ECONOMIC RESEARCH & CORPORATE DEVELOPMENT

Working Paper 139

May 21, 2010

} MACROECONOMICS } FINANCIAL MARKETS } ECONOMIC POLICY } SECTORS

Dr. Nicolas Sauter

Equity culture – a delicate fledgling

Allianz

AUTHOR:

Dr. Nicolas Sauter
Tel.: +49.89.38 00-2404

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EXECUTIVE SUMMARY

- In many industrialized nations, the proportion of shares and investment funds lurking in the financial portfolios of private investors has been on a downward slide over the past decade, a trend that is rooted primarily in a declining participation rate, i.e. a drop in the number of households that hold shares or investment funds.

- The fact that investors appear less keen to invest in shares points towards an increase in risk aversion. It is significantly unlikely, for example, that the inexperienced investors who invested in shares for the first time during the stock market boom of 1999/2000 will have continued to invest in shares following the bursting of the dotcom bubble.

- The increase in risk aversion is not evenly distributed among the different age groups. The decline in share or investment fund ownership is particularly pronounced among young households whose members are under the age of 40.

- The current financial crisis is expected to reinforce and intensify the desire for more security among young savers, which could mean that today's 35 year-olds will develop a preference for low-risk forms of investment in the long run.

- The heightened desire for security will present new challenges as regards the way in which investment products are structured. If the trend towards more security proves to be an enduring one, there is likely to be more demand, among young clients in particular, for products featuring capital protection mechanisms and guaranteed minimum returns over the next few years.

- In the medium term, this increased focus on security could have a negative impact on the future growth of private household assets and on equity culture in continental Europe. Given that less risky investments offer lower returns, the question arises as to whether the growth in the capital accumulated by young households will be sufficient to see them through old age.

The declining appeal of equities and investment funds since 2000

The allure of equities and investment funds among private investors in industrialized nations has been waning ever since the stock market crash of 2000. Whereas these forms of investment still accounted for 28.3% of the financial assets of Germany's private households in 2000, this figure had dropped to 19.7% by 2009. The main winners in this trend are bank deposits and insurance entitlements, which now account for 38.3% as opposed to 35.1%, and 33.5% as opposed to 28.8%, of total assets respectively. If this development results in a long-term increase in the share of private household assets that are invested in low-risk investment forms, private household asset growth is likely to be lower in the future, because the returns offered on these investment forms tend to be lower than those offered by equities.

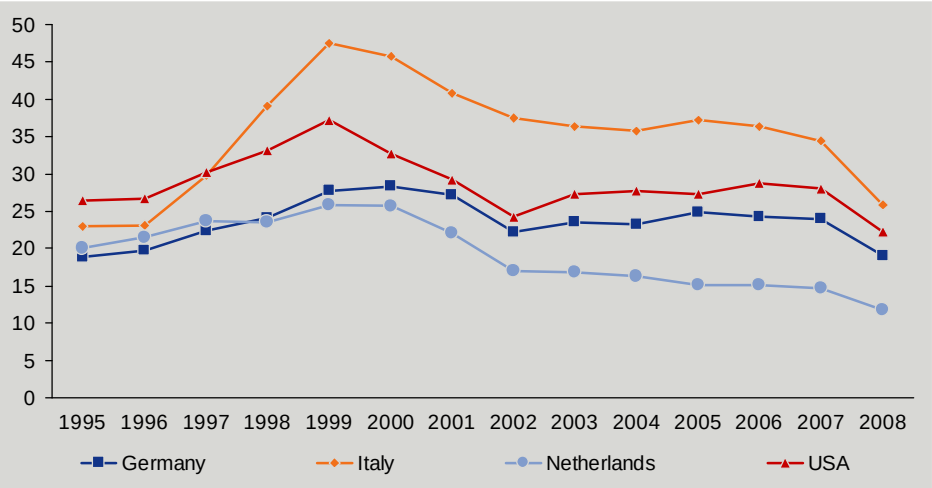
If interest in equities remains subdued, this could also have a long-term impact on the equity culture in continental Europe, which is underdeveloped to begin with. This is why it is important to gain a better understanding of the possible reasons behind this trend. This analysis will concentrate on the following questions:

- Has the decline been triggered by a decline in the level of risk exposure in shareholders' asset portfolios, or is the number of shareholders and investment fundholders on the wane?
- Did the disappointment provoked by the losses incurred after the dotcom bubble burst in 2000-2002 scare off inexperienced investors?
- Which age groups have been affected most by this trend? What impact could this have on funded old-age provisions?

Below, we will take Germany, Italy, the Netherlands and US as examples to analyze the trends that are representative of the development in equity culture on the key markets of continental Europe and the Americas. Extensive data is also available on household assets in all four countries at both micro and macro level, meaning that we can perform a precise analysis of the causes behind the trend.

Household ownership of equities and investment funds

Share of total household assets



Sources: Eurostat; US Federal Reserve; own calculations.

Driven by booming stock markets, shares became increasingly popular as an investment and financing instrument in all of the four countries featured in our analysis between 1995 and 2000. The prolonged slump that followed the *dotcom* bubble burst, however, sent share prices plummeting across the globe, and the proportion of assets invested in equities took a tumble at the same time. In Germany, the proportion of assets held in equities dropped from 28.3% to 22.3%. US households were hit particularly hard in the short term, with the proportion of shareholdings sliding from 32.7% to 24.3%, although shares made something of a recovery in the years that followed. The country that was dealt the heftiest blow in the medium term was the Netherlands, where the proportion of shareholdings in 2008 was even lower than it had been in 1995. The marked recovery in share prices between 2003 and 2007 did not, however, herald a renewed increase in the share of household assets invested in shares and investment funds. In Italy and the Netherlands in particular, the proportion of shareholdings continued to head south. The leap in the proportion of Italian household assets invested in shares from 1996 onwards was triggered primarily by the privatization of state companies and savings banks, which collectively accounted for 9% of the country's GDP (Guiso et al., 2003). The introduction of a contribution-based pension system in 1995, which calculates an individual's pension

not only on the basis of the last 10 years of his working life, but on the insurance contributions he has made throughout his entire working life, also spurred an increased need for private pension provision among Italians.

What is the reason behind the decline in the proportion of household assets that is invested in shares?

These developments suggest that either (i) many investors see a renewed share price climb as an opportunity to sell their shares, reducing the proportion of shareholdings in the household assets of equity investors, or (ii) participation rates have fallen, meaning that fewer households are investing their savings in shares and investment funds. In the first scenario, shareholders shift their asset structure towards less risky forms of investment, for example if the outlook for future upside potential is looking less rosy. It can be assumed, for example, that many households decided to take another look at the risk/return characteristics of equities in the wake of the 2000 stock market crash.

A drop in the participation rate, on the other hand, suggests that risk perception has increased considerably, prompting many households to give equity investments a complete body swerve. Increased risk aversion can also push optimum investment amounts below a minimum level, producing a situation in which the transaction and opportunity costs associated with shares mean that this form of investment is no longer worth the trouble for many households.

If we use microdata to decompose the individual effects, we can identify the main drivers behind the decline in the proportion of shares held in household assets. A comparison of the microdata for Italy and the Netherlands shows that the proportion of household assets invested in shares and investment funds fell substantially in both countries between 2002 and 2007/2008[1].The average proportion of shares in Italian household assets, for example, fell by 33.8%, although shareholders increased the proportion of securities in their asset portfolios by 8.1% during the same period as the stock markets started to recover. This can be explained by a significant decline in the participation rate from 12.2% to 8.1% of households, a difference of 33.3%. As in Italy, the trend in the Netherlands also suggests that the average drop in the proportion of equities held in household assets between 2002 and 2008 is primarily attributable to lower participation rates. Accordingly, any attempt to explain why high-risk investments have been losing their allure ought to pay particular attention to participation decisions.

[1] Household survey data show that equities and investment funds account for only an insignificant proportion of Italians' financial assets. This contradicts the macrodata, which indicate that Italians actually hold a larger proportion of their assets in equities than US households do. This could be explained by substantial "underreporting" on the part of the survey participants. Although this sort of "underreporting bias" is a common problem in household surveys, it does not necessarily pose an obstacle as far as interpreting qualitative changes is concerned, as long as it is safe to assume that a country's "underreporting bias" remains constant over time.

Changes in share and investment fund holdings

in percent of … *(microdata)*	Italy		Netherlands	
in	**2002**	**2008**	**2002**	**2007**
§ … share of assets	7.9	5.2	11.0	10.2
§ … share of assets of equity owners	36.6	39.6	36.3	38.6
§ … share of shareholders	12.2	8.1	28.3	24.5
% change between	**2002-2008**		**2002-2007**	
§ … share of assets	-33.8		-7.3	
§ … share of assets of equity owners	8.1		6.3	
§ … share of shareholders	-33,3		-13.5	

Sources: Banca d'Italia, Survey of Household Income and Wealth; De Nederlandsche Bank, DNB Household Survey; own calculations.

Did the 2000 - 2002 stock market crash scare away inexperienced investors?

One possible explanation for the decline in participation rates is the disappointment that hit when the *dotcom* bubble burst in 2000. Not least due to the privatization of major state-owned companies in the national telecommunications, natural gas and utilities industries, the late 1990s saw a large number of inexperienced households buy equities or investment funds for the very first time. Guiso et al. (2003), for example, calculate that companies worth 1.2% of GDP were privatized in Germany in the 1990s. At the same time, the number of shareholders in Germany climbed from 12.0% to 17.6% in the period between 1993 and 1998 (Börsch-Supan und Essig, 2002). Many observers believed that this trend was testimony to a burgeoning equity culture in Germany and other continental European countries. But many of these inexperienced investors were frightened off when the *dotcom* bubble burst in 2000-2002.

The household survey data on incomes and assets in Italy allow us to follow the investment decisions made by households that had never made comparable investments before from the year of the very first share purchase. The data show that inexperienced investors who invested their savings in equities or investment funds for the first time during the 2000 boom are far less likely to still have had equities in their portfolios a few years down the line than investors who had already held shares before 1998, or investors who made their first investment in equities either before or after 2000.

Investment in shares and investment funds in the years following the initial share purchase

Share of equity and investment fund owners in first-time buyers

Sources: Banca d'Italia, Survey of Household Income and Wealth; own calculations.

A statistical model allows us to estimate how likely it is that a household will still have shares in its portfolio in the years after its first share purchase. This model compares households that bought equities for the first time in 2000 with households that made their first investment in equities either in 1998 or in the period from 2002 to 2008. In order to allow for possible time trends regarding stock selection, annual fixed effects are applied to take account of shocks that hit all households at the same time. The socio-economic household characteristics in the model take account of household-specific differences impacting stock selection. Ultimately, the empirical estimate shows that those households that made their very first equity investment in 2000 are 7% less likely to still have shareholdings a few years later than households whose first experience with equities and investment funds dates back to other years.

Age and equity ownership - selected examples

One of the main reasons why individuals save money is to enable them to distribute their private consumption over their life cycle to suit their specific needs. Younger generations, in particular, are being confronted with a growing awareness that they will have to use more of their own savings to finance their old age than their parents and grandparents had to. Despite short-term share price fluctuations, equity-based investments generally promise significantly higher returns than low-risk forms of investment, provided that the investment horizon is long. This means that younger investors, in particular, should favor equities as an investment for their old age. So the general decline in equity ownership raises the question as to which age groups have been particularly affected.

All in all, the number of shareholders has been on the decline in all four countries over the past 10 years, particularly in Italy and Germany. The US, on the other hand, has witnessed only a slight decline in the average participation rate. The fact that private old-age provision is more important in the US means that equities have traditionally been a key component of US household assets.

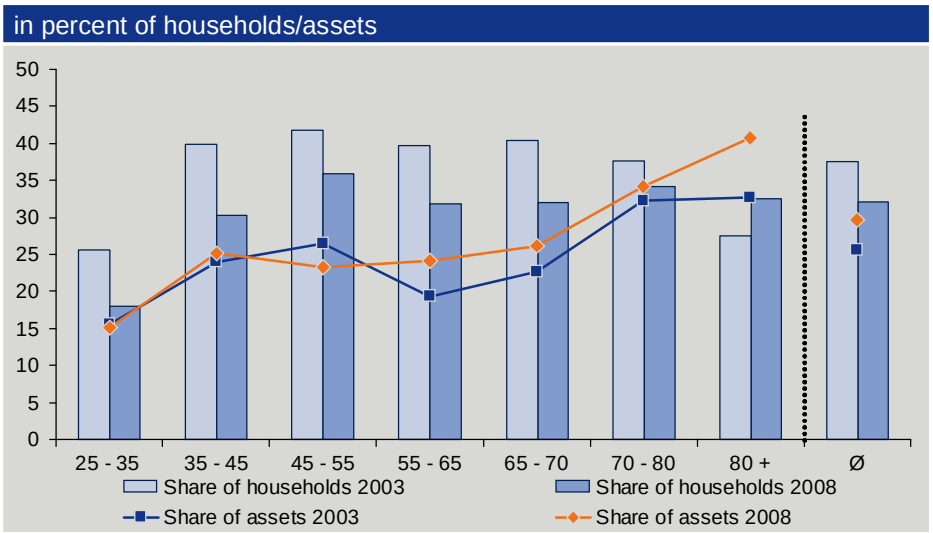
Looking at the various age groups, it becomes surprisingly apparent that the general decline has hit younger households aged under 40 in particular. In all four countries, direct and indirect shareholdings among young investors have been on a marked downward slope in recent years, a trend that hints at an increased need for security among this age group. By contrast, participation rates among older households in Germany, and particularly in the US, have climbed considerably. In order to understand these trends better, a distinction has to be made between age and cohort effects. Age effects refer to the investment decisions made by individual investors, whose investment preferences change in the course of their lifetime and in tandem with their individual income situation, while cohort effects relate to all investors born in the same year, meaning that they highlight universal generation-based changes, for example. One cohort effect could be the result of a general increase in wealth due to economic progress, or a stronger preference for equities triggered by the life experiences of an entire generation. Economic research has shown that once households have made certain investment decisions, they seldom alter them, even if their life circumstances change (e.g. Agnew et al., 2003). This means that an "equity preference" in the form of a cohort effect could persist for several years. The increase in shareholdings among older investors could, for example, be attributable largely to their inactivity, meaning that an increase in the proportion of equities held by 65 year-olds at the turn of the millennium translates into an increase in the proportion of equities held by 75 year-olds ten years later, without older investors having to actively buy equities. This could be explained by solid old-age provision based on pensions and annuities, as well as by an inheritance-oriented investment approach, which allows older households that have the interests of the heirs in mind to keep a large proportion of their wealth in volatile investments that offer high potential returns. As far as the US is concerned, it is also a well-known fact that many households opt to have their IRA and 401(k) pension fund capital paid out to them when they retire so that they can invest the funds in equities or funds. This trend does not hold true for pensioners in Italy, where the equity culture is still less established than in other countries, possibly as a result of differences in the pension system or the diminished risk appetite among older Italian investors. In the Netherlands, on the other hand, there is a high correlation between age and equity ownership. The rise in the proportion of equity investments with age could be explained by a relatively high pension replacement rate, which puts Dutch pensioners in a position in which they only have to use or keep a relatively small proportion of their assets for consumption.

The marked decline in shareholdings among younger investors, on the other hand, suggests that the number of first-time equity and investment fund buyers has fallen in all four countries. With the "internship generation" entering the job market later on, lower expectations as far as the state pension system is concerned and forecasts of higher tax burdens in the future, younger households have evidently been enticed to retreat to the idea of security, triggering a drop in the proportion of equity investments. Given that previous investment decisions generally have considerable staying power, it can be assumed that the low number of young first-time buyers will be reflected, as a cohort effect, in a decline in the proportion of assets held in equities among older age groups in the decades to come. Ultimately, this will also prompt a drop in the average proportion of equities and investment funds held as private household assets.

If the increased uncertainty on the stock markets and heightened risk perception among households brings about a prolonged slump in the number of first-time buyers, we could witness a sort of "equity ageing", with the current share ratio for one generation being passed on to older age groups in the years to come via cohort effects. Older shareholders will be taking the high level of shareholdings they have at the moment with them into old age, while today's young generation will continue to limit the extent to which they par-

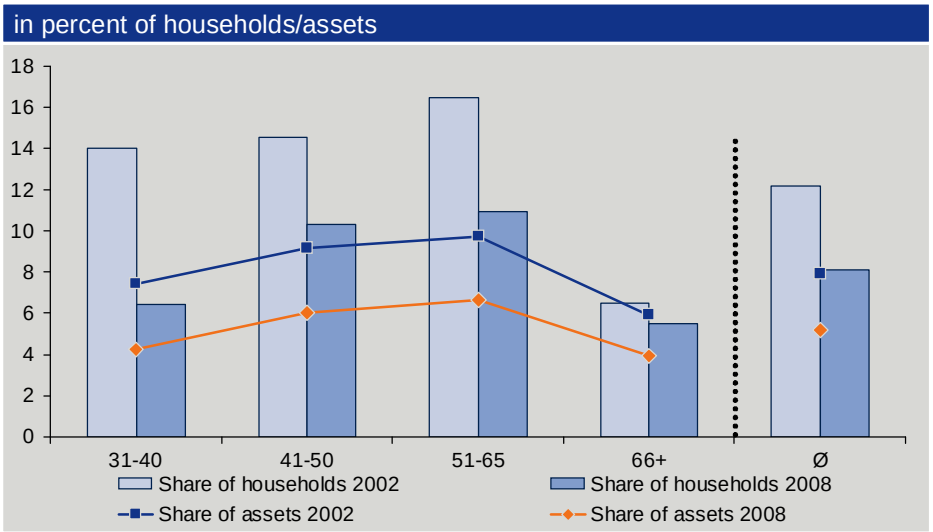
ticipate in the stock market during the decades to come, too. This means that the typical inverted-U relationship between shareholdings and age - which can be observed in Germany, Italy and the US - will soon look more like the Dutch model, which features a linear increase in the share ratio with age.

Equity ownership in Germany



Sources: Statistisches Bundesamt, Einkommens- und Verbrauchersticbprobe (EVS); own calculations.

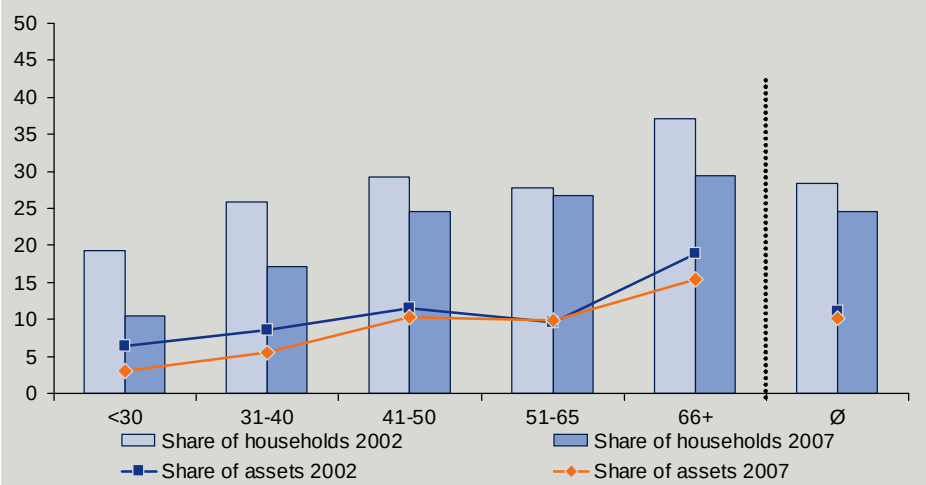
Equity ownership in Italy



Sources: Banca d'Italia, Survey of Household Income and Wealth; own calculations.

Equity ownership in the Netherlands

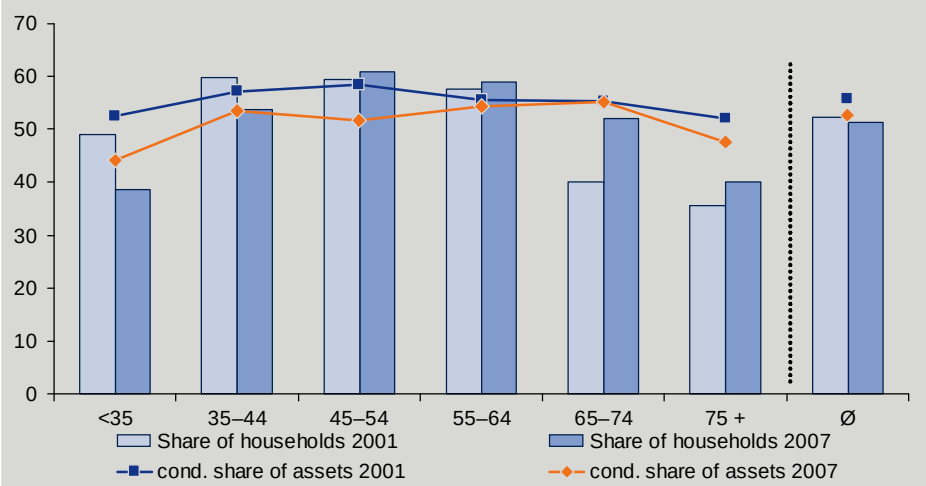
in percent of households/assets



Sources: De Nederlandsche Bank, DNB Household Survey; own calculations.

Direct and indirect equity ownership in the USA

in percent of households/assets of equity owners (conditional)



Sources: US Survey of Consumer Finances; own calculations.

Implications for the development of savings behavior

The decline in the ownership of shares and investment funds among the younger generation suggests that young savers are more focused on security, a trend that is likely to be further reinforced and intensified as a result of the current financial crisis. Economic research shows that risk appetite is something that is formed at a young age, and has an impact on individuals' investment decisions throughout their entire lifecycle (see e.g. Malmendier und Nagel, 2010). This could mean that today's 35 year-olds will still have a strong preference for short-term, low-risk forms of investment when they are 55.

In the medium term, a pronounced focus on security has a negative impact on the future growth of private household assets. One particular fear is that young households, in particular, will fail to make sufficient use of the opportunities open to them in the form of funded old-age provision. This trend would only be compatible with long-term wealth formation to a limited degree, and could result in equity culture in continental Europe, a delicate fledgling that seemed to be gradually coming into its own in many European countries in the 1990s, retreating back into the shadows again.

At the same time, the heightened desire for security among young savers will present new challenges as regards the way in which investment products are structured. The decline in state pension levels means that younger generations are having to use more of their savings as a means of securing their standard of life after retirement. If the trend towards more security persists, there is likely to be more demand, among young savers in particular, for products featuring capital protection mechanisms and guaranteed minimum returns over the next few years. This will call upon the insurance industry, in particular, to take adequate measures in order to meet this demand.

Literature

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