DEPARTMENT OF ECONOMICS
UNIVERSITY OF CYPRUS

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Michael Haliassos, Christis Hassapis, Alex Karagrigoriou, George Kyriacou, Michalis C. Michael and George Syrichas

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P.O. Box 20537, 1678 Nicosia, CYPRUS Tel.: ++357-2-892430, Fax: ++357-2-892432
Web site: http://www.econ.ucy.ac.cy

Assets of Cyprus Households: Lessons from the First Cyprus Survey of Consumer Finances*

Michael Haliassos,[a,b] Christis Hassapis,[a,b] Alex Karagrigoriou,[a] George Kyriacou,[c] Michalis C. Michael,[a,d] and George Syrichas[c]

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Abstract

This paper describes participation of Cyprus households in financial and real assets using new data from the 1999 Cyprus Survey of Consumer Finances, and compares Cyprus to the United States and four major European countries. Almost 9 out of 10 Cyprus households own some financial asset. After checking accounts, the most popular financial asset is government savings bonds. One in two households participated in stocks directly or indirectly in 1999, a year of stock market frenzy, reaching participation levels comparable only to the United States. Despite the absence of mutual funds, almost one third of households invest in managed portfolios linked to life insurance, and this exceeds direct stockholding even in 1999. Participation in direct stockholding is higher than in other countries, overall and for households below 50 years, and unusually high for the very young. Potential sources of concern include the limited number of stocks held by direct stockholders, and the presence of a significant contingent with limited background. Diversification across risk categories of financial assets is limited, but the majority of those holding few assets do not hold stocks directly. Those who do hold stocks directly are poorly diversified across different stocks. More than one in two households have some form of life insurance, but participation in individual retirement accounts is very low. Participation in risky assets, financial or real, far exceeds that in other countries. Yet, a strong contingent of households concentrates on risky real assets and abstains from risky financial assets, even during 1999. Rates of ownership of real assets are exceptionally high compared to the other countries. Homeownership rates far exceed those in the United States, and the majority of homeowners own their home fully. One quarter of Cyprus households own business equity, more than double the rate in the United States.

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* **Author affiliations:** [a]University of Cyprus; [b]HERMES European Center on Computational Finance and Economics, University of Cyprus; [c]Central Bank of Cyprus; [d]Cyprus Stock Exchange.

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1. Introduction

This paper is based on the first Cyprus Survey of Consumer Finances (CySCF) conducted in 1999 in the context of an ongoing joint project between the University of Cyprus and the Central Bank of Cyprus. The Survey provides a comprehensive source for assets and liabilities of Cyprus households, both financial and real. Financial assets include liquid accounts such as checking and saving, government bonds, other bonds (mainly corporate), stocks, retirement accounts, and the cash value of life insurance. Real assets include the primary residence, other real estate that could be used for investment purposes, equity in businesses, and vehicles. Liabilities include mortgages, loans for investment real estate, consumer and student loans, and credit card balances. The Survey combines portfolio data with information on demographic characteristics of each household, and on its attitudes towards borrowing, lending, risk taking, liquidity and other related matters.

Interest in the Cyprus SCF is enhanced by the fact that Cyprus is the only country outside the financially developed core that possesses such a detailed survey of household portfolios. Indeed, probably the only other countries with Surveys of comparable scope and coverage of household portfolio items are the United States, Italy, and the Netherlands. Surveys of this kind can be used for studies of numerous aspects of financial behavior, relevant to academics, policy makers, and financial practitioners. Examples of what can be done, along with a description of the main methodological tools and issues, are to be found in Guiso, Haliassos, and Jappelli (2001b).

This paper focuses on the issue of participation of Cyprus households in various types of assets and compares them with corresponding data on the United States and on major European countries, where such data are available. Data for European countries are taken from Guiso, Haliassos, and Jappelli (2001a). Data for the United States are taken from the excellent survey of US household portfolios by Bertaut and Starr-McCluer (2001). While

some data on participation in debt items is included in the first part of the paper, extensive analysis of participation in debts of various types as well as of portfolio shares conditional on participation in the particular asset or liability are to be examined in sequels to this paper.

The year in which the Cyprus data were collected, 1999, turned out partly by coincidence to be pivotal for the structure of household portfolios in Cyprus. Cyprus is a small, high-income country with a highly developed banking and insurance sector, but with a long tradition of tight regulation of financial markets, capital controls, and limited selection of financial assets available to households. A gradual process of relaxing capital controls was already underway in 1999, but the banking sector was still operating under a statutory ceiling on lending interest rates ever since 1944.[1]

The first wave of the Survey documents behavior in a year of general euphoria about the newly established Cyprus stock market and its prospects. The Cyprus Stock Exchange launched its official operations on March 29, 1996 in accordance with the Cyprus Stock Exchange Laws and Regulations passed by the House of Representatives in 1993 and 1995. After a drop of the Cyprus Stock Exchange (CSE) General Index by 6.23 percent in 1997 and a moderate increase by 18 percent during 1998, the CSE General Index shot up by 688 percent during 1999. This spectacular upward movement was followed in the subsequent year by a 65 percent drop in the index. The number of securities listed grew from 102 in 1997 to 150 in 1999 and to 243 in 2000.[2] Average daily volume in 1999 was at approximately 17.5 million Cyprus Pounds, more than twelve times its average in 1998 and seventy percent of the average in 2000. Numerous households entered the stock market for the first time, though lack of household-level data prior to the CySCF of 1999 makes it impossible to measure the increase in household participation.

[1] The ceiling was eventually abolished on January 1, 2001.
[2] Securities listed include shares, warrants, corporate bonds, and government bonds. The corresponding number of listed issuers grew from 49 in 1997 to 60 in 1999 and to 120 in year 2000. By mid-September 2001, 144 issuers and 288 securities were listed.

After a brief description of the sample in section 2, section 3 examines participation in a range of financial and non-financial assets as well as liabilities (debts). The paper then focuses on asset holdings. Section 4 examines participation in various financial assets and the age distribution of such participation. It then investigates how the popularity of different financial assets varies with the number of asset types held. Section 5 documents the tendency of Cyprus households to incorporate risk in their portfolios, and how this varies across age groups. It then focuses on the characteristics of households that held stocks in 1999 and on indicators of how diversified they were across different stocks. Section 6 examines the tendency of Cyprus households to combine safe with risky assets in order to limit their exposure to financial risk.

2. Description of the Data

The preparation of the survey questionnaire, the statistical design of the survey, the training of interviewers, and the preparation of software for data entry took place between 1997 and 1999. Early expert advice on construction of the Survey was provided to the University of Cyprus-Central Bank of Cyprus team by a group of international experts in household-level surveys of this type, in the context of a conference on Household Portfolios held in Cyprus in the Fall of 1996. Interviews were conducted between April 1999 and February 2000, with most interviews taking place during the second half of 1999. Data refer to 1999, except for incomes that refer to 1998 as is standard practice in surveys of this kind.

The Survey contains responses from 1,097 households living in Cyprus (excluding occupied territories) in two subsamples. One is representative of the Cyprus population and consists of 539 households, while the second is confined to wealthy households and has sample size of 558. The oversampling of wealthy households is a practice followed internationally in order to handle the highly skewed wealth distribution and the fact that most of the wealth and the greatest variety of assets are held by the wealthy who represent a very

small proportion of the population. Since the resulting sample is not representative of the population, each observation in the sample has been weighted by appropriate population weights, and statistics reported in this paper are weighted so as to reflect behavior of the Cyprus household population. Details on the statistical design of the Survey, which is based on area probability multi-stage sampling techniques, can be found in Karagrigoriou and Michael (2001).

The Survey questionnaire is divided into sixteen chapters. It combines and adapts elements from the United States Survey of Consumer Finances with some from the CentER Survey in the Netherlands. It is further augmented to ensure coverage of the issues topical to Cyprus, such as the highly important insurance sector and issues arising from household property in the currently occupied northern territories. The interviewing mode resembles the data collection process in the United States (prior to laptop-based interviews) rather than the on-line interactive approach taken by the Netherlands survey.[3]

The response rates in the two subsamples were both high and similar (81 and 80 percent for the representative and for the wealthy subsample respectively). The high response rates are attributable to the conscientiousness of interviewers, mostly drawn from University of Cyprus undergraduates or recent graduates, and to the readiness of Cyprus households to participate in a Survey directed by the premier institution of higher education in the country after they were clearly informed about the Survey's purpose and objectives.

3. Components of Cyprus Household Portfolios

3.1. Financial Assets

Table 1 shows the percentage of Cyprus households that hold each specified type of

[3] The CySCF interviewing model resembles the United States SCF "paper-and-pencil" mode with similar duration of interview, one visit to each household after an appointment, and discussion with the person in the household that is in charge of finances. The Netherlands approach of distributing laptops to households and

asset, financial or non-financial, and liability along with the percentages of households that have comparable assets or liabilities in the United States. The figures for the United States are taken from Bertaut and Starr-MacCluer (2001) and are provided as a benchmark for comparison. Although the financial sector in Cyprus is quite developed, the United States has a more competitive financial system with a much longer tradition in the workings of the stock market and a bigger selection of financial assets that can be held by households. Similarities in participation rates in the two countries indicate the areas in which Cyprus has already caught up with the United States, but such speedy adjustment may contain the seeds of potential problems, as will be discussed below.

As shown in Table 1, the fraction of Cyprus households with some type of financial asset regardless of riskiness reaches almost 90 percent, comparable to the participation rate for such assets in the United States. In both countries, liquid accounts that facilitate transactions (mainly checking and savings accounts) are held by the vast majority of households (90.5 percent for the United States and 82.2 percent for Cyprus),[4] though there is more limited variety of such accounts in Cyprus compared to the United States. For example, since mutual funds are not available in Cyprus due to the absence of a legal framework covering their operation, households are deprived of money market mutual fund accounts that combine liquidity with appealing interest rates.

A striking difference between the two countries appears with regard to the popularity of government bonds among households. These are held by half of the household population in Cyprus, compared with only one fifth in the United States. A closer look at the breakdown of government bondholding in Cyprus reveals that by far the biggest proportion of households declaring government bond holdings, namely 95 percent, report holding government savings

asking a small set of questions periodically was impractical in Cyprus and highly likely to introduce significant selection biases in the sample of households that would be willing to participate in the Survey.

[4] The figure for Cyprus includes also accounts for which advance notice of withdrawal is formally required, though unofficially never demanded. See Data Appendix for details of definitions.

bonds. The popularity of these bonds can be attributed not only to the fact that they are government paper of low denomination and of virtually no default risk, but also to their monthly participation in lottery drawings that can result in substantial returns but with a guaranteed minimum return. Indeed, these qualities have served to make government savings bonds appealing even for the purposes of gifts on social occasions (birthdays, baptisms, etc.).

Significant divergence in household participation between Cyprus and the United States is also observed on retirement accounts. The difference in participation in retirement accounts is of considerable policy relevance. The figure for Cyprus refers to the 12.5 percent of households who responded that they participate in some pension scheme other than their employer's "defined-benefit" pension plan from which employees receive a fixed payment based on salary and years of service. It essentially includes those who participate in private pension schemes typically run by insurance companies and linked to life insurance in order to qualify for tax exemption of the premium. Low participation in such schemes probably reflects limited familiarity of Cyprus households with private retirement schemes that are still at an infant stage. This is reinforced by the virtual lack of public awareness and debate on the viability of the social security system and on whether Cyprus will face similar demography-induced problems as those projected for the United States and all major European countries.

As explained in Bertaut and Starr-McCluer (2001), the much higher United States participation figure of 48 percent reflects two major developments: the growth in popularity of tax-deferred individual retirement accounts (IRA and Keogh) and a shift, following a Treasury ruling, from defined-benefit pension schemes to "401(k)-type" defined-contribution plans, in which employees and/or employers make tax-deferred contributions to retirement accounts, vested balances are portable, employees often have investment options, and they may be able to borrow or withdraw from the account. Indeed, Bertaut and Starr-McCluer report that the

share of households having a tax-deferred retirement account --either IRA or 401(k)-type-- rose from about 31% in 1983 to 48% in 1998.

If Cyprus is to mimic such developments and to ease the present reliance on the social security system, it will require not only more aggressive advertising of existing pension products, but also tax policy measures to promote the development of individual retirement accounts. These should be supplemented by programs of financial education informing employees about their new options. The United States experience suggests that perhaps the most effective education programs tend to be employer-sponsored seminars about investment possibilities in new types of retirement accounts.

In addition to retirement accounts, mutual funds were the other major factor behind the increase in indirect stockholding among United States households in the 1990s. This option was not available to Cyprus households, as mutual funds did not yet operate in Cyprus, though a negligible fraction of households may be declaring holdings of foreign mutual funds. The absence of mutual funds, however, does not imply lack of access to investment vehicles managed by professionals. Important such vehicles are life insurance schemes with tax-exempt premia that invest funds in professionally managed portfolios. The proportion of households that participate in such policies is estimated in the CySCF to be considerable, namely 31.1 percent, and it should be considered an important factor in assessing indirect stockholding by Cyprus households.

Participation in life insurance policies is also interesting in itself, as reflecting the tendency of households to purchase such coverage. When all types of insurance policies that accumulate cash value are included regardless of whether they invest part of the premium, participation by Cyprus households is 45.5 percent, far in excess of the corresponding figure

of 29.6 percent for US households.[5] In addition to those, there are "term life" insurance policies that provide life insurance but do not accumulate cash value. These are held by 18 percent of Cyprus households. All in all, the CySCF estimates that 52 percent of Cyprus households have at least one type of life insurance policy.

3.2. Non-financial Assets

A striking feature of the data is the extremely high participation rate of Cyprus households in real (i.e., non-financial) assets. Less than two percent of Cyprus households own no real asset, compared to one out of ten households in the United States. An astonishing 86 percent of Cyprus households own their primary residence, compared with only 66.3 percent in the United States. As in the United States, homeownership in Cyprus is exceeded by car ownership. Motor vehicles are the most widely held non-financial asset in Cyprus with 91.6 percent of households owning a car, compared to 86 percent in the United States, where cars are more affordable and average commuting distances much longer. Cypriots are well known for their entrepreneurial spirit, and this is reflected in the proportion of households owning private businesses. About one quarter of Cyprus households own business equity, compared to less than half of that proportion in the United States, a country famous for fostering private enterprise.

Undoubtedly, owning a house and a car creates pride of ownership along with valued services, while owning a private business affords an important element of power and control in addition to generating an asset return. Apparently, such considerations are sufficiently important to induce households in financially developed countries to invest in these real assets, despite the lumpiness of investment and the poor diversification properties of a

[5] "Whole life" and "endowment life" insurance policies accumulate cash value. The former cover policy holders for the entirety of their lives while the latter do so for a fixed period. Both may or may not invest part of the premium in a portfolio for which the insured bears portfolio risk. Cyprus households that participate in schemes of these two types but do *not* invest part of the premium are 8.5 and 9.5 percent, respectively.

portfolio composed mostly, if not exclusively, of a few risky assets typically correlated with earnings. The exact nature of these tradeoffs, as well as the interactions between financial and real assets more generally, are not yet well understood in economic research because of the technical complexity of the analysis required. One does expect, however, that these additional features of real assets would appeal more to households in countries where the limited variety of financial instruments makes holding a well-diversified portfolio more difficult.

It is less clear *a priori* how deeply rooted is this reliance on real assets and how easily it is abandoned when attractive financial alternatives emerge. The fact that these high rates of participation in real assets were recorded in 1999, at the peak of household excitement with the stock market, suggests that even such levels of fascination with risky financial instruments were not sufficient, at least initially, to induce Cyprus households to abandon their long tradition of extensive participation in real assets.[6]

3.3. Household Debts

The proportion of Cyprus households with any type of debt stands at 70.9 percent in 1999, only slightly lower than the 1998 United States figure of 74.3 percent (Table 1). This confirms that loan provision has been extensively pursued by the Cyprus financial sector even when opportunities for investment in financial instruments were limited for Cyprus households. Detailed analysis of the various types of debt held by Cyprus households and of the difficulty with which each can be obtained is outside our current scope and is being pursued in a sequel to this paper. We concentrate on a few broad observations here.

Almost 40 percent of households in Cyprus hold home-secured debt while the comparable figure for the United States is 43.1 percent. Given the higher homeownership rate

[6] Lack of household-level data prior to 1999 makes it difficult to assess whether Cyprus households reduced the size of their real asset holdings or even moved out of some real assets to take advantage of the stock market boom. It seems unlikely, however, that Cyprus households sold off their primary residence, their cars or their

in Cyprus, this shows that the majority of homeowners in Cyprus own their home fully compared to only about one third of United States households. Although this is certainly positive from the point of view of homeownership, it does not necessarily imply that mortgage and other loan markets work more efficiently in Cyprus than in the United States. Indeed, households in countries with low down-payment requirements and highly developed mortgage sectors, such as the United States, may assume bigger mortgages because it is feasible to do so or because low down payments allow them to buy bigger houses with a given amount of cash on hand. Moreover, parents are less likely to worry about securing a home for their offspring because they know that their children can easily finance the purchase of a home.

Down payment ratios on a house are typically higher in Cyprus than in the United States, thus making it more difficult for a young couple to secure a home based on its own finances.[7] Intergenerational transfer links are also quite active. Based on the CySCF, we estimate that nearly 60 percent of Cyprus households receive an inheritance or gift, while 32.7 percent of individuals (or household heads) aged between 18 and 29 years live with their parents.[8] Conditions in the mortgage sector may be contributing significantly in preserving these tendencies along with potentially important sociological factors, such as cohesive families and antiquated views on dowries.

Recently, academic attention has focused on the surprising tendency of United States households to revolve high-interest credit card debt. This tendency is more limited in Cyprus, where only 20.1 percent of households revolve credit card debt vis-à-vis 44.1 percent for the United States. It is also less surprising given the very small differentials in effective interest

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business to invest in the stock market. If they did reduce real asset holdings at all, the change must have come in investment real estate.

[7] One third of the value of the house is typically required as down-payment in Cyprus, while one can buy a home in the United States with down-payment ratios of 5 percent or even lower subject to various conditions.

[8] 26.7% of households between 30 and 39 years of age receive inheritance or gifts, while the figure rises to 29.3 percent in the 40 to 49 age group and remains high (at 24.8 percent) even in the 50 to 59 age group.

rates between credit cards and overdrafts or other personal consumer loans that resulted from the lending rate ceiling that was in effect in 1999. The low percentage of credit card debt revolvers in Cyprus partly reflects a limited tendency of Cyprus households to use their credit cards: only 38 percent of households are estimated to have used a credit card to make a transaction in the month prior to the interview. There seems to be ample scope for encouraging the use of credit cards as means of payment in Cyprus.

Overall participation of households in other debt (e.g., home improvement loans, student loans, and consumer loans) is comparable to United States levels (46.3 percent versus 48.5 percent in the United States). Finally, 5.5 percent of households in Cyprus borrow to invest in real estate compared with 6.6 percent for the United States.

4. Financial Asset Holdings

Let us now examine in detail the participation of Cyprus households in financial assets. We examine eight types of financial assets, namely checking accounts, deposit and savings accounts, government savings bonds, other (corporate) bonds, direct holdings of stocks, retirement accounts, and life insurance investment policies. Definitions of these asset types appear in the data appendix. Note that cash holdings (kept in the pocket or "under a mattress") are not included in this list of financial assets, as is typical in similar surveys. Mutual funds would have been a natural ninth financial asset to consider, but they were not available to Cyprus households during the year of the survey. We first examine the overall popularity of each financial asset and across different age groups, and then how popularity is affected by the number of asset types included in the portfolio.

4.1. Ownership of Financial Assets Among Different Age Groups

Table 2 reports participation in financial assets among various age groups of Cyprus

households. Participation in most categories of financial assets peaks in the age bracket of 40 to 49 years and then declines toward retirement. By far the most popular financial asset for Cyprus households in all age groups is checking accounts. These are held by nearly two thirds of households, with participation peaking at 77.1 percent among those in the age range 40 to 49. Their widespread use is not surprising, given the usefulness of such accounts in transactions. However, combined with the much lower percentages using credit cards (38 percent), it demonstrates a tendency of most households to rely on this older form of effecting transactions.

Most surprising is the participation rate in government bonds, due to the astonishing popularity of government savings bonds that amount to about 95 percent of all government bond holdings. Savings bonds are the second most popular financial asset overall, and for all age groups except for the youngest (under thirty) and the oldest (above seventy) group. Their surprising popularity can probably be attributed to their low denomination,[9] their participation in monthly lotteries with a guaranteed minimum return and upside potential, and their introduction long before the stock market was established. The Table shows that, even in the height of stock market fever, more households in all age groups held savings bonds than stocks directly.[10]

About one third of households have savings accounts and deposit accounts that include notice and time deposits. Similar participation rates are observed for life insurance policies that invest part of the premium in a risky portfolio and accumulate cash value dependent on risky returns. In the absence of organized mutual funds, this form of indirect stockholding seems to have attracted many households that wanted to make use of professional expertise in portfolio management. Interestingly, it has remained more popular with Cyprus households than direct stockholding, both overall and in almost all age groups, even in a year in which

[9] The most popular savings bonds remain those of 5 Cyprus pounds, even after the introduction of 10 pound bonds.

[10] The participation rate in savings bonds is comparable to participation in stocks, once indirect stockholding through managed investment accounts is also considered (see below).

enthusiasm for direct participation in the stock market peaked.[11] This was not true of all forms of indirect stockholding, though. Private retirement schemes in particular appear to be much less popular than other forms of insurance, probably because they are relatively new and because Cypriots have felt for many years that they are adequately covered through social security and employer defined-benefit pension schemes.

Despite the finding that direct holdings of stock were not the most popular financial asset for any age group, it is striking that direct participation in the stock market was observed across the age spectrum, even among those above seventy.[12] Participation peaks in the age group of 40 to 49, with 30 percent of the households directly participating in the stock market. It is lower among younger groups and even lower among older groups. This generates a hump in direct stock market participation plotted against age, as it does in most western countries (see below), but what is surprising is the high level of participation for most age groups. This provides support to claims that people of all ages tried to ride the bandwagon of a rising stock exchange index, though we will refine this statement when we discuss Table 5 below.

4.2. Portfolio Breadth and Popularity of Various Financial Assets

Table 3 presents a picture of the breadth of financial asset portfolios, namely of the number of assets held, and shows how the popularity of each asset changes with the number of assets included in the portfolio. The types of assets are listed vertically in the first column, and they are the same as in Table 2. The numbers of different asset types held are listed horizontally, along with the percentages of households that hold each number of assets.

About ten percent of Cyprus households hold no financial assets (except cash not included in the Table). Those who do hold assets tend to hold a limited variety of asset categories. Almost two thirds of households hold between one and three asset types, while

[11] The exception is generated by the natural decline in the tendency of older groups to have life insurance.

only about four percent hold six asset types or more. To the extent that different asset types have different return properties, the tendency of Cyprus households not to spread their financial wealth across several asset types suggests that portfolios are usually not well diversified across asset categories.

The implications for overall portfolio diversification are mitigated by two observations. First, participation in managed portfolios, mainly through life insurance investment policies but also through private retirement accounts, is not negligible. Although participation in such schemes is low for households that invest in only one or two asset types, more than one third of households that invest in three asset types hold a life insurance investment policy, and this rises to almost two thirds for those with four asset types. Such households may not hold a large variety of asset types but they invest at least part of their wealth in well-diversified managed portfolios. Second, households with narrow financial portfolios tend not to be exposed to direct stockholding risk. Specifically, the majority of households that hold up to four asset types do not hold stocks directly. Although this is somewhat comforting, we will see below that those who are stockholders tend to be poorly diversified in terms of the number of different stocks held. We return to portfolio diversification towards the end of the paper.

The columns of Table 3 show how the popularity of each asset varies with the total number of financial assets held in the portfolio. Entries represent the percentages of Cyprus households holding each asset type among households with the total number of assets specified at the top of the column. For example, among households with only one asset type (in addition to cash that is not included), 38.7 percent own checking accounts. The high participation rates in checking and savings accounts are not surprising. Combining cash holdings with such forms of highly liquid transactions assets is expected for households that

[12] Not all of these entered after the Stock Exchange opened. Some households held stocks (mostly bank shares)

do not hold rich portfolios. The popularity of government savings bonds is more striking but consistent with what we mentioned above: about a quarter of households with such narrow portfolios combine cash with government savings bonds. Even more surprising is the finding that 4.3 percent of households with only one financial asset other than cash choose to put all their financial wealth in direct holdings of stock.

As the number of asset types increases, the checking account remains the most popular asset, as might be expected. Indeed, 96 percent of households that own five or more of these assets have a checking account. The popularity of governments bonds is not unique with households that choose to hold only a small number of financial assets but continues to be high even among investors with broad portfolios. For example, of the households with five types of financial assets, 87 percent own government bonds. This exceeds the proportion of households that hold stocks in this category of portfolio breadth by 23 percentage points.

5. Risk in Household Portfolios

Implicit in any discussion of portfolio breadth is some concern with risk in portfolios. Yet the mere number of asset types held is not a sufficient statistic for the tendency of households to invest in risky assets. The following two subsections explore the tendency of Cyprus households to invest in assets with risky returns, whether these assets are financial (such as stocks) or non-financial (such as private businesses).

Results of a major recent international project on household portfolios, as reported in Guiso, Haliassos, and Jappelli (2001b), indicate that there has been an increased tendency of households in the United States and in major European countries to invest in risky assets. Whether such a trend was also present in Cyprus cannot be accurately assessed, given that the first wave of the Survey was collected only in 1999. However, we can compare participation

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long before they were publicly traded on the Stock Exchange.

rates at the end of the 1990s in Germany, Italy, Netherlands, United Kingdom, and United States (as reported in Guiso, Haliassos, and Jappelli, 2001a) to rates observed in Cyprus, as computed from the 1999 Cyprus Survey of Consumer Finances.

5.1. Participation in Risky Assets from an International Perspective

Table 4 provides information on household participation in various types of risky assets in six countries. Percentages in each column refer to the proportion of households in the total population that hold the type of risky asset specified. We distinguish four types of risky assets, namely, "Direct Stockholding", "Direct and Indirect Stockholding", "Risky Financial Assets" and "Total Risky Assets". Direct stockholding refers to shares held directly, while the second asset type includes stockholding through mutual funds, managed investment accounts and retirement accounts.[13] Since mutual funds do not exist in Cyprus, this category includes those life insurance policies that invest part of the premium in a risky portfolio and accumulate cash value dependent on risky returns as well as private pension plans (other than defined-benefit employer pension funds). Corporate bonds are added under the broader category of "risky financial assets", while total risky assets include in addition investments in real estate (other than the primary residence) and in private businesses. Detailed definitions of asset types and differences across countries are to be found in the Data Appendix.

The contributions in Guiso, Haliassos, and Jappelli (2001b) have established an increased tendency of households in financially developed countries to hold risky assets, especially stocks held indirectly through mutual funds and retirement accounts. Aggressive advertising by mutual funds and by governments promoting privatization of public utilities, combined with financial education programs sponsored by employers on new forms of

[13] For all countries except for the United States, information on the composition of managed portfolios is not available, and one cannot disentangle indirect stockholding in mutual funds and managed investment accounts from investment in other financial assets. For this reason the reported figures overestimate the true value of indirect stockholding.

retirement accounts were the main forces encouraging the spread of stockholding, or "equity culture", to broader subsets of the population of Western countries.

In Cyprus, we observe stockholding shortly after the official establishment of the Stock Exchange and in a year during which the Cyprus Stock Index and volume of shares grew spectacularly. We find that about one quarter of all households in Cyprus held stocks directly in 1999, while about half held risky financial assets, almost exclusively in the form of direct and indirect holdings of stocks.[14] Direct stock market participation of Cyprus households compares favorably even to the United Kingdom participation rate of 21.6 percent, and is much higher than in the three Eurozone countries, namely Netherlands, (probably) Germany and particularly Italy, where the participation rate is only 7.3 percent. This high ranking of Cyprus despite extremely limited experience with the Stock Exchange is not only surprising but also potentially problematic.

Indirect stockholding provides a number of advantages to households compared to direct stockholding, such as diversification of risk even at low amounts of investment, lower informational requirements, bookkeeping services, as well as delegation of trading decisions to professionals. Because of these advantages, households in most western countries decided to enter or expand their stock market participation in the nineties by investing through intermediaries. In Cyprus, where mutual funds are absent and investment opportunities through intermediaries are generally limited, indirect stockholding is accomplished through life insurance policies accumulating cash value that invest part of the contributions in a risky portfolio and through personal pension schemes (as distinct from employer-sponsored, defined-benefit pension funds).

Indirect stockholding doubles the proportion of households investing in stocks for most of the countries under consideration. Taking together direct and indirect stockholding,

stock market participation in Cyprus is well above all European countries covered and comparable to that observed in the United States in which mutual funds have been in operation since well before 1990. Cyprus tops the table with 50.3 percent of households investing in equity directly or indirectly, followed by the United States with 48.9 percent, the Netherlands with 35.1 percent, and the United Kingdom with 31.4 percent, while Italy is a distant last with only 18.7 percent of households. The high participation rate of Cyprus households in indirect stockholding can be attributed partly to tax exemption of life insurance policy premia and to the ingenuity of insurance companies that embed life-insurance provisions into managed investment accounts to ensure that contributions are tax-exempt.

Despite lack of comparable data for previous years, it seems fair to conclude that equity culture spread to households in the form of direct rather than indirect stockholding. This accords not only with observation of events throughout 1999, but also with the fact that there was no reform in the tax treatment of life insurance premia nor any noticeable financial innovation or aggressive advertising by intermediaries. The main factor behind the spread of equity culture in Cyprus appears to have been the stock market rally, widely publicized by the media and reinforced by word of mouth and observation of successes in one's social circle.

If investments in real estate and private businesses are also included, the share of households holding the so-defined "total risky assets" rises to almost 70 percent. This is by far the highest among all countries considered, and it is consistent with our discussion above on the popularity of real assets among Cyprus households. Even more telling is a look at the percentage of households that hold risky real assets but no risky financial assets. This can be accomplished by subtracting the fourth from the third panels of Table 4 for 1998-9. It shows that 18.6 percent of Cyprus households fall into this category, compared to 21.7 for Italy, 7.7 for the United States, and 5.1 for the Netherlands. These findings are partly symptomatic of

[14] Indeed, these figures may somewhat underestimate stock market participation, since the data were collected

the considerable involvement of the Cyprus private sector in economic activity. However, they also reveal a hesitation of Cyprus households who participate in risky real assets to undertake financial risk alongside real asset risk, exceeded only by that displayed by their Italian counterparts. Interestingly, while Italian households abstain from risky financial assets in an environment in which stock market participation rates are generally low, Cyprus households with risky real assets seem to be hesitant to undertake stockholding risk even in the face of the 1999 euphoria about stock market prospects.

5.2. The Age Pattern of Participation in Risky Assets

Table 5 compares the propensity of different age groups of households to undertake asset risk. A common feature in virtually all countries is an observed hump-shaped age pattern of participation rates in the stock market. Direct participation in the stock market peaks in the age bracket of 40 to 49 in Cyprus and in Germany, while in the United States, the United Kingdom and the Netherlands this occurs in the age bracket of 50-59. The theoretical reasons for the hump-shaped pattern are still open to research. It seems that it could be generated by some fixed costs of entry into the stock market combined with borrowing constraints. Fixed costs could take the form of commissions, membership and participation fees, but could also represent monetary equivalents of ignorance and investor inertia exhibited by households contemplating entry into the stock market.

We know from existing theoretical research that a young household would like to hold more stocks than an older household with the same resources (sum total of net wealth and current earnings), if it did not face binding borrowing constraints.[15] However, the young tend to have limited resources and are therefore more likely to be subject to binding borrowing

during a period of months over which stock market participation grew dramatically.

[15] See Cocco, Gomes, and Maenhout (1999), and Haliassos and Michaelides (2001). The reason is the wealth generating potential of the equity premium, combined with the fact that young households face a longer stream

constraints and to end up holding virtually no assets. Even those young who have positive demand for stocks may find that the benefits from their limited desired stockholding are unlikely to surpass the fixed entry and participation costs. Similarly, at the other end of the age spectrum, resources may be less limited but the tendency to hold stocks is diminished. Thus, the elderly again tend to find it less worthwhile to pay the entry cost than their middle-aged counterparts.

Probing the hump-shaped participation pattern further, we note the much higher participation rates of younger age groups in Cyprus compared to their counterparts in more financially developed countries, and the lower participation rates among the older age groups. The more limited participation among the elderly probably reflects a cohort effect arising from the absence of an organized stock exchange through most (or all) of their working lives. Indeed, older participants may tend to be "passively" holding stocks (such as bank shares) accumulated prior to the operation of the Cyprus Stock Exchange rather than actively engaged in stock trading. However, the appeal of direct stockholding to the young is even more substantial than the figures in Table 5 indicate. Using the CySCF, we estimate that 38.5 percent of households with heads between 21 and 25 years participated directly in the stock market in 1999, while participation among those between 26 and 29 years was significantly lower, though still impressive, at 22.9 percent.

It is likely that the unusually high rates of participation for young Cyprus households were produced by the confluence of three factors: a recently established stock market, an explosive behavior of the stock index, and a society that takes good care of its members at the start of their economic life cycle. In a young market, older households have not had time to accumulate significantly more experience in stock market trading than the young, and thus lack the informational advantage enjoyed by their foreign counterparts. The rapidity with

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of labor income, and the minimum potential level of labor income in each period serves as a safe asset in their

which the index moved may have also favored the young, since they are more likely to be alert to new financial instruments and more willing to learn how to trade in them. Finally, as discussed above, a considerable proportion of young Cyprus adults live with their parents or receive parental gifts, often including a house or apartment. This implies that they tend to have limited financial obligations and considerable resources. Thus, they are less likely to be subject to binding borrowing constraints and more likely to have enough available cash on hand to overcome fixed costs of stock market entry.

Conclusions are not significantly different when we focus on "direct and indirect stockholding", which in the case of Cyprus expands the notion of stockholding to include mostly life insurance investment policies and membership in private pension plans other than employer-sponsored defined-benefit plans. As noted above, the overall participation rate of Cyprus households in this category is comparable only to that of the United States and reaches approximately fifty percent of the population. Table 5 shows that peaks in participation rates for direct and indirect stockholding occur for exactly the same age groups as in the case of direct stockholding, both in Cyprus and in western countries. Stock market participation of young households is again higher in Cyprus than in western countries, and participation among older households tends to be lower. Although life insurance investment policies have been around far longer than the Cyprus Stock Exchange and the elderly are more likely to be familiar with them, they are much less likely to be involved in such contracts due to their age. Thus, inclusion of indirect stockholding does not alter the conclusions from direct stockholding alone. Similarly, inclusion of corporate bonds and focus on "risky financial assets" produces a similar age pattern of participation.

Striking results emerge when we include business equity and investment in real estate so as to consider "total risky assets". Almost seventy percent of Cyprus households hold at least

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portfolios.

one type of asset included in this category, the largest rate among all countries considered. Looking at separate age groups, we find higher participation rates in total risky assets for most age categories in Cyprus than even the United States that has the highest participation rates among all western countries considered. However, there is a marked drop in participation in the oldest categories in Cyprus that is unmatched in the United States data. This probably reflects the tendency of older Cypriots to pass their assets (especially real assets) onto their heirs upon retirement.

A key factor behind these unusually high rates of participation in Cyprus is the tendency of Cypriots to hold risky real assets, consistent with their overall tradition of holding real assets. The percentage of households that hold risky real assets but no risky financial assets can be found by subtracting the third from the fourth panel in Table 5. Cyprus households that fall in this category exceed those of all other countries in the below 30 and in the 50 to 59 age brackets. High participation of the young in risky real assets is probably due mostly to transfers from their parents and close relatives, given the family ties noted above. Reluctance of the older real-asset holders to include risky financial assets in their portfolio suggests that the tendency of the elderly in Cyprus to avoid risky financial assets is strong and present even among those who could use stocks to diversify risk associated with real asset holdings.

5.3. Special Focus: The Profile of Direct Stockholders in Cyprus

It is instructive to take a closer look at the characteristics of Cyprus households that held stocks directly (rather than through professionally managed accounts) in the extraordinary circumstances of 1999. Table 6 shows that the average age of household heads engaged in direct stockholding is about 44 years, lower than the average age in households not

owning stock directly, which is above 47.[16] This is consistent with our discussion on the role of age above.

One of the most robust findings in portfolio studies in other countries is that the level of education of the household head contributes positively to its tendency to undertake stockholding.[17] This is then reflected in the educational profile of the group of stockholders. For example, 47 percent of United States households that invest in stocks (directly or indirectly) have at least a college degree, but only 8.4 percent are high school dropouts (Bertaut and Starr-McCluer, 2001). Table 7 is consistent with a positive role of education on direct stockholding in the Cyprus context. Based on the CySCF, 43 percent of direct stockholders in 1999 had a college degree, while only about 20 percent were high school dropouts. The corresponding percentages among those who did not hold stocks directly were 21 and 41 percent.

The significant presence of households with less than high school education in the group of stockholders requires some attention. This seems to be a natural byproduct of the speed with which Cyprus households were drawn into the stock market. Financial education and targeted advertising by mutual funds are more likely to appeal to educated households but require time to influence stockholding patterns, as evidenced by the fact that it took United States households about a decade to start participating in mutual funds in large numbers.[18] The spread of equity culture among Cyprus households was accomplished through the power of media coverage and word of mouth, and these can increase participation rates quickly but they effectively remove the educational barrier to direct stockholding and draw less educated households into the stockholder pool. The existence of a significant mass of stockholders with limited financial education contains the seeds of stock market volatility. Lack of familiarity

[16] The difference is statistically significant at the 5 percent level.
[17] This holds even after controlling econometrically for other factors, such as income, wealth, age, marital status, employment status, and other related demographics.

with financial instruments and limited exposure of Cyprus households to the ups and downs of the stock market can make them prone to abrupt reactions and trading in response to limited or misleading market signals.

6. Diversification of Financial Asset Risk in Household Portfolios

In Section 4.2 above, we saw that diversification of Cyprus households across asset categories tends to be limited, but the majority of those holding few assets do not hold stocks directly. Here we continue the discussion on diversification by focusing first on households that do hold stocks directly (regardless of the number of asset categories held) and examining the number of different stocks held directly.[19] We then look at all households and discuss diversification across categories of assets with different degrees of riskiness.

6.1. Diversification Across Different Stocks

The bottom panel of Table 6 reveals that a striking 42.4 percent of Cyprus households that own stocks directly do so in only one company. These households make no attempt to diversify the stockholding risk associated with this one company by holding other stocks with different return properties.[20] Two thirds of direct stockholders hold stocks in no more than two companies, while only 13 percent hold stocks in five or more companies.

This is again a symptom of the rapidity with which stockholding spread among Cyprus households. Undoubtedly, a fraction of those holding only one stock were passively holding accumulations built in the past, before stocks were publicly traded. On the other hand, newcomers to the stock market are quite likely to have bought a single stock, influenced by

[18] This can be seen by comparing mutual fund participation rates in the United States Surveys of Consumer Finances between 1983 and 1992.
[19] The CySCF does not include information on the specific stocks held by each household.
[20] Note that data were collected prior to the establishment of the investment company "Demetra" that floated its stock on the promise that it would invest in a diversified stock portfolio and attracted significant numbers of stockholders.

knowledge of a particular company (for example, their employer) or by a "hot tip" regarding a newly listed company or an initial public offering (IPO). The fact that this was a period with numerous new listings of companies, IPO's, and private placements of stocks meant that such tendencies could influence the behavior of a large segment of the population. It is also conceivable that some more experienced or more financially alert investors "specialized" in IPO's, moving their entire stockholding wealth from one company to the other.

Portfolio specialization in just one company may be a transient phenomenon among new stockholders. One expects stockholding to spread to more companies over time, as the new entrant familiarizes itself with the workings of the stock market. This is by no means guaranteed, as was demonstrated by the privatization experiment in the United Kingdom. As Banks and Tanner (2001) report, new stockholders who entered the stock market by purchasing shares in privatized companies often failed to expand their portfolio to other companies in subsequent years. Prospects for diversification in Cyprus are fairly dismal, since the massive collapse of the index in 2000 led to disappointment with stocks rather than to a gradual move to diversify risk by including shares in more companies.

6.2. Diversification Across Risk Categories

Table 7 examines the tendency of Cyprus households to diversify financial portfolio risk by combining assets belonging to different categories of riskiness. We distinguish three such categories. "Safe assets" in this table refer to liquid accounts (checking, saving, etc.), time deposits, and government bonds. "Fairly safe assets" include whole life and endowment life insurance policies that accumulate cash value but do fall under life insurance investment policies. Finally, "fairly risky assets" include direct holdings of stocks, private pension plans, corporate bonds, and life insurance investment policies. The Data Appendix lists the

corresponding definitions for the United States, as well, that are taken along with the corresponding figures from Bertaut and Starr McCluer (2001).

Although the proportion of households with only safe assets is somewhat larger in Cyprus than in the United States (30.3 versus 25.4 percent), the percentage of those that do not include significant amounts of risk in their portfolios and hold at most safe and fairly safe assets is comparable in the two countries and is of the order of 40 percent (Table 7). Fairly safe assets in the United States include a much larger variety than that in Cyprus and include notably mutual funds (such as money market mutual funds and other bond funds) that are not invested in stock. This suggests that establishment of such funds in Cyprus can lead to some restructuring of portfolios and attract households that prefer to remain on the safe side.

The figures reveal two striking differences between the two countries. First, the proportion of households that are well diversified across risk categories (i.e., hold the full range of such categories) is only 8 percent in Cyprus compared to nearly 36 percent in the United States. Second, the proportion of households that invest in safe and in fairly risky assets but not in fairly safe assets is 41 percent in Cyprus but only 13 percent in the United States. In a sense, these are all facets of the same underlying factor, namely of the absence of money market mutual funds and similar managed funds that would allow households to reap some of the benefits of managed investment accounts without compelling them to undertake significant financial risk.

7. Conclusions

This paper described participation of Cyprus households in various financial and real assets in 1999, using new data from the first Cyprus Survey of Consumer Finances. It also put findings in an international context by utilizing recent household portfolio studies for five major financially developed countries. Almost 9 out of 10 Cyprus households are estimated to

have some type of financial asset other than cash. The second most popular financial asset, after checking accounts, is government savings bonds, and this is true for all age groups considered except for the youngest and oldest. This popularity of government bonds is highly unusual by comparison to the experience of financially developed countries and can be attributed mainly to their low denomination and to the lottery feature they incorporate.

By contrast, participation in retirement accounts is low both in absolute value and in comparison to the United States. Cyprus households seem to be relying mainly on the social security system, on antiquated defined-benefit pension plans sponsored by employers, and on accumulation of real assets in order to finance their retirement. If similar demographic factors operate in Cyprus as in the United States and major European countries, the social security system is likely to be put under a lot of strain in the years to come. Encouragement of investments in individual retirement accounts, through appropriate tax policy measures and through programs of financial education, could be instrumental in relieving such future pressures.

Despite the absence of mutual funds, almost one third of Cyprus households have been investing in managed portfolios through life insurance policies that accumulate cash value dependent on asset returns. This form of indirect stockholding remained more popular with Cyprus households of almost all age groups than holding stocks directly, even in a year of stock market frenzy such as 1999. Although lack of comparable data for other years makes it impossible to examine trends in participation over time, it is likely that direct stockholding drew so much attention in 1999 because it exhibited much more dramatic changes in participation than these indirect forms of investment. Combining direct and indirect stockholding, one in two Cyprus households participated in stocks in 1999, a participation rate that is comparable only to that of the United States with a much longer stock market tradition and experience.

Although less than forty percent of United States stockholders have direct holdings of stock, this is true of more than fifty percent of Cyprus households. Participation in direct stockholding is observed in the entire age spectrum. It peaks in the age group between 40 and 49 years, it is somewhat lower among younger groups, and significantly lower for those above 70. This hump-shaped age-participation pattern is consistent with international experience, but differs in the observed levels of participation. The overall participation rate in direct stockholding in Cyprus is of the order of 25.3 percent in 1999, higher than in any of the other countries we considered.

This higher participation rate is due to the behavior of households with heads under fifty years old, while participation rates among older groups fall behind those in the United States and in the United Kingdom. Particularly interesting is the high participation among the very young (between 20 and 25 years) that reaches 38.5 percent. This is probably related to the high proportions of young adults living with their parents and to the highly active links of parental transfers that provide the young with substantial resources while relieving them from many day-to-day subsistence expenditures and often from the need to acquire a home.

Potential sources of concern include the limited number of stocks held by direct stockholders, and the presence of a significant contingent with limited educational background. More than forty percent of direct stockholders in 1999 held stock in only one company, while nearly twenty percent of household heads had not graduated from high school (Lyceum). Both appear to be symptoms of the rapidity with which direct stockholding spread among the Cyprus household population and both could lead to stock market instability if direct stockholding retains its importance in the future.

Favorable tax treatment of life insurance premia has induced high participation of Cyprus households in life insurance. More than one in two households have some form of life

insurance, while two thirds of those with insurance prefer policies that accumulate cash value rather than term life insurance policies.

Diversification of Cyprus households across risk categories of financial assets tends to be limited, but the majority of those holding few assets do not hold stocks directly. Those who do hold stocks directly are very poorly diversified across different stocks, with over forty percent holding stocks in only one company. A very small percentage of households cover the entire spectrum of financial asset riskiness, but this is mostly due to the absence of money market mutual funds and other bond funds that would allow households to participate in managed accounts without forcing them to undertake stockholding risk.

Cyprus households display particularly high rates of ownership of real assets by international standards. Homeownership rates (at 86 percent) far exceed those in the United States, while the majority of homeowners own their home fully compared to only one third in the United States. High down-payment requirements and active intergenerational transfer links in Cyprus probably contribute to this finding. Nine out of ten households own a car, again exceeding ownership rates in the United States. Cyprus is a country of considerable entrepreneurial activity, with an estimated one quarter of Cyprus households owning business equity, compared to less than half of this proportion in the United States.

Cyprus households display not only entrepreneurial tendencies but also willingness to undertake asset risk more generally. Their overall tendency to participate in risky assets, financial or real, far exceeds that in all other countries considered. Seventy percent of Cyprus households participate in at least one type of risky asset, while this is true of only 57 percent of United States households, 44 percent of Italian households, and less than one third of Dutch households. Yet, there is a strong contingent of households that concentrate on risky real assets and abstain completely from risky financial assets, even during an unprecedented stock market boom such as that of 1999. About 19 percent of Cyprus households held only risky

real assets but no risky financial assets in 1999, and this was second only to Italy in which overall participation of households in stockholding is far below that of Cyprus.

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Table 1
Percent of Households with each Asset or Debt

	Cyprus (1999) %	**USA (1998) %**
Assets		
Financial	89.8	92.9
Liquid Accounts	82.2	90.5
Government Bonds	50.7	
of which: Development Stock	1.6	
Saving Certificates	0.4	
Savings Bonds	48.1	19.3
Other Bonds	5.1	3.0
Stocks	25.3	19.2
Mutual Funds	0.4	16.5
Retirement Accounts	12.5	48.0
Cash-value of Life Insurance	45.5	29.6
Non-financial	98.2	89.9
Primary Residence	86.0	66.3
Investment Real Estate	31.7	18.6
Business Equity	25.1	11.5
Other non-financial (mostly vehicles)	91.6	86
Debts	70.9	74.3
Mortgage and home equity	39.1	43.1
Loans for investment real estate	5.5	6.6
Credit card balances	20.1	44.1
Other debt	46.3	48.5

Sources: Cyprus figures based on the 1999 Cyprus Survey of Consumer Finances, calculations of the authors. USA figures are taken from Bertaut and Starr-McCluer (2001) and are based on the 1998 United States Survey of Consumer Finances.
For definitions of assets and liabilities, see Data Appendix. Statistics use population weights.

Table 2
Ownership of Financial Assets, By Age of Household Head

Age	<30	30-39	40-49	50-59	60-69	>=70	Total
Checking Account	57.7	72.4	77.1	57.0	50.8	27.4	64.1
Savings Account	40.4	25.2	30.5	36.5	28.0	24.2	30.6
Deposit Account (notice and time deposits)	39.4	33.2	42.2	39.4	33.6	16.7	36.5
Government Savings Bonds	38.5	49.3	59.0	54.7	40.5	34.4	50.7
Other Bonds	7.7	5.0	5.6	2.3	7.2	6.3	5.1
Stocks	26.9	26.7	30.0	22.8	22.6	10.4	25.3
Retirement Account	8.7	15.1	13.5	14.0	11.2	0.0	12.5
Life Insurance Investment Policies	26.9	42.1	45.0	21.8	6.4	1.1	31.1

Source: 1999 Cyprus Survey of Consumer Finances, author calculations. Statistics use population weights. For definitions, see Data Appendix.

Table 3
Percent of Households Owning Different Types of Financial Assets
By Number of Asset Types Held

Types of Assets	Number of Asset Types Held (Percent of households holding specified number of asset types)								
	0 (10.2)	**1 (16.9)**	**2 (22.9)**	**3 (22.9)**	**4 (15.9)**	**5 (7.4)**	**6 (3.2)**	**7 (0.7)**	**8 (0.1)**
Checking Account		38.7	69.5	75.0	85.3	96.0	97.7	100	100
Savings Account		20.9	21.9	41.5	41.7	50.0	48.8	77.8	100
Deposit Account (notice and time deposits)		7.4	24.2	49.7	60.8	73.3	84.1	88.9	100
Government Savings Bonds		23.6	41.8	62.7	79.4	87.0	93.0	100	100
Other Bonds		0.0	0.3	0.6	6.9	28.0	38.6	66.7	100
Stocks		4.3	18.6	23.1	42.6	64.0	86.4	100	100
Retirement Account		2.6	6.1	12.2	18.4	34.0	59.1	56.6	100
Life Insurance Investment Policy		2.6	17.7	35.7	62.5	67.0	88.6	100	100

Source: 1999 Cyprus Survey of Consumer Finances, author calculations. Statistics use population weights. For definitions, see Data Appendix. A table entry (i,j) represents the proportion of households that hold asset i when they hold j types of these assets.

Table 4
Proportion of Households Investing in Risky Assets

Direct Stockholding (%)							Direct and Indirect Stockholding (%)					
Year	**US**	**UK**	**NL**	**GER**	**ITA**	**CY**	**US**	**UK**	**NL**	**GER**	**ITA**	**CY**
1983	19.1	8.9	.[a]	9.7	.	.	.	.	.	11.2	.	.
1989	16.8	22.6	.	10.3	4.5	.	31.6	.	.	12.4	10.5	.
1995	15.2	23.4	11.5	10.5	4.0	.	40.4	.	29.4	15.6	14.0	.
1998-9	19.2	21.6	15.4	.	7.3	25.3	48.9	31.4	35.1	.	18.7	50.3
Risky Financial Assets (%)							**Total Risky Assets (%)**					
Year	**US**	**UK**	**NL**	**GER**	**ITA**	**CY**	**US**	**UK**	**NL**	**GER**	**ITA**	**CY**
1983	.	.	.	13.7	.	.		.	.	17.8	.	.
1989	31.9	.	.	17.2	12.0	.	46.4	.	.	24.1	47.0	.
1995	40.6	.	21.9	20.2	18.5	.	51.6	.	28.4	25.2	46.9	.
1998-9	49.2	32.4	27.7	.	22.1	50.8	56.9	.	32.8	.	43.8	69.4

Sources: For Cyprus, 1999 Cyprus Survey of Consumer Finances, author calculations. For other countries: Guiso, Haliassos, and Jappelli (2001a).
The table reports percentages of households that hold each class of assets. For definitions of asset categories, see Data Appendix. Statistics use population weights. [a]: Figure is not available.

Table 5
Proportion of Households Investing in Risky Assets, By Age

Direct Stockholding (%)							
	<30	**30-39**	**40-49**	**50-59**	**60-69**	**>=70**	**Total**
US	11.8	16.0	21.2	24.8	23.7	18.2	19.2
UK	10.8	19.6	24.5	28.1	26.2	18.5	21.6
Netherlands	4.7	6.8	13.4	18.4	17.8	21.2	14.4
Germany	8.5	11.3	12.1	11.2	10.1	6.1	10.0
Italy	3.4	9.9	8.4	9.3	6.4	4.2	7.3
Cyprus	26.9	26.7	30.0	22.8	22.6	10.4	25.3
Direct and Indirect Stockholding (%)							
	<30	**30-39**	**40-49**	**50-59**	**60-69**	**>=70**	**Total**
US	34.3	51.8	58.3	61.4	47.1	32.4	48.9
UK	20.4	31.5	37.0	41.2	34.8	21.9	31.5
Netherlands	12.1	25.6	33.7	40.1	38.6	35.9	33.5
Germany	18.6	21.8	22.0	21.0	17.1	11.7	18.9
Italy	11.9	27.5	24.2	23.4	15.8	7.8	18.9
Cyprus	47.1	56.7	63.9	45.0	36.0	12.5	50.3
Risky Financial Assets (%)							
	<30	**30-39**	**40-49**	**50-59**	**60-69**	**>=70**	**Total**
US	34.5	51.8	58.5	61.5	47.9	33.4	49.2
UK	20.9	32.0	37.7	42.2	36.4	23.1	32.4
Netherlands	8.7	15.6	21.0	31.1	31.1	35.1	24.8
Germany	23.9	28.2	28.0	27.8	23.1	18.0	25.1
Italy	17.3	30.3	26.9	26.3	20.6	10.3	22.1
Cyprus	47.1	56.7	63.9	45.6	36.8	14.7	50.8
Total Risky Assets (%)							
	<30	**30-39**	**40-49**	**50-59**	**60-69**	**>=70**	**Total**
US	38.7	58.6	67.0	68.4	59.2	42.2	56.9
UK	NA	NA	NA	NA	NA	NA	NA
Netherlands	12.8	22.9	29.6	41.2	32.8	38.8	31.5
Germany	NA	NA	NA	NA	NA	NA	NA
Italy	32.4	50.6	50.6	51.7	45.9	26.4	43.8
Cyprus	62.5	73.9	79.9	73.3	58.4	18.9	69.4

Sources: For Cyprus, 1999 Cyprus Survey of Consumer Finances, author calculations. For other countries: Guiso, Haliassos, and Jappelli (2001a). For definitions of asset categories, see Data Appendix. Statistics use population weights. NA = Not available

Table 6
Characteristics of Direct Stockholders in Cyprus

Household Characteristic *(Percent of households in category)*	**Non-Stockholders** *(74.7)*	**Direct Stockholders** *(25.3)*
Average age of household head (years)	47.30	44.13
Standard deviation of age of household head (years)	13.87	11.74
Education of Household Head (%):		
Below High School	40.8	19.5
High School Diploma	37.9	37.5
College Degree	21.3	43.0
Percent owning shares in only:	**Among All Households**	**Among Direct Stockholders**
1 company	10.6	42.4
2 companies	6.3	25.2
3 companies	3.3	13.2
4 companies	1.5	6.0
5 or more companies	3.2	12.8

Source: 1999 Cyprus Survey of Consumer Finances, calculations of the authors.
Notes: Below high school: household head has not graduated from Lyceum. High school diploma: household head is a Lyceum graduate but does not have a college degree. College degree: household head has at least a college or university degree or a major professional qualification (e.g., chartered/certified accountant).

Table 7
The Riskiness of Household Financial Portfolios
(Percentage of Households Having the Specified Portfolio Combination)

Financial Assets Held in Household Portfolio	Cyprus	USA
Safe Assets only	30.3	25.4
Safe & Fairly Safe only	8.7	16.8
Safe & Fairly Risky only	41.0	12.9
Safe, Fairly Safe & Fairly Risky	8.0	35.7
No Safe, some other type	2.3	2.1
No Financial Assets	9.7	7.1

Sources:
Cyprus: 1999 Cyprus Survey of Consumer Finances, author calculations.
USA: Bertaut and Starr-McCluer (2001), based on the 1998 United States Survey of Consumer Finances.

Statistics use population weights. For definitions of asset categories, see the Data Appendix.

DATA APPENDIX
Definitions of Household Portfolio Components*

Assets	
Direct stockholding	Shares held directly.
Direct and indirect stockholding	Shares held directly, or in managed investment accounts and in retirement accounts. In Cyprus, where mutual funds are not available, indirect stockholding includes private pension plans (other than employer pension funds) and those life insurance policies that invest part of the premium in a risky portfolio and accumulate cash value dependent on risky returns. Except for the U.S., information on the specific types of mutual funds and investment accounts is not available, and one cannot disentangle indirect stockholding in mutual funds and managed investment accounts from investment in other financial assets. For this reason the reported figures overestimate the true value of indirect stockholding. In Germany there is no information on pension funds.
Risky financial assets	Cyprus: Direct and indirect stockholding plus corporate bonds. U.S.: direct and indirect stockholding, plus corporate, foreign and mortgage-backed bonds. U.K.: direct and indirect stockholding plus corporate bonds. Netherlands: direct and indirect stockholding, but excluding defined-benefits pension funds. Germany: direct and indirect stockholding plus foreign bonds. Italy: direct and indirect stockholding plus long-term government bonds and corporate bonds.
Total risky assets	Risky financial assets, private businesses, investment real estate. In the U.K. there is no information on real assets.
Financial assets	Liquid accounts, government and other bonds, stocks (directly held), mutual funds, retirement accounts, cash value life insurance.
Liquid accounts	Cyprus: Include checking accounts, notice and time deposits, savings accounts. United States: Checking accounts, savings accounts, money market deposit accounts, money market mutual funds, and call accounts at brokerages.
Deposit accounts	Bank accounts that either require advance notice for the withdrawal of sums (notice accounts) or specify a period during which withdrawals are charged an interest penalty (time deposits). Unofficially, banks waive the requirement for advance notice on notice accounts.
Government bonds	Cyprus: Government development stock, saving certificates, and savings bonds. United States: Savings bonds are U.S. Government Savings Bonds.
Other bonds	Cyprus: Corporate bonds. United States: Federal government bonds other than U.S. savings bonds, bonds issued by state and local governments, corporate bonds, mortgage-backed bonds, foreign bonds, and other types of bonds.
Stocks	Directly-held stock in publicly traded corporations.
Mutual funds	Directly-held shares in all types of mutual funds, excluding money market funds.
Retirement accounts	Cyprus: Private retirement plan accounts other than membership in an employer-sponsored defined-benefit pension plan. United States: Individual accounts (IRA and Keogh) and employer-sponsored thrift-type retirement accounts.
Cash value life insurance	Surrender value of life insurance policies that build up a cash value.
Life insurance investment policies	Those “whole life” insurance and “endowment life” insurance policies that invest part of the insurance premium in a risky portfolio and accumulate cash value that depends on risky returns.

Non-financial assets	Primary residence, investment real estate, business equity, and other non-financial assets.
Primary residence	The home where the household lives.
Investment real estate	Includes residential and non-residential property other than the primary residence and not owned through a business.
Business equity	Net equity in privately owned businesses, with or without management role.
Other non-financial	Cyprus: all standard passenger vehicles and all other types of personal-use vehicles not owned by a business. United States: includes in addition miscellaneous non-financial assets such as artwork, antiques, jewelry, furniture, and valuable collections (coin, stamp, etc).
Safe assets	Cyprus: Liquid accounts (checking, saving, etc.), time deposit accounts, and government bonds (development stock, saving certificates, and savings bonds). United States: Liquid accounts (checking, saving etc.), certificates of deposit and U.S. savings bonds.
Fairly Safe Assets:	Cyprus: Whole Life and Endowment Life insurance policies that accumulate cash value but do not come under life insurance investment policies. United States: Other government bonds, tax-free bonds, cash-value life insurance, and amounts in mutual funds, retirement accounts, trusts and other managed assets that are not invested in stock.
Fairly risky assets	Cyprus: Direct holdings of stocks, private pension plans (other than employer-sponsored defined-benefit plans), corporate bonds, and those whole life and endowment life insurance policies that invest part of the premium in a risky portfolio. United States: Direct holdings of stocks, stock held through mutual funds, retirement accounts, corporate, foreign, and mortgage-backed bonds, and other managed assets.
Debts	
Mortgage and home equity	Loans secured by the primary residence, including first and second mortgages and loans obtained against home equity.
Loans for investment real estate	Loans or mortgages on property other than the primary residence (this includes secondary and seasonal residences)
Credit card balances	Balances outstanding after the last month´s payment on bank type credit cards (i.e., cards not restricted to a specific store– Mastercard and Visa for Cyprus) and other types of cards (store, gas, travel and entertainment, airline, etc).
Other debt	Cyprus: Home improvement loans, student loans, consumer loans (overdraft, household item loans, medical debts, loans from friends or relatives and other consumer loans), personal debts from business and loans against life insurance policies. United States: home improvement loans, student loans, vehicle loans, other instalment loans, lines of credit other than those based on home equity, and loans against pensions and life insurance policies.

*Definitions for the United States reproduce those in Bertaut and Starr-McCluer (2001). Definitions for European countries other than Cyprus reproduce those in Guiso, Haliassos, and Jappelli (2001a).

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