it is a sufficient method to neglect the hypothesis.

For hypothesis 2, we use a similar rather unconventional but effective approach. To identify banks which had an "age discrimination rule" in place, i.e., they issued loans only to customers below a certain age, we subdivide the total number of new loans by bank, customer age and start date (month). Sudden "jumps" in the age of the oldest customers from one month to the other suggests an internal policy change of this

particular bank. Doing that for the 350 biggest banks which were permanently active throughout the observation period results in a mixed picture (Figure 3): 49 out of 350 banks stopped or changed their cut-off age for loan customers. These banks gained market share among older but also younger customers.

The trend of increasing growth rates by age is particularly strong for the 49 policy changing banks (by definition). However, remaining banks, who never had or never changed a cut-off age, experienced growth rates with a similar relation to customer age as the overall market as well as the 49 banks above. Therefore, a trend of less age discrimination can be observed and

certainly is one, but not the only growth driver for the elderly's loan participation.

If either hypothesis 3 or 4 are true, we assume that the correlation between income and debt would have changed over time and that this change has a higher (H3) or respectively lower (H4) magnitude for seniors. Econometrically speaking, based on a probit model with loan participation as the dependent variable, we test whether the interaction terms between household income and time are statistically significant and/or have higher/lower coefficients when looking at older households only. In a first step, we run the regression without interaction terms to validate the results in comparison to the abovementioned analysis with SCHUFA data. This analysis finds a statistically significant, hump-shaped relation between having consumer debt and household income as well as a negative correlation between having debt and holding financial assets (stocks, funds, and certificates). However, including interaction terms in a second regression does not produce any statistically significant coefficients. We therefore neglect hypothesis 3 and 4 as well. Neither the poor, nor the rich are particularly driving growth among the elderly's debt participation rate.

Conclusions

The test of four hypotheses rules out some obvious reasons for stronger growth of participation in consumer credits among the elderly and leaves us with no single decisive growth driver. The influence of decreasing age discrimination can be proved, but not quantified. Agarwal et al. (2008) similarly find a correlation

between age and costs for different debt types and only propose possible reasons for it rather than proving one of them. They argue that finding such "intriguing correlations" can function as a trigger for further research on other data sets which then finds the reasons for such correlations. We view our study as a trigger to more research on the demand side and supply side dynamics in the consumer loan market.

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