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Mortgage Debt, Social Customs and Financial Innovation

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Abstract

Although housing can be a powerful channel of monetary policy transmission this channel can be weakened by social customs and financial liberalization as well as accompanying innovation that create alternatives to bank mortgages controlled by a central bank. This paper utilizes some unique questions in the 1999 and 2002 Cyprus Surveys of Consumer Finances, as well as data from the 1998 and 2001 US Surveys of Consumer Finances, in order to study the role of social customs (in the form of parental housing gifts) and financial liberalization for the incidence of homeownership rates, mortgage debt and borrowing constraints. Unlike existing studies of financially developed countries, the data from the Cyprus Surveys suggest that only a very small proportion of Cypriot households are credit constrained and that a number of important economic characteristics of the household are irrelevant for homeownership and for the use of mortgages. Our findings suggest that the presence of such customs may interfere with the monetary transmission mechanism by limiting the sensitivity of housing investment to changes in credit market conditions. Financial liberalization leading to innovation could work in the opposite direction if it leads to increased household participation in formal loans controlled by the central bank.

Keywords: Homeownership, social customs, financial liberalization, monetary policy.

JEL Classification: E52, R21.

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1. Introduction

Housing can play a central role in the monetary transmission mechanism, through numerous channels. A number of channels run through the effects of policies on demand for housing. Policy-induced changes in interest rates affect the interest-rate component of the user cost of housing, as well as the expected capital gains component through their effects on expectations regarding future policies. Higher interest rates imply higher opportunity costs of using the house, and this negative demand effect can be reinforced by creation of expectations of future tightness, leading to lower rates of expected house price appreciation.

In addition to the direct demand effects, there is a host of indirect effects. First, there are wealth effects if policy-induced appreciations of house prices make people feel richer and consume more. Second, house price increases raise the collateral households can offer for consumer loans and thus raise borrowing limits and improve the terms on which such loans can be had. This is especially true in countries with developed home equity loans, where house price increases make more consumable resources available to households directly. Third, for given loan to value ratios, higher prices raise the down-payment amount that households need to collect before they buy a house, thus exerting an opposite effect on consumption. Fourth, lower nominal interest rates lower the level of ‘committed expenditures’ of households for servicing their mortgages, facilitating consumption. Finally, on the supply side, lower interest rates imply lower costs to developers, thus promoting housing construction.

Mishkin (2007) provides a nice overview of the issues involved in assessing the empirical importance of such effects and of the existing literature. While some empirical findings are contradictory or method-dependent, the overall conclusion from empirical research is that housing plays a quantitatively important role in the monetary transmission.¹

Underlying standard discussions of the importance of housing for monetary policy is the view that households have access to, and make use of a developed mortgage market, and they

expect their descendants to make similar use of mortgage and credit market opportunities. This is perfectly legitimate for the United States and for a number of countries with highly developed financial sectors where young people are expected to resort to the market for home purchase. However, in countries with more traditional family links and possibly less developed financial sectors, the housing channel for monetary policy transmission may be weakened by social customs or informal arrangements that reduce reliance on, or bypass altogether, the mortgage market when acquiring a home.

Consider, for example, the case of families who received a house from their parents as an inter vivos gift or as a bequest, and intend to provide their own children with housing gifts or bequests because of time-honored social norms. It is reasonable to expect the housing demand of such households to be quite interest rate inelastic, and the response of their consumption to changes in house prices more limited. Higher interest rates and lower expected house price increases are likely to be less important in reducing housing demand, as housing is not viewed simply as part of an entire asset menu but as an obligation of caring parents to their children. House price increases may be opportunities to get bigger loans for own consumption, but using the house as collateral interferes with the objective of providing children with housing free of debt obligations. House purchase decisions are shifted from young households with limited finances that are sensitive to changes in nominal interest rates and associated committed expenditures, to middle-aged households at their peak of employment income and of asset accumulation.

Similarly, the extent of financial innovation encouraged by financial liberalization can limit the sensitivity of mortgages to monetary policy. A body of recent literature has argued that the practice of mortgage securitization has decreased borrowing constraints and thus inhibited the effectiveness of monetary policy; and that the availability of non-bank resources has created substitutes to bank lending (see Brady, 2004).

Understanding how social customs and limited mortgage market development can affect homeownership is particularly important when countries in which these are relevant are subject to monetary policy coordination with partners characterized by highly developed and extensively used mortgage markets. A topical example is the recent enlargement of the EU and of the Eurozone. This paper uses detailed household-level data from two extremes: a recent EU and Eurozone entrant (Cyprus), and a country at the opposite end of the spectrum of financial development and reliance on mortgages (the US), to illustrate the importance of social customs and financial development for homeownership and mortgage financing. Home provision driven by social customs (such as housing gifts and dowries) is contrasted to home acquisition facilitated by financial institutions with well-defined credit scoring criteria based on household resources, occupational status, and other pertinent characteristics.

The analysis uses detailed household-level data from the two existing waves (1999 and 2002) of the Cyprus Surveys of Consumer Finances, as well as data from the US Survey of Consumer Finances for comparable years (1998 and 2001). Besides being the only new entrant with extensive household-level data on portfolios, Cyprus has recently experienced financial liberalization, accompanied by financial innovation and combined with dramatic swings in asset prices; and it has a strong tradition of inter vivos parental housing gifts.² It thus provides a useful testing ground for the importance of both financial liberalization/innovation and social customs for the housing market.

Cyprus is a country with close family ties and persistent and widespread social customs. Houses are often provided as a parental gift to children, typically to a new bride. Given the typically small age differences between parents and children, housing gifts often take the form of an extra floor built on top of the parents' house, at parents' expense. Effectively, parents use their own resources and collateral to finance the building of their children's home. Partly for this reason, the incidence of binding borrowing constraints is extremely low in Cyprus

compared to that observed in the US. Sometimes, construction is planned years ahead of the child's 'coming of age', but it usually takes place when children approach adulthood or transition to married life. Thus, the resources of middle-aged, typically asset-holding parents are used to secure mortgages, instead of the limited resources of a young couple starting its economic life. Indicative of the above is the fact that in the case of Cyprus housing loans make up only 44% of the GDP despite the fact that 80% of households own their primary residence. As a result, construction is much less an economic decision weighing costs against benefits, but a social obligation unlikely to be elastic with respect to interest rates.

Interest rates were liberalized only as of 1st January 2001, allowing the Central Bank of Cyprus to conduct monetary policy through interest rate management for the first time. The transition to the liberalized environment was smooth, and banks applied the usual market principles in differentiating lending interest rates according to client specific risk and credit worthiness. Alongside the banking sector, important players in commercial financing of house purchases are cooperative societies, with much more localized clienteles and stronger personal relations, but also less easily controllable by the monetary authorities compared to banks³.

Cyprus is a country with high homeownership rates (of the order of 80%) and renewed interest in real estate, especially following recent dramatic developments in the stock market.⁴ Following the burst of the stock market bubble, most investors essentially found themselves locked into the stock market by having purchased shares in investment companies, and direct participation rates were measured at more than 50% even in 2002 (Table 1). Disappointment with the stock market, combined with low interest rates, resulted in increased flows of other funds to housing, with the share of housing and construction loans in new bank credit granted rising from below 30% in 2000, to 76% by 2003.⁵

We exploit this confluence of time-honored social customs, financial liberalization and innovation, strong importance of the housing sector, and detailed data to study determinants of

homeownership and mortgage behavior and potential links to monetary policy. In section 2, we provide background information on monetary policy in Cyprus, on the importance of the housing market, and on household assets and liabilities generally. The variables from the Cyprus Surveys of Consumer Finances are described in section 3, as are first estimation results for Cyprus. Section 4 attempts to shed some light on the relevance of social customs by studying econometrically factors that contribute to receiving housing gifts and to expecting to leave a bequest. Section 5 reports findings for Cyprus that control for receipt of housing gifts or of gifts and inheritances more generally. Section 6 reports our findings for the US and compares them with the Cyprus findings. Section 7 concludes. Variable definitions and short description of the samples appear in two Appendices.

2. Household Finances and Monetary Policy in Cyprus

2.1. Household finances and the prevalence of housing gifts

The Cyprus Survey of Consumer Finances provides a comprehensive source for assets and liabilities of Cyprus households, along with demographic characteristics and attitudes towards borrowing, lending, risk taking, liquidity and related matters. Two waves of data, for 1999 and for 2002, are used in this paper. The Appendix gives a brief description of the sample. Extensive information on Survey design is available in Karagrigoriou (2005).

Table 1 shows that, in both waves of the Survey, about 90% of households hold some type of financial asset.⁶ The enormous spread of stockholding (51.4% of households participated by 2002 compared to 25.3% in 1999) was mainly due to the establishment of ‘Demetra’, the Co-operative Society’s investment company, in which almost all clients of the Co-operative sector bought shares. Over the same period, investment in government bonds became significantly less widespread.⁷

Turning to non-financial assets,⁸ the homeownership rate (more than 80%) significantly exceeds that in the US (about two thirds). Approximately 30% of households report having a mortgage (Table 2) and this represents for those more than 50% of household debt (Table 3). Comparison of Tables 2 and 3 reveals that both household participation in home secured mortgages as well as their overall share in total household loans⁹ decreased slightly in 2002 compared to 1999.

Tables 4 and 5 provide figures for participation and for conditional shares in total household debt for different age groups. For home secured debt, both initially increase with age and reach their maximum in the age group 30-39, to decrease sharply from interval 50-59 on. Although 86% and 83.1% of Cyprus households report in 1999 and 2002, respectively, that they own their primary residence (Table 1), only about half of homeowners report having ever taken out mortgages on the current residence. Mortgages are very important for those who do hold them, as they account for more than half of all their household debts (Table 3).

The self-reported incidence of binding borrowing constraints is extremely limited in Cyprus. Only 1.8% of households report in 1999 that they are liquidity constrained in the sense of ever having their request for a loan rejected or curtailed, or having been discouraged from applying, and only 1.7% do so in 2002. By contrast, existing literature on borrowing constraints in highly financially developed countries suggests that the incidence of binding borrowing constraints is of the order of 20%.¹⁰ Although underreporting in survey questions on loans and indebtedness is a widely known problem, it is unclear why it should be a much more severe factor for households in Cyprus than elsewhere, especially given the size of the gap.

A number of factors are likely to be responsible for this strong finding in Cyprus. One is the traditionally low unemployment rate, implying small unemployment risk for loan recipients. Another is the consistently upward path of property prices in Cyprus, which have never registered a decline since the establishment of the independent Cyprus state in 1960, ensuring

capital gains for loan collateral. A third factor is the overwhelming importance attached by Cyprus households to their home. In view of this, banks know that, in difficult times, households will be willing to cut back on other types of expenditures to make sure they repay their mortgage. A further likely contributing factor is a tendency of commercial banks in Cyprus, or co-operatives that operate in parallel to banks, to be less strict in lending money to higher risk groups (e.g., young, low income, etc.) than their counterparts abroad. Although it is difficult to evaluate this conjecture, there is some evidence of at least lack of persistence in rejecting loan applications.¹¹

Social customs are also likely to contribute heavily to the limited incidence of borrowing constraints in Cyprus. In addition to the fact that the presence of a family safety net makes downpayments easier and provides additional guarantees to a bank., there is a time-honored tendency of Cyprus parents to provide the house as a gift or to assume mortgages that the young household would otherwise have to secure based on its own resources. Table 6 shows that housing gifts are indeed quite widespread, across households of different characteristics and not confined to poorer or less educated households. Just under 40% of Cyprus households, representing more than 45% of homeowners, report that they have received their *current* residence as a gift. This is an understatement of the prevalence of such gifts, as it omits households who received such a gift at some point but are currently not living in the house they received. Households living in the house received as a gift are spread across age groups relatively evenly, except for the youngest and the oldest groups. While heads of most such households do not have a college degree, about 30 percent of them fall in the highest education category. Over 90% are married, reflecting the typical nature of housing gifts, namely as wedding gifts. They are equally distributed among the three bottom quartiles of income distribution, with smaller representation from those in the top quartile. They are equally distributed among the four quartiles of the non-residential wealth distribution.

2.2. Monetary policy and the housing market in Cyprus

Financial liberalization was recently implemented in Cyprus. After a very long period of statutory ceilings in lending interest rates, interest rates were fully liberalized in January 2001. Following full liberalization, a Monetary Policy Committee was set up with the goal of setting and implementing monetary policy decisions. In July 2002, a new Central Bank of Cyprus Law was enacted giving the Central Bank full independence from the government and setting out price stability as the primary objective of monetary policy. Price stability was not defined by an explicit numerical target, and the Central Bank was to achieve this goal through a fixed exchange rate system.¹²

The Cyprus Stock Exchange (CSE) was officially launched in 1996. After the 1999 stock market bubble and its subsequent burst, Cyprus investors lost their trust in the stock market. At the same time, the low interest rates paid by banks for time and savings accounts encouraged investors to find alternatives. What followed was an inflow of funds into real estate, with a concomitant rise in the importance of this sector in terms of its share in annual credit by banks. The increased demand raised property prices, which in some cases more than doubled, prompting the Central Bank of Cyprus to consider corrective monetary policy measures.

The issue at hand was how to achieve the goal of price stability in the presence of a possible property bubble. Two prominent views were considered. One suggests that a central bank should intervene only if asset price changes signal changes in expected inflation (Bernanke and Gertler, 2001). The other argues that central banks can improve macroeconomic performance by reacting systematically to asset price misalignments, over and above their reaction to inflation forecasts and output gap (Cecchetti et al, 2003). In addition to these views, the Central Bank recognized that close family ties that still affect the housing market complicate things even further. Mention was made of the practice of getting a house or a big

part of it as a gift from parents and of its potential to reduce the incidence of liquidity constraints and thus interfere with the monetary transmission mechanism.

The Central Bank took a series of measures. First, the Bank consistently stated in its monetary policy statements that it regarded the rise in property prices ‘unwarranted’. The statements were followed by a circular to commercial banks urging them to carefully evaluate all requests for financing property investments, and to avoid financing more than 70% of the value of the property. At around the same time, the Monetary Policy Committee, in an unscheduled meeting, raised the official interest rates by 100 basis points, albeit primarily as a pre-emptive step in calming fears of a possible devaluation of the Cyprus pound. However, the rate increase, coupled with the initial measures taken by the Central Bank, turned out to be effective in cooling the property market only temporarily, with prices continuing their upward trend since then, proving that the available tools have been inefficient in affecting the housing market. In 2007 the CBC has restricted further the amount of financing to 60% of the value of the property in a further effort of affecting the continuing rise of property prices. In January 2008 Cyprus joined the eurozone and made Euro its official currency.

3. Determinants of Homeownership and Mortgage Behavior in Cyprus

Surveys of household finances usually report currently outstanding liabilities, including mortgages. The Cyprus SCF contains a unique question on whether households *currently have or have ever had* a mortgage on their primary residence. In this Section, we report results from probit estimation with selection for the incidence of currently having, or having ever had, a mortgage, conditional on homeownership.

The presence of refugees since the separation of the island in 1974 calls for attention in defining the estimation sample. Although most households in the full sample face the usual homeownership choices, households with refugee status had special treatment with respect to

housing. Our estimation sample includes refugee households that were given the opportunity to obtain some government funds in order to acquire a home. Such households still have to make an explicit choice of whether they will own a home or not, and conditional on owning, whether to get a mortgage (to finance a bigger home). The fact that they have received funds to facilitate the purchase of a primary residence is controlled for in the regressions. Two other categories of refugees are excluded from the estimation, as they do not own a home but they cannot be identified with renters in the usual sense.¹³

3.1. Determinants of homeownership

We first report estimation results for homeownership (Table 7, bottom panel). As is the case in other countries, marital status has a strongly significant effect on homeownership, with married households being more likely to own a home (controlling for other factors). To the extent that parental gifts are given as wedding presents, it is natural to expect that married status would contribute to the incidence of owning a home. But even if housing is not received as a gift, marriage is a life transition often associated with house purchase.¹⁴

Controlling for marital status, having children also contributes positively to the tendency to own a home. This effect of children must be coming mainly from households that purchase their home in response to the needs arising from a larger household size. It is unlikely that parental housing gifts are conditional upon, or significantly encouraged by the arrival of children, as they tend to be given just before the wedding, if not earlier. However, social custom may be playing a role even in this case, if having children (rather than not having any) captures partly social background factors, such as belonging to “traditional” families, not already incorporated in the regressors.

In countries where homes are predominantly purchased rather than received as gifts, one would expect financial resources of the household to be key determinants of homeownership.

Household income is likely to play a role in terms of whether the household can afford a house and is likely to pass the screening of loan officers. Non-housing real wealth and financial wealth would provide resources to meet down payments, and could also serve as collateral and as useful precautionary buffers in the face of income or expenditure risk combined with committed expenditures (e.g., mortgage payments). Yet, we find that two of these three ‘economic’ factors (income and non-residential real wealth) make no statistically significant contribution to the incidence of homeownership in Cyprus. Such insignificance could be produced by a widespread practice of parental housing gifts not dependent on the financial conditions of the receiving household, or even by a practice of giving gifts to needier children – running in the opposite direction of screening criteria employed by loan officers.

Occupational status of the household member in charge of finances (respondent) is not found to have an important influence on homeownership. This is true even for respondents who are ‘not working’, i.e. unemployed or students. The category ‘others’ include respondents out of the labor force. If survey responses reflect accurately the overall work status of the household and not just of the respondent (an issue that matters only for couples), then insignificance points to irrelevance of occupational status for homeownership. This would be consistent with extended family safety nets or housing transfers from parents that eliminate the need to finance the purchase of a home out of own resources. But for couples, irrelevance of respondent occupational status may also be partly due to risk sharing within the household. Turning the estimates around, since the omitted variable is retirement, insignificant occupational dummies imply that retirement status per se does not diminish the tendency of the household to own a house, controlling for age and other factors.¹⁵

Having a college or university degree or a major professional qualification (such as chartered or certified accountant status) has a statistically significant negative effect. Although this negative effect may be due partly to social customs, the presence of such customs is not

necessary to generate it: our findings for the US (reported below) also indicate a negative effect of college education on homeownership. It is possible that the US finding is partly attributable to greater geographical mobility and need for flexibility of college graduates, but another factor is that, for given age, having college education tends to imply a shorter working life to date, reducing the likelihood of homeownership for given age and resources. Differential geographical mobility is unlikely to be a major factor in a very small country like Cyprus, but shorter working life should still matter, with an additional twist. Since accredited universities did not exist in Cyprus until 1992, higher education acts also as a proxy for the part of their adult life that household members have spent in Cyprus, whether working or not. In a country where parental gifts of homes are prevalent, factors contributing to a negative coefficient could also include a tendency of highly educated children not to request or accept free housing from their parents; or parents who finance college education as an alternative to providing a housing gift. We return to these issues below, when we study who gets housing gifts.

Age is estimated to influence homeownership, with the quadratic term (signaling a hump shape) just failing to be significant at the 10% level. It should be remembered that our data come from two cross sections, so that age, time, and cohort effects cannot be separately identified. Our estimation here effectively sets cohort effects to zero. This may not be unreasonable for housing in Cyprus, as owning the primary residence has been a dominant priority for very many years.

We do not find that having been turned down for a loan significantly discourages homeownership. The small number of households that declare being liquidity constrained and the lack of statistical significance of this variable when controlling for other factors do not leave much room for arguing that borrowing constraints play an important role in the homeownership decision of Cyprus households. In principle, one might suspect that both findings are the result of massive underreporting of the incidence of borrowing constraints by households that

associate being turned down for a loan with some “stigma”. However, such suspicion would run against casual observation and the general perception of Cyprus households that getting a loan is relatively straightforward in a financial system that includes both standard commercial banks and cooperative societies less subject to supervision.

We do not find a statistically significant influence of gender of financial respondent on the incidence of homeownership, controlling for other characteristics. Finally, the 2002 dummy is statistically insignificant, suggesting little change in homeownership between 1999 and 2002, despite the intervening financial liberalization, once we control for other characteristics.

3.2. Determinants of the incidence of mortgages

Table 7 (top panel) shows the regressions for currently having or having ever had a mortgage on the current primary residence, observed only for homeowners. Controlling for other factors, the older the respondent is, the less likely it is that acquisition of the current residence was financed through a mortgage, wholly or partly. Given the retrospective nature of the question, this result probably reflects the increased likelihood of older households to have moved from their first owned residence.¹⁶ Moves that involve downsizing, acceptance of an inheritance, or upgrading to a larger house would all contribute to a negative estimate.

We find that having a female in charge of finances makes it significantly less likely that the house has been financed through a mortgage, controlling for other factors. This finding is consistent with the view that parents are more likely to provide a housing gift to their daughters than to their sons, a view that we put to a statistical test below. It is also interesting to investigate whether part of this effect is related to differential tendency of female financial respondents to obtain mortgages – for demand or supply reasons – and we return to this below.

Being married was found to make it significantly more likely to own a home. However, married households or those with kids are no more likely to have (or have ever had) a mortgage, conditional on homeownership.

Among resources in the form of income, non-residential real wealth, and financial wealth, only income is significant for having had a mortgage, and this only at the 10% significance level. If financial considerations were the primary determinant of whether a household obtains a mortgage, either through their influence on demand or through their influence on the readiness of lenders to grant mortgages, one would expect a closer link between resources and the incidence of mortgages. Doubts about the importance of resources are reinforced by noting that occupation and responses concerning borrowing constraints do not contribute to explaining which households ever had mortgages on the current residence, conditional on owning it.

Although a college degree reduces the probability of homeownership, having a college degree significantly increases the probability of having financed the current residence through a mortgage, conditional on owning it. If future income prospects are a dominant consideration in mortgage choice, one would expect college education to contribute to the incidence of mortgages, both because of higher expected income growth and because of lower overall income risk. In terms of social customs, one might also expect that college educated children are more likely to get a mortgage, conditional on owning, both because they are less likely to be thinking in “traditional” ways and accepting housing gifts, and because their parents are more likely to have spent more on their education. We return to these issues below.

A policy-relevant variable in Cyprus is the indicator of whether a household has been granted refugee financial support to acquire its residence (“aftostegasi”). In principle, purchase of a home through this scheme could discourage use of a mortgage, or it could also encourage for the purpose of acquiring a bigger house. Possibly because of these two conflicting effects,

we find no evidence that the incidence of financial housing support to refugee households has systematically influenced their tendency to have a mortgage on the current residence.

We find a statistically significant and negative year effect for 2002 relative to 1999. This suggests that the incidence of having or having ever had a mortgage on the current residence was significantly lower among new homeowners between 1999 and 2002, relative to incumbents and to those who exited, despite the financial liberalization that took place between 1999 and 2002. A possible factor contributing to this result is the dramatic stock market bubble in 1999 and its subsequent burst in 2000. Both the increase in stock market wealth and the subsequent disappointment with the stock market may have contributed to greater entry into the homeowner pool with non-borrowed funds during this period.

The continuation of Table 7 presents marginal effects of the variables, i.e. estimates of their contribution to the probability that a household has now or has ever had a mortgage on the current residence, conditional on owning. We find that being male increases the conditional probability by about 7 percentage points, and the effect is statistically significant at the 10% level. Having advanced education and belonging to the 2002 sample have statistically significant and fairly large effects, positive and negative respectively. The effect of advanced education is of the order of 8 percentage points, while the incidence of current or past mortgages, given that a household is in the homeowner pool, is estimated to have dropped by about 7 percentage points between 1999 and 2002. Financial resources are not significant, with log income just missing the 10% significance mark.

4. Housing Gifts and Bequests in Cyprus

4.1. Factors contributing to receipt of housing gifts

Table 8 reports estimates of the influence of household demographics on the probability that the household has received its current residence as a gift.¹⁷ We find that households where the

person in charge of finances is female are significantly more likely to have received their current residence as a gift. This is consistent with the popularly held view that housing gifts are primarily given to daughters, and thus single females or households with female heads are more likely to have received such gifts. Ideally, we would like to observe whether the household has ever received a housing gift, but this is not available in the data. So, strictly speaking, our findings refer to the joint event of getting a housing gift and remaining in that initial house by the time of the interview. It can also be partly due to a greater tendency of male-headed households to move to mortgage-financed homes after receiving their first home as a gift.

Being married contributes to the probability of having received the current residence as a housing gift, consistent with the idea that housing gifts tend to be given as wedding gifts. On the face of it, having children should encourage a move to a bigger home. Still, having children is estimated to make it more likely that the current house was received as a gift. Since gifts are almost always given before the wedding, the presence of children may be capturing families with more ‘traditional’ values, where the incidence of housing gifts is likely to be greater.

Current household resources do not influence the probability of having received the current residence as a housing gift, with the possible exception of current income which has a negative effect that is just statistically significant at the 10% level. Whether the respondent is currently unemployed or a student (‘not working’) is similarly irrelevant. Although we would ideally like to know if the household *ever* received a housing gift, and the level of household resources and the employment status at the time of receipt, this finding at least provides no basis for arguing that parents condition their housing gifts on the resources of their children, e.g. giving a house to poorer children but not to richer ones. Informal observation does suggest that parents tend to plan housing gifts long in advance of the actual transfer to their children, often as the children are growing up (if only because of ‘time to build’ considerations), when their children’s households are not formed and their financial situation is unknown.

Advance planning does raise the possibility, however, that parents choose whether to fund their children's college education as an alternative to providing a housing gift.¹⁸ If parents were to view these two options as alternatives, we would expect to find a systematic negative relation between college education and the probability of having received a housing gift. Other factors that might contribute to such a negative relationship are a smaller tendency of college graduates to accept such gifts from their parents and/or a greater tendency to move to a different house even if they have received their very first residence as a housing gift. In this very last case, the negative effect would diminish the continuing relevance of the custom over the life cycle of the household. Our estimate of the effect of having advanced education on the probability of having received a housing gift with regard to the current residence is indeed negative, but just significant at the 10% level.

Finally, we find that households in the 2002 Survey are significantly less likely to have received part of their current residence as a housing gift, controlling for all other factors. As a three-year period is too short to register change in social customs, this is consistent with the view that some of the huge capital gains made in the stock market bubble of 1999 were channeled to the housing market, allowing households to move into homeownership or to upgrade to larger homes. A further contributing factor may have been the substantial financial liberalization that Cyprus underwent between the two Surveys.

4.2. Who plans to leave bequests?

Housing gifts form part of the broader issue of intergenerational transfers in Cyprus. Table 9 reports findings on factors that make it more likely that a household will be expecting to leave a bequest. We find that having received part of the current residence as a gift or expecting to receive inheritance in the future both contribute to the expectation to leave a bequest. Since we

are controlling for the household's current resources, this is likely to reflect a positive influence of the example of one's own parents in terms of transfers to children.

As expected, being married and having kids also contribute to the probability that the household plans to leave a bequest. Current household income does not appear to influence the decision, once accumulated financial assets, real assets other than the main residence of the current household, and also ownership of the current residence are controlled for. Controlling for current financial assets, success in the stock market (capital gains) exerts a positive further effect. This is an interesting case of the source and not just of the level of funds being relevant for the intention to leave a bequest.

The gender of the financial respondent, which we have found to matter with respect to receiving housing gifts, does not matter for the intention to leave a bequest, controlling for the presence of kids. Of course, it should be remembered that this refers to any kind of bequest and not just housing transfers. Whether the respondent does or does not have college education and the level of outstanding mortgage debt on the principal residence do not matter for the intention to leave a bequest. The 2002 dummy is positive and strongly significant, suggesting that, if anything, bequest motives are getting stronger .

5. Controlling for Social Customs in Cyprus

5.1. Controlling for receipt of housing gifts

Estimates of the role of various factors in the incidence of mortgages (Table 7) were interpreted as potentially arising (at least partly) from the prevalence of housing gifts. In this section, we explicitly control for whether (at least part of) the current residence was received as a gift from parents, to derive the residual role of various factors in determining the incidence of mortgages conditional on homeownership .

Results of this estimation appear in Table 10. In the homeownership regression (bottom panel), the key differences are that now both age variables and the gender variable become statistically significant. When we control for housing gifts in the mortgage regression, we find a clear hump shaped relationship between homeownership and age, controlling for other factors and subject to the same qualifications mentioned with regard to Table 6. We also obtain a statistically significant negative effect of male gender on homeownership: controlling for other characteristics, including age and marital status, households in which the financial respondent (or the only member) is female are more likely to own a home.

Since we are now controlling for whether the household has received the current residence as a gift, we can interpret findings as reflecting the role of each variable, for given gift taking behavior. The gift indicator variable is itself highly significant and with a negative sign, as expected.¹⁹ Controlling for whether the household has received a housing gift, for marital status, financial and other factors, it is still the case that households with female heads/financial respondents are less likely to have taken out a mortgage than their male counterparts, and the effect is strongly statistically significant. This is likely to reflect a more limited tendency of female financial respondents to consider mortgages, as we are not aware of any, even anecdotal, evidence that female mortgage applicants are more likely to be turned down than men with similar characteristics, and we are controlling for self-reported borrowing constraints. Marital status is now irrelevant for whether the household has ever taken out a mortgage on the current residence, conditional on owning.

Assets, whether financial or real beyond the main residence, are irrelevant for mortgage choice conditional on ownership, controlling for whether the household has received a gift; income is significant only at the 10% level. Controlling for whether the current residence was received as a parental gift, advanced education encourages the use of mortgages, consistent with demand and supply factors mentioned above. We also confirm the drop in the incidence of

mortgages, conditional on ownership, between 1999 and 2002 and the irrelevance of financial support for refugees (“aftostegasi”).

All in all, the impression from these estimates, along with the limited incidence of self-reported borrowing constraints, seem consistent with a market that does not restrict mortgages to those with large resources, but tends to attract male-headed, college-educated households.

5.2. Controlling for receipt of inheritance or gift more generally

The final regression based on CySCF alone is intended to pave the way for comparison with US data. The US SCF does not ask whether the current residence was obtained, in whole or in part, as a gift from parents. It does ask, however, whether the household has received an inheritance or been given substantial assets in a trust or in some other form. The CySCF includes a question that is quite similar to the SCF and refers to whether the household has ever inherited wealth or a gift from parents or relatives. Table 11 presents results from a two-stage probit for Cyprus where this inheritance/gift variable is used in the mortgage equation.

Use of this broader control has little influence on results. As Table 11 (bottom) shows, results in the homeownership regression are very similar. Results on the incidence of having ever had a mortgage on the current residence are shown in the top panel of Table 11. Like housing gifts, receipt of inheritance or gift from parents is also strongly statistically significant and makes it less likely that the household has ever taken out a mortgage on the current residence. Signs and significance levels of the estimates are quite robust to use of this broader control variable, except that now income becomes significant for the incidence of mortgages.

6. The Contrast to United States Households

As already mentioned, it is not possible to run exactly the same regressions for the US as we did for Cyprus. First, a retrospective aspect to the question on whether there is a mortgage

on the current residence is not available in US data. Second, there is no information on whether the current residence was obtained, in whole or in part, as a gift from parents. Indeed, the absence of this latter question from the questionnaire reflects in large part the different social customs in the US and the emphasis on young couples getting mortgages for their home.

We carry out comparisons using two approaches. One is to run regressions using the two existing US variables, namely ‘still outstanding mortgage balance’ and ‘having received a gift or inheritance’. The other is to pool US and Cyprus data using as similar variables as possible and to compare marginal effects on the incidence of mortgages conditional on homeownership.

6.1. Factors influencing homeownership in US Data

Table 12 presents a two-stage probit using SCF data. In the absence of a retrospective question on past mortgages, we use instead the incidence of currently outstanding mortgages on the principal residence.²⁰

The bottom panel of Table 12 reports estimates regarding homeownership. As in the Cyprus case, the age-homeownership profile is hump-shaped, and being married and having children contribute to homeownership. Somewhat more surprisingly, but still consistent with the Cyprus findings, having a college degree lowers the probability of owning the household’s residence, controlling for other factors. This finding for the US cannot be attributed to more limited willingness of the financial sector to grant financing to college graduates or from greater income risk or lower expectations of future income growth, as college graduates fare well in all those respects compared to their counterparts at lower levels of educational attainment. It may be related to more limited geographical attachment of more educated US households, or to a tendency to concentrate in more “professional” cities or areas likely to be associated with steeper house prices and organized apartment rental markets.

Unlike the Cyprus case, household resources (income, non-residential real wealth, and financial wealth) are all strongly statistically significant with a positive sign, making homeownership more likely. Borrowing constraints exert a strongly statistically significant negative effect on the incidence of homeownership, as one would expect in a country where homeownership depends crucially on availability of mortgages. The gender variable is statistically insignificant: whether the person in charge of finances is male or female is irrelevant to whether the household owns its home or not.

6.2. The incidence of currently outstanding mortgages in US data

Turning to factors influencing the incidence of currently outstanding mortgages conditional on homeownership, we find some similarities, but also a number of important differences with the Cyprus case. Having received inheritance reduces the probability of having a currently outstanding mortgage, as in the Cyprus case. Similar also is the positive effect of college education on the incidence of mortgages, conditional on homeownership.

Unlike findings for Cyprus, wealth in financial or in non-residential real form, is strongly statistically significant for whether there is a currently outstanding mortgage on the US household's residence, conditional on homeownership. Income is marginally insignificant.

Occupational considerations now play a significant role in the incidence of outstanding mortgages for both employed and self-employed households, conditional on owning. Such occupational status encourages the use of mortgages, compared to retirement status. This finding may be at least partly due to a tendency to have paid off mortgages by the time of retirement, especially since US households are not asked if they ever had a mortgage on the current residence. More telling, perhaps, are the differences in coefficient estimates and significance between self-employed/employees and 'others'. Gender does not have a statistically significant effect on the incidence of mortgages in the US, conditional on

homeownership, unlike our finding for Cyprus. These findings, together with the strong significance of the borrowing constraints indicator, reinforce the view that economic considerations matter strongly for whether US households have outstanding mortgages on the principal residence, unlike what we have found for Cyprus above.

6.3. Pooled Regressions: US and Cyprus data

In order to get a clearer idea of differences between Cyprus and the US and of their statistical significance, we run a probit with selection on pooled SCF and CySCF data. In this pooled regression, we include a country dummy for Cyprus, as well as interaction terms for all regressors in individual country estimation. Table 13 reports conditional marginal effects, i.e. effects on the probability of having an unpaid balance on the principal residence mortgage, conditional on homeownership.

A clear pattern of results emerges. Controlling for household characteristics and ignoring any differences in the role of characteristics across the two countries, Cyprus households have a much lower probability of having a balance on their principal residence mortgage conditional on homeownership (a difference of nearly 67 percentage points). Both financial wealth and nonresidential wealth lower the conditional probability of an outstanding mortgage in the US. In both cases, Cyprus exhibits a difference in the conditional marginal effect of wealth that is not only statistically significant but also sufficient to eliminate the overall effect of either financial or non-residential wealth.

Analogous results are obtained for occupational status. Being employed (either self-employed or employee) rather than retired raises the conditional probability of an outstanding mortgage in the US substantially, by about 17 percentage points in each case. Not so in Cyprus, where estimated effects are negligible (indeed slightly negative). Finally, being liquidity constrained in the US raises the probability of an outstanding mortgage on principal residence

by almost 10 percentage points. Given the small number of such observations in Cyprus, the difference is not tightly estimated but its estimated size is of the same order, yielding an estimated conditional marginal effect of zero.

All in all, pooled regressions confirm the impression obtained from individual country estimation, namely that effects of economic factors, such as types of wealth, occupational status, and borrowing constraints, are strongly present in the US but largely absent in Cyprus.

7. Concluding Remarks

Social customs in the form of housing gifts can interfere with the role of housing in the monetary transmission mechanism. Young households, who might be particularly sensitive to changes in interest rates and in availability of mortgages because of their limited resources, are much less likely to be affected if they receive a housing gift. Parents providing these gifts are much less likely to need to borrow to finance construction. If they do need to borrow, they are unlikely to forego or even postpone construction in the face of a tighter credit market, as they are constrained by social norms to deliver the house prior to the wedding. Parents who plan in advance are at best only able to postpone construction of the house to be offered.

To illustrate the potential for social customs to interfere with usual housing channels of monetary transmission, we have compared Cyprus, a country in which housing gifts are prevalent and financial liberalization recent, to the US, a country that differs not only in stage of financial development but also in social norms with respect to housing gifts. We found limited incidence of mortgages and borrowing constraints, both in absolute terms and in comparison to the US. Controlling for a variety of household characteristics and for the presence of housing gifts or other family transfers, economic factors (such as resources and occupational status) are significantly less important for the incidence of mortgages conditional on homeownership in Cyprus compared to the US.

All in all, our findings suggest that social customs can weaken the strength of the housing channel in the monetary transmission mechanism and the potential for financial liberalization and accompanying innovation to draw more households into the commercial loans market. The limited incidence of mortgages and of binding borrowing constraints and the pattern of estimation results do not suggest that social customs can rapidly lose their influence on the housing market. It is perhaps telling that recent housing market pressures in Cyprus, prior to entering the Eurozone, were not checked even after use of a combination of monetary policy instruments, including an interest rate increase.

Future research could probe further into the importance of social customs in other (e.g. Southern) countries, but could also extend analysis beyond the housing market. An important field would be the importance of the demographic transition for financing retirement. In aging societies, raising social security contributions could be infeasible or politically unacceptable, but the need for private retirement accounts and the consequences of limited planning for retirement could be limited if part of financing needs were met through increases in intergenerational transfers, from younger to older generations.

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Appendix: Description of Variables

Age, age², log of income, log of non-residential wealth, log of financial wealth and log of outstanding mortgage debt: continuous variables. Log of income, log of non-residential wealth, log of financial wealth and log of outstanding mortgage debt are expressed in constant 2001 prices.

All others (except for employment status): binary variables that take the value 0 or 1. **Employment status** is categorical.

Non-Residential Wealth = non-residential real estate wealth + business equity. Non-residential real estate wealth = Residential Property other than the primary residence – mortgage debt and other loans made for the acquirement of residential property other than the primary residence. Business Equity = net equity if business were sold today (business is included regardless of whether the household has active or inactive role in it) + loans from households to business – loans from business to households not reported earlier + value of personal assets used as collateral for business loans reported earlier.

Financial Wealth = the value of the current accounts + value of time deposits + value of savings accounts + value of government bonds + value of certificates of deposits + value of savings bonds + value of mutual funds + value of corporate bonds + value of corporate warrants + value of stocks (home and international) + other amounts owed to you – other amounts you owe to others.

Advanced education: takes the value 1 if the head of the household had at least college education and takes the value 0 if he/she had attained at most secondary level of education.

Marital status: in CySCF, it takes the value 1 if the head is married or lives together with his or her partner and takes the value 0 for single persons as well as for divorced and widowed people. In the SCF, it takes the value 1 if the head is married and the value 0 otherwise.

Liquidity: takes the value 1 if the head of the household has ever been denied a loan in the past 5 years or did not receive as much credit as requested or was discouraged from applying for a loan; and 0 otherwise.

Employment status: in the CySCF, it is divided between retired people, those not working which include students and unemployed people, employees, self employed and others. In the case of the SCF data, employment status is divided between retired people, employees, self employed and others. However, the definition “others” is different for CySCF than for SCF. For CySCF, others refers to everybody else other than the four categories given above (retired people, those not working, employees and self employed), whereas for SCF, others refers to the unemployed and other inactive under the age of 65.

“Aftostegasi”: takes the value 1 if the household was given funds to acquire its house as a result of being a refugee in the form of “aftostegasi” and 0 otherwise. We do not use an “aftostegasi” dummy in the first stage of the two-stage probit, as this would be a perfect predictor for ownership. However, we include it in the second stage to see its role in encouraging or discouraging mortgages. This variable is not applicable in the case of the SCF regression.

Kids: takes the value 1 if the household has kids and 0 otherwise.

Inherit: in SCF data, it takes the value 1 if the head of the household responds Yes to “Have you ever received an inheritance, or been given substantial assets in a trust or in some other form?” and 0 otherwise. In CySCF data: takes the value 1 if the household (husband or wife) has ever inherited wealth or been given a gift from their parents or relatives, and the value 0 otherwise

Home: takes the value 1 if the household owns its principal residence and the value 0 otherwise.

Has or has ever had mortgage: in CySCF data, it takes the value 1 if the household has or ever had mortgage on its primary residence and the value 0 otherwise. The retrospective part is not available in the SCF.

Still owes on mortgage: in the SCF data, takes the value 1 if the household still owes on its primary residence and the value 0 otherwise.

D2002: year dummy for the CySCF.

D2001: year dummy for the SCF.

The following variables apply only in the case of CySCF:

Has received house as gift: takes the value 1 if the respondent says that the household has received all or part of the current residence as a gift from parents, and 0 otherwise.

Expects inheritance: takes the value 1 if the respondent says that the household expects to inherit wealth in the future, and 0 otherwise.

Intending to provide a bequest: takes the value 1 if the household (husband or wife) intends to leave bequest to their offspring, and the value 0 otherwise.

Outstanding mortgage debt: the mortgage amount still owed by the household.

Capital gains: takes the value 1 if the household had any capital gains through its participation in the stock market, and the value 0 otherwise.

Appendix: Brief Description of CySCF Database

Since 1996, the Central Bank of Cyprus has funded a joint project of a research team from the University of Cyprus and from the Research Department of the Central Bank to set up a Cyprus Survey of Consumer Finances, quite along the lines of the US Survey of Consumer Finances run by the Board of Governors of the Federal Reserve System.

The 1999 Survey contains responses from 1097 households living in Cyprus (excluding occupied territories) in two sub-samples. One is a representative of the Cyprus population and consists of 539 households, while the second is confined to wealthy households and has a sample size of 558. The oversampling of wealthy households is a practice followed internationally in order to handle skewed wealth distribution and the fact that most of the wealth and the greatest variety of assets are held by the wealthy that represent a very small proportion of the population. Respectively, the sample size for the 2002 Survey is 897, 521 of which represent the general population and 376 represent the wealthy sample. The sample was reduced to a total of 1830 observations, by omitting households that live in Turkish Cypriot or refugee housing.

The questionnaire of the Cyprus Survey of Consumer Finances is divided into sixteen chapters that cover demographic characteristics, assets and liabilities of the respondents. It combines and adapts elements from the US Survey of Consumer Finances with some from the CentER Survey in the Netherlands. It is further augmented to ensure coverage of issues specific to Cyprus. The interviewing mode adopts the paper-and-pencil (or PAPI) data collection process that was followed in the US prior to laptop-based interviews, rather the on-line interactive approach taken by the Netherlands Survey (see Haliassos et al, 2003).

**Table 1: Cyprus Household Participation Rates in Assets
CySCF**

	1999 %	2002 %
Assets		
<i>Financial</i>	89.8	92.9
Liquid Accounts	82.2	85.2
Government Bonds	50.7	43.6
<i>of which:</i> Development Stock	1.6	0.8
Saving Certificates	0.4	1.4
Savings Bonds	48.1	41.1
Other Bonds	5.1	10.6
Stocks	25.3	51.4
Mutual Funds	0.4	1.0
Retirement Accounts	12.5	51.3
Life Insurance Investment Policies	31.1	32.8
Term Insurance	18.0	13.5
Whole Life	8.5	10.5
Insurance		
Endowment	9.5	12.5
Insurance		
<i>Non-financial</i>	98.2	100.0
Primary Residence	86.0	83.1
Investment Real Estate	31.8	33.2
Business Equity	25.1	22.5
Other non-financial (mostly vehicles)	91.6	90.7
Source: Antoniou et al. (2004).		

**Table 2: Cyprus Household Participation Rates in Debts
CySCF**

Debt Instrument	1999 %	2002 %
<i>Any Debt</i>	63.14	62.29
Home Secured Debt	29.95	29.77
Debt secured on other Residential Property	4.96	6.37
Credit card balances	20.11	20.37
Other lines of credit	3.62	3.39
Car loans	6.13	17.62
Educational loans	7.18	5.01
Other debt	25.94	24.99
Source: Cyprus Survey of Consumer Finances, 1999 and 2002.		

**Table 3: Composition of Household Debt for Households with Debt, Cyprus
CySCF**

	1999 %	2002 %
Home Secured Debt	56.38	54.80
Debt secured on other Residential Property	13.16	17.22
Car loans	3.20	5.33
Educational loans	6.72	5.08
Credit card balances	1.60	1.92
Other lines of credit	0.29	0.15
Other loans	18.65	15.51
<i>Total</i>	100	100
Source: Cyprus Survey of Consumer Finances, 1999 and 2002.		

**Table 4: Household Participation in Home Secured Debt by Age, Cyprus
CySCF**

Age of household head	1999 %	2002 %
Less than 29	22.36	25.13
30-39	41.60	45.33
40-49	40.24	39.37
50-59	23.11	30.69
60-69	10.87	10.92
70 or more	1.67	1.88
Source: Cyprus Survey of Consumer Finances, 1999 and 2002.		

**Table 5: Share of Home Secured Debt in Total Household Debt, by Age
CySCF, Households with home secured debt**

Age of household head	1999 %	2002 %
Less than 29	51.89	52.88
30-39	71.82	60.39
40-49	54.64	61.93
50-59	49.27	50.66
60-69	25.42	27.23
70 or more	5.02	6.92
Source: Cyprus Survey of Consumer Finances, 1999 and 2002.		

**Table 6: Recipients of Housing Gifts in Cyprus, by Characteristic
CySCF**

Characteristic	Distribution of all Households who Report Having received current residence as a gift		Distribution of Homeowners who Report Having received current residence as a gift	
	1999 %	2002 %	1999 %	2002 %
<i>All Households</i>	39.05	39.35	45.42	47.38
<i>Age</i>				
20-29	7.69	9.52	7.77	8.87
30-39	32.07	23.51	32.82	24.16
40-49	29.15	27.89	28.41	28.85
50-59	21.15	18.94	22.04	20.57
60-69	5.67	12.09	4.77	11.13
70 and above	4.26	8.05	4.18	6.42
<i>Education</i>				
No high-school certificate	33.38	34.12	29.81	34.07
High school certificate	39.9	36.85	38.57	34.52
Advanced Education	26.72	29.03	31.62	31.41
<i>Marital Status</i>				
Married	93.05	91.81	92.83	91.98
Single, divorced, widowed	6.95	8.19	7.17	8.02
<i>Income</i>				
Quartile I (poorest)	28.37	20.27	26.46	21.14
Quartile II	26.78	32.42	23.86	28.42
Quartile III	30.5	31.16	31.71	29.28
Quartile IV	14.35	16.19	17.97	21.26
<i>Non Residential Wealth</i>				
Quartile I (poorest)	23.79	21.5	23.11	21.89
Quartile II	24.14	26.95	25.59	27.82
Quartile III	25.49	26.01	26.03	24.63
Quartile IV	26.58	25.54	25.26	25.67

Table 7a: Determinants of Having or Having Ever Had a Mortgage on the Current Residence, Conditional on Owning Current Residence
CySCF, Probit model with selection

Independent Variables	Coefficient	Robust Standard Error	P> z	95% conf. interval	
<i>Has or has ever had mortgage on current residence</i>					
Age	-0.014	0.004	0.002	-0.023	-0.005
Male	0.215	0.091	0.018	0.036	0.393
Married	0.034	0.245	0.889	-0.445	0.514
Log of Income	0.095	0.056	0.088	-0.014	0.204
Log of Non Residential Wealth	-0.003	0.005	0.583	-0.014	0.008
Log Financial Wealth	-0.016	0.011	0.122	-0.037	0.004
Kids	0.070	0.107	0.516	-0.140	0.279
Employees	-0.020	0.091	0.825	-0.199	0.159
Self Employed	0.085	0.102	0.409	-0.116	0.285
Not Working	0.098	0.239	0.680	-0.370	0.567
Others	0.059	0.218	0.788	-0.369	0.487
Aftostegasi	0.003	0.137	0.980	-0.265	0.272
Advanced Education	0.220	0.068	0.001	0.088	0.353
Liquidity	0.248	0.339	0.464	-0.416	0.912
D2002	-0.166	0.076	0.028	-0.315	-0.018
Constant	-0.296	0.635	0.641	-1.541	0.949
<i>Owens current residence</i>					
Age	0.094	0.048	0.050	-0.00001	0.188
Age ²	-0.001	0.0005	0.106	-0.002	0.0002
Male	-0.307	0.196	0.118	-0.692	0.078
Married	0.597	0.136	0.000	0.332	0.863
Log of Income	0.008	0.059	0.895	-0.109	0.124
Log of Non Residential Wealth	0.013	0.009	0.122	-0.004	0.030
Log Financial Wealth	0.037	0.014	0.011	0.008	0.065
Kids	0.506	0.247	0.041	0.022	0.989
Employees	-0.128	0.161	0.424	-0.443	0.186
Self Employed	-0.299	0.175	0.087	-0.641	0.043
Not Working	-0.391	0.364	0.283	-1.104	0.322
Others	0.008	0.321	0.981	-0.621	0.636
Advanced Education	-0.218	0.098	0.025	-0.410	-0.027
Liquidity	-0.411	0.352	0.242	-1.101	0.278
D2002	0.024	0.166	0.883	-0.300	0.349
Constant	-1.782	1.439	0.216	-4.602	1.039
ρ	-0.968	0.481			
Wald test of indep. Equations ($\rho = 0$): $X^2(1) = 0.07$ Prob > $X^2 = 0.7862$					

Table 7a (continued): Marginal effects, conditional on owning the current residence
CySCF

Variable	Marginal Effect	Std. error	P> z 	95% conf. interval	
Male	0.073	0.043	0.090	-0.011	0.157
Married	0.070	0.113	0.532	-0.150	0.291
Log of Income	0.040	0.025	0.106	-0.009	0.089
Log of Non-residential Wealth	-0.0005	0.002	0.830	-0.005	0.004
Log of Financial Wealth	-0.005	0.004	0.277	-0.013	0.004
Kids	0.074	0.048	0.123	-0.020	0.169
Employees	-0.016	0.037	0.672	-0.089	0.058
Self Employed	0.016	0.042	0.704	-0.067	0.099
Not Working	0.011	0.109	0.917	-0.203	0.226
Others	0.025	0.091	0.782	-0.153	0.204
Aftostegasi	0.001	0.058	0.980	-0.112	0.114
Advanced Education	0.080	0.027	0.003	0.026	0.133
Liquidity	0.075	0.151	0.620	-0.221	0.370
D2002	-0.069	0.036	0.060	-0.140	0.003
Age	-0.0004	0.002	0.849	-0.005	0.004
Age ²	-0.00005	0.00003	0.155	-0.0001	0.00002

Table 8: Determinants of the Probability that the Current Residence was a Gift
CySCF, Probit model

Independent Variables	Coefficient	Robust Standard Error	P> z 	95% conf. interval	
Age	-0.008	0.015	0.603	-0.037	0.022
Age ²	-0.00002	0.0001	0.908	-0.0003	0.0003
Male	-0.144	0.066	0.029	-0.274	-0.014
Married	0.260	0.114	0.023	0.035	0.484
Log of Income	-0.052	0.032	0.100	-0.114	0.010
Log of Non Residential Wealth	-0.0001	0.006	0.982	-0.011	0.011
Log of Financial Wealth	0.009	0.010	0.330	-0.009	0.028
Kids	0.408	0.116	0.000	0.179	0.636
Not Working	0.099	0.199	0.620	-0.292	0.490
Advanced Education	-0.112	0.068	0.099	-0.245	0.021
D2002	-0.134	0.062	0.030	-0.255	-0.013
Constant	0.045	0.400	0.910	-0.738	0.829

Table 9: Determinants of the Probability of reporting expectation to leave a bequest
 CySCF, Probit model

Independent Variables	Coefficient	Robust Standard Error	P> z 	95% conf. interval	
Has received house as Gift	0.222	0.075	0.003	0.076	0.369
Expects inheritance	0.459	0.101	0.000	0.261	0.657
Age	-0.009	0.016	0.572	-0.041	0.023
Age ²	0.0001	0.0002	0.696	-0.0002	0.0004
Male	0.012	0.074	0.872	-0.133	0.157
Married	0.295	0.114	0.010	0.071	0.519
Log of Income	0.024	0.035	0.496	-0.045	0.092
Log of Non Residential Wealth	0.031	0.006	0.000	0.018	0.043
Log of Financial Wealth	0.040	0.010	0.000	0.020	0.060
Kids	0.320	0.118	0.006	0.090	0.551
Advanced Education	0.102	0.078	0.189	-0.050	0.254
Capital Gains	0.239	0.108	0.026	0.029	0.450
Log of Outstanding Mortgage Debt	-0.005	0.008	0.492	-0.021	0.010
Home	0.420	0.130	0.001	0.166	0.674
D2002	0.146	0.069	0.035	0.010	0.281
Constant	-0.884	0.441	0.045	-1.747	-0.020

Table 10: Determinants of Having or Having Ever Had a Mortgage on the Current Residence, Controlling for whether the current residence was received as a gift
CySCF, Probit model with selection

Independent Variables	Coefficient	Robust Standard Error	P> z	95% conf. interval	
<i>Has or has ever had mortgage on current residence</i>					
Age	-0.018	0.003	0.000	-0.024	-0.012
Male	0.202	0.068	0.003	0.068	0.336
Married	0.106	0.145	0.465	-0.179	0.391
Log of Income	0.086	0.047	0.064	-0.005	0.178
Log of Non Residential Wealth	-0.003	0.006	0.620	-0.014	0.008
Log Financial Wealth	-0.017	0.010	0.107	-0.037	0.004
Kids	0.154	0.113	0.174	-0.068	0.375
Employees	-0.056	0.092	0.546	-0.236	0.125
Self Employed	0.039	0.104	0.711	-0.166	0.243
Not Working	0.127	0.228	0.576	-0.319	0.574
Others	0.077	0.202	0.704	-0.318	0.472
Has Received house as Gift	-0.604	0.068	0.000	-0.738	-0.470
Aftostegasi	-0.094	0.089	0.288	-0.268	0.080
Adv. Education	0.204	0.068	0.003	0.070	0.338
Liquidity	0.292	0.291	0.316	-0.279	0.862
D2002	-0.195	0.062	0.002	-0.318	-0.072
Constant	0.139	0.510	0.786	-0.860	1.138
<i>Owns current residence</i>					
Age	0.098	0.018	0.000	0.062	0.134
Age ²	-0.001	0.0002	0.000	-0.001	-0.0005
Male	-0.318	0.106	0.003	-0.526	-0.110
Married	0.610	0.133	0.000	0.350	0.871
Log of Income	0.011	0.055	0.842	-0.097	0.119
Log of Non Residential Wealth	0.015	0.009	0.117	-0.004	0.033
Log Financial Wealth	0.034	0.016	0.033	0.003	0.065
Kids	0.489	0.140	0.000	0.215	0.763
Employees	-0.146	0.157	0.354	-0.454	0.163
Self Employed	-0.316	0.179	0.078	-0.667	0.036
Not Working	-0.361	0.321	0.261	-0.991	0.269
Others	-0.033	0.322	0.919	-0.665	0.599
Adv. Education	-0.220	0.098	0.025	-0.411	-0.028
Liquidity	-0.401	0.349	0.251	-1.086	0.284
D2002	0.029	0.098	0.768	-0.164	0.222
Constant	-1.872	0.720	0.009	-3.283	-0.460
ρ	-0.935	0.241			
Wald test of indep. Equations ($\rho = 0$): $X^2(1) = 0.78$ Prob > $X^2 = 0.3757$					

Table 10 (continued): Marginal effects, conditional on owning the current residence
CySCF

Variable	Marginal Effect	Std. error	P> z 	95% conf. interval	
Male	0.067	0.028	0.015	0.013	0.121
Married	0.104	0.062	0.093	-0.018	0.226
Log of Income	0.037	0.020	0.070	-0.003	0.077
Log of Non Residential Wealth	-0.0003	0.002	0.886	-0.005	0.004
Log of Financial Wealth	-0.005	0.004	0.242	-0.014	0.003
Kids	0.110	0.046	0.017	0.020	0.199
Employees	-0.032	0.037	0.395	-0.104	0.041
Self Employed	-0.005	0.043	0.913	-0.089	0.080
Not Working	0.027	0.095	0.772	-0.158	0.213
Others	0.030	0.084	0.717	-0.134	0.194
Has Received current residence as gift	-0.251	0.028	0.000	-0.305	-0.197
Aftostegasi	-0.040	0.037	0.289	-0.113	0.034
Advanced Education	0.073	0.028	0.008	0.019	0.127
Liquidity	0.094	0.121	0.437	-0.144	0.332
D2002	-0.080	0.026	0.002	-0.130	-0.030
Age	-0.002	0.002	0.217	-0.005	0.001
Age ²	-0.0001	0.00001	0.000	-0.0001	-0.00003

Table 11: Determinants of Having or Having Ever Had a Mortgage on the Current Residence, Controlling for whether household has received *any* inheritance or gift from parents or relatives

CySCF, Probit model with selection

Independent Variables	Coefficient	Robust Standard Error	P> z	95% conf. interval	
<i>Has or has ever had mortgage on current residence</i>					
Age	-0.015	0.003	0.000	-0.020	-0.009
Male	0.203	0.069	0.003	0.068	0.338
Married	0.055	0.131	0.673	-0.202	0.312
Log of Income	0.094	0.040	0.020	0.015	0.173
Log of Non Residential Wealth	-0.002	0.005	0.760	-0.012	0.009
Log Financial Wealth	-0.014	0.010	0.140	-0.033	0.005
Kids	0.097	0.108	0.370	-0.114	0.307
Employees	-0.022	0.090	0.806	-0.199	0.155
Self Employed	0.077	0.103	0.455	-0.125	0.278
Not Working	0.107	0.226	0.637	-0.337	0.551
Others	0.058	0.202	0.773	-0.337	0.453
Inherit	-0.165	0.062	0.008	-0.287	-0.043
Aftostegasi	-0.017	0.082	0.831	-0.178	0.143
Adv. Education	0.232	0.067	0.001	0.101	0.364
Liquidity	0.246	0.288	0.393	-0.318	0.810
D2002	-0.158	0.062	0.011	-0.280	-0.036
Constant	-0.214	0.413	0.604	-1.024	0.595
<i>Owns current residence</i>					
Age	0.095	0.023	0.000	0.050	0.140
Age ²	-0.001	0.0002	0.000	-0.001	-0.0004
Male	-0.309	0.111	0.005	-0.526	-0.092
Married	0.604	0.135	0.000	0.339	8.677
Log of Income	0.009	0.043	0.836	-0.075	0.093
Log of Non Residential Wealth	0.014	0.009	0.118	-0.003	0.031
Log of Financial Wealth	0.037	0.015	0.011	0.009	0.066
Kids	0.502	0.151	0.001	0.206	0.798
Employees	-0.140	0.158	0.375	-0.451	0.170
Self Employed	-0.312	0.178	0.080	-0.662	0.037
Not Working	-0.395	0.330	0.232	-1.042	0.252
Others	-0.017	0.320	0.958	-0.644	0.610
Adv. Education	-0.225	0.098	0.022	-0.417	-0.033
Liquidity	-0.393	0.346	0.256	-1.070	0.284
D2002	0.030	0.097	0.756	-0.161	0.221
Constant	-1.812	0.695	0.009	-3.175	-0.449
ρ	-0.958	0.175			
Wald test of indep. equations ($\rho=0$): $X^2(1) = 0.82$ Prob > $X^2 = 0.3666$					

**Table 11 (continued): Marginal effects, conditional on owning the current residence
CySCF**

Variable	Marginal Effect	Std. error	P> z 	95% conf. interval	
Male	0.068	0.028	0.017	0.012	0.124
Married	0.081	0.056	0.147	-0.028	0.190
Log of Income	0.040	0.017	0.016	0.007	0.073
Log of Non-residential Wealth	0.0001	0.002	0.970	-0.004	0.004
Log of Financial Wealth	-0.004	0.004	0.321	-0.011	0.004
Kids	0.086	0.045	0.056	-0.002	0.174
Employees	-0.017	0.037	0.634	-0.089	0.054
Self Employed	0.012	0.043	0.784	-0.072	0.095
Not Working	0.015	0.098	0.879	-0.177	0.207
Others	0.023	0.083	0.779	-0.140	0.187
Inherit	-0.069	0.026	0.008	-0.120	-0.018
Aftostegasi	-0.007	0.035	0.831	-0.075	0.060
Advanced Education	0.084	0.027	0.002	0.031	0.137
Liquidity	0.076	0.122	0.535	-0.164	0.315
D2002	-0.065	0.026	0.012	-0.115	-0.014
Age	-0.001	0.002	0.713	-0.004	0.003
Age ²	-0.00005	0.00002	0.002	-0.0001	-0.00002

Table 12: Determinants of Having Outstanding Balance on Mortgage for the Current Residence, Controlling for whether household has received inheritance
SCF, Probit model with selection

Independent Variables	Coefficient	Robust Standard Error	P> z	95% conf. interval	
<i>Has outstanding balance on mortgage for current residence</i>					
Age	-0.032	0.002	0.000	-0.035	-0.028
Male	0.102	0.066	0.122	-0.027	0.232
Married	-0.030	0.056	0.597	-0.140	0.080
Log Income	-0.024	0.015	0.106	-0.054	0.005
Log of Non Residential Wealth	-0.019	0.003	0.000	-0.026	-0.012
Log Financial Wealth	-0.072	0.009	0.000	-0.089	-0.054
Kids	0.112	0.038	0.003	0.037	0.187
Employees	0.427	0.055	0.000	0.320	0.534
Self Employed	0.497	0.058	0.000	0.383	0.611
Others	0.163	0.114	0.153	-0.061	0.387
Inherit	-0.129	0.037	0.000	-0.201	-0.057
Adv. Education	0.282	0.039	0.000	0.206	0.358
Liquidity	0.377	0.065	0.000	0.251	0.503
D2001	-0.006	0.034	0.862	-0.072	0.060
Constant	2.888	0.170	0.000	2.554	3.222
<i>Owns current residence</i>					
Age	0.088	0.006	0.000	0.076	0.101
Age ²	-0.001	0.0001	0.000	-0.001	-0.001
Male	0.022	0.056	0.695	-0.087	0.131
Married	0.553	0.052	0.000	0.452	0.654
Log Income	0.094	0.018	0.000	0.059	0.129
Log of Non-residential Wealth	0.025	0.004	0.000	0.016	0.034
Log Financial Wealth	0.136	0.007	0.000	0.122	0.150
Kids	0.387	0.040	0.000	0.310	0.465
Employees	-0.053	0.064	0.409	-0.179	0.073
Self Employed	-0.011	0.076	0.887	-0.160	0.139
Others	-0.123	0.099	0.214	-0.316	0.071
Adv. Education	-0.109	0.040	0.006	-0.187	-0.031
Liquidity	-0.452	0.043	0.000	-0.538	-0.367
D2001	-0.002	0.034	0.963	-0.069	0.066
Constant	-4.823	0.212	0.000	-5.239	-4.406
ρ	-0.848	0.029			
Wald test of indep. Equations (rho=0): $X^2(1) = 144.69$ Prob > $X^2 = 0.0000$					

Table 12 (continued): Marginal effects, conditional on owning the current residence
SCF

Variable	Marginal Effect	Std. error	P> z 	95% conf. interval	
Male	0.040	0.024	0.090	-0.006	0.086
Married	0.049	0.021	0.018	0.008	0.090
Log of Income	0.0001	0.005	0.986	-0.010	0.010
Log of Non-residential Wealth	-0.005	0.001	0.000	-0.007	-0.002
Log of Financial Wealth	-0.013	0.003	0.000	-0.019	-0.007
Kids	0.075	0.013	0.000	0.049	0.102
Employees	0.148	0.019	0.000	0.112	0.185
Self Employed	0.160	0.016	0.000	0.128	0.192
Others	0.045	0.035	0.199	-0.024	0.114
Inherit	-0.048	0.014	0.001	-0.075	-0.020
Advanced Education	0.091	0.013	0.000	0.065	0.116
Liquidity	0.085	0.020	0.000	0.046	0.124
D2001	-0.002	0.012	0.848	-0.025	0.021
Age	-0.003	0.001	0.000	-0.005	-0.001
Age ²	-0.0001	0.00001	0.000	-0.0001	-0.0005

Table 13: Effects on Probability of Having Outstanding Balance on Principal Residence Mortgage, Conditional on owning the principal residence
Pooled SCF and CySCF data, probit model with selection

Variable	Marginal Effect	Std. error	P> z	95% conf. interval	
Male	0.044	0.025	0.078	-0.005	0.093
Married	0.049	0.022	0.029	0.005	0.092
Log of Income	-0.0005	0.005	0.922	-0.011	0.010
Log of Non Residential Wealth	-0.005	0.001	0.000	-0.008	-0.002
Log of Financial Wealth	-0.016	0.003	0.000	-0.022	-0.009
Kids	0.087	0.015	0.000	0.059	0.116
Employees	0.170	0.019	0.000	0.132	0.207
Self Employed	0.182	0.018	0.000	0.147	0.217
Others	0.059	0.038	0.120	-0.015	0.133
Inherit	-0.052	0.015	0.000	-0.081	-0.023
Advanced Education	0.100	0.014	0.000	0.072	0.128
Liquidity	0.098	0.022	0.000	0.055	0.141
Cyprus dummy	-0.667	0.078	0.000	-0.819	-0.514
Dummy*male	-0.011	0.037	0.772	-0.084	0.063
Dummy*married	0.052	0.043	0.233	-0.033	0.137
Dummy* Log of Income	0.021	0.014	0.146	-0.007	0.049
Dummy* Log of Non-residential Wealth	0.006	0.003	0.016	0.001	0.011
Dummy* Log Financial Wealth	0.016	0.005	0.001	0.006	0.025
Dummy* Kids	0.035	0.042	0.403	-0.047	0.117
Dummy*Inherit	-0.021	0.029	0.476	-0.078	0.036
Dummy* Employees	-0.192	0.044	0.000	-0.278	-0.106
Dummy* Self Employed	-0.198	0.053	0.000	-0.302	-0.095
Dummy* Others	-0.079	0.080	0.322	-0.235	0.077
Dummy* Adv. Education	-0.040	0.031	0.208	-0.101	0.022
Dummy* Liquidity	-0.099	0.107	0.354	-0.309	0.111
Age	-0.003	0.001	0.000	-0.005	-0.001
Age ²	-0.0001	0.00001	0.000	-0.00008	-0.00005

Endnotes

¹ See also Engelhardt (1994), Muellbauer and Lattimore (1995), Maclennan et al. (1998), Greef and Haas (2000), Mojon (2000), Iacoviello (2000), Mishkin (2001), Aoki et al. (2002), Chiuri and Jappelli (2003), Giuliadori (2005).

² The empirical importance of housing gifts has been established in a slightly different context by Guiso and Jappelli (2002) using Italian data. Guiso and Jappelli found substantial real effects of the presence of inter vivos housing gifts on the time it takes households to acquire a home and on the value of the acquired home.

³ Cooperative Credit and Savings societies are neither subject to the supervision of the Central Bank of Cyprus nor to the prudential standards applied to other credit institutions. Rather, they have indirect access to monetary credit through the Cooperative Central Bank Ltd which acts as their central bank. The Cooperative Societies' Supervision and Development Authority which reports to the Ministry of Commerce, Industry and Tourism supervises the operations of coops in order to ensure that they are in compliance with the relevant laws.

⁴ In 1999, the General Stock Market Index shot up by close to 700%, with numerous households entering the stock market for the first time and a measured participation rate in direct stockholding of about 25%. In 2000, the General Index fell by about 60% after a sizeable number of new investors had just entered.

⁵ Monetary data are obtained from commercial banks' balance sheets. At the time being the data do not distinguish between mortgages and the construction sector.

⁶ Financial assets include liquid accounts, such as checking and saving accounts, government bonds, other bonds (mainly corporate), stocks, mutual funds, retirement accounts, and the cash value of life insurance.

⁷ The biggest proportion of government bond holdings refers to government savings bonds. The popularity of these bonds can be attributed to the fact that they are government paper of low denomination, but also to their monthly participation in lottery drawings that can result in substantial returns but with a guarantee minimum return. Since 2002 this particular type of savings bonds has been gradually discontinued.

⁸ Non-financial assets include the primary residence and other real estate that could be used for investment purposes, equity in businesses, and vehicles.

⁹ Liabilities include mortgages, loans for investment in real estate, consumer and student loans, and credit card balances.

¹⁰ The incidence of liquidity constraints is regarded as much higher in countries at the peak of financial development, such as the US. Following pioneering work by Hall (1978) that used time-series data to test for liquidity constraints, a number of papers have emphasized the existence of liquidity constraints in US data. Hall and Mishkin (1982), and Mariger (1986) used the Panel Study of Income Dynamics, while Hubbard and Judd (1986) used the 1983 Survey of Consumer Finances to show that approximately 20% of the US population is credit constrained. At the same time Hayashi (1985) and Zeldes (1989) indicate that sensitivity of consumption to income changes depends on household wealth and, in particular, younger households with low levels of wealth and savings are more likely to face liquidity constraints. Jappelli (1990) also uses the 1983 Survey of Consumer Finances (SCF) to show that 20% of the sample consists of rejected applicants and discouraged borrowers, while current income, wealth, and age are the most important determinants of the probability of one being denied a loan.

¹¹ In 1999, 40% of Cyprus households who said they were initially rejected from obtaining a loan also said that they managed to obtain a loan by re-applying to the banking institution that initially rejected them. The respective percentage for 2002 was higher, about 73%.

¹² Since 1992, the Cyprus pound had been pegged to the ecu and subsequently to the Euro at a parity of €1,7086 = CYP 1 and a target zone of $\pm 2.25\%$. In August of 2001 the narrow bands around the central parity were abandoned and the wider bands of $\pm 15\%$ were adopted, in order to alert the public of the exchange rate risk stemming from the concurrent gradual lifting of capital controls that came along the liberalization of the financial system.

¹³ These are: (i) Greek Cypriot households that were displaced from their properties in the North and were given temporarily Turkish Cypriot properties to live in; and (ii) refugee households that live in state-provided refugee housing.

¹⁴ Interestingly, another social custom could facilitate mortgages for newlyweds not receiving a housing gift. Common practice in Cyprus is to hold large weddings and to give monetary gifts to the newlyweds. The resulting total monetary gift can represent a sizeable lump sum, equivalent to a down payment on a house purchase.

¹⁵ Notice, however, that our findings do not preclude downsizing of the owned residence.

¹⁶ The possibility of some reduction in the incidence of parental housing gifts over time is present in principle, but the high and roughly constant incidence of housing gifts in the two Surveys suggests that any such reductions are extremely slow.

¹⁷ Ideally, we would like to observe whether the household has ever received a housing gift, but this is not available in the data. So, strictly speaking, our findings refer to the joint event of getting a housing gift and remaining in that initial house by the time of the interview.

¹⁸ An indicator of parent support for education is the pattern of participation in student loans. The greatest participation rates in student loans, in both Cyprus surveys, are observed for households between 50 and 59 years

old (above 12%) with corresponding participation rates for households below 29 years of age well under 4%. This reflects the fact that student loans are usually not taken by the students themselves but by their parents. This is not surprising, in the absence of a government-guaranteed system of student loans. Indeed, the overall incidence of student loans is quite limited in Cyprus. According to CySCF, the percentage of households with student loans outstanding is of the order of 7% and 5% in 1999 and 2002, respectively.

¹⁹ It is not a perfect predictor of mortgages, because it can also refer to partial gifts or to mortgages for extensions and other home improvements.

²⁰ There are also some small differences in the definition of occupational variables.