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Abstract

This paper describes portfolio choices of German households in the 1980s and 1990s, presenting stylized facts and analyzing recent trends in asset ownership rates and asset shares on the basis of financial accounts and survey data. We correlate socio-demographic household characteristics with asset shares and ownership and examine how German households have adjusted their asset portfolios in response to policy changes. A particular focus is on the effects of German reunification and the portfolio adjustments of East German households during the transition process.

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1. Introduction

The saving behavior of German households has attracted the interest of a number of researchers.[1] Four features have been found to stand out, distinguishing the saving patterns of Germans from those in other industrialized countries: First, financial saving rates have been fairly high by international standards, notwithstanding a very generous social security system. Second, home ownership rates are exceptionally low and have risen only very slightly during the last two decades. Third, consumer credit is rare compared to the Anglo-Saxon countries; debt financing of real estate increased to roughly two thirds of the sales value of housing only in the course of the nineties. Fourth, financial portfolios are still dominated by relatively safe assets, notably checking and savings accounts and domestic bonds, and by illiquid assets, mainly life insurance policies. In 1993, only 12% of West Germans directly held stocks while almost two thirds of West German households owned a whole life insurance policy and about one third held domestic bonds. Private pension funds are still uncommon.

There are only a few empirical studies of the determinants of German households' portfolio choices. They focus exclusively on the impact of socioeconomic characteristics on West German households' behavior.[2] The lack of a panel survey of financial behavior in Germany and the very restricted access to earlier waves of the Income and Expenditure Survey (EVS) have inhibited empirical researchers interested in the determinants of portfolio composition and its changes over time. The lack of panel data and regionally disaggregated time series of

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[1] Cf. e.g. Deutsche Bundesbank (1992, 1993b, 1999b), Euler (1985, 1990, 1992), Kim (1992), Börsch-Supan (1994a,b), Schönig (1996), Börsch-Supan, Reil-Held, Rodepeter, and Schnabel (1999), and Schnabel (1999).

[2] Schlomann (1992), Grimm (1998), and Lang (1998) have used waves 1983, 1988, and 1978, 1983, 1988 of the Income and Expenditure Survey, respectively, to analyze the socioeconomic determinants of household portfolio choice. Börsch-Supan and Stahl (1991), Brunsbach and Lang (1998) and Walliser and Winter (1999) have focused on specific assets, i.e. building society savings ("*Bausparverträge*") and life insurance contracts, to analyze the effect of tax incentives and policy changes on asset choice.

Himmelreicher (1999) has used the German Socioeconomic Panel for a cohort study of wealth and portfolio choice, yet had to rely on reported income from interest and dividends and highly aggregated indications as to asset ownership in order to determine household wealth levels.

asset holdings has also impeded thoroughgoing study of the financial adjustments of East German households after reunification.

This study seeks to set out the peculiarities of East and West German households' portfolios and to analyze how they can be traced back to financial institutions and socio-demographic characteristics. In order to overcome the most severe data deficiencies, we combine several data sets. We use both macro- and micro-data in order to present stylized facts and recent trends in the households' portfolio composition. We then employ two micro-data sets – the Income and Expenditure Survey (EVS) and the Spiegel-Verlag survey "Soll und Haben" –to analyze the effects of various socio-economic household characteristics that are posited as determinants in the theoretical section of this volume[3] and have been found to influence portfolio choice significantly in Italy, the Netherlands, the United Kingdom, and the United States.[4] Finally, we exploit the information on assets provided by the German Socioeconomic Panel (GSOEP to analyze the adjustment behavior of a balanced panel of East Germans from 1989 to 1996.

The paper is structured as follows. The following section presents stylized facts and recent trends in ownership rates and portfolio composition of German households. Section 3 explores the effect of policy changes. Section 4 investigates the role of socioeconomic characteristics and financial knowledge. Section 5 analyzes differences in asset holdings between West and East German households and describes the financial adjustments of East German households during the transition. Section 6 concludes.

[3] Cf. Gollier (this volume). See also King and Leape (1987), Bodie, Merton, and Samuelson (1992), Bertaut and Haliassos (1996).

[4] Cf. Haliassos and Bertaut (1995), Guiso, Jappelli, and Terlizzese (1996), Bertaut (1998), Hochgürtel, Alessie, and van Soest (1997), and Börsch-Supan, Euwals, and Eymann (1999).

2. Portfolio Composition and Asset Ownership: Stylized Facts and Recent Trends

This section describes the structure of German households' portfolios in the eighties and nineties as reflected by financial accounts and micro survey data,[5] focusing on recent shifts between the portfolio shares of safe, illiquid, and liquid, yet risky assets.

Throughout the paper, we use the following definitions of asset categories:

"Clearly safe" assets:	Savings accounts and transaction accounts (if available)
"Fairly safe" assets:	Building society savings contracts, life insurance contracts, bonds – if available: government bonds, savings certificates, other domestic bonds –, and other financial assets (including deposit accounts, options, futures, tax-preferred financial investments in East Germany or Berlin, etc.)
"Risky" assets:	Foreign bonds (if available), mutual funds (on stocks, if available), and stocks
Financial assets:	Savings and transactions accounts, building society savings contracts, life insurance contracts, government bonds, other bonds, other financial assets, mutual funds, and stocks
Non-financial assets:	Real estate (net worth)
Debt:	Mortgage loans and consumer credit

Three data bases are used:

- Financial accounts data for West Germany to describe the portfolio shares of financial assets held by households and non-profit organizations[6] from 1975 to 1992 when West German series ended.

[5] The time series of financial accounts for West Germany ended in 1992 after a three-year overlap with the new time series for Unified Germany. The Income and Expenditure Survey has sampled East Germans only since 1993. Tables 1 and 2 include asset shares for both West Germany and Unified Germany in the early nineties in order to permit readers to analyze the series for West Germany as far as possible and to interpret the differences between the old and the new series. Section 5 uses survey data to analyze regional differences in the portfolio composition of households in greater detail.

[6] Differences between the asset shares computed from financial accounts data (which include non-profit organizations, cf. Bundesbank, 1999a) and the Bundesbank (1999b) estimations (which refer to households only) are minor for the period 1990-1997. Financial accounts data underestimate households' asset holdings of transaction, deposit, and savings accounts as well as insurance and pension wealth by roughly three percentage

- Portfolio shares for both financial and non-financial assets that have been estimated by Deutsche Bundesbank (1999b) to describe trends in households' portfolio composition after reunification.
- Waves 1978 to 1993 of the German Income and Expenditure Survey (*"Einkommens- und Verbrauchsstichprobe"*, EVS) to disentangle trends in ownership rates and conditional asset shares.

A detailed description of the data sets including our imputation methods is provided in Appendix 1. Our methods for computing average asset shares and ownership rates are described in Appendix 2.

2.1 Portfolio composition

Both German financial accounts data (Table 1) and survey data (Table 2) indicate that German households restructured their portfolios substantially during the eighties and nineties. According to the financial accounts, the composition of the average financial portfolio changed from roughly 50% in "clearly safe" assets and 25% in "fairly safe" bonds and life insurance contracts (plus another 25% in stocks, building society savings contracts, and other financial assets) in 1975 to one third in "clearly safe" and 40% in "fairly safe" assets (plus 17% in stocks and mutual funds, and 10% in the remaining financial assets) in 1997. Paralleling the trends in the other countries surveyed in this volume, German households have decreased their share of "clearly safe" assets and have become more willing (or rather: somewhat less reluctant) to hold more "risky" assets in recent years. Three features seem most notable:

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points. The current market value of mutual funds and bonds is slightly overestimated, while estimates as to the current sales value of stocks are surprisingly precise.

First, the decrease in "clearly safe" assets almost matches the increase in bonds during the eighties and early nineties. Households reduced their investments in savings accounts and building society savings contracts and increased their holdings of bonds, bond-based mutual funds,[7] and - to a smaller extent - life insurance contracts. Stocks were largely unaffected by this restructuring; their share actually decreased during the eighties, unlike the pattern observed in the Anglo-Saxon countries. Not until the late nineties did the portfolio shares of stocks start to increase.

Second, the share of housing wealth has decreased slightly while mortgage loans have increased. This pattern is matched by Deutsche Bundesbank (1999b) figures showing that the ratio of new mortgage loans and real estate formation rocketed from roughly 55% in the second half of the eighties to almost 90% in 1993 before dropping to a still unusually high 75% in the late nineties. The ratio of consumer credit to households' total net wealth remained roughly constant and is very low by international standards.

The third feature is the massive increase in the share of mutual funds, particularly pronounced between 1990 and 1993[8] and continuing throughout the nineties. The very recent jump in the share of stocks is especially notable. The share of bonds decreased more slowly than mutual funds increased during the early nineties. Thus it appears unlikely that households merely reinvested domestic bonds in Luxembourg-based mutual funds until the introduction of a withholding tax on interest income in 1993. Instead, it seems that German households eventually – and still very reluctantly – followed the international trend towards more "risky" assets that started a decade earlier in such countries as the United Kingdom (Banks and Tanner, this volume). Nonetheless, stock-based mutual funds and stocks are still much less

[7] Cf. Deutsche Bundesbank (1988).

[8] Deutsche Bundesbank (1988) shows that the increase in bond-based mutual funds started as early as in 1985 (when such funds still figured as bonds in the financial accounts).

popular than in most of the other countries surveyed. Note that money market mutual funds were only introduced in 1994 and therefore do not appear in this description.

2.2 Ownership rates and conditional asset shares

Previous empirical studies of portfolio choice have emphasized the need to disentangle qualitative ownership choice from quantitative share allocation, once ownership has been decided.[9] This necessity of separate analysis is particularly apparent for assets that are held by a small percentage of the population, such as stocks and bonds.

The first columns of Table 1 reveal that the most popular financial assets among German households are transaction and savings accounts as well as life insurance policies. Building society savings contracts rank third and non-government bonds fourth. In terms of conditional asset shares, however, transaction and savings accounts rank only fourth, with less than a quarter of financial wealth invested in these assets in 1993. Conditional asset shares for life insurance contracts, non-government bonds, and "other" financial assets take the first three places with 40%, 29%, and 28%, respectively. Remarkably, even among the relatively few owners of stocks, the percentage of financial wealth invested in those assets is only two thirds of the conditional asset share of non- government bonds.

Analyzing trends in households' portfolio composition on the basis of sample averages may yield grossly misleading results if trends in ownership rates and asset shares conditional upon ownership diverge, because the aggregation lumps change on the extensive together with that on the intensive margin.

[9] Cf. e.g. Haliassos and Bertaut (1995), Guiso, Jappelli, and Terlizzese (1996), Poterba and Samwick (1997), Cocco (1999), and Vissing-Jørgensen (1999).

Table 3 shows that this problem is indeed relevant for several types of asset in Germany:[10] Throughout the period 1983 to 1993, ownership rates for real estate and building society savings contracts steadily move in opposite directions to the corresponding conditional asset shares for owners of these assets. Co-movement in ownership rates and conditional asset shares characterizes total debt and mutual funds (both increasing) and life insurance contracts (decreasing). The ownership rates and conditional asset shares of stocks remained largely stable.

What seems most interesting and unusual from the international perspective, however, is the very strong increase in ownership rates of bonds and "other financial assets" during and shortly after reunification. This increase is not mirrored in conditional asset shares, which remained stable throughout the observation period. The increase in their *un*conditional asset shares, reflected in Tables 1 and 2, was thus clearly due to an increased willingness to hold such assets. Both old and new owners seem to have aimed at the same "target level" of these asset shares in their portfolio.

Table 3 suggests that ownership rates changed significantly during the observation period. However, both the timing of the restructuring and the assets involved differ from those observed in the country studies for Italy, the Netherlands, the United Kingdom, and the United States. Unlike UK households, Germans began accessing new types of assets only in the late eighties and early nineties. The rise in ownership rates affected essentially three assets, namely bonds, mutual funds, and "other" financial assets. Until 1993, willingness to hold stocks remained constant at the very low level of roughly 10% of German households.

[10] Savings account and life insurance assets were computed slightly differently in 1993 than in earlier years; see Börsch-Supan et al. (1999) and Appendix 1.

2.3 Diversification

Table 4 presents portfolio diversification in terms of "clearly safe", "fairly safe" and "risky" assets.[11] Households in the first three rows hold only one type of asset, those in the last row all three types. German households started to diversify their portfolios in the mid-eighties. The number of asset conglomerates held in the portfolio increased most sharply during the period of reunification, when "risky" assets (including foreign and private domestic bonds) attracted the favor of German households.

Unfortunately, the lack of German panel data on households' financial behavior precludes more in-depth analysis of portfolio mobility. Interpreting Table 4, which uses independent cross-sections, as longitudinal information, it suggests that only the previous owners of "fairly safe" assets (government bonds, savings certificates, life insurance contracts, and building society savings contracts) were willing to restructure and diversify their portfolios. They seem to have disposed of their "clearly safe" assets (mainly savings accounts) in the mid-eighties and gradually invested in more "risky" ones, i.e. other bonds, mutual funds, or stocks, in the late eighties and early nineties.

2.4 Comparing macro- and micro-data

Neither financial accounts data nor survey data can be expected to provide an unbiased estimate of households' asset holdings. While financial accounts systematically exclude households' foreign assets (such as the proverbial Luxembourg-based mutual funds), survey data tends to suffer from sample selectivity and underreporting. The German Income and Expenditure Survey excludes the 3% richest German households for reasons of data

[11] Checking accounts were not reported in the Income and Expenditure Survey before 1993, which should bias the figures in Table 5 towards *less* diversification over time.

confidentiality.[12] In addition, Lang (1998) and Schnabel (1999) have shown that the German Income and Expenditure Survey also underrepresents poorer households, thus generally oversamples middle-income households. Because no data set exists that provides information on the asset holdings of the wealthiest 3% of the population, it is impossible to judge whether average discrepancies between financial accounts and survey data are caused by undersampling or by downwardly biased responses.

As shown in the previous subsections, financial accounts and survey data reflect similar *trends* for all asset shares except life insurance contracts. However, *levels* of asset holdings are markedly different between macro- and micro data. Table 5 shows that the coverage of financial assets and consumer credits is particularly poor in the survey data. Within financial assets, underreporting is strongest for checking and savings accounts on the one hand, and for stocks and mutual funds on the other hand. These are the assets likely to be preferred by persons at either end of the wealth distribution. Asset shares derived from survey data are too large for "fairly safe" assets and too small for "clearly safe" and "risky" assets, see Tables 1 and 2. The average sales value of real estate is higher than estimated by the Deutsche Bundesbank. This result confirms Börsch-Supan et al.'s (1999) finding that homeownership rates reported in the German Income and Expenditure Survey are substantially larger than homeownership rates obtained on the basis of the German Housing Censuses.

The extent of underreporting varies by waves of the Income and Expenditure Survey: The total net worth of financial assets reported amounts to slightly less than 50% of the total net worth reported by Deutsche Bundesbank in 1978 and decreased to slightly less than 40% in 1988 (Lang, 1998). Table 5 shows that this trend has been reverted in the last wave: In 1993, the average value of financial assets per household amounts to 53.4% of the average financial wealth reported by Deutsche Bundesbank (1999b).

[12] A more detailed description of the sampling frame is given in Appendix 1. See also Börsch-Supan et al.

3. Policy Changes and Household Reactions

Financial regulations and tax policies were revised frequently in the eighties and nineties, leading to changes in the real returns on assets both before and after taxes. Here, we first describe these policy changes and their impact on yield-structures. We then investigate whether and to what extent households reacted to these policy changes. A detailed survey of policy changes in Germany is given in Appendix 3.

Since we have no German panel data set that would allow empirically analysis of policy changes and household behavior, this section must rely on comparisons of cross sections: that is, whether policy changes match the trends in asset shares and ownership rates reflected in Tables 1 to 3. Clearly, we cannot rule out misinterpretations through the combination of cohort, time, and age effects as well as lag and lead effects.

The first subsection focuses on the effects of financial market deregulation, privatization, and German reunification, i.e. on policy changes that by and large affect asset yields without discriminating among individuals. The second focuses on changes in taxes and subsidies, i.e. on policy changes that are likely to have strong individual-specific effects.

3.1 Deregulation of financial markets and German reunification

Bond markets

During the eighties, government and the universal banks in Germany typically relied on the domestic bond market to finance the budget deficit and refinance loans. Thus, bond issues by non-bank companies were nearly negligible until the late nineties. Capital export restrictions hindering foreigners' purchase of domestic bonds were abolished in the mid-eighties. Bond market deregulation sought to widen the range of possible purchasers of domestic bonds,

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(1999).

which consisted more or less exclusively of government and bank bonds. Deregulation was also supported by the Bundesbank, because it secured the role of the central bank's minimum reserve policy as a major instrument of monetary control. In hindsight, the deregulation process came just in time to permit German banks and several government agencies to attract international capital to issue bonds in order to finance the rebuilding of East Germany after reunification.

Figure 1a shows that bond yields and interest rates for short-term savings fell in real terms and moved largely in parallel during the second half of the eighties. Real bond yields, however, jumped by 2% in 1990. Moreover, the spread between bond yields and short-term savings accounts rates widened to an unprecedented six percentage points. Only in 1992, when the inflation rate started to increase, did this spread return to its long-term average of about four points. Thus, German reunification implied a short-term rise in returns on bonds relative to savings accounts, yet eventually led to a sharp increase in the volatility of bond yields. These unexpected jolts to the yield structure of savings accounts and bonds seem to be a likely cause of the portfolio adjustments during and after reunification described in Section 2 where we showed that households replaced long-term savings accounts by bonds during the reunification period and lost favor for bonds thereafter.

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Money market

Unlike the deregulation process of the bond market which had occurred earlier than in other European countries, the process of deregulating the German money market has started only in 1989. As of 1985, the Deutsche Bundesbank used the money market as the primary means to control monetary growth. The Deutsche Bundesbank therefore opposed the deregulation of the money market throughout the late eighties and only gradually gave in to the introduction of commercial papers (1989, 1991) and of money market mutual funds (1994).

Stock markets

Until recently, German stock markets were thin, decentralized, and comparatively "neglected". In 1990, stock market capitalization amounted to just 23% as compared with 42% in the Netherlands, 87% in the United Kingdom, and 55% in the United States.[13] Moreover, Wenger and Kaserer (1997) report that cross-holdings account for at least 27% of the gross capitalization; 46.8% of the stocks are held by banks and non-financial companies. Hence, only 11.4% of common stocks are held by private and institutional investors.[14] Even after the soaring stock prices of the late nineties (Figure 2), capitalization has risen to only 39.4% of GDP in Germany as compared to 130% in the Netherlands, 155% in the United Kingdom, and 144% in the United States.

The deregulation of the German stock markets began only in 1989. It was initiated by the need to transpose EU directives into German law in order to comply with the regulations of the single market in services. Unlike that of bond markets, stock market deregulation was initiated by foreign rather than domestic interest groups. At first, German authorities were not at all quick in transposing EU directives into law.[15] The process only gained speed when the regionally separated stock markets in Germany were centralized (1993) and the Frankfurt stock exchange was reorganized and expanded (1990, 1991, and 1997). Stock market gathered momentum with the privatization of some public sector industries, notably the initial public offering of Deutsche Telekom shares in November 1996. We expect that the process accelerated further when Germany's ailing pay-as-you-go social security system is reformed

[13] World Development Indicators, Table 5.2.

[14] A series of reforms are planned for 2000. See Börsch-Supan and Winter (1999).

[15] In the late eighties, the average lag between the EC directive and the respective legal adjustments was five years.

by adding a new funded pillar to the pension system and further reducing the generosity of public health insurance.[16]

Major advances in stock markets deregulation, whose purpose was to make the German market more attractive to domestic and foreign institutional investors, to private investors with modest wealth, and to smaller companies willing to issue stocks, were made in 1990, 1994, and 1998. These legal changes substantially lowered transaction costs (1990). Access for international and domestic institutional investors (especially mutual funds) was widened (1990, 1994, and 1998). Entry barriers for small corporations (discriminatory accounting and codetermination rules) and for private investors (minimal stock values) were reduced in 1994. In the end, stock market surveillance was tightened substantially (1994 and 1998). To foster widespread ownership, the corporate income tax code was revised in December 1999. This controversial change will eventually make capital gains tax-free if they derive from sales of corporate reserves, which consist mainly in corporate cross-holdings valued at cost. Anticipation of the reform led to an 18 % spurt in the DAX performance index in just a month (December 1999).

For a person subject to the top marginal tax rate of 56 %, Stehle (1999) shows that the average annual after-tax yield from German stocks was 4.6 % from January 1969 to December 1997. From January 1988 to December 1998, however, it was 11.5 %. The difference between the after-tax yield of government bonds and stocks, averaged 4.8 %, for the whole period, was 11.1 % in the latter decade.[17]

Recently, the German stock markets appears to have gained in attractiveness only in the wake of third wave of the deregulation. We have four pieces of evidence: First, the number of initial public offerings started to increase in 1997 and then rocketed, in 1999, to roughly ten times

[16] Cf. Börsch-Supan and Winter (1999).

[17] The difference-in-difference is about the same for lower marginal tax rates.

the previous average level.[18] Second, turnover on the stock market increased by roughly 30% in 1996, 1997, and 1998 and exceeded the growth rate of the DAX performance index in 1996 and 1998.[19] Third, the DAX performance index accelerated only recently, evident in Figure 2. Fourth, Table 1 shows that the share of stocks in household portfolios held largely stable during the first half of the nineties and started to rise only after 1995.

The Bundesbank (1999b) estimates do not allow disentangling stock- and bond-based mutual funds. Deutsche Bundesbank (1994c) reports that the increase in mutual fund units in the early nineties was accounted for almost exclusively by bond-based mutual funds. Presumably, the increase in the late nineties is due to stock-based funds, both in absolute and relative terms.

The example of mutual funds shows that we cannot provide unambiguous causality. The data deficiencies both in the financial accounts and in the survey data mean that it remains unclear whether it was the gradual loosening of the regulations for mutual funds, beginning in 1990, or the increased yields on both bonds and stocks that boosted the attractiveness of the funds.

3.2 Savings subsidies and taxation

Germany has a tradition of promoting the formation of household wealth. It rests on two pillars –favorable tax treatment of asset holdings and direct savings subsidies. Starting in the fifties, German tax and subsidy policies were initially set up to foster the formation of industrial capital and housing in the early post-war years. In the sixties and seventies, the focus was gradually shifted to low- and medium-income earners with children.[20] In the wake of reunification, subsidies and tax exemptions were temporarily expanded to promote

[18] Cf. Deutsche Börse (1999), Table 2.3.

[19] Cf. Deutsche Börse (1999), Table 10.4.

industry, infrastructure, and housing construction in East Germany, much in spirit of the policies of the early fifties.

Savings subsidies

Three different systems of subsidies for long-term saving plans were introduced in the late fifties and sixties:[21] Subsidies to undedicated long-term saving contracts (*Sparprämie*), subsidies to contributions to building society saving contracts (*Wohnungsbauprämie*), and subsidies to employer-sponsored saving plans (*Arbeitnehmer-Sparzulage*). Subsidy rates varied over time and were generally higher for dedicated saving plans.

The inflation of the seventies seriously eroded the accessibility of the subsidies because income limits and contribution caps remained unadjusted. In the eighties and nineties, the scope of assets was narrowed to building society saving contracts, stocks, stock-based mutual funds, and loans to the employer, further reducing the attractiveness. The accessibility of *Wohnungsbauprämie* and *Arbeitnehmer-Sparzulage* was widened again during the nineties, however. Subsidies to building society saving contracts were a key element in housing construction programs for Eastern Germany. Germany may soon see yet another shift in the use of dedicated saving subsidies: It is now planned to funnel most saving subsidies to mutual funds dedicated to retirement income as an individual or company-sponsored supplement to the public pension system.

Savings subsidies were availiable to lower-middle-income households and amounted to less than 200 DM per year during the eighties and nineties.[22] The successive policy changes documented in Appendix 3 have left their traces on households' portfolio choice. The decrease in long-term saving contracts in the eighties (Table 1) is most likely due to the

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[20] For a detailed description of savings subsidies and taxation in Germany cf. Börsch-Supan (1994a). Recent policy changes are listed in Appendix 3.

[21] The history is detailed in Appendix 3.

[22] A maximum subsidy of DM 200 (€ 100) on a maximum contribution of DM 1000 (€ 500).

decrease in real after-tax yields of long-term saving contracts compared with bonds. Another piece of evidence is the diverging trends in ownership rates and conditional asset shares of building society saving contracts between Eastern and Western Germany (see Section 5). Tables 1 to 3 suggest that a growing number of eligible households took out building society saving contracts during the nineties, but held their investment to roughly 1000 DM per year, the ceiling for the subsidies.

As we have seen, it seems questionable whether policy shocks were the sole cause of changes in portfolio composition. Rather, changes in the relative yields of assets and savings policy shocks are likely co-determined by common underlying factors (notably the determinants of increasing budget deficits) and mutually reinforcing.

Taxation

The favorable tax treatment of rented and, to a lesser degree, owner-occupied housing[23] as well as of life insurance contracts forms the second and strongest pillar of German saving policy. Like the subsidies described above, tax exemptions generally favor low- and medium-income employee households with children.[24]

Stocks, mutual funds, and housing were also implicitly tax-favored in that capital gains were not taxed if assets were held beyond the "speculation period" which was six months and one year, respectively; these were lengthened to one year and ten years in 2000, significantly reducing this incentive.

The attractiveness of owner-occupied housing is further reduced because interest payments for mortgages are not tax-deductible. However, mortgage interest was made tax-deductible in 1991 for a restricted period of three years. In line with a general expansion of tax breaks for

[23] Cf. Börsch-Supan (1994c).

[24] Life insurance contracts are a noteworthy exception to this rule. The tax treatment of interest and capital gains favors the rich. Moreover, contributions to life insurance contracts are (partly) tax exempt for civil servants and the self-employed (cf. Brunsbach and Lang, 1998).

housing in Eastern Germany, this measure was introduced in order to increase the incentives for housing construction. It seems likely that the increase in the ratio of new mortgage loans to real estate formation reported by Deutsche Bundesbank (1999b) for the early nineties (cf. section 2.1) is related to this policy change.

Three major changes in the German tax code in the late eighties and nineties are likely to have substantially changed the after-tax yields of some asset categories:

In 1989 a 10% withholding tax on interest income (*Kleine Kapitalertragsteuer*) was introduced, reflecting political efforts to increase the tax base and after prior announcement in 1988. It was abolished within a span of just six months.

In 1991, a ruling by the Supreme Court (*Bundesverfassungsgericht*) forced the government to rule out tax discrimination between labor and capital income and to reinstate the withholding tax on interest: a 30% tax on interest income above 6,000 DM (12,000 DM for couples) in 1993.[25] In September 1994, the withholding tax was extended to interest income on foreign assets that are transferred to Germany (*Zwischengewinnbesteuerung*). The introduction of the withholding tax was accompanied by a drive to curb tax evasion. Audits of income tax statements were more frequent, and several major German were accused of helping their customers to evade tax payments in the late nineties. The planned income tax reform in 2000 aims to further reduce loopholes in the personal income tax code and to reduce tax exemptions for interest income by 50%.[26]

In 1995, another Supreme Court ruling targeted the discriminatory tax treatment of housing against financial assets in 1995. So in 1996 the government abolished the wealth tax, which had favored housing and penalized stocks. This ruling also necessitated reform of the bequest

[25] The Ministry of Finance estimated that the tax exemptions were high enough to free four fifths of the German population from paying income tax on interest (cf. Deutsche Bundesbank, 1994c). The tax-free amount was halved in 2000.

[26] For a survey of loopholes in Germany cf. Lang, Nöhrbaß, and Stahl (1997).

and gift tax. The revised tax code, however, still allows for tax exemptions for housing up to the price of an average family home for children and an average townhouse for grandchildren.

The wealthier German households have reacted sharply to changes in the tax code and the introduction of the withholding tax, although this is hard to see in the financial accounts and the survey data (Tables 1 through 3), since the macro data sources do not include housing wealth by region and the survey data have only been collected at five-year intervals. However, the Bundesbank (1994a and c) reports that the turnover rate of cash increased by 30% in 1992 and that investments in foreign mutual funds sky-rocketed to 13 billion DM in 1988 and a total of 99.5 billion DM[27] between mid-1991 and November 1993. Shortly after the first withholding tax was abolished, net investment in foreign mutual funds turned negative. The same happened when the tax was extended to income from foreign mutual funds (*Zwischengewinnbesteuerung*) in the second half of 1993. Interestingly, and unlike the situation in 1988, the net capital outflow in the period 1991-1993 was small. Three quarters of the "foreign" investments consisted of investments in Luxembourg mutual funds which were largely based on German bank bonds and (to a smaller extent) German government bonds.[28]

4. Socioeconomic determinants of household portfolio choice

This section focuses on the socioeconomic determinants of households' willingness to hold "risky" assets and their portfolio composition. First, we present bivariate analyses of the determinants that are at the focus of the theoretical section of this volume, whose key role is underscored by previous empirical studies.[29] Second, we sketch the results of a multivariate

[27] Investments in Luxembourg-based mutual funds only.

[28] Cf. Deutsche Bundesbank (1994c).

[29] Cf. Haliassos and Bertaut (1995), Guiso, Jappelli, and Terlizzese (1996), Bertaut (1998), Hochgürtel, Alessie, and van Soest (1997), Poterba and Samwick (1997), or Börsch-Supan, Euwals, and Eymann (1999).

analysis of the determinants' of households' willingness to hold "clearly safe", "fairly safe", and "risky" assets.

4.1 Bivariate Analyses

4.1.1. Risky assets and age

King and Leape (1987) suggest that age may affect the willingness to hold risky assets, as older persons have acquired more information on variance and yield than younger persons. The cross-sectional ownership rates of "risky" assets do not really confirm this hypothesis, however: We find that the cross-sectional age profile is essentially flat from age 30 to 60 (cf. Table 6). Ownership rates are lower only for the very young and the very old. Ownership rates have generally increased over time, and the rate of increase seems to be greater at the extremities of the age distribution. Growth rates are particularly high for the young and started to increase already in the late eighties. The very old do not seem to have invested in "risky" assets until the nineties.

The cross-sectional age profile of the "risky " asset share conditional on ownership of such assets differs sharply that of ownership rates. Conditional asset shares seem to be convex in age and highest for the retired. This profile suggests that households cut down "risky" assets when they start taking out life insurance and invest in housing, and strongly increase their other investments when life insurance contracts mature around the age of retirement.

4.1.2 Cohort / Time Effects

Various studies[30] have found that the age distribution of household wealth in Germany displays strong cohort effects for generations born during or before World War II. Schnabel (1999) shows that these effects are particularly strong for housing wealth.

[30] For example, Börsch-Supan (1994b) or Schnabel (1999).

Figures 3a and b depict average ownership rates of "risky" and "fairly safe" financial assets by cohort and age as well as predicted ownership rates by age.[31] Weighted empirical averages have been computed on the basis of the four samples of West German households interviewed in waves 1978 to 1993 of the Income and Expenditure Survey. Figure 3c depicts the average number of financial assets[32] held by West German households of differing cohorts and age groups and the predicted number of financial assets held by age groups.[33]

Figure 3 suggests that cohort/ time effects are non-negligible but play only a minor role for financial assets, unlike owner-occupied housing. There is a weak hump-shape effect of age for "risky" assets and a strong one for "fairly safe" assets (which include building society saving and life insurance). Ownership rates of "fairly safe" assets remained remarkably stable while those of "risky" assets rose substantially for all age groups and have led to an increase in the number of financial assets in the portfolios of West German households.[34]

Similar to Table 6, Figure 3a suggests that young households started investing in "risky" assets already in the mid-eighties. For older cohorts, the willingness to hold "risky" assets seems to have increased only during or after reunification. The respective rates of increase have decreased with age.

4.1.3 Wealth

Gollier (this volume) summarizes conditions under which wealth should correlate positively with the portfolio share of risky assets. Several studies have found wealth to be the major

[31] Predictions are based on estimation results for a probit model of households' possession of "risky" or "fairly safe" assets with a fifth-order age polynomial as the only explanatory variable and refer to the pooled cross-sections of waves 1978 to 1993. Cohort/ Time effects are captured by dummies.

[32] Financial assets are defined as in Tables 3 and 4. The number of financial assets is defined as the sum of asset-specific dummy indicator variables that indicate whether or not households have indicated to own the respective assets (such as government bonds, other bonds, stocks, mutual funds etc.).

[33] Similar to the approach chosen for Figures 3 and 4, predictions are based on the estimation results of regressing the number of financial assets on a fifth-order age polynomial.

[34] It should be noted that the strong increase of the number of financial assets in 1978 as compared to 1983 is at least partly due to the omission of "other financial assets" in wave 1978 of the Income and Expenditure Survey.

determinant of households' willingness to hold risky assets.[35] Unfortunately, there is no German micro data set for the very wealthy. As noted, the Income and Expenditure Survey excludes the three top income percentiles. To examine the impact of wealth on portfolio choice, we split the sample of households participating in wave 1993 of the Survey into four (all-Germany) wealth quartiles.[36] We compute asset shares irrespective of ownership for each quartile as well as the top 5 percentiles in the Income and Expenditure Survey.

Table 7 reveals distinct jumps in several of the asset shares between quartiles. The lowest quartile in Western Germany seems to hold almost nothing but "safe" and "fairly safe" assets (i.e. life insurance contracts and building society contracts, hardly any bonds). The second quartile also invests in bonds and mutual funds. Substantial real estate ownership only starts in the third quartile. Compared to these distinct jumps in bonds, mutual funds, and real estate, the increase in the portfolio share of stocks and life insurance with wealth is much smoother, although the share of stocks in the fourth quartile does rise notably.

The results in Table 7 suggest that there are "target levels" for some of the asset shares. For instance, the shares of real estate and bonds are essentially stable for households that can readily obtain consumer credit and mortgage loans.

In order to analyze household heterogeneity with respect to the willingness to hold "risky" assets, we repeat the age-cohort analysis by wealth quartile.[37] Again, we acknowledge that our interpretations could be distorted by the confounding of age, cohort, and time effects.

Figure 4 shows that both the timing and extent of changes in ownership differ by quartile: In the first two quartiles, ownership rates of "risky" assets rose only for the very youngest

[35]Cf. Guiso, Jappelli, and Terlizzese (1996), Bertaut (1998), Hochgürtel, Alessie, and van Soest (1997), or Börsch-Supan, Euwals, and Eymann (1999).

[36] Quartiles for the total net wealth of all households interviewed in the respective wave of the Income and Expenditure Survey. The first three quartile cut-offs come at 23,048 DM, 120,188 DM, and 369,656 DM, the 95th percentile is equal to 849,332 DM.

[37] The cohort study does not include 1978, since information on total net wealth is unavailable for that wave.

cohorts. In the third, all cohorts were increasingly willing to hold "risky" assets. The young started to invest in "risky" assets as early as the late eighties; older cohorts followed in the nineties.

The age-specific growth rates imply that ownership rates of "risky" assets generally decreased with age for the first three wealth quartiles in 1993; previously the age profile was flat. For the fourth quartile, the growth rates appear to have been stable over time across all cohorts, but growth rates were higher for the young, implying that a formerly rising age profile of the ownership rates of "risky" assets flattened out in 1993.

4.1.4 Education

A number of theoretical and empirical studies of household portfolio choice have emphasized the role of education in willingness to hold risky assets and suggested that income uncertainty, income expectations, and financial information vary with schooling.[38]

Information on schooling is provided only in the 1993 wave of the Income and Expenditure Survey. We split the sample by heads' educational attainment. Figures 5 and 6 present predicted ownership rates of "risky" assets and the predicted number of financial assets by education segments.

Most notable is the distinct difference between household heads with and without post-secondary education. This difference applies to both level and cross-sectional age profile. Ownership rates of "risky" assets are much lower among household headed by persons with less than university/ polytechnic education, in both Eastern and Western Germany.

Ownership rates of "risky" and "fairly safe" assets peak around the age of fifty for West Germans and around the age of forty for East Germans with up to thirteen years of schooling

[38] Cf. e.g. Guiso, Jappelli, and Terlizzese (1996), Bertaut and Haliassos (1997), or Bodie, Merton, and Samuelson (1992).

(at most, upper secondary).[39] The hump shape of these households' age profiles seems to be slightly more pronounced than that in Table 6 for all households in the sample. However, for Western Germans holding a university degree ownership rates of "risky" assets rise up to the age of seventy, then drop sharply.[40] The marked spread of the peak ages for persons with and without post-secondary education might explain why Table 6 reflects a comparatively flat age profile for the full-sample ownership rates of "risky" assets.

Figure 6 suggests that the generally marked difference between the average number of financial assets held by households with and without post-secondary education increases with age. presume that around the age of retirement households with university education tend to re-invest the capital accumulated in life-insurance contracts in "risky" assets.

4.1.5 Sources of information and information status

King and Leape (1987) report that more than a third of those who do not own risky assets in the 1978 Survey of Consumer Financial Decisions indicated that they had had too little knowledge to invest in risky assets. Also, Kennickell, Starr-McCluer, and Sunden (1996) find that 1983 SCF respondents who are more likely to seek financial advice are also more willing to hold risky assets.

Because the German Income and Expenditure Survey does not have information on the financial knowledge, we employ a marketing-oriented survey (*Soll und Haben*) on the financial behavior of households. The data set is collected by Spiegel-Verlag and covers information search and status as well as, in part, on the individuals' socioeconomic background. The main purpose of the survey is to shed light on the web of portfolio choice,

[39] For a detailed discussion of the differences in East and West German households' portfolios cf. section 5.

[40] This drop is not significant because of small cell size.

financial knowledge and advice, while assessing customer satisfaction and the willingness to adopt new banking technologies.[41]

Judging from their self-assessments, more than half of German households consider themselves not "very well" or "at all" informed (cf. Table 8). And surprisingly, the self-assessed knowledge of financial affairs does not seem to have improved even in the late eighties and early nineties as portfolios diversified and got riskier.[42] Contrary to this finding - but in line with our expectations -, cross-section results for 1995 suggest that persons who describe themselves as well-informed or actively seeking information from diverse banks are more willing to hold "risky" assets and have more diversified portfolios (cf. Table 9). Persons relying on the advice of family and friends or their own bank are most likely to have "clearly safe" assets only (cf. Table 10).

4.2 Multivariate Analysis

The foregoing bivariate analyses have studied the effects of age, wealth, education, and information on the households' willingness to hold "risky" and illiquid assets. However, these characteristics are clearly inter-correlated. To disentangle wealth, age, and education effects, and to control for socioeconomic characteristics that affect eligibility for favored tax treatment and savings subsidies for "fairly safe" assets, we now present the results of multivariate analyses of the determinants of ownership rates and portfolio shares of "fairly safe" and "risky" assets. Unfortunately, the Income and Expenditure Survey from 1978 to 1988 provides very little information on socioeconomic background. We thus confine

[41] A detailed description of this data set is given in Appendix 1. For a comparison of the Spiegel-Verlag survey and the Income and Expenditure Survey cf. Tables 4, 9, as well as Table A3 in Appendix 1. Underreporting of "risky" assets seems to be greater in the Spiegel-Verlag survey, although respondents are generally younger and the two tails of the income distribution are underrepresented.

[42] The wording of the question has changed in 1993.

ourselves to a cross-section analysis based on wave 1993 and acknowledge that we cannot disentangle age and cohort effects.

Table 11 presents estimation results for probit models of the decision to hold “fairly safe” or “risky” assets. In order to analyze the cohort/ age and wealth effects that proved to be relevant in the previous sections, the set of explanatory variables includes third-order polynomials in wealth and age, dummy variables measuring education, and socioeconomic characteristics (such as employment status and number of children) that determine the households’ tax treatment and access to savings subsidies. In order to analyze the differing age profiles of persons with and without university education, we also allow for education-specific slopes of the age polynomial.

The results by and large confirm our earlier findings. The willingness to hold “fairly safe” assets peaks at a net worth of 1.05 million DM. The willingness to hold “risky” assets, however, seems to increase at an almost constant rate throughout the entire range of wealth levels. The strongly non-linear shape of its age profile, moreover, suggests that the composition of the portfolio of “fairly safe” assets changes strongly over the life cycle. Building society savings contracts appear to be popular among the very young, while life insurance contracts are favored by the middle-aged. The willingness to hold “risky” assets appears to be greatest for the very young and to decrease until age fifty. Around retirement age, the willingness to hold “risky” assets increases again, moderately until age seventy. The estimation results suggest that education increases the willingness to hold “risky” assets, but – in contrast to the findings in Figure 5 - it does not shift the age profile of ownership rates.

Moreover, the estimation results show that the willingness to hold “fairly safe” and “risky” assets is convex in income, controlling for wealth, employment status, and family size. Being employed increases the willingness to invest in life-insurance, building-society savings, and other “fairly safe” assets. The same holds for larger family size. Unlike the self-employed,

civil servants seem to be responsive to the tax advantages of life insurance contracts. The German tax and subsidy policy does not appear successful, however, in increasing the willingness of families with three or more children to invest in tax-favored assets or those eligible for subsidies.

Table 12 presents two-step Heckit estimation results for the portfolio shares of "fairly safe" and "risky" assets. The impact of the respondents' socioeconomic characteristics on the conditional asset shares of "risky" and "fairly safe" assets differs notably from their impact on the willingness to hold these assets. "Fairly safe" assets and "risky" assets seem to be considered as substitutes for one another. Households that should have a higher incentive to invest in housing, to save for retirement, or to cover the risk of income losses due to the death of the breadwinner prove to hold higher shares of "fairly safe" assets and lower shares of "risky" ones. Also, persons with little education seem to hold smaller shares of "risky" and higher shares of "fairly safe" assets. Interestingly, income and proxy variables for income uncertainty seem to have no effect on the portfolio shares of "risky" or "fairly safe" assets. Net worth appears to affect the portfolio shares of "fairly safe" assets only.

5. Household Portfolios in Eastern Germany

The results of the previous section show that ten years after reunification, substantial regional differences in portfolios persist even for households of the same age, wealth, and education level. Assigning causes to these differences is no easy task. Although reunification might appear as a welcome natural experiment at first sight, there are two reasons why such an analysis is likely to fail. First, we have virtually no data on East German households before unification. Second, while tax and subsidy policies are indeed different in the two parts of Germany, identification is confounded by the many other differences, notably strongly differing employment prospects, but also endowments of wealth and financial information,

which was disseminated unequally already during reunification. This section must therefore remain largely descriptive.

On the basis of the results of the previous sections and those of the other country studies in this volume, we expect that young Eastern German households are likely to hold less "risky" assets than their West German counterparts and that strong cohort effects should be visible for the middle-aged and older generations in Eastern Germany.

5.1 Net worth and portfolio composition

The 1993 Income and Expenditure Survey covered all of reunited Germany. This is the only data set that permits detailed study of regional differences in households' portfolios and net worth. Figure 7 shows that three years after reunification the net worth of East German households was still substantially less than that of Western German households. The sixth decile of the Eastern wealth distribution was roughly equal to the the third decile of the Western. The same shift applies for all deciles up to the ninth. Wealth appears to be less equally distributed in the East, at least at the upper end of the scale. We speculate that this reflects the economic success of a very small part of the population in the transition process. Figure 8 shows that – at least on average - only the youngest East German cohorts had the chance to accumulate wealth comparable to their Western German counterparts.

Tables 6, 7 and 13 only partly confirm our hypothesis that wealth is a key determinant of the willingness to hold "risky" assets. Regional differences in the willingness to hold "risky" assets are sizable only for persons younger than 30 and older than 60 (cf. Table 6). Instead, East Germans across all wealth quartiles invested in those assets that were generally popular in the early and mid-nineties and particularly favored assets that could be purchased in small quantities. Ownership rates of mutual funds are higher in East than in West Germany, while stock, bonds, and real estate ownership rates are much lower.

Tables 4 and 13 show that East German households held less diversified portfolios. More than 40% of their wealth was in "clearly safe" assets, almost twice the percentage for those in the West. Since whole life insurance did not exist in the GDR, it comes as no surprise that Easterners hold substantially smaller percentages of their wealth in these assets, even though ownership rates are almost identical – the latter also mirror the huge marketing effort by the insurance industry.

It seems most interesting, however, that the regional differences in households' net worth, bank relations, information status, and employment prospects seem to have had hardly any effect on the conditional asset shares of "risky" assets (cf. Tables 8, 10, 12, and 13). Table 6 shows that the differences between the regional portfolio shares of "risky" assets are noteworthy for persons in their fifties only. At this age, West Germans, unlike East Germans, hold substantial shares of their financial wealth in life insurance contracts. We conclude that East German households have substituted "fairly safe" assets - especially life insurance contracts, which are most popular among West Germans – primarily by "clearly safe" assets and to a smaller extent by risky assets.

5.2 Household portfolios in transition

Waves 1989 to 1997 of the German Socioeconomic Panel are the only data that can be exploited to analyze the gradual adjustment of Eastern households' portfolios. Unfortunately, this panel provides information on ownership of assets only, not on asset shares, and is suspected to be particularly prone to underreporting.[43]

[43] Note that the GSOEP asset definitions differ from those used in the previous sections (cf. Appendix 1). Table A3 in Appendix 1 uses the GSOEP definition of financial assets to compare the portfolio shares measured on the basis of the GSOEP (waves 1993, 1995) to those measured on the basis of the Income and Expenditure Survey (wave 1993) and the Spiegel-Verlag survey (wave 1995).

In spite of these data problems, the adjustment pattern reflected by Figures 9a to d is surprisingly clear: Eastern households took just three years to adjust their portfolios to the newly available range of assets. After 1992, trends in East German ownership rates of financial assets by and large follow Western ones. Moreover, the rates for life insurance and building society saving are almost identical for the younger cohorts the two parts of the country. This confirms our thesis that East Germans have favored assets that allowed for small investment and that were either tax-favored or eligible for savings subsidies.

6. Conclusions

Our study shows that the portfolio composition of German households has followed the general trends observed in the other countries surveyed in this volume, but that adjustment towards "risky" assets came five to ten years later. Significant differences in levels thus remain. Most notably, Germany has high rates of ownership of domestic bonds and life insurance contracts, but low holdings of stocks and real estate. While levels are different, the impact of such household characteristics as wealth, age, education, and financial knowledge matches the findings of the other studies. Interestingly, most of these correlations are also visible in the comparison of East and West German portfolio choices.

The lack of panel data in Germany rules out any rigid econometric analysis of households' sensitivity to after-tax returns. We are therefore obliged to use policy case examples to shed light on the impact of the various tax and subsidy changes during the last two decades. These examples strongly suggest that German households have been sensitive to changes in after-tax yields of. Ownership rates of long-term saving contracts decreased when the saving subsidies were abolished; ownership of bonds increased during the period of German reunification when bond yields rose and dropped when rising inflation rates reduced real-valued yields; investments in foreign mutual funds increased massively when the withholding tax on interest

income was introduced; and ownership rates for stocks started to rise in the very late nineties when the DAX performance index rocketed. The sensitivity of households to after-tax rates of return is an indication that after-tax returns were not equalized when before-tax returns or the tax wedge changed. We conclude that tax and subsidy policy still has a powerful effect in Germany.

Germany will undergo substantial capital market changes in the fairly near future. Population aging will necessitate more private provision for old-age and health insurance. The stock market has only recently regained its status as an investment option for all households, including the large middle class. Institutional investors such as pension funds are appearing. Thus, the picture taken in this study is likely to change substantially over the coming decade. Judging by the past, the direction of change can be strongly influenced by tax and subsidy policy.

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Tables:

Table 1: Asset shares according to aggregate financial accounts

	Western Germany: Households incl. non-profit organizations					Unified Germany: Households excl. non-profit organizations			
	1975	**1980**	**1985**	**1990**	**1992**	**1990**	**1993**	**1995**	**1997**
Financial assets									
Checking, deposit, and savings accounts	51.6	46.7	39.6	37.1	35.4	37.8	38.0	35.7	33.6
Bonds (incl. mutual funds on bonds)	12.0	17.3	21.5	22.8	26.2	n.a.	n.a.	n.a.	n.a.
Stocks (incl. mutual funds on stocks)	7.3	4.8	7.0	6.4	5.2	n.a.	n.a.	n.a.	n.a.
Bonds	n.a.	n.a.	n.a.	n.a.	n.a.	20.0	18.0	18.9	17.1
Stocks	n.a.	n.a.	n.a.	n.a.	n.a.	5.5	5.8	5.5	8.3
Mutual funds and managed investment accounts	n.a.	n.a.	n.a.	n.a.	n.a.	3.9	6.2	7.6	8.6
Building society savings contracts	7.8	7.3	5.5	4.1	3.7	4.1	3.7	3.4	3.4
Insurance and pension wealth	13.2	14.5	16.3	18.6	18.6	20.9	20.9	21.8	22.5
Other financial assets	8.1	9.6	10.0	11.2	11.1	7.8	7.4	6.9	6.6
Total financial assets	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**37.5**	**39.2**	**40.4**	**42.8**
"Clearly safe" financial assets	**51.6**	**46.7**	**39.6**	**37.1**	**35.4**	**37.8**	**38.0**	**35.7**	**33.6**
"Fairly safe" financial assets	**41.1**	**48.5**	**53.4**	**56.5**	**59.4**	**52.8**	**50.0**	**51.2**	**49.5**
"Risky" financial assets	**7.3**	**4.8**	**7.0**	**6.4**	**5.2**	**9.4**	**12.0**	**13.1**	**16.9**
Non-financial assets									
Real estate wealth	n.a.	n.a.	n.a.	n.a.	n.a.	83.0	82.4	82.7	81.9
Stock of durable goods	n.a.	n.a.	n.a.	n.a.	n.a.	17.0	17.6	17.3	18.1
Total non-financial assets	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**62.5**	**60.8**	**59.6**	**57.2**
Debt									
Long-term bank loans	57.4	65.2	63.0	68.0	69.0	n.a.	n.a.	n.a.	n.a.
Short-term bank loans	31.3	27.5	28.0	22.6	22.3	n.a.	n.a.	n.a.	n.a.
Other loans	11.3	7.3	9.0	9.4	8.7	n.a.	n.a.	n.a.	n.a.
Mortgage loans	n.a.	n.a.	n.a.	n.a.	n.a.	76.6	75.8	78.1	79.6
Consumer credit	n.a.	n.a.	n.a.	n.a.	n.a.	23.4	24.2	21.9	20.4
Total debt	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**13.1**	**13.4**	**14.2**	**14.8**

Source: Deutsche Bundesbank (1994b), Deutsche Bundesbank (1999b), and own computations.

Table 2: Asset shares according to survey data

	1983	1988	1993 West	1993 (Unified)
Financial assets				
Checking and savings accounts	26.9	26.4	22.1	24.1
Government bonds	3.2	2.4	4.7	4.7
Other bonds	11.3	11.7	15.7	15.2
Stocks	3.8	4.7	4.6	4.3
Mutual funds and managed investment accounts	1.5	2.2	4.6	4.7
Life insurance contracts	36.3	39.1	31.4	29.1
Building society savings contracts	13.1	9.9	7.0	7.2
Other financial assets	4.0	3.5	9.8	10.7
Total financial assets	**19.7**	**20.9**	**27.2**	**28.0**
"Clearly safe" financial assets	**26.9**	**26.4**	**22.1**	**24.1**
"Fairly safe" financial assets	**66.8**	**64.9**	**65.8**	**64.1**
"Risky" financial assets	**6.3**	**8.8**	**12.1**	**11.8**
Non-financial assets				
Total real estate	**81.2**	**80.2**	**74.2**	**73.4**
Total "risky" assets="risky" financial assets	**6.3**	**8.8**	**12.1**	**11.8**
Debt				
Mortgage and real estate debt	92.4	91.4	90.7	90.2
Consumer credit	7.6	8.7	9.3	9.8
Consumer credit in % of total net wealth (used as correction term[44])	1.0	1.1	1.4	1.4
Total debt	**12.5**	**12.6**	**14.7**	**14.5**

Source: Income and Expenditure Survey

[44] The correction term equals the ratio of the average value of consumer credits and average total net wealth.

Table 3: Ownership rates and conditional asset shares according to survey data

	Ownership Rates					Asset Shares (conditional on ownership)			
	1978	1983	1988	1993		1983	1988	1993	
				West	Unified			West	Unified
Financial assets									
Checking[45] and savings accounts	91.2	90.6	84.7	99.3	99.4	28.1	28.3	22.2	24.1
Government bonds	6.3	6.4	4.8	11.2	10.5	20.7	21.3	21.6	22.1
Other bonds	16.8	21.3	22.6	32.9	30.8	27.8	27.9	29.1	29.1
Stocks	10.0	9.7	11.4	12.0	10.0	17.6	19.2	18.5	18.6
Mutual funds and managed investment accounts	3.8	3.3	4.7	12.2	12.9	15.5	19.0	19.7	20.2
Life insurance contracts	69.9	67.2	64.6	61.6		44.8	48.1	41.3	38.8
Building society savings contracts	37.1	40.5	38.7	42.1	40.2	23.7	18.8	14.1	14.5
Other financial assets	n.a.	5.8	5.3	19.9	21.8	27.9	27.7	26.8	28.5
Total financial assets	**96.5**	**96.7**	**94.1**	**99.5**	**99.6**	**19.9**	**21.2**	**27.2**	**28.0**
"Clearly safe" financial assets	**91.2**	**90.6**	**84.7**	**99.3**	**99.4**	**28.1**	**28.3**	**22.2**	**24.1**
"Fairly safe" financial assets	**80.9**	**81.3**	**78.2**	**82.7**	**82.6**	**69.9**	**68.2**	**68.5**	**67.1**
"Risky" financial assets	**14.1**	**13.7**	**17.9**	**26.2**	**25.1**	**22.0**	**24.6**	**26.2**	**263**
Non-financial assets									
Owner-occupied housing	41.8	43.9	45.7	46.7	40.2	n.a.	n.a.	n.a.	n.a.
Total real estate	**43.3**	**46.0**	**47.4**	**51.1**	**45,8**	**86.9**	**85.5**	**79.8**	**79.9**
Business	n.a.	5.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total risky assets	n.a.	**17.8**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt									
Mortgage and real estate debt	24.1	26.2	25.0	27.2	23,5	97.2	96.7	96.1	96.0
Consumer credit	14.5	17.3	19.1	22.5	21.8	27.5	27.2	24.7	26.0
Total debt	**34.9**	**38.7**	**38.6**	**42.9**	**39.4**	**21.8**	**23.9**	**27.3**	**27.2**

Source: Income and Expenditure Survey

[45] Information as to checking accounts is provided by wave 1993 only.

Table 4: Diversification of household financial portfolios

"Clearly safe"[46]	"Fairly safe"[47]	"Risky"	1978	1983	1988	1993	
						West	East
No	**No**	**No**	3.5	3.2	5.9	0.5	0.2
No	**No**	**Yes**	0.1	0.1	0.2	0.0	0.0
No	**Yes**	**No**	5.0	5.7	8.4	0.2	0.0
No	**Yes**	**Yes**	0.3	0.4	0.9	0.0	0.0
Yes	**No**	**No**	14.3	14.2	14.2	15.0	17.3
Yes	**No**	**Yes**	1.3	1.2	1.5	1.8	2.2
Yes	**Yes**	**No**	63.2	63.2	53.6	58.1	62.7
Yes	**Yes**	**Yes**	12.4	12.0	15.4	24.4	17.6

Source: Income and Expenditure Survey

[46] Checking accounts have been included in the definition of "clearly safe" assets only in 1993. Previous waves of the Income and Expenditure Survey neglected this asset.

[47] Information as to "other financial assets" is unavailable for wave 1978 of the Income and Expenditure Survey.

Table 5: Comparison of aggregate and survey data

	Germany: Households excl. non-profit organizations		
	1993 Bundesbank (1999b) estimates (1)	**1993 Income and Expenditure Survey (EVS) (2)**	**% of assets reported in EVS as compared to Bundesbank estimates (2) / (1)**
Financial assets			
Checking, deposit, and savings accounts	41222.7	14157.6	34.3
Bonds	19503.1	11716.7	60.1
Stocks	6295.9	2522.4	40.1
Mutual funds and managed investment accounts	6768.7	2789.1	41.2
Building society savings contracts	6765.1	4214.5	62.3
Insurance and pension wealth	22702.1	17129.0	75.5
Other financial assets	8067.9	6320.6	78.3
Total financial assets	**110220.8**	**58849.9**	**53.4**
Non-financial assets			
Real estate wealth	167132.2	181939.4	108.9
Stock of durable goods	38617.1	n.a.	n.a.
Total non-financial assets	**205749.3**	**181939.4**	**88.4**
Debt			
Mortgage loans	28109.3	27412.8	97.5
Consumer credit	8951.1	2990.4	33.4
Total debt	**37060.0**	**30403.2**	**82.0**
Total net wealth	**277253.6**	**210386.1**	**75.9**

Table 6: Cross-sectional age profile of asset ownership and share of "risky" assets

a) Ownership rates (in %):

Age group	1978	1983	1988	1993	
				West	East
<30	8.1	9.0	17.5	23.8	13.4
30-39	15.1	13.0	18.8	29.2	25.4
40-49	16.7	15.9	20.8	28.1	25.2
50-59	15.3	15.7	20.3	29.0	24.8
60-69	13.5	14.6	17.8	25.2	16.5
70+	12.6	12.3	12.6	20.4	9.1

Source: Income and Expenditure Survey

b) Portfolio share of "risky" assets

Age group	% of financial assets				% of financial assets (conditional upon owning "risky" financial assets)			
	1983	1988	1993		1983	1988	1993	
			West	East			West	East
<30	3.3	7.9	11.3	5.8	19.4	22.6	25.6	24.6
30-39	4.0	6.7	10.4	11.0	18.2	20.9	22.6	25.3
40-49	4.5	7.5	9.1	8.7	17.1	21.4	20.6	23.5
50-59	5.4	7.4	10.2	6.9	18.7	20.0	21.6	29.1
60-69	8.0	10.5	12.9	5.3	23.1	27.5	28.1	30.2
70+	12.2	13.4	19.5	3.4	33.6	38.4	41.4	36.0

Source: Income and Expenditure Survey

Table 7: Composition of household wealth by wealth quartiles

	1993 Western Germany					1993 Eastern Germany				
	Below quartile I	**Between quartiles I and II**	**Between quartiles II and III**	**Above quartile III**	**Top 5%**	**Below quartile I**	**Between quartiles I and II**	**Between quartiles II and III**	**Above quartile III**	**Top 5%**
Financial Assets										
Checking and savings accounts	47.2	29.6	24.2	17.0	11.3	60.7	41.3	34.6	29.1	36.1
Government bonds	1.5	4.9	4.3	5.0	5.2	1.3	5.9	5.1	3.6	1.0
Other bonds	6.2	14.6	15.2	17.1	17.2	6.2	13.1	11.6	12.2	3.0
Stocks	1.6	2.1	3.1	6.3	10.1	0.8	0.7	1.1	0.6	2.1
Mutual funds and managed investment accounts	2.0	3.8	4.4	5.1	5.4	2.6	6.3	8.1	7.4	5.3
Life insurance	26.7	27.1	30.7	33.4	35.8	10.4	6.2	7.1	11.0	9.7
Building society savings contracts	11.1	8.8	9.1	5.2	3.1	7.9	7.9	11.8	10.4	10.2
Total financial assets	**217.6**	**90.2**	**27.3**	**21.2**	**21.0**	**120.6**	**78.9**	**17.5**	**9.5**	**2.3**
"Clearly safe" financial assets	**47.2**	**29.6**	**24.2**	**17.0**	**11.3**	**60.7**	**41.3**	**34.6**	**29.1**	**36.1**
"Fairly safe" financial assets	**47.9**	**62.4**	**65.9**	**68.2**	**68.9**	**35.1**	**49.3**	**54.1**	**58.3**	**56.0**
"Risky" financial assets	**4.9**	**8.0**	**9.9**	**14.9**	**19.8**	**4.2**	**9.4**	**11.4**	**12.6**	**7.9**
Non-Financial Assets										
Total real estate	**9.4**	**13.6**	**73.7**	**79.2**	**79.3**	**3.6**	**22.8**	**83.1**	**90.9**	**97.9**
Total "risky" assets = "risky" financial assets	**4.9**	**8.0**	**9.9**	**14.9**	**19.8**	**4.2**	**9.4**	**11.4**	**12.6**	**7.9**
Mortgage and real estate debt	32.9	88.5	95.6	95.7	96.0	14.5	85.2	93.3	93.6	94.8
Consumer credit	67.1	11.5	4.4	4.3	4.0	85.5	14.8	6.7	6.4	5.2
Consumer credit in % of total net wealth	127.0	3.8	0.3	0.4	0.3	24.1	1.7	0.6	0.3	0.2
Total debt	**189.2**	**33.0**	**5.7**	**9.1**	**8.7**	**28.2**	**11.2**	**9.2**	**5.4**	**3.7**

Source: Income and Expenditure Survey 1993

Table 8: Individual assessment of information status

	Very well informed	Fairly well informed	Not very well informed	Not informed at all
% of respondents describing themselves as...				
1980	20.9	32.3	33.9	12.9
1984	19.6	30.2	35.8	14.5
1989	17.3	32.1	37.5	14.1
1995 West	5.5	35.4	45.9	13.2
1995 East	3.2	28.9	53.1	14.8

Source: Spiegel-Verlag (1980, 1984, 1989, 1995), unweighted observations

Table 9: Individual assessment of information status and portfolio diversification

Portfolio composition			**% of respondents describing themselves as...**									
"Clearly safe"	**"Fairly safe"**	**"Risky"**	**1995 Western Germany**					**1995 Eastern Germany**				
			Very well inform.	**Fairly well inform.**	**Not very well inform.**	**Not at all inform.**	**Total**	**Very well inform.**	**Fairly well inform.**	**Not very well inform.**	**Not at all inform.**	**Total**
No	**No**	**No**	3.2	9.7	32.3	54.8	**0.5**	0.0	12.5	50.0	37.5	**0.4**
No	**No**	**Yes**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**
No	**Yes**	**No**	10.0	20.0	30.0	40.0	**0.2**	0.0	0.0	50.0	50.0	**0.4**
No	**Yes**	**Yes**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**
Yes	**No**	**No**	1.8	17.0	53.1	28.1	**14.8**	1.9	17.4	55.9	24.8	**15.9**
Yes	**No**	**Yes**	8.2	36.1	39.3	16.4	**1.0**	0.0	0.6	0.5	0.0	**0.4**
Yes	**Yes**	**No**	3.8	35.0	49.1	12.1	**64.4**	2.3	28.6	54.5	14.7	**69.6**
Yes	**Yes**	**Yes**	13.8	52.0	30.2	4.0	**19.2**	9.8	44.8	42.8	2.6	**13.4**
Total			**5.5**	**35.4**	**45.9**	**13.2**	**100**	**3.2**	**28.9**	**53.1**	**14.8**	**100**

Source: Spiegel-Verlag (1995)

Table 10: Portfolio diversification by information sources

Portfolio composition			**% of respondents relying on information source**							
"Clearly safe"	**"Fairly safe"**	**"Risky"**	**1995 Western Germany**				**1995 Eastern Germany**			
			Home Bank	**Div. Banks**	**Relat./ Friends**	**Self**	**Home Bank**	**Div. Banks**	**Relat./ Friends**	**Self**
No	**No**	**No**	3.9	15.4	7.7	73.1	0.0	28.6	0.0	71.4
No	**No**	**Yes**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No	**Yes**	**No**	0.0	11.1	0.0	88.9	0.0	0.0	14.3	85.7
No	**Yes**	**Yes**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yes	**No**	**No**	5.2	16.8	7.4	70.6	2.3	11.7	7.3	78.7
Yes	**No**	**Yes**	7.1	16.1	1.8	75.0	0.0	10.0	10.0	80.0
Yes	**Yes**	**No**	5.3	19.0	5.5	70.2	1.9	15.7	2.0	80.4
Yes	**Yes**	**Yes**	4.1	17.1	3.8	75.0	1.6	12.5	2.6	83.3
Total			**5.0**	**18.3**	**5.4**	**71.3**	**1.9**	**14.6**	**3.0**	**80.5**

Source: Spiegel-Verlag (1995), unweighted observations

Table 11: Estimation results for cross-section probit models of asset ownership

	„Fairly Safe“ Assets				„Risky“ Assets			
	West Germany		East Germany		West Germany		East Germany	
	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio
Age/10	**-1.2322**	*-5.97*	0.7298	*1.88*	**-0.8929**	*-4.74*	***-1.0170***	*-2.23*
Age/10 sq.	**0.2433**	*6.07*	-0.1026	*-1.31*	**0.1567**	*4.23*	***0.2351***	*2.48*
Age/10 cube	**-0.0158**	*-6.56*	0.0032	*0.67*	**-0.0089**	*-3.93*	**-0.0170**	*-2.77*
Age/10, univ.	0.9176	*1.63*	***1.8315***	*2.18*	-0.1247	*-0.28*	***1.6432***	*1.99*
Age/10 sq., univ.	-0.1869	*-1.70*	-0.3154	*-1.88*	-0.0080	*-0.09*	***-0.3735***	*-2.23*
Age/10 cub., univ.	0.0121	*1.77*	0.0170	*1.61*	0.0019	*0.34*	***0.0267***	*2.47*
Net worth/100,000 DM	**0.1695**	*20.49*	**0.8868**	*10.39*	**0.1213**	*19.38*	**0.1020**	*3.50*
Net worth/100,000 DM, sq.	**-0.0112**	*-13.59*	**-0.3293**	*-9.17*	**-0.0056**	*-11.54*	**-0.0220**	*-4.06*
Net worth/100,000 DM, cub.	**0.0002**	*9.41*	**0.0284**	*7.77*	**0.0001**	*8.62*	**0.0006**	*3.89*
University degree	-1.5091	*-1.67*	***-3.3226***	*-2.54*	0.4643	*0.64*	-2.1073	*-1.63*
9yrs. Schooling	**0.1493**	*4.43*	***-0.1323***	*-2.19*	**-0.2169**	*-7.42*	**-0.1528**	*-2.59*
10yrs. Schooling	**0.1052**	*3.01*	-0.0503	*-0.73*	**-0.1023**	*-3.41*	0.1030	*1.55*
No vocat. train.	***-0.0636***	*-2.46*	-0.1203	*-1.70*	**-0.1683**	*-6.02*	0.0846	*0.88*
Income p.c./10,000 DM	**0.2889**	*23.89*	**0.4903**	*7.55*	**0.2938**	*27.75*	**0.8435**	*13.73*
Income p.c./10,000 DM, sq.	**-0.0084**	*-15.65*	**-0.0518**	*-5.81*	**-0.0098**	*-15.14*	**-0.0735**	*-8.95*
Double income hh	**0.1113**	*3.00*	**0.2351**	*3.51*	0.0087	*0.38*	-0.0520	*-1.08*
Self-employed	***-0.1225***	*-2.27*	0.0283	*0.25*	**-0.4583**	*-12.88*	-0.1144	*-1.45*
Farmer	0.1422	*0.94*	-0.1817	*-0.28*	**-0.2642**	*-3.07*	-0.1592	*-0.35*
Civil servant	***0.1321***	*2.19*	0.0567	*0.27*	**-0.2801**	*-7.86*	0.0240	*0.17*
Unemployed	**-0.6651**	*-15.53*	0.0030	*0.04*	**-0.1790**	*-3.68*	0.1106	*1.65*
Retired	**-0.3764**	*-9.57*	***-0.1915***	*-2.24*	-0.0234	*-0.69*	***-0.1949***	*-2.37*
Not employed	**-0.4407**	*-10.66*	0.0011	*0.02*	-0.0428	*-1.00*	**-0.2151**	*-2.98*
Single	**-0.2727**	*-6.40*	***-0.1782***	*-2.30*	-0.0056	*-0.17*	**-0.2094**	*-2.86*
Widowed	**-0.1625**	*-3.89*	**-0.2700**	*-3.53*	**-0.1159**	*-3.12*	***-0.1844***	*-2.23*
Divorced	**-0.3905**	*-9.47*	**-0.3092**	*-4.18*	**-0.1660**	*-4.54*	**-0.2320**	*-3.25*
One child	**0.1155**	*4.78*	**0.1277**	*2.71*	-0.0250	*-1.14*	0.0473	*0.96*
Two children	-0.0525	*-0.96*	***-0.1912***	*-2.04*	-0.0531	*-1.53*	0.1039	*1.55*
Three+ children	**-0.4862**	*-5.51*	**-0.7307**	*-4.24*	**-0.1572**	*-2.74*	***-0.2577***	*-1.99*
Hh size	**0.3130**	*13.42*	**0.3436**	*7.90*	**0.1441**	*9.13*	**0.2305**	*6.66*
Constant	**1.7680**	*5.41*	**-1.8484**	*-3.04*	-0.0632	*-0.21*	-1.2710	*-1.85*
Pseudo R^2	21.34		19.71		10.84		11.47	

Numbers printed in bold-faced letters denote significance at 1% level.

Numbers printed in bold-faced letters and italics denote significance at 5% level.

Source: Income and Expenditure Survey (1993)

Table 12: Estimation results for cross-section two-step Heckit regressions of asset shares

	„Fairly Safe“ Assets				„Risky“ Assets			
	Western Germany		Eastern Germany		Western Germany		Eastern Germany	
	Coeff.	t-ratio	Coeff.	t-ratio			Coeff.	t-ratio
Age/10	**11.3138**	*12.05*	-2.7258	*-0.45*	**-8.4788**	*-3.61*	-2.9380	*-0.30*
Age/10 sq.	**-1.1959**	*-12.26*	0.3960	*0.58*	**0.8827**	*3.60*	0.3365	*0.29*
Net worth/100,000 DM	**1.3760**	*9.34*	**3.3591**	*4.24*	***0.2059***	*2.03*	-0.1949	*-0.37*
Net worth/100,000 DM, sq.	**-0.0699**	*-7.27*	**-0.3365**	*-3.56*				
Net worth/100,000 DM, cub.	**0.0008**	*6.22*	**0.0068**	*3.07*				
University degree	0.5329	*0.83*	0.0605	*0.07*	-2.2715	*-1.69*	0.4791	*0.15*
9yrs. Schooling	**2.7476**	*4.40*	-1.6080	*-1.30*	**-5.1376**	*-3.33*	-0.9280	*-0.22*
10yrs. Schooling	**2.1990**	*3.45*	-0.3786	*-0.25*	***-3.2937***	*-2.29*	-1.4153	*-0.32*
No vocat. train.	-0.8426	*-1.17*	4.2819	*1.03*	0.3731	*0.16*	-2.1001	*-0.15*
Income p.c./10,000 DM	-0.1024	*-0.75*	-1.1667	*-0.74*	***0.6169***	*2.19*	2.1715	*0.62*
Double income hh	***1.0265***	*2.47*	-0.2935	*-0.26*	***-1.9528***	*-2.07*	-0.5129	*-0.22*
Self-employed	**8.7031**	*12.33*	***4.8963***	*2.01*	-0.3781	*-0.21*	4.5008	*0.62*
Farmer	0.4008	*0.31*	10.7940	*1.42*	-1.5502	*-0.39*	-9.2384	*-0.42*
Civil servant	***0.9367***	*2.00*	-4.1143	*-1.86*	-1.9284	*-1.56*	0.3040	*0.07*
Unemployed	-0.2269	*-0.15*	2.6741	*1.62*	1.4764	*0.34*	1.8693	*0.36*
Retired	**-4.9280**	*-6.60*	-0.8919	*-0.44*	**5.4139**	*2.93*	4.3165	*0.58*
Not employed	-1.3796	*-1.08*	1.6482	*0.97*	***6.1580***	*2.10*	1.2557	*0.22*
Single	**-4.3492**	*-5.86*	-1.1115	*-0.44*	**4.9423**	*3.36*	2.3060	*0.53*
Widowed	**-3.3969**	*-3.72*	-0.0360	*-0.01*	3.6614	*1.67*	0.9265	*0.12*
Divorced	**-3.4135**	*-4.15*	-1.0201	*-0.34*	**5.7570**	*2.61*	1.4837	*0.29*
One child	0.2523	*0.51*	1.6038	*1.25*				
Two children	***1.5166***	*2.44*	4.0480	*1.83*				
Three+ children	**2.5334**	*2.59*	***10.9619***	*2.21*				
Hh size	0.1461	*0.46*	-2.9750	*-1.45*	-0.4001	*-0.83*	-1.0255	*-0.51*
Constant	**34.5642**	*13.68*	**63.8758**	*2.76*	**40.0172**	*6.05*	24.0287	*0.65*
?	**11.9331**	*4.74*	-22.9598	*-1.12*	1.7542	*0.63*	4.9467	*0.32*
r	0.4677		-0.7824		0.0839		0.2358	

Numbers printed in bold-faced letters denote significance at 1% level.

Numbers printed in bold-faced letters and italics denote significance at 5% level.

Source: Income and Expenditure Survey (1993)

Table 13: Portfolio choice in Eastern and Western Germany

	Ownership Rates		Conditional Asset Shares		Asset Shares	
Year: 1993	**West**	**East**	**West**	**East**	**West**	**East**
Financial assets						
Checking and savings accounts	99.3	99.8	22.2	42.8	22.1	42.8
Government bonds	11.2	7.7	21.6	31.2	4.7	4.7
Other bonds (including savings certificates)	32.9	22.0	29.1	31.9	15.7	11.3
Stocks	12.0	3.1	18.5	17.0	4.6	0.8
Mutual funds and managed investment accounts	12.2	14.1	19.7	25.0	4.6	6.1
Life insurance contracts[48]	61.6	59.1	41.3	11.7	31.4	7.6
Building society savings contracts	42.1	33.9	14.1	20.2	7.0	9.0
Other financial assets	19.9	26.4	26.8	41.5	9.8	17.8
Total financial assets	**99.5**	**99.8**	**27.2**	**34.9**	**27.2**	**35.0**
"Clearly safe" financial assets	**99.3**	**99.8**	**22.2**	**42.8**	**22.1**	**42.8**
"Fairly safe" financial assets	**82.7**	**80.4**	**68.5**	**53.4**	**65.8**	**48.2**
"Risky" financial assets	**26.2**	**19.8**	**26.2**	**27.3**	**12.1**	**9.1**
Non-financial assets						
Total real estate[49]	**51.1**	**27.4**	**79.8**	**84.9**	**74.2**	**67.2**
Total "risky" assets = "risky" financial assets	**26.2**	**19.8**	**26.2**	**27.3**	**12.1**	**9.1**
Debt						
Mortgage and real estate debt	27.2	10.3	96.1	95.8	90.7	78.1
Consumer credit	22.5	19.5	24.7	52.1	9.3	21.9
Consumer credit in % of total net wealth (used as a correction term)					1.4	2.1
Total debt	**42.9**	**27.1**	**27.3**	**23.2**	**14.7**	**9.8**

Source: Income and Expenditure Survey

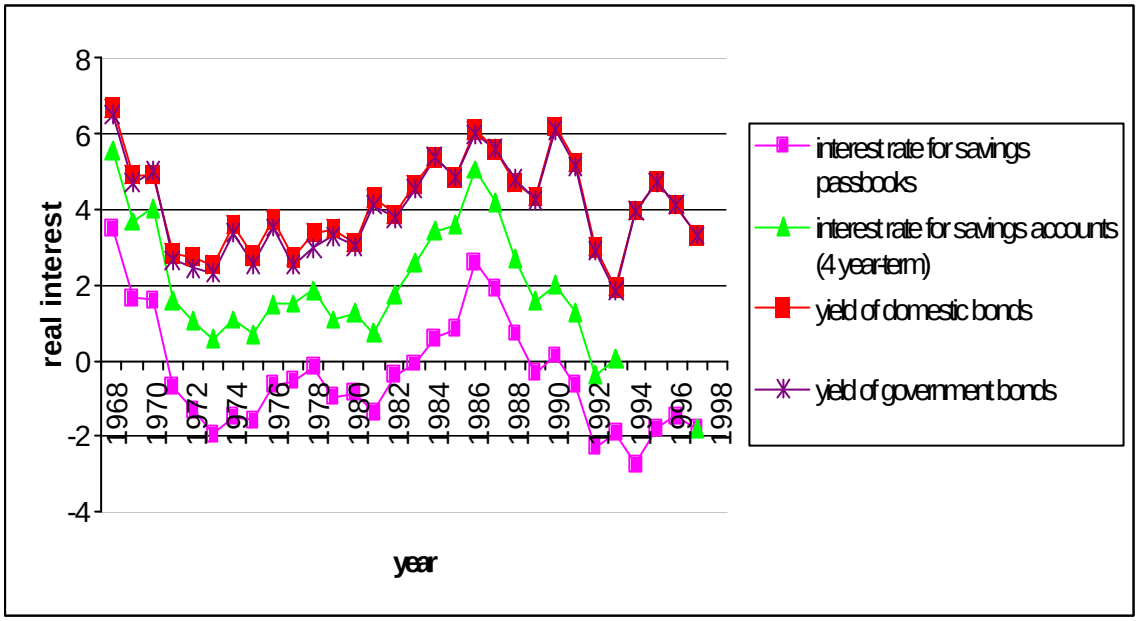
[48] Waves 1978 to 1988 of the Income and Expenditure Survey do not include the sales value of endowment life insurance contracts, yet only the insurance sum of life insurance contracts of any kind. The shares of life insurance contracts have been constructed on the basis of 1993 estimation results of regressing sales values of endowment life insurance contract on insurance sums at various ages and employment characteristics of the respondent.

[49] Waves 1979 to 1988 do not include indications as to the sales values of real estate. We have therefore predicted sales values of real estate on the basis of 1993 estimation results of a hedonic regression of sales values on unit values at various years of purchase and a number of housing characteristics.

Figures:

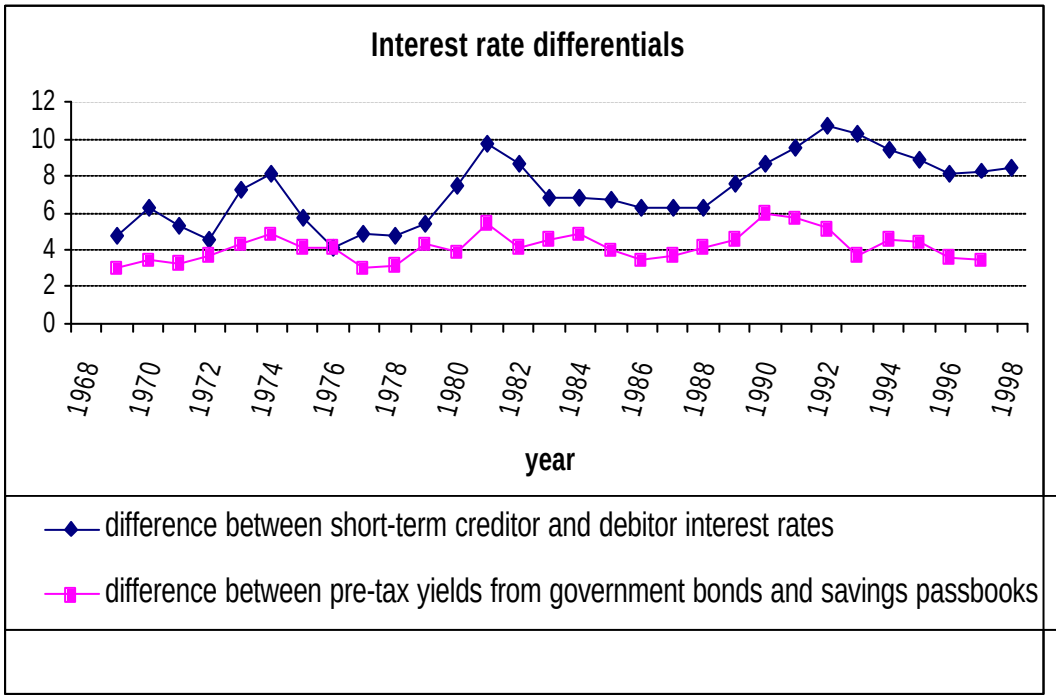
Figure 1: Pre-tax asset yields

a) Real-valued bond yields and interest rates



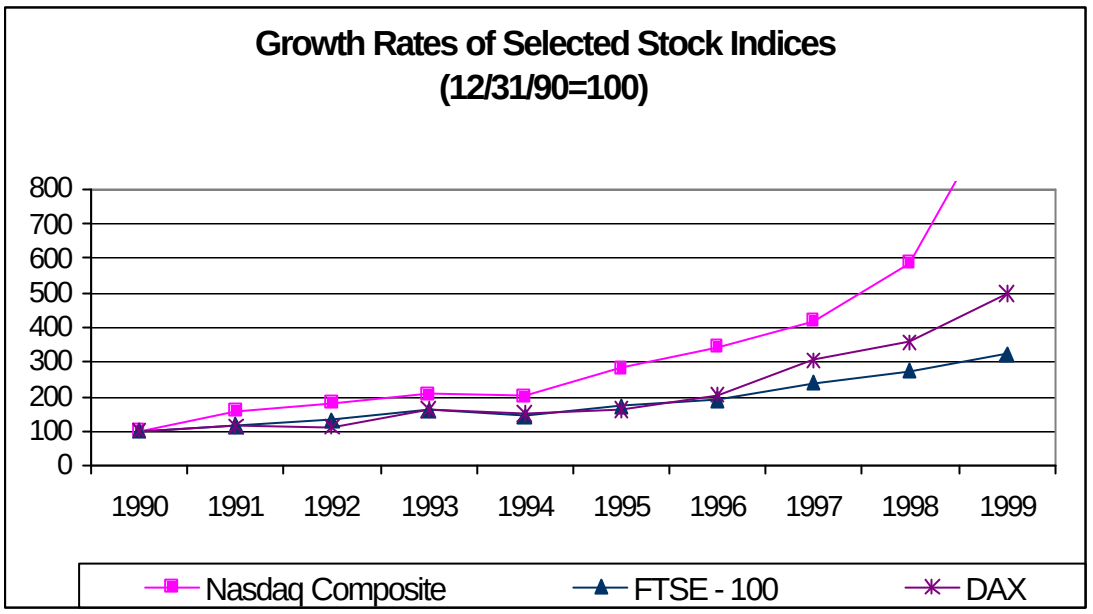
Source: Deutsche Bundesbank. Monthly Reports. Various Issues.

b) Interest differentials



Source: Deutsche Bundesbank, Monthly Reports. Various Issues.

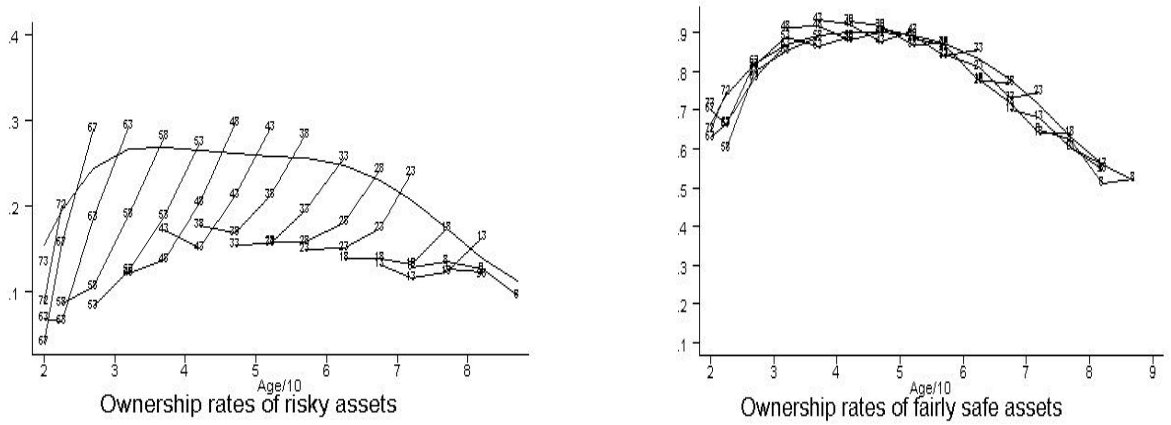
Figure 2: Growth rates of selected stock indices



Source: Deutsche Börse (1999)

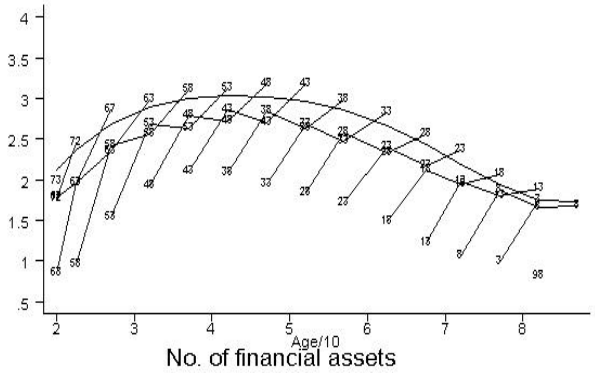
Figure 3: Ownership rates of financial assets by age and cohort

a) "Risky" assets **b) "Fairly safe" assets**



Source: Income and Expenditure Survey 1978, 1983, 1988, and 1993 (Western German households)

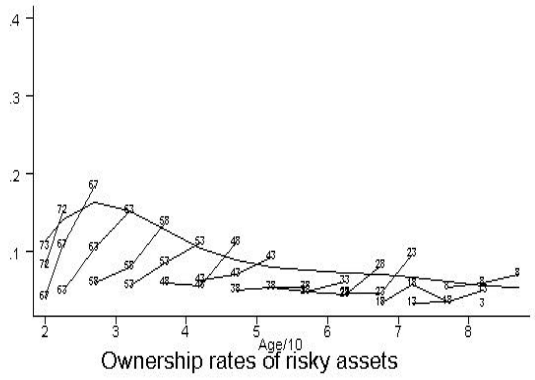
c) Number of financial assets



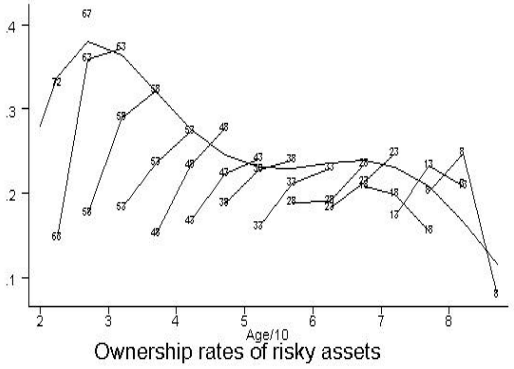
Source: Income and Expenditure Survey 1978, 1983, 1988, and 1993 (Western German households)

Figure 4: Ownership rates of "risky" assets by net wealth quartiles

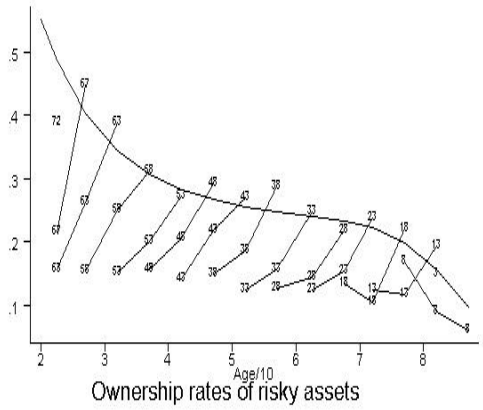
a) First quartile



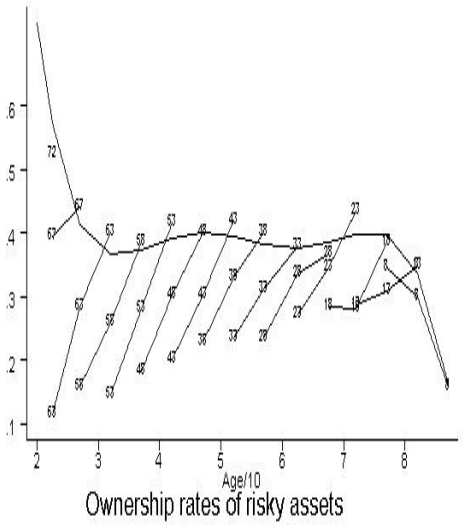
b) Second quartile



c) Third quartile



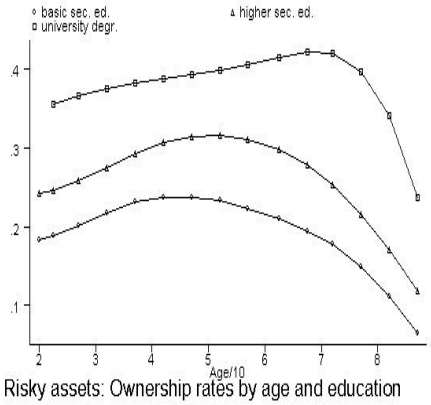
d) Fourth quartile

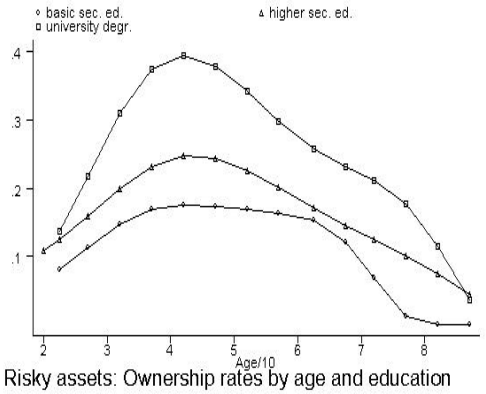


Source: Income and Expenditure Survey 1983, 1988, and 1993 (Western German households).

Figure 5: Ownership rates of "risky" assets by age, education, and region

a) Western German households **b) East German households**

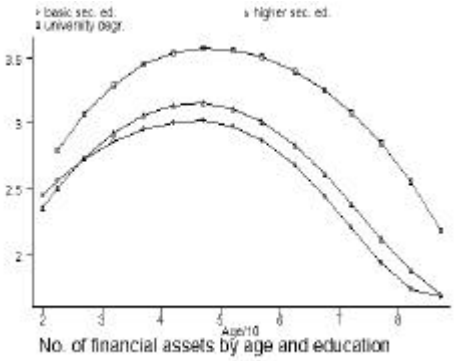


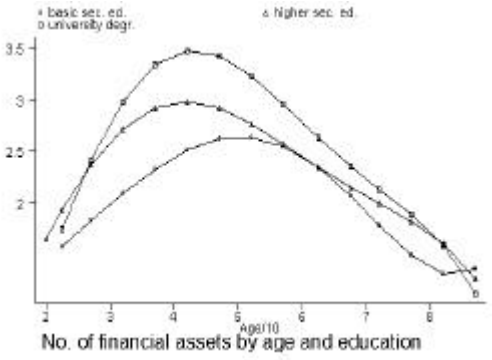


Source: Income and Expenditure Survey 1993

Figure 6: Number of financial assets by age, education, and region

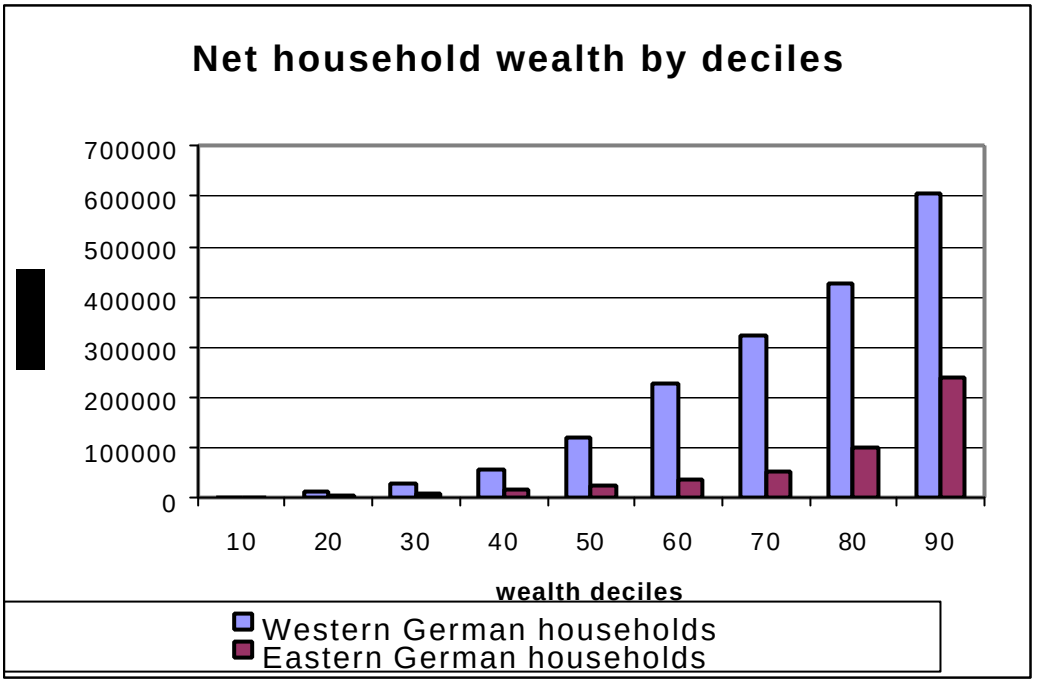
a) Western German households **b) Eastern German households**





Source: Income and Expenditure Survey 1993

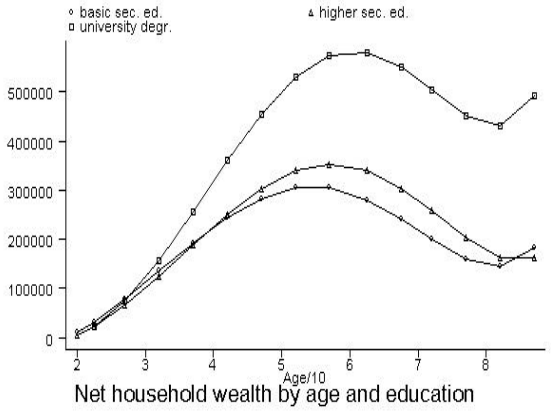
Figure 7: Regional distribution of household wealth



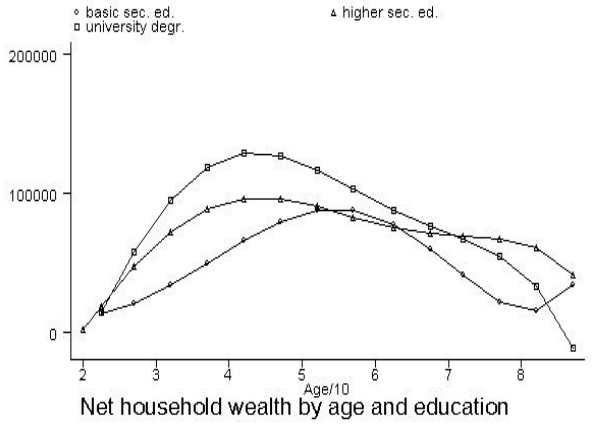
Source: Income and Expenditure Survey 1993

Figure 8: Net household wealth levels by age, education, and region

a) West German households



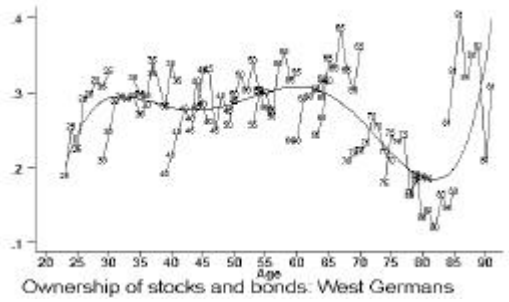
b) East German households

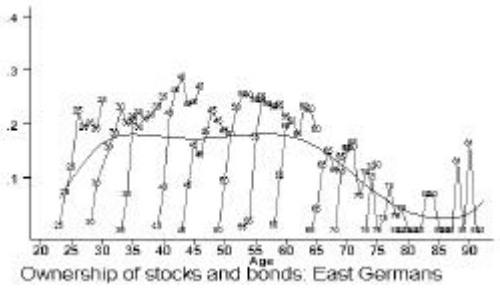


Source: Income and Expenditure Survey 1993

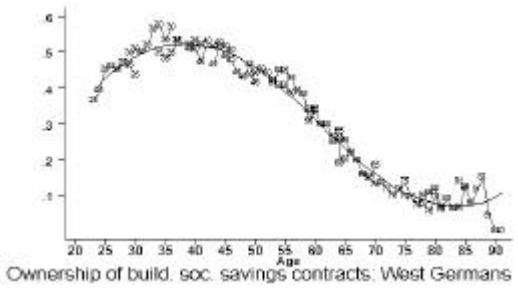
Figure 9: Age-cohort profiles of ownership rates by region

a) Stocks, bonds, mutual funds, savings contracts and other financial assets

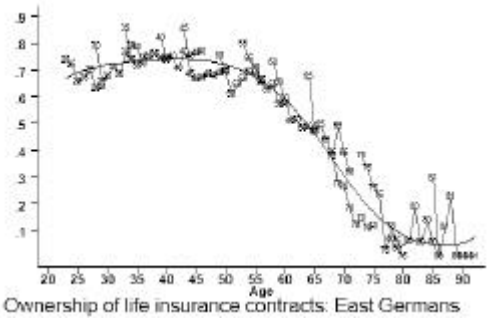




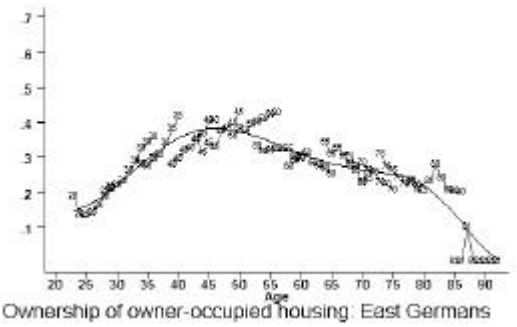
b) Building society savings contracts



c) Life insurance contracts (including whole-life insurance contracts)



d) Owner-occupied housing



Source: GSOEP

Appendix 1: Description of Data Sets

1) Financial accounts:

Data Source: Deutsche Bundesbank (1994b, 1999a)

Coverage: West Germany: 1975 – 1992

(Unified) Germany: 1990 – 1998

Definition of households: Households and non-profit organizations. Savings and deposit accounts of self employed persons are not included.

Measurement concept for current market value of asset holdings: Estimated sales values for foreign and domestic stocks and bonds.

2) Deutsche Bundesbank (asset holdings of households):

Data Source: Deutsche Bundesbank (1999b)

Coverage: (Unified) Germany: 1990 – 1997

Definition of households: Households only

Measurement concept for current market value of asset holdings:

Estimates for financial assets correspond to Financial Accounts figures, but exclude asset holdings of non-profit organizations.

Estimated replacement values are used to assess the worth of households' housing property, other real estate is excluded.

3) Income and Expenditure Survey (EVS)

Data Source: Statistisches Bundesamt

Wave 1978*:* 46,123 West German households

= 98% subsample, excluding households with more than six household members, foreign households, and households with total net monthly income of 20,000 DM(1978) or more

Measurement concept of current sales value of asset holdings: No quantitative information on asset holdings (or total household wealth) available.

Information on education and financial knowledge: Not available

Information on age: Birth cohorts only (youngest cohort: -21 years, oldest cohort: 80+ years).

Wave 1983*:* 43,050 West German households

= 98% subsample, excluding households with more than six household members, foreign households, and households with total net monthly income of 25,000 DM(1983) or more

Measurement concept of current sales value of asset holdings: Self-assessed sales values of assets (life insurance sum rather than sales value, unit values of business property and real estate), upper limit of bracket substitutes true value for those who indicated asset brackets only.

Information on education and financial knowledge: Not available

Information on age: Birth cohorts only (youngest cohort: -21 years, oldest cohort: 80+years).

Wave 1988: 43,756 West German households

= 98% subsample, excluding households with more than six household members, foreign households, and households with total net monthly income of 25,000 DM(1988) or more

Measurement concept of current sales value of asset holdings: Self-assessed sales values of assets (life insurance sum rather than sales value, unit value of real estate), upper limit of bracket substitutes true value for those who indicated asset brackets only.

Information on education and financial knowledge: Not available

Information on age: Birth cohorts only (youngest cohort: -21 years, oldest cohort: 80+years).

Wave 1993: 31,774 West German households and 8456 East German households

= 80% subsample, excluding households with total net monthly income of 35,000DM(1993) or more

Measurement concept of current sales value of asset holdings: Self-assessed sales values of assets (including real estate and endowment life insurance), upper limit of bracket substitutes true value for those who indicated asset brackets only.

Information on education and financial knowledge: Education levels only.

Information on age: Age in years (youngest cohort: 18-20 years, oldest cohort: 85+ years).

Redemption values of life insurance contracts for those who held life insurance contracts in 1983 and 1988 have been predicted on the basis of the following regression results for 1993:

Redemption value of life insurance (1983) = 0.7877*
(2466.666 - 0.0537817*(insured value, age <20) + 0.0066002*(insured value, age 20-24)
+ 0.0351404*(insured value, age 25-29) + 0.0737502*(insured value, age 30-34)
+ 0.1732135*(insured value, age 35-39) + 0.2879061*(insured value, age 40-44)
+ 0.5084468*(insured value, age 45-49) + 0.6664004*(insured value, age 50-54)
+ 1.138095*(insured value, age 55-59) + 1.576959*(insured value, age 60-64)
+ 0.8153664*(insured value, age 65-69) + 1.192758*(insured value, age 70-74)
+ 0.7720019*(insured value, age 75-79) + 0.8917311*(insured value, age 80+)
+ 1197.891*(age <46) - 43.03905*(age 46–60) - 908.8766*(age 61-66) + 222.5126*(age 67+)
+ 3503.152*married - 1758.921*divorced - 636.3219*widow + 7673.745*farmer + 12649.62*self-employed - 5550.007*unemployed - 5304.181*retired + 1124.754*(not employed))

Redemption value of life insurance (1988) = 0.8346*
(1765.123-0.0340365*(insured value, age <20) + 0.007254 *(insured value, age 20-24)
+ 0.0357933*(insured value, age 25-29) + 0.0744135*(insured value, age 30-34)
+ 0.1732884*(insured value, age 35-39) +0.287628*(insured value, age 40-44)
+ 0.5080929*(insured value, age 45-49) +0.6663207*(insured value, age 50-54)
+ 1.138085*(insured value, age 55-59) + 1.577033*(insured value, age 60-64)
+ 0.814815*(insured value, age 65-69) + 1.192494 *(insured value, age 70-74)
+ 0.7741768*(insured value, age 75-79) + 0.8921597*(insured value, age 80+)
+ 1183.27*(age <46) - 48.24568*(age 46–60) - 924.6079*(age 61-66) +206.9665*(age 67+)
+ 3509.996*married - 1624.547*divorced - 576.813*widow + 8406.004*farmer
+ 11339.32*self-employed - 4833.252*unemployed - 7123.397*retired - 456.9926*(not employed)
+ 2340.92*(voluntary member of social security system) + 2595.183*(no member of soc. sec. system)

Sales values of real estate for owners of real estate in 1983 and 1988 have been predicted on the basis of the following regression results for 1993:

Predicted sales value of real estate (1983) = 0.7877*
(35664.27 + 5.250076*(unit value of buildings constructed before 1919)
+ 6.017918*(unit value of buildings constructed 1919-1948)
+ 5.142884*(unit value of buildings constructed 1949-1960)
+ 4.83177*(unit value of buildings constructed 1961-1970)
+ 4.795803*(unit value of buildings constructed 1971-1983)
+ 18280.62*(city<5,000 inhabitants) + 30948.66*(city:5,000-<20,000 inh.) + 22810.93*(city:100,000+inh.)
+ 38271.07*(distance to city:-10kms) - 10074.03*(distance to city 60+kms)
- 69452.11*(housing with 1 unit) - 28171.95*(housing with 2 units) - 47098.25*(housing with 3+units)
+ 46116.4*bathroom + 5008.877*toilet - 11198.67*stove - 7733.593*(no warm water) + 1317.898*(size in m²))

Predicted sales value of real estate (1988) = 0.8346*
(224566.5 + 5.685745*(unit value of buildings constructed before 1919)
+ 6.307097*(unit value of buildings constructed 1919-1948)
+ 5.291876*(unit value of buildings constructed 1949-1960)
+ 5.109653*(unit value of buildings constructed 1961-1970)
+ 5.202144*(unit value of buildings constructed 1971-1977)
+ 5.294073**(unit value of buildings constructed 1978-1988)
- 36593.6*(housing with 1 unit) - 13643.33*(housing with 2 units) - 62978.61**(housing with 3+units))

4) Spiegel-Verlag Survey "Soll und Haben"

Data Source: Spiegel-Verlag (1980, 1985, 1989, 1996)

Wave 1980: 3,905 West Germans aged 14+ years

Wave 1985: 4,957 West Germans aged 14+ years

Wave 1989: 5,066 West Germans aged 14+ years

Wave 1995: 6,403 West Germans and 2287 East Germans aged 14+ years

Measurement concept of current market value of asset holdings: No quantitative information on asset holdings (or total household wealth) available.

Information on education and financial knowledge: Education levels and self-assessed measures of information status

Information on age: Age in years.

5) GSOEP: waves 1989-1997

Data Source: SOEP-Gruppe, Deutsches Institut für Wirtschaftsforschung, Berlin

Balanced panels of 3223 West German and 1415 East German households who regularly indicated their asset holdings during the period 1989-1997.

Measurement concept of current sales value of asset holdings: No quantitative information on asset holdings (or total household wealth) available, definitions of assets refer to very high aggregation levels and neglect savings contracts, savings accounts, etc.

Information on education and financial knowledge: Education levels only.

Information on age: Age in years.

Table A1: Definition of assets and availability of quantitative information

	Financial accounts	Deutsche Bundesbank '99	EVS 1983-1993
TA accounts, savings accounts	Yes	Including savings certificates	TA accounts: 1993 sav. acc.: Yes
Savings certificates	Yes – added to total bonds in Table 1	Asset shares of savings certificates as indicated in the financial accounts have been subtracted from TA/ savings accounts and added to total bonds in Table 2	
Government bonds	Included in total bonds	Included in total bonds	Yes
Other bonds	Included in total bonds (including savings certificates)	Included in total bonds Savings certificates as indicated in financial accounts have been added in Table 2	Yes
Life insurance contracts	Included in insurance and pension wealth	Included in insurance and pension wealth	1983-1988: Estimated sales value 1993: Yes
Pension wealth	Included in insurance and pension wealth	Included in insurance and pension wealth	Not available
Building society saving contracts	Yes	Yes	Yes
Stocks	Yes	Yes	Yes
Mutual funds	1960-1992: added to either stocks or bonds 1990 – 1998: Yes	Yes	Yes
Other financial assets	Yes	Yes	Yes
Owner-occupied housing	Not available	Included in total real estate	Total real estate: 1993 Estimated total real estate: 1983-1988
Other real estate	Not available	Rented and other housing included in total real estate	Total real estate: 1993 Estimated total real estate: 1983-1988
Business wealth	Not available	Not available	1983: Unit values
Other non-financial wealth	Not available	Yes	Not available
Mortgage credit	Long-term bank loans	Yes	Yes
Consumer credit	Short-term bank loans	Yes	Yes
Other debt	Other loans	Not available	Not available

Table A2: Definition of assets and availability of qualitative information

	EVS 1979-1993	Spiegel-Verlag	GSOEP
TA accounts, saving accounts	TA accounts: 1993 sav. acc.: Yes	TA accounts: 1995 sav. acc.: Yes	Savings passbooks
Savings certificates	Yes	Yes	Included in "risky assets"
Government bonds	Yes	Yes	Included in "risky assets"
Other bonds	Yes	Yes	Included in "risky assets"
Life insurance contracts	1993: endowment life insurance contracts 1978-1988: any life insurance contract	Endowment life insurance contracts	Any life insurance contracts
Pension wealth	Not available	Not available	Not available
Building society saving contracts	Yes	Yes	Yes (also debt phase indicated as yes)
Stocks	Yes	Yes	Included among "risky assets"
Mutual funds	Yes	Yes	Included among "risky assets"
Other financial assets	Yes	Yes	Included among "risky assets"
Owner-occupied housing	Yes	Yes	Yes
Other real estate	Yes	Yes	Not available
Business wealth	Only in 1983	Not available	Yes
Other non-financial wealth	Not available	Not available	Not available
Mortgage loans	Yes	Yes	Not available
Consumer credit	Yes	Yes	Not available
Other debt	Not available	Not available	Not available

Table A3: Portfolio diversification according to three surveys

Savings accounts/ passbooks	**Life insurance or building society savings contracts**	**Stocks, bonds, and "other" financial assets**	**Income and Expenditure Survey 1993**	**GSOEP 1993**	**GSOEP 1995**	**Spiegel-Verlag 1995** (unweighted)
No	**No**	**No**	3.7	11.9	14.4	4.6
No	**No**	**Yes**	0.7	1.1	0.7	0.8
No	**Yes**	**No**	4.4	7.1	6.9	6.4
No	**Yes**	**Yes**	1.8	1.5	1.1	3.0
Yes	**No**	**No**	14.5	22.7	21.2	14.5
Yes	**No**	**Yes**	9.3	5.8	5.9	4.2
Yes	**Yes**	**No**	33.3	33.6	34.6	41.6
Yes	**Yes**	**Yes**	32.4	16.5	15.1	25.0

Appendix 2: Computation of Asset Shares and Ownership Rates

Macro data:

$$\textit{Average share of asset i of type j} = \frac{\text{Sum of sales values of asset i for all households}}{\text{Sum of sales values of all assets of type j for all hh's}}$$

Survey data:

$$\textit{Average share of asset i of type j} = \frac{\text{Weighted average of sales values of asset i}}{\text{Weighted average sales value of all asset of type j}}$$

$$\textit{Ownership rate of asset i} = \text{Percentage of households owning asset i}$$

Average share of asset i conditional upon ownership of asset i

$$= \frac{\text{Weighted average of sales values of asset i for all households owning asset i}}{\text{Weighted average sales value of all assets of type j for all households owning asset i}}$$

Examples:

$$\text{Average share of stocks} = \frac{\text{Weighted average sales value of stocks}}{\text{Weighted average sales value of financial assets}}$$

$$\text{Average share of risky assets} = \frac{\text{Weighted average sales value of risky assets}}{\text{Weighted average sales value of financial assets}}$$

$$\text{Average share of financial assets} = \frac{\text{Weighted average sales value of financial assets}}{\text{Weighted average sales value of total net wealth}}$$

Note: The stock of households' non-financial assets other than real estate is not indicated in the Income and Expenditure Survey[50]. It is therefore not possible to compute the net sales value of non-financial assets other than real estate for this data set. We list the share of the average value of consumer credits as compared to average total net wealth as a correction term in Table 3.

[50] The unit value of business property is indicated in wave 1983.

Appendix 3: A Survey of Recent Institutional Changes

1) Market deregulation

1981 Capital export controls abandoned.

1984 Coupon tax discriminating foreign from domestic owners of bonds abolished.

1985 German based foreign banks are granted the right to act as leaders of syndicates issuing DM-valued bonds. Bundesbank accepts DM-valued bonds with non-standard characteristics.

Introduction of new accounting regulations ("*Bilanzrichtliniengesetz*") reduces discrimination of corporations as compared to large limited liabilities companies.

1986 Foreign banks based in Germany are granted access to the syndicate offering government bonds. Bundesbank accepts DM-valued certificates of deposit (subject to minimum reserve premium).

EC directives on access of international investors to stock markets transformed into German law.

List of eligible assets for insurance companies and mutual funds expanded, mutual funds permitted to invest up to a fixed percentage in companies which are not listed.

1987 Introduction of "*Geregelter Markt*" reduces barriers to entry for smaller corporations.

1989 Deutsche Bundesbank accepts the introduction of commercial papers and facilitates the issuance of foreign DM-valued bonds.

Stock exchange regulations modernized (surveillance of independent brokers introduced, electronic trading and trading of stocks and bonds valuating in foreign currencies permitted, EC directive on mutual acceptance of listing application prospectus transformed into German law).

1990 "*Finanzmarktförderungsgesetz*" (first step of stock market deregulation): Stock exchange value taxes ("*Börsenumsatzsteuer"*) as well as taxes on newly issued bonds ("*Gesellschaftsteuer*") abolished in 1991 and 1992. EC directive on mutual funds (1985) transformed into German law: Accessibility of "special funds" largely expanded. 49% of capital of bond-based mutual funds may be invested in money market papers. Option and futures trading permitted to mutual funds.

List of assets eligible for investments by insurance companies widened.

Deutsche Terminbörse (DTB) introduced.

1991 Integrated stock exchange trading and information system introduced (IBIS).

Bundesbank permission for the issuance of DM-valued foreign bonds no longer necessary.

Bundesbank introduces new government bonds and deregulates access to syndicate.

1992 EC directives on banking regulations transformed into German law in order to adjust to the common banking market in 1993.

Foreign banks are granted the right to act as leaders of syndicates issuing DM-valued bonds. Bundesbank accepts short-term DM-valued bonds.

1994 Revision of corporate law reducing disadvantages of small corporations as compared to companies with limited liabilities.

"*2. Finanzmarktförderungsgesetz*": EU directives on insider trading and stock market surveillance transformed into German law. Stock exchange law modernized. Minimal nominal value of stocks reduced to 5 DM. DM-valued money market funds permitted. Access to futures trading expanded for institutional investors.

Insurance companies are obliged to invest no more than 30% in EU (rather than exclusively German) stocks. 80% of their assets must still be invested in the same currency as their liabilities.

1995 IBIS split into IBIS (stocks) and IBIS-R (bonds).

Deutsche Bundesbank modernizes system of issuing medium-term government bonds.

1996 Initial public offering of Deutsche Telekom stocks

Deutsche Bundesbank introduces short-term and long-term government bonds.

1997 Double taxation of dividends by corporate and personal wealth tax abolished.

EU directives on banking/stock market surveillance and accounting rules transformed into German law. Favorable treatment of banks as compared to mutual funds abandoned.

Electronic stock market trading (XETRA) introduced.

1998 "*3. Finanzmarktförderungsgesetz*": Stock exchange law modernized (focusing on international investors), stock market surveillance expanded, EU directive on liabilities of financial advisers transformed into German law, various regulations concerning institutional investors revised or abolished, new types of mutual funds (focusing on private pensions) permitted.

Adjustments of German law to European Monetary Union.

1999 Capital gains from corporate holdings of stocks tax-exempt.

2) Taxes and subsidies

1948 Tax exemptions for life insurance contracts, investments to building society savings contracts, stocks, and savings contracts.

1952 Introduction of subsidies ("*Wohnungsbauprämie*") for investments in building society savings contracts.

1959 Tax exemptions for savings replaced by capped subsidies ("*Sparpräme*").

1961 *"1. Gesetz zur Vermögensbildung der Arbeitnehmer":* Introduction of savings subsidies for employees when investing in employee stocks, construction or acquisition of building projects or debt reduction of real loans on building projects as well as savings bound to a specific purpose (annual investments, "*vermögenswirksame Leistungen*", limited to 312 DM per employee)

1965 *"2. Gesetz zur Vermögensbildung der Arbeitnehmer":* Tax exemptions for investments in subsidized savings program. Access to "*vermögenswirksame Leistungen*" widened to public sector employees. Tax exemptions for small and medium-sized employers participating in the savings subsidies program.

1969 Increased subsidies for small- and medium-earner households and households with 3+ children.

1970 "3. *Gesetz zur Vermögensbildung der Arbeitnehmer":* Annual investment limit raised from 312 to 624 DM per employee. Upper income limit raised to 24,000 DM (48,000 DM for married couples). Tax exemptions replaced by subsidies ("*Arbeitnehmer-Sparzulage*"). Tax-favored treatment of small and medium-sized enterprises. Investments in life insurance contracts eligible as "*vermögenswirksame Leistungen*".

1975 *"Haushaltstrukturgesetz":* Subsidies generally reduced, rate of reduction varies by number of underage children.

1980 Subsidies for (new) long-term savings contracts ("*Sparprämie*") abolished.

1981 *"2. Haushaltstrukturgesetz":* Subsidies further reduced. Rate of reduction disfavors life insurance contracts and savings/ deposit accounts, favors households with children. Tax exemptions and savings subsidies ("*Arbeitnehmer-Sparzulage*") are mutually exclusive. Less favorable corporate income tax treatment of pension reserves.

1982 Reduction of savings subsidies for investments in building society savings contracts ("*Wohnungsbauprämie*" and "*Arbeitnehmer-Sparzulage*"). The two types of subsidies can no longer be accumulated.

1983 Tax exemptions of insurance premia essentially restricted to self-employed persons and civil servants.

1984 "*Vermögensbeteiligungsgesetz*": Loans to employers and capital participation enter list of eligible assets for "*vermögenswirksame Leistungen*". Upper limit raised to 936 DM for these assets.

1986 "*2. Vermögensbeteiligungsgesetz*": Eligible types of shares in business property expanded to indirect capital participation.

"Wohneigentumsförderungsgesetz": Tax exemptions for owner-occupied housing expanded, favoring households with children.

1989 January to June: Source tax on interest income ("Kleine Kapitalertragsteuer").

1990 Investments in life insurance contracts and savings contracts no longer eligible as "*vermögenswirksame Leistungen*". Reduction of subsidies and tax exemptions for investments in building society savings contracts. Upper limit for "vermögenswirksame Leistungen" raised to 936 DM. Upper income limit for "*Bausparprämie*" and "*Arbeitnehmer-Sparzulage*" raised to 27,000 DM (54,000 DM for married couples).

1991 "*Fördergebietsgesetz*": Tax-favored treatment of housing in East Germany.

Subsidies of investments in building society savings contracts ("*Wohnungsbauprämie*") raised for East Germans. East Germans are exempt from paying wealth tax until 1995.

Mortgage interest payments tax-deductible for a restricted period of 3 years for East and West Germans.

Supreme Court ("*Bundesverfassungsgericht*") demands equal treatment of income from all sources.

1993 Introduction of source tax on interest income (6,000 DM (12,000 DM for couples) tax-exempt).

Introduction of source tax on interest income from foreign mutual funds transferred to Germany.

1994 Reductions of tax exemptions and savings subsidies ("*Arbeitnehmersparzulage*").

1995 Wealth tax raised for assets other than mutual fund from 0.5% to 1%.

1996 Tax exemptions of housing investments are replaced by lump-sum transfer to small- and medium income households and households with children. Subsidized mortgage loans offered to young families.

German Supreme Court ("*Bundesverfassungsgericht*") demands equal treatment of housing and other assets by wealth and bequest/gift tax by 1997.

Upper income limit for "*Bausparprämie*" raised to 50,000 (100,000 for married couples) DM. Transfer of 10% of the investment. Maximal subsidized investments raised to 1,000 (2,000) DM. Minimal age of investor lowered to 16 years.

1997 Wealth tax abolished.

1999 Income limits for "*Arbeitnehmersparzulage*" raised to 35,000/70,000 DM for couples. Subsidies of up to 160 DM per year to investments in stocks or mutual funds (up to 200 DM in East Germany). In addition to these 800 DM of investments in stocks or mutual funds which are eligible to "*Arbeitnehmersparzulage*", 936 DM of investments in building society savings contracts can be subsidized. Different types of subsidies can be cumulated. Less favorable income tax treatment of life insurance contracts announced for 2000 - plans were abandoned in December.

"Speculative period" for capital gains from real estate and stocks and bonds doubled (10 years and 1 year respectively)

2000 Thresholds of interest income exempt from source tax is reduced by 50%.

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99-01	Office SFB504	Jahresbericht 1998

Nr.	Author	Title
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Nr.	Author	Title
98-01	Office SFB504	Sonderforschungsbereich 504 Jahresbericht 1998
97-44	Raimond Maurer Michael Adam	Analytische Evaluation des Risiko-Chance-Profils kombinierter Aktien- und Optionsstrategien
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Nr.	Author	Title
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Nr.	Author	Title
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