INVESTMENT CHOICE IN THE SWEDISH PREMIUM PENSION PLAN

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Abstract:

In 1998, Sweden passed a pension reform that introduced a second tier of mandatory individual accounts, the Premium Pension, in the public system. Of the total contribution rate of 18.5 percent, 2.5 percentage points go to the accounts.

The first investment selections in the Premium Pension plan took place in the fall of 2000 when all Swedes born after 1938 were able to choose how to invest their contributions from a menu of about 650 mutual funds. Approximately 70 percent of participants made an "active choice" while the remaining participants' contributions were invested in a government-run default fund.

This paper examines investment choice in the Swedish individual account scheme. First, do workers with high risk in their human capital diversify their overall portfolio by investing their pension funds in low-risk funds? Second, to what extent do participants exhibit "home bias" and invest their pension funds in Swedish assets?

The results show a positive relationship between income and the level of risk in the portfolio. But, looking into the details, the relationship is actually somewhat U-shaped: low-income investors take on more risk than middle-income earners. It also seems as if women who qualify for the guarantee benefit (low-income earners) take on more risk than motivated by their situation. We also find that workers in the manufacturing sector – that is, the sector that is probably most correlated with the Swedish stock market – are less likely to invest in foreign assets and thus are exhibiting "home bias."

I. Introduction

Many countries are discussing how to reform their pension systems in order to meet the demands of an aging society. A trend in these reform discussions is to introduce individual accounts as part of both public and occupational schemes. Sweden was an early mover in this process. In 1998, Sweden passed a pension reform that introduced a second tier of mandatory individual accounts, the Premium Pension, in the public system. The individual account component in the pension system was designed as a carve-out. The contribution rate to the overall system is 18.5 percent: 16 percent is paid to the first tier, which is financed on a pay-as-you-go basis and pays a benefit determined by a worker's lifetime earnings, while 2.5 percent is credited to a funded individual account. In addition, a means-tested guarantee benefit provides a minimum pension for workers with low earnings.[1]

The individual accounts are self-directed and participants can invest in a broad array of domestic and international funds. For individuals who do not wish to make an "active" investment decision, a government-run default fund has been established. The first investment selections in the Premium Pension plan took place in the fall of 2000 – known as the "Big Bang" in Sweden's financial sector – when all Swedes born after 1938 were able to choose how to invest their contributions from a menu of about 650 mutual funds. The number of funds vastly exceeds what is available in other countries with individual accounts in their national or occupational schemes. The large number of choices could be motivated by the fact that it gives participants opportunities to tailor their portfolios to their risk preferences. However, the system is associated with large costs. The administrative fee for the system is 0.3 percent of assets while the average money management fee is 0.43 percent of assets so the average participant pays 0.73 of assets in administrative fees.[2]

This paper examines investment choice in the Swedish individual account scheme – focusing on two aspects of the investment decision. First, do workers with high risk (variability) in their human capital diversify their overall portfolio by investing their pension funds in low-risk funds? Second, to what extent do participants exhibit "home bias" and invest their pension funds in Swedish assets, thereby concentrating their pension assets in

[1] For a summary of the new Swedish pension system, see Sundén (2000).
[2] For an investor with a 40-year horizon, a fee of 1 percent is equivalent to a 20 percent reduction in pension benefits (Diamond, 1999).

securities highly correlated with their human capital? The results are important because participants with high variability in their human capital are at risk for receiving low benefits from the pay-as-you-go portion of the public pension. One way to offset these risks is to take less risk in the investments in the Premium Pension.

To examine investment behavior, we use a large longitudinal data set, the Swedish Longitudinal INdividual DAta panel, which includes detailed information on individual earnings histories back to 1960, other income components, education level, and sector of work for a sample of more than 300,000 individuals. This data set is then matched with information on individuals' investment selections in the individual accounts in 2000. We estimate a set of models that relate participants' portfolio choices and risk levels to demographic characteristics, income and measures of the exposure to risk in human capital.

The results show a positive relationship between income and the level of risk in the portfolio. Looking into the details, we see that this positive relation is actually somewhat U-shaped: low-income investors take on more risk than middle-income earners. It also seems as if women who qualify for the guarantee benefit (low-income earners) take on more risk than warranted by their situation. We do not find any relationship between income risk and the level of risk in the portfolio – and we find that workers in the manufacturing sector – that is, the sector that is probably most correlated with the Swedish stock market – are less likely to invest in foreign assets.

The paper is organized as follows. The next section gives an overview of how the system works and describes the investment options. The paper then turns to the analysis of investment behavior. A final section concludes.

II. How the Premium Pension Works

The introduction of mandatory individual accounts in the Swedish pension system was contentious. The Social Democrats strongly opposed the individual accounts while the center-right parties argued that the individual accounts should play a substantial role in the new pension system. The outcome was a compromise in which the Social Democrats accepted the individual accounts in exchange for keeping unchanged the scale of the public program.

The Premium Pension constitutes a relatively small portion of the new system: of the total contribution rate of 18.5 percent, 2.5 percentage points go to the individual accounts. A new government agency, the Premium Pension Agency (PPM), has been established to administer the plan and acts as a clearinghouse. The clearinghouse model was chosen to keep administrative costs down by drawing on economies of scale in administration.

Contributions are withheld by employers and submitted to the National Tax Authority. Swedish employers make monthly tax and contribution payments, but they report information on individual earnings on an annual basis. For this reason, individual pension rights cannot be established until each worker has filed his income taxes and these reports have been consolidated with employers' reports, a process which takes an average of 18 months. Until pension rights have been established, pension contributions are placed on an interim basis in a government bond fund at the National Debt Office. When individual pension rights have been determined, participants select how to invest their funds. Contributions are invested by the PPM in lump sums; fund companies only know the total investment of pension contributions, not who the individual investors are. The PPM keeps all records of the individual accounts and fund share values. Individuals are allowed to change funds on a daily basis, and all such transactions are aggregated by the PPM which then transmits them as a net purchase to each fund.

Investment Options

Policymakers decided to offer investors a broad choice in the Premium Pension, so any fund company licensed to do business in Sweden is allowed to participate in the system. Fund companies seeking to participate must sign a contract with the PPM that governs reporting requirements and the fee structure. The total fee in the Premium Pension consists of

two parts: a money management fee and a fixed administrative fee charged by the PPM. Fund managers charge the same fee for participants in the pension system as they do in private savings markets. Because the administration of the accounts is handled by the PPM, the actual costs for fund managers should be lower and they must rebate to the PPM a share of the fees, which the PPM then passes on to participants. In 2003, the average fund fee after the rebate was 0.43 percent of assets.[3] The fixed administrative fee charged by the PPM is 0.3 percent of assets, resulting in a total cost of 0.73 percent of assets for an average participant.[4]

In 2000, at the time of the first investment selections, approximately 460 funds were registered with the PPM.[5] Currently over 650 funds participate in the system (Table 1). The majority of funds are equity funds and about half of the funds invest primarily in international equities. A large number of funds specialize in one type of asset, such as IT-funds (not shown), while few funds are designed with retirement savings in mind. For example, only 4 percent of the available funds are life-cycle funds. Instead, participants are expected to put together a diversified portfolio suitable for retirement savings on their own.

The government has established two funds. The first is the default fund for participants who do not wish to make an "active" investment choice. The second fund was set up for participants who wanted to make an active choice but also wanted the government involved in the management. In initial discussions, reformers had suggested that the default should be a low-risk fund mostly invested in interest-earning assets. However, policymakers were concerned that such a strategy would have a negative effect on the distribution of benefits, because low-income workers would be more likely to invest in the default.[6]

Currently the default fund seeks to achieve a high long-run rate of return at an overall low risk level. The fund follows a fixed allocation of stocks and bonds where equity holdings cannot exceed 90 percent of the total value and may not fall below 80 percent; of these a maximum of 75 percent can be invested in foreign stocks.

[3] The default fund is included in this calculation. The average rebate was 0.37 percent of assets.
[4] The administrative cost is relatively high compared to, for example, the U.S. Thrift Savings Plan, which has expense ratios of 0.1 percent of assets.
[5] Each fund manager is allowed to register a maximum of 15 funds.
[6] For a discussion of the default fund, see Cronqvist and Thaler (2004).

Information about the funds that participate in the system is presented in a catalogue that is distributed to participants once a year.[7] The funds are listed by type (interest-earning, mixed, life-cycle, and equity funds), and for each fund the catalogue provides information on the rate of return for the past five years, the risk (measured as the standard deviation of returns for the past three years), and the fee. Participants may choose up to five funds. A participant who makes an active investment choice may not invest any share of the portfolio in the default fund or shift to the default at a later date.[8] Participants can change their allocations on a daily basis at no additional cost.

Benefits in the Premium Pension plan can be withdrawn from age 61 and annuitization is mandatory. The PPM is the sole provider of annuities, and participants can choose between a fixed or variable annuity. The level of the annuity is based on standard insurance practices, and the PPM uses unisex life tables of persons in the age cohort from the year the calculation is made.[9]

III. Risk in the Pension Account

This section studies the relation between the risk (volatility) of the chosen pension investment and personal characteristics (income, income risk, gender, age, etc.).

Data and Model

The first investment selection in the Premium Pension took place during the fall of 2000. The objective was to induce as many participants as possible to make an active choice and the Premium Pension Agency launched a large advertisement campaign to encourage participants to select their own portfolios. In addition to the PPM, private fund managers also put significant resources into ad campaigns to attract investors. About 68 percent of participants made "an active choice" and chose their portfolios.

To examine participant investment behavior in the Swedish plan, we use data from a large longitudinal data set, the Longitudinal INdividual DAta panel (LINDA), which includes

[7] The information is also available on the PPM's website.
[8] The reason for this rule was that the center-right parties wanted to limit the government's involvement in money management.
[9] The Premium Pension provides a voluntary survivor benefit. If a survivor benefit is elected and the individual dies before retirement (during the accumulation phase), the survivor benefit pays a fixed amount for 5 years. If the individual dies after retirement, the survivor benefit will be paid as a lifelong annuity to the surviving spouse.

detailed information on earnings, other income, education level, and occupation as well as sector of work [10]. These data are matched to information on individuals' investment choices in the individual accounts in 2000. The data allow us to measure the risk in human capital that workers with different combinations of education level, and occupation and sector of work are exposed to. Thus, we are able to relate the choice of portfolio to the measured exposure to risk in human capital and several other characteristics such as the level of earnings, Social Security wealth, and non-pension wealth. The sample includes 244,750 participants.

We estimate the following model:

$$Risk_i = a + b_1 Income_i + b_2 IncomeRisk_i + g' Z_i + e_i$$

The dependent variable is the average risk of a participant's portfolio. For each fund, the level of risk is given by the standard deviation of the rate of return for the past 36 months. We use the weighted average for the funds in the portfolio as a measure of overall risk.[11] In 2000, the average risk was 20.8, which is equivalent to a high-risk portfolio.[12] The average risk is high because participants' portfolios are dominated by equities: the average participant invested 70 percent of the portfolio in equity funds.

We work with three different models. In the first model, we relate the risk (of the participants' PPM portfolio) to current income and expected pension benefits. In the second model, we add a number of control variables, and in the third model we use a measure of life-time income instead of current income and expected pension benefits – and also add a measure of income risk.

In the first specification, we use current income and expected pension benefits. Current income is measured as taxed *gross household income* – i.e., before-tax income from labor and capital as well as social insurance income from both spouses for married or

[10] LINDA is obtained by matching various administrative records in Sweden.
[11] No information was available on the covariance between funds. The risk measure should therefore be viewed as a proxy for risk and not as a measure of the "true" risk of the portfolio.
[12] The standard deviation for the participating funds ranges from 0 to 47.5. In the fund catalogue, funds are grouped by risk as follows: 0-7 low-risk funds; 8-17 average-risk funds, 18-24 high-risk funds; and 25 and higher are very high risk funds.

cohabiting persons in the year 2000. The predicted public pension benefit at age 65 is calculated using participants' earnings profile to date and projection of future earnings assuming 2 percent real wage growth. This is the official prediction of the expected public pension benefit, which is reported annually to all participants in the system. Additional control variables are represented by the vector Z_i. To account for the possibility that married individuals may coordinate their investment decisions, we include an indicator variable for marital status.

In the second specification, we also include a set of dummy variables for each one-year age group. The motivation is that we expect the risk in the premium pension portfolio to be negatively correlated with age. The value of a participant's human capital decreases as he or she approaches retirement because fewer years remain on the labor market. Future earnings have similar risk characteristics to bonds, so in order to balance the overall portfolio (financial and human capital) the risk of the financial portfolio should decrease as the number of periods with labor earnings decline.

Furthermore, we include dummies for having an individual retirement account and for owning equities in the non-pension portfolio. This captures earlier experience of investing in shares and the risk exposure of the individual's financial portfolio. We also have a dummy variable which is 1 if the individual's predicted pension is so low that he or she is eligible for the *guarantee pension*, i.e., the lower bound non-earnings-related pension benefit. We interpret this as indicating a poor economic situation, which we expect to be associated with more cautious investment choices.[13] The models are estimated separately for men and women.

There are at least three limitations of the first two specifications. First, they ignore the fact that the individual may have other expectations of future earnings are reflected in the official prediction of the pension benefit, which does not, for example, take into account the individuals occupation or educational status. Second, the predicted pension does not take the individual's risk into account. Different occupations have different earnings risks. One of these components is reflected in different risks of not being able to work for health reasons and leaving the labor force earlier than age 65, which is assumed in the calculations. Finally,

[13] This assumes a utility function where the risk aversion is decreasing with wealth

it ignores the fact that the individual may expect other pension benefits than those from the public system, e.g., own savings, occupational or private pensions.

In the third specification, we use occupation and educational specific measures of expected lifetime income and income risk as explanatory variables. To calculate these measures, we use the same longitudinal data set as used for estimating the model, LINDA, but we use different birth cohorts – those born between 1927 and 1940 – to be able to follow the sample of individuals to the normal retirement age at age 65.[14] We divide the sample in 50 cells on the basis of gender, education and occupational sector. Education is divided into four levels: basic compulsory education, vocational schooling, upper-secondary school (high school) and degree from college or university. Occupation is first divided into the private sector, central government employees and municipal employees. Finally, for the private sector, we use the first digit in the sector code to divide it into 16 additional groups.[15] For each gender group this division resulted in 50 different cells.[16]

The data allow us to observe earnings and labor market status of each individual over the 16 years from 1982 to 1997. To control for possible differences in cell age composition, we estimate a Mincerian wage equation including a quadratic polynomial in age, a dummy variable for each year and individual fixed effects. The within-cell average of the individual fixed effects is then used as a measure of life-time earnings. We use two different measures of earnings risk. The first is the average within-group earnings dispersion. This measure is calculated as the mean square of the deviation from a cell-specific regression including a quadratic polynomial in age and year dummies. The second measure is the average fraction of individuals who leave the labor force through the labor market insurance programs – disability, sickness or unemployment insurance – before the normal retirement age of 65. Previous research has shown substantial variation between groups in the labor market. For instance, Palme and Svensson (2003) show that more than 50 percent of blue collar workers in the private sector leave the labor force through labor market insurance programs. The corresponding share for white collar workers in the private sector is less than 25 percent.

[14] See Palme and Svensson (2004) for a detailed description of data and selections used for this exercise.
[15] The main sectors are Farming, hunting and fishing; Mining; Industrial manufacturing; Electicity, heating and water supply; Construction; Retailing, restaurants and hotels, Infrastructure and telecommunication; Bank and insurances; and Private services. The Industrial manufacturing sector is further divided into: Food industry; Textile; Wood handling and sawmills; Paper production; Chemical and pharmaceutical industry; and Manufacturing of materials used in the construction sector; Metal manufacturing; Manufacturing industry.

Results

The results for the level of risk in the portfolio for men are shown in Table 2 and for women in Table 3. In the first model, we control for income by including household income and the individual's expected pension benefits. For both men and women, household income has a positive effect on the level of risk in the portfolio so participants appear to take overall economic resources into account when choosing investments. However, conditional on household income, the risk is negatively related to the expected future pension benefits, with a somewhat stronger effect for women.

Marital status affects the willingness to take on risk for both men and women but in different ways. Married men are less likely to take on risk than single men while the result is the opposite for women. The results demonstrate that the effects of gender on investment decisions are more complicated than some previous studies have argued and that gender alone does not determine investment choice.[17] Rather, investment decisions seem to be driven by a combination of gender and marital status.[18]

In the second model, we add controls for owning equities in the non-pension portfolio, having an individual retirement account and qualifying for the guarantee benefit. Owning equities outside of the Premium Pension may indicate a preference for equities and a willingness to take risks, and not surprisingly, this variable had a positive effect on the level of risk for both men and women. However, having an individual retirement account does not affect investment behavior. The results also show that women who expect to qualify for the minimum guarantee took on more risk. Workers who qualify for the minimum guarantee generally have low lifetime earnings and would therefore be expected to take on less risk. The result here is the opposite.[19]

In the third model, we directly control for lifetime income, the variability in income, and the risk of disability. Lifetime income has a positive effect on the willingness to take on

[16] Due to small sample size, we merged the entire sector for Industrial manufacturing for those with university or college education.
[17] See for example Bajtelsmit and VanDerhei (1997) and Hinz et al. (1997).
[18] Säve-Södergbergh (2003) has examined gender differences in the Premium Pension plan.

risk for both men and women, while the variability in income does not affect investment behavior. Thus, individuals do not seem to balance the risk in their human capital with their financial investments.

In order to further examine the relationship between income and risk, we estimate a model where risk is allowed to vary non-linearly with household income. We use a linear spline in household income with 20 knots for every 5th percentile, maintaining the linear specification in predicted pension income and dummy variable controls for age and marital status, i.e. a non-linear version of Model 1. The results from the model are used to predict risk for a participant aged 45, married and with average predicted pension income. Figure 1 and Figure 2 show the results for men and women, respectively. If participants considered their income risk when choosing their portfolios, the relationship between risk and household income should be positive as discussed above. However, the results indicate an apparent U-shaped relationship, i.e. participants with the lowest income take on as much risk as those with the highest income. Because the loss in utility from a poor outcome is larger for a low-income participant than a high-income participant, such behavior is surprising.

IV. Using the Pension to Diversify the Risk in Human Capital

This section studies the relationship between the diversification features, rather than the separate risk, of the chosen pension investment and personal characteristics (income, income risk, gender, age, etc.).

As a preliminary step, we examine to what extent participants diversify their assets between Swedish and international assets. A common mistake among individuals is to concentrate too much of their assets in their own country – home bias – or in their own sector or company. Such strategy means that a participant's financial assets are concentrated in the same country or sector as the human capital. In this case, a downturn in the Swedish economy will hit income, the expected future first tier pension benefits – and the value of the (second tier) pension account. To study if the individuals in our sample have avoided this pitfall, we estimate a model that relates the share of foreign assets in the portfolio to education, sector of employment, income and age.

[19] The minimum guarantee is quite generous — the benefit is equal to approximately 40 percent of the average wage.

The results are shown in Table 4. Education has a positive and significant effect on the share in foreign assets, conditional on controlling for income. Formal education could serve as a proxy for financial knowledge, and the results indicate that the more financial sophistication participants have, the more likely they are to diversify their portfolios. Household income and expected pension benefits have positive effects on the share of foreign assets so that high-income participants are more likely to diversify their portfolios. In other words, low-income participants appear to take on more risk than motivated by their situation. Because they have lower human capital, a rational strategy would reduce overall risk by investing less in Sweden.

Participants' investment behavior also differs by sector. The excluded dummy-variable category is the public sector – the sector where (lifetime) earnings are probably least correlated with the Swedish stock market. The results show that workers in the manufacturing sector – that is, the sector that is probably most correlated with the Swedish stock market – are less likely to invest in foreign assets compared to the public sector. This indicates that participants do not diversify their portfolios to offset the risks that arise from the concentration of human capital in Sweden. Instead, portfolio choice appears to reflect home bias. Participants in the banking and insurance industry are more likely to invest in foreign assets, maybe reflecting their higher financial knowledge.

Finally, we examine the influence of age on the share held in foreign assets. As participants age, their human capital decreases and they should reduce the risk in their financial assets. We would therefore expect that older participants would hold fewer assets in Sweden and more internationally. Figure 3 shows the difference in the share of foreign assets for each age compared to age 62. The results show the opposite: a negative relationship between age and the share in investment abroad, except for the oldest age groups. However, participants should decrease their overall exposure to equities as they age and the result could reflect that older participants invest more in Swedish interest-earning assets.

V. Conclusion

Mandatory individual accounts were introduced in Sweden as part of a major reform of the public pension system in 1998. The plan offer investors broad choice; currently

participants can choose between more than 650 funds. The first investment selection took place in the fall of 2000, and at that time almost 70 percent of participants made an "active" investment choice. In this paper, we investigate participants' investment choices given an "active choice." In particular, we examine whether individuals take into account the risk in their human capital when choosing their Premium Pension portfolio.

Two pieces of evidence in this study support rational investment decisions. First, we establish a positive relationship between income and the level of risk. Second, married participants appear to pool their risks. In particular, married women take more risk in their portfolios than unmarried women, controlling for differences in age and income.

On the other hand, the results also show that participants at the bottom of the income distribution take on as much risk as those at the top, indicating that they are not diversifying their overall portfolio. Variability in income and the risk of exiting the labor market through disability, unemployment, or sickness insurance do not appear to affect the investment decision. This could reflect that workers with high risk in their human capital ignore these risks and thus take on too much risk in their Premium Pension investments. Participants who expect to receive the guarantee benefit have little to lose by taking on additional risk in their pension investments because the level of the guarantee benefit provides a minimum secure benefit. Finally, participants employed in sectors that are affected by foreign competition are less likely to diversify their portfolios and invest in foreign assets compared to the public sector. Instead, these workers exhibit "home bias" in their investments. Ignoring human capital risk and investing too much in Sweden have potentially severe consequences for future pension benefits, putting these participants at risk for very low income in retirement.

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Table 1. Funds in the Premium Pension System in 2004

Type	Number	Percent of All Funds
Equity funds	471	71
Sweden and the Nordic countries	69	10.4
International	326	49.2
Industry funds	76	11.4
Mixed/balanced funds	52	7.8
Interest funds	114	17.2
Life cycle funds	26	4
Total	663	100

Source: PPM

Table 2. OLS Regression of the Average Risk Level, Men

	Mean	Model 1	Model 2	Model 3
Household income (divided by 10,000)	37.07	0.002	0.001	
		(0.0003)	(0.0002)	
Expected pension benefits	1.32	-0.027	-0.110	
		(0.033)	(0.036)	
Lifetime income	11.81			1.093
				(0.217)
Variability in lifetime income	0.004			4.161
				(11.374)
Risk for leaving labor force through disability, sickness or unemployment insurance	0.307			0.097
				(0.380)
Married	0.591	-0.139	-0.146	-0.190
		(0.034)	(0.035)	(0.029)
Own equities in non-pension portfolio	0.462		0.893	0.815
			(0.029)	(0.040)
Have individual retirement	0.336		-0.012	0.018
			(0.031)	(0.028)
Qualify for Guarantee Benefit	0.280		0.041	0.009
			(0.039)	(0.056)
Age controls		yes	yes	yes
R-squared		0.029	0.037	0.041
Number of observations		121366	121 366	107,858

Note: The standard errors for Model 3 are corrected for clustering within the 50 occupational cells, see Moulton (1986).

Table 3. OLS Regression of the Average Risk Level, Women

Women	Mean	Model 1	Model 2	Model 3
Household income (divided by 10,000)	35.78	0.0006	0.0005	
		(0.0001)	(0.0002)	
Expected pension benefits (divided by 10,000)	1.32	-0.13	-0.193	
		(0.035)	(0.037)	
Lifetime income	9.91			0.274
				(0.177)
Variability in lifetime income	0.143			-0.177
				(0.219)
Risk for leaving labor force through disability, sickness or unemployment insurance	0.285			0.361
				(0.277)
Married	0.603	0.108	0.094	0.115
		(0.031)	(0.031)	(0.038)
Own equities in non-pension portfolio	0.421		0.683	0.667
			(0.028)	(0.050)
Have individual retirement	0.423		0.042	0.071
			(0.029)	(0.025)
Qualify for Guarantee Benefit	0.649		0.132	0.156
			(0.032)	(0.040)
Age controls		yes	yes	yes
R-squared		0.033	0.038	0.040
Number of observations		123,384	123,384	111,461

Note: The standard errors for Model 3 are corrected for clustering within the 50 occupational cells, see Moulton (1986).

Table 4. OLS Regression of Share in Foreign Assets

	Men		Women	
	Mean	Estimate	Mean	Estimate
Education				
Vocational	0.319	0.010	0.365	0.015
		(0.002)		(0.002)
Upper secondary	0.333	0.032	0.332	0.035
		(0.002)		(0.002)
College/University	0.148	0.055	0.147	0.042
		(0.003)		(0.003)
Sector of employment				
Fishing or hunting	0.012	0.031	0.004	0.038
		(0.007)		(0.011)
Mining	0.002	-0.018	0.000	-0.034
		(0.017)		(0.040)
Food industry	0.023	-0.009	0.014	-0.009
		(0.005)		(0.006)
Textile	0.003	0.003	0.004	0.005
		(0.012)		(0.011)
Wood handling and sawmills	0.026	-0.006	0.007	-0.002
		(0.004)		(0.008)
Paper production	0.032	-0.008	0.016	0.013
		(0.004)		(0.005)
Chemical and pharmaceutical industry	0.060	-0.001	0.078	0.001
		(0.003)		(0.003)
Materials for construction sector	0.007	-0.012	0.002	-0.031
		(0.008)		(0.016)
Metal manufacturing	0.013	-0.032	0.003	-0.002
		(0.006)		(0.013)
Manufacturing industry	0.144	-0.019	0.041	-0.018
		(0.002)		(0.024)
Electricity, heating and water supply	0.003	-0.033	0.001	-0.018
		(0.012)		(0.024)
Construction	0.084	-0.006	0.007	0.017
		(0.003)		(0.008)
Retailing, restaurants and hotels	0.144	0.010	0.120	0.008
		(0.002)		(0.002)
Infrastructure and telecommunication	0.054	0.001	0.019	0.015
		(0.003)		(0.005)
Bank and insurances	0.124	0.019	0.091	0.027
		(0.002)		(0.002)
Income				
Predicted pension income	1.37	0.010	1.09	0.001
		(0.002)		(0.002)
Household income/1000	38.56	0.061	37.04	0.040
		(0.001)		(0.009)
Married	0.591	0.002	0.603	0.006
		(0.002)		(0.002)
Age controls		yes		yes
R-squared		0.019		0.012
Number of observations		105,837		110,108

Figure 1. Relation between Income and Risk, Men

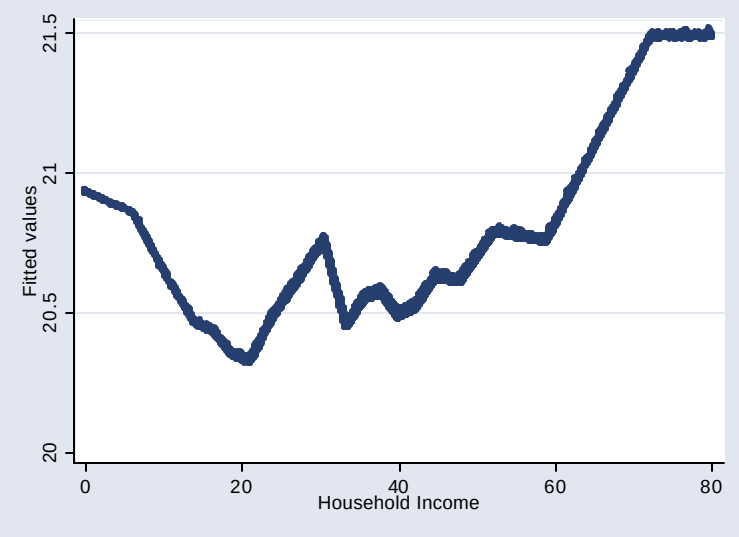


Figure 2. Relation between Income and Risk, Women

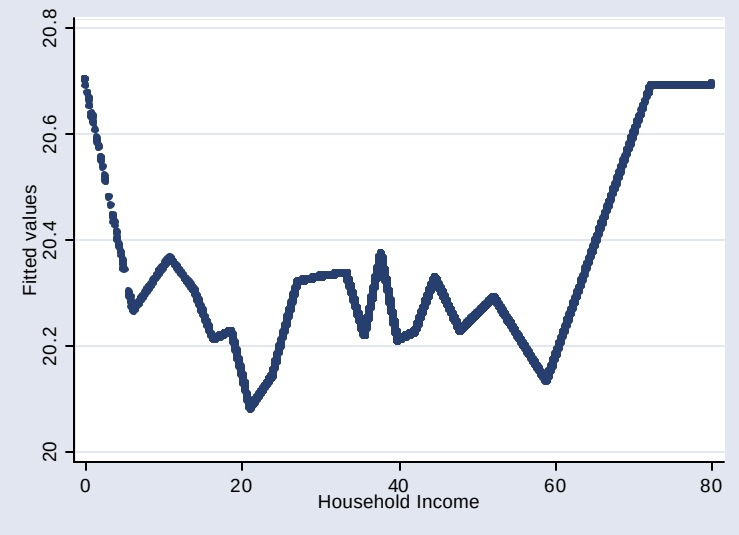


Figure 3. The Influence of Age on the Share in Foreign Assets, Men

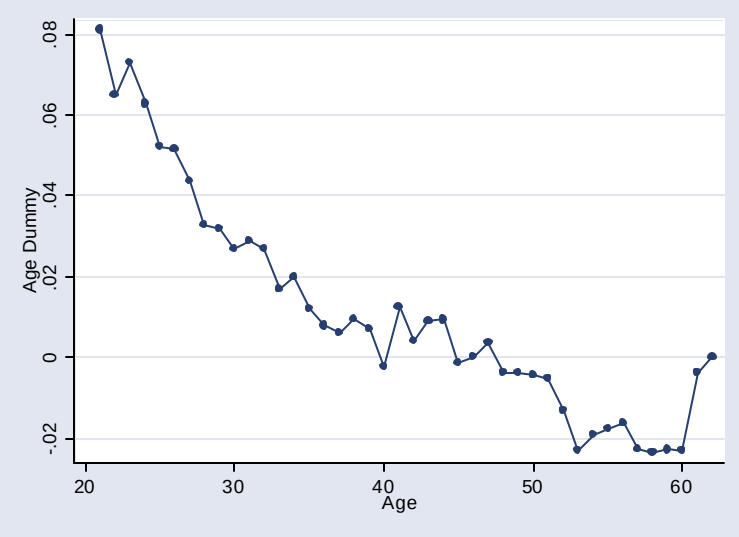
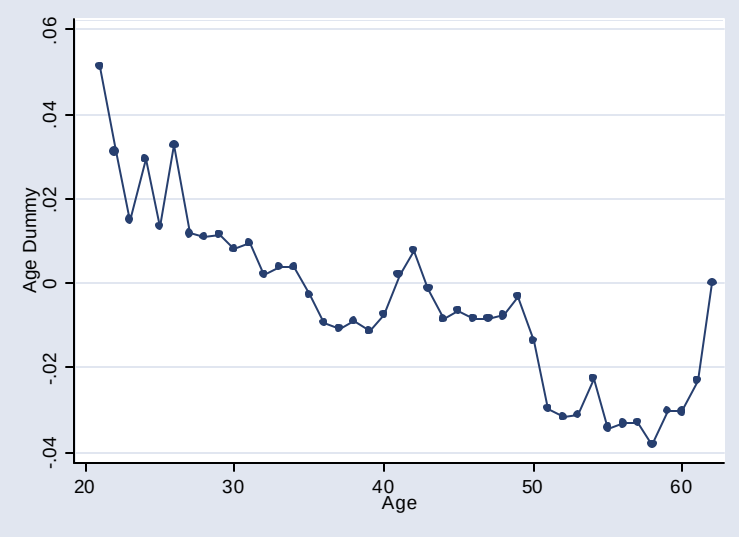


Figure 4. The Influence of Age on the Share in Foreign Assets, Women



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