

## Figures and Tables

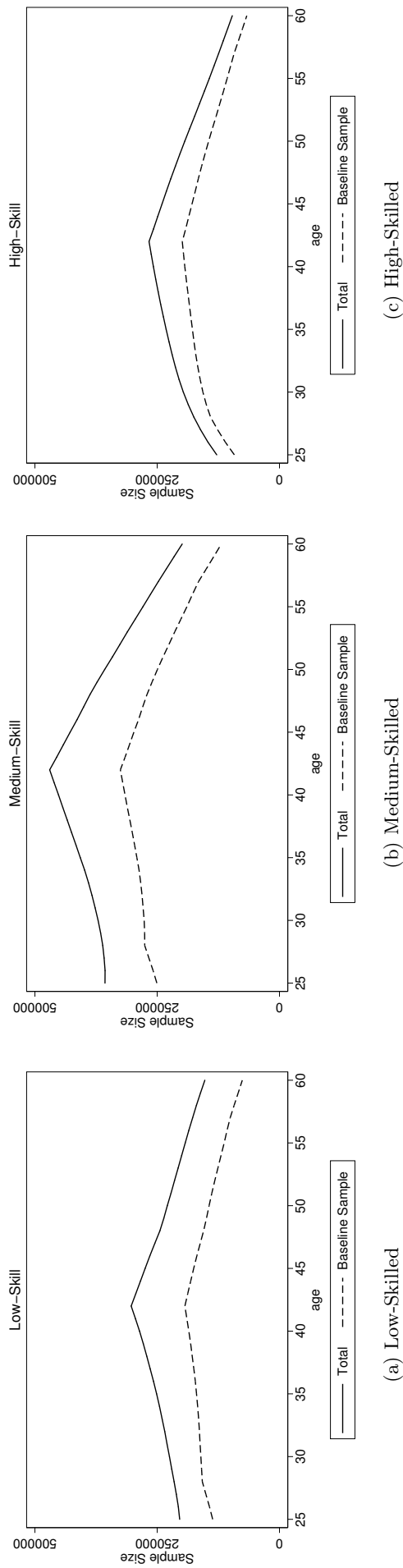


Figure 1: Sample Sizes

**Notes:** Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

## Institutional Details

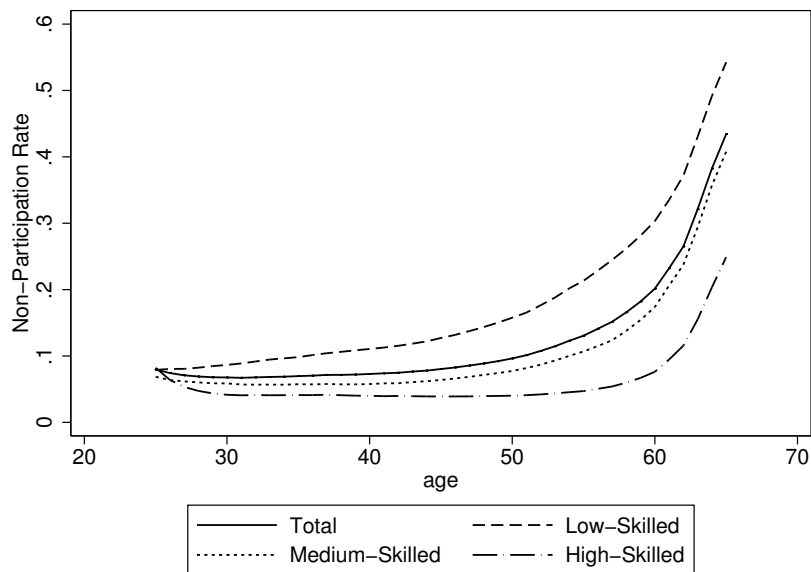


Figure 2: Non-participation Rate

**Notes:** This figure shows the non-participation rate by age, using data from the period 1967-2006.

Non-participation is equal to one if the individual has zero market income in a given year. The sample consists of males born between 1925 and 1964. In each year, we exclude immigrants and self-employed. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

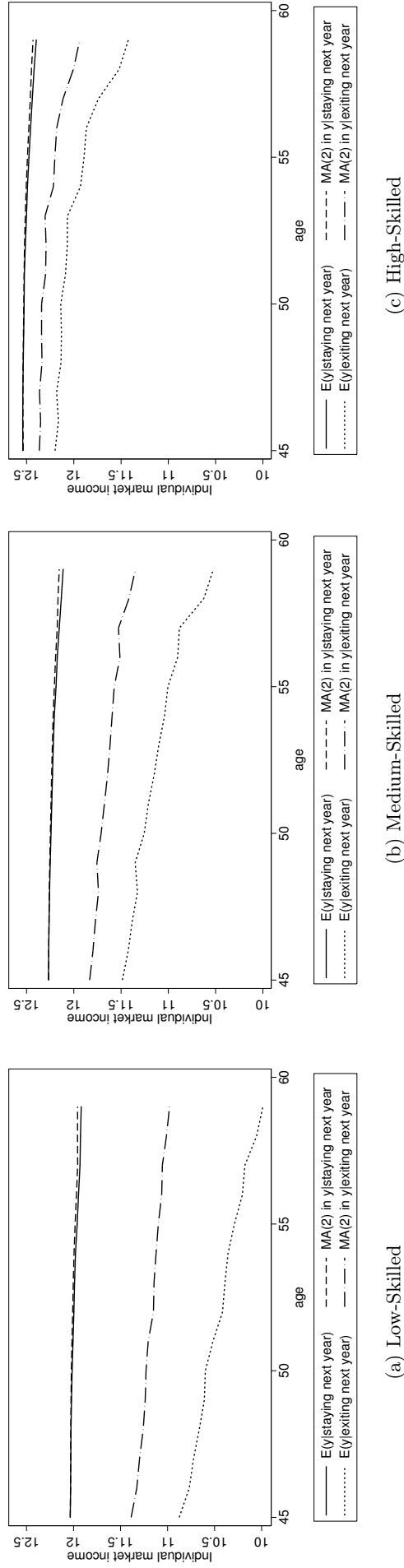


Figure 3: Levels and growth in log market income for early and late exits from the labor force

**Notes:** This figure uses the baseline sample to show the levels and growth rates in log market income by age; we show this separately for individuals who exit and stay in the labor market in the subsequent year. The growth rate of earnings comes from a simple moving average over the three previous years (*i.e.*  $y_{i,a} = \frac{1}{3} \sum_{l=0}^2 y_{i,a-l}$ ). Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

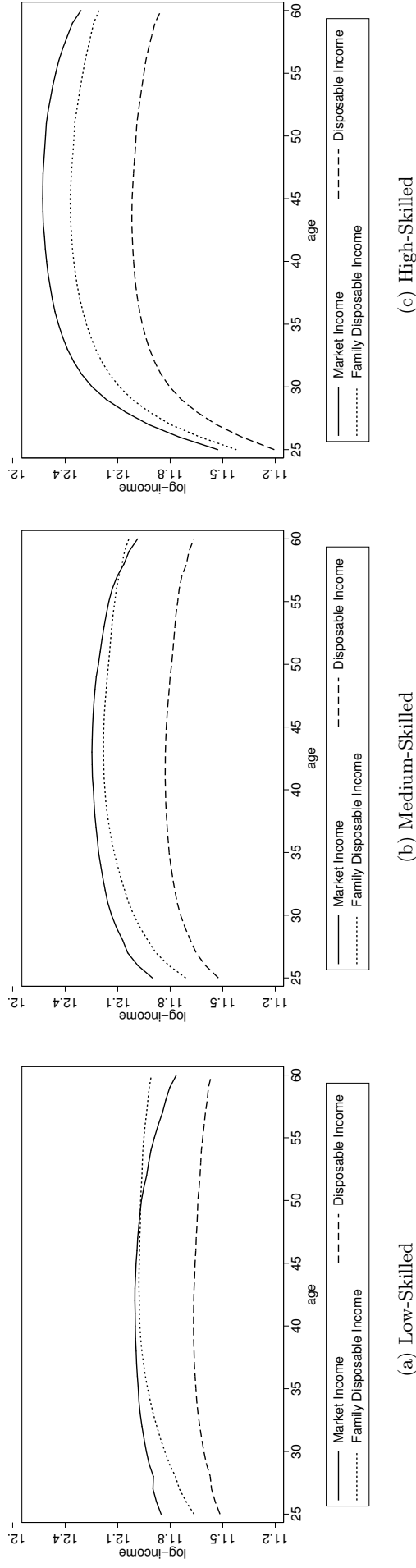


Figure 4: Age profiles in the log of income

**Notes:** This figure uses the baseline sample to show the age profiles in the log of income by educational levels. The age profiles are adjusted for education-specific calendar time effects. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

# Empirical Results

	Individual Market Income	Individual Disposable Income	Family Disposable Income
Low-Skill			
$\rho$	1.000 (.)	0.869 (.)	0.874 (.)
$\sigma_\alpha^2$	- -	0.03548 (.)	0.03358 (.)
$\theta$	0.23850 (.)	0.21504 (.)	0.20872 (.)
Medium-Skill			
$\rho$	1.000 (.)	0.893 (.)	0.888 (.)
$\sigma_\alpha^2$	- -	0.03031 (.)	0.02748 (.)
$\theta$	0.25883 (.)	0.23883 (.)	0.24342 (.)
High-Skill			
$\rho$	1.000 (.)	0.939 (.)	0.850 (.)
$\sigma_\alpha^2$	- -	0.00074 (.)	0.03099 (.)
$\theta$	0.29485 (.)	0.27021 (.)	0.27816 (.)

Table 1: Parameter estimates from the model of income dynamics

**Notes:** This table presents the parameter estimates from the model of income dynamics described in Section XYZ. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. Standard errors (in parentheses) are based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

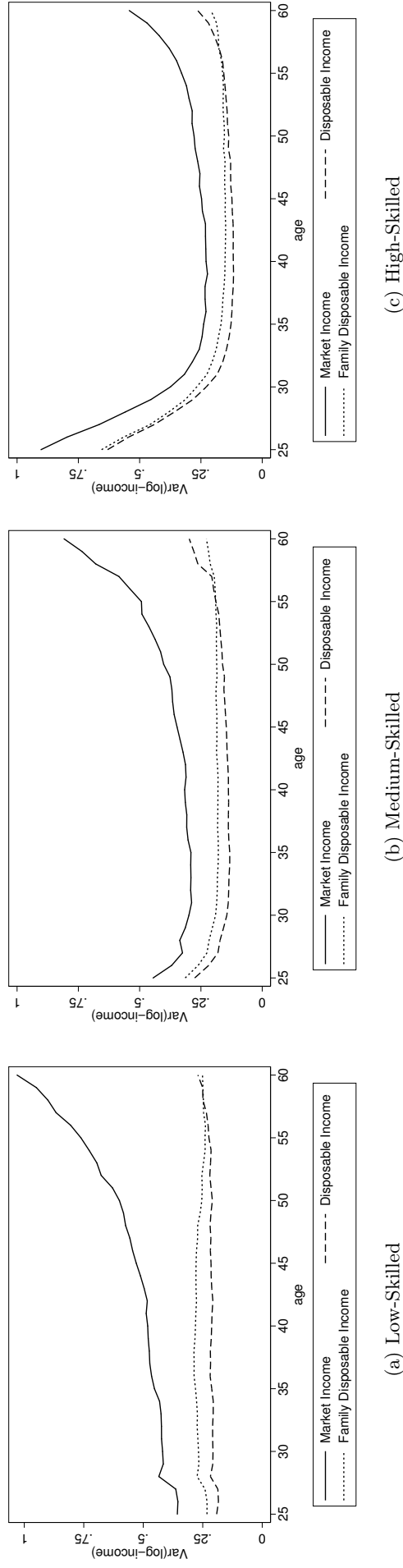


Figure 5: Age profiles in the variances of log income.

**Notes:** This figure uses the baseline sample to show the age profiles in the variances of log income by educational levels. The age profiles are adjusted for education-specific calendar time effects. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

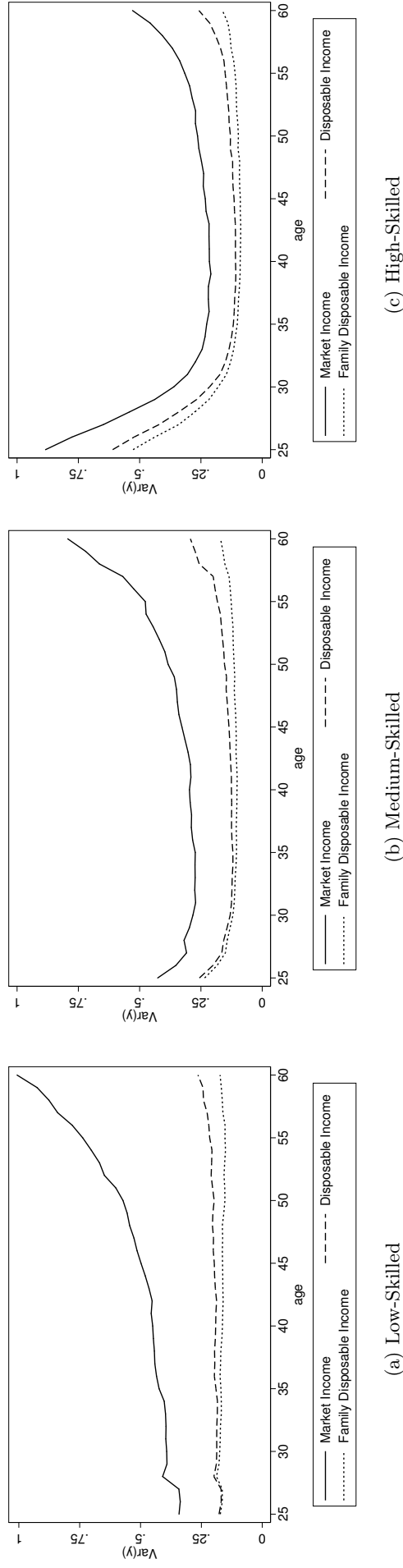


Figure 6: Age profiles in the variances of residual log income.

**Notes:** This figure uses the baseline sample to show the age profiles in the variances of residual log income by educational levels. The age profiles are adjusted for education-specific calendar time effects. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.



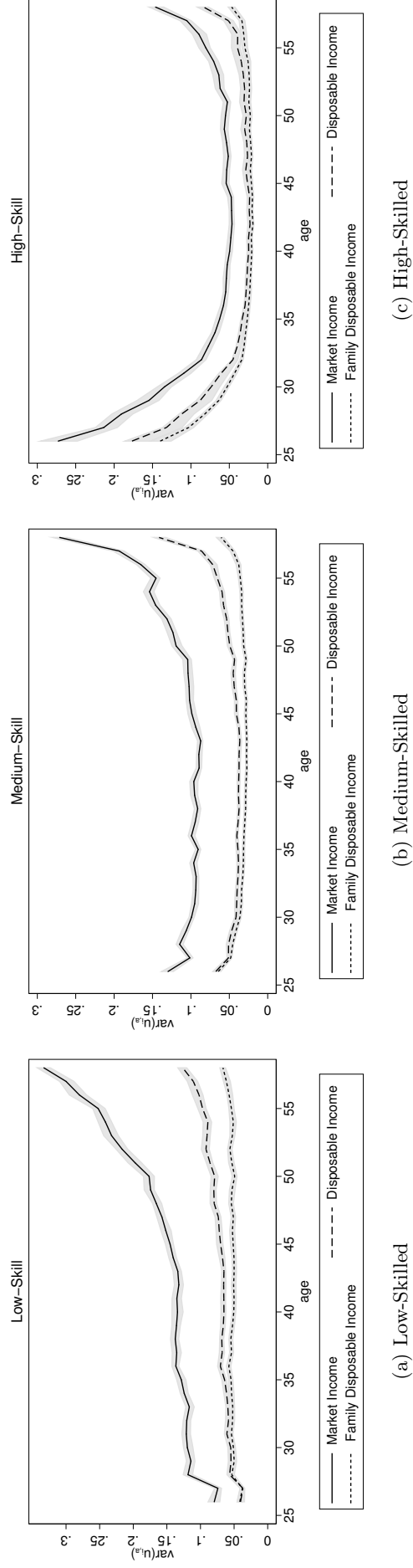


Figure 7: Age profiles in the variances of permanent shocks to income

**Notes:** This figure graphs the age profiles in the variances of permanent shocks to income. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

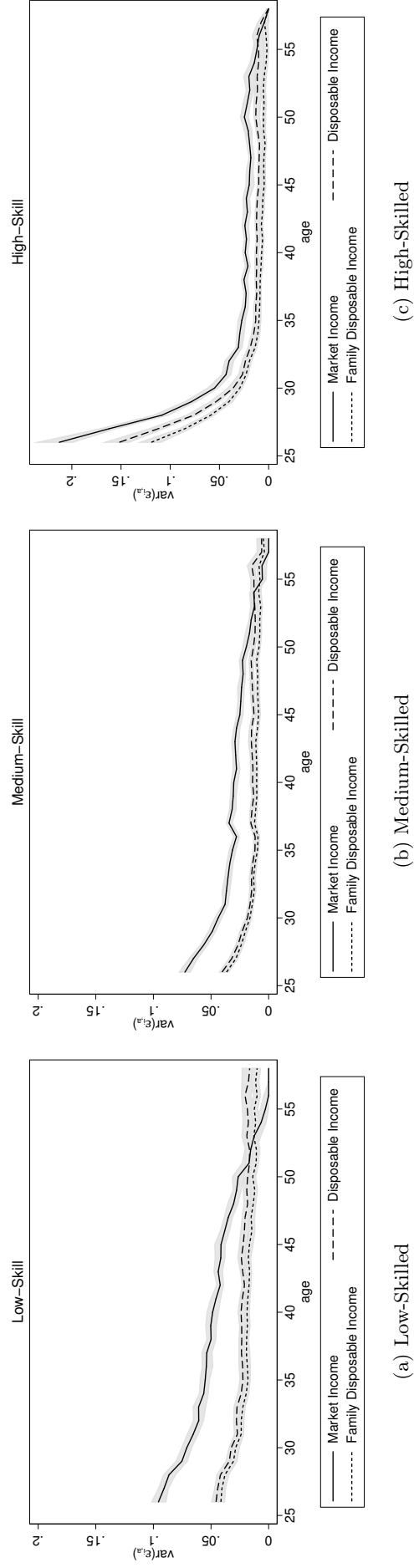


Figure 8: Age profiles in the variances of transitory shocks to income

**Notes:** This figure graphs the age profiles in the variances of transitory shocks to income. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

# Insurance from Taxes, Transfers and the Family

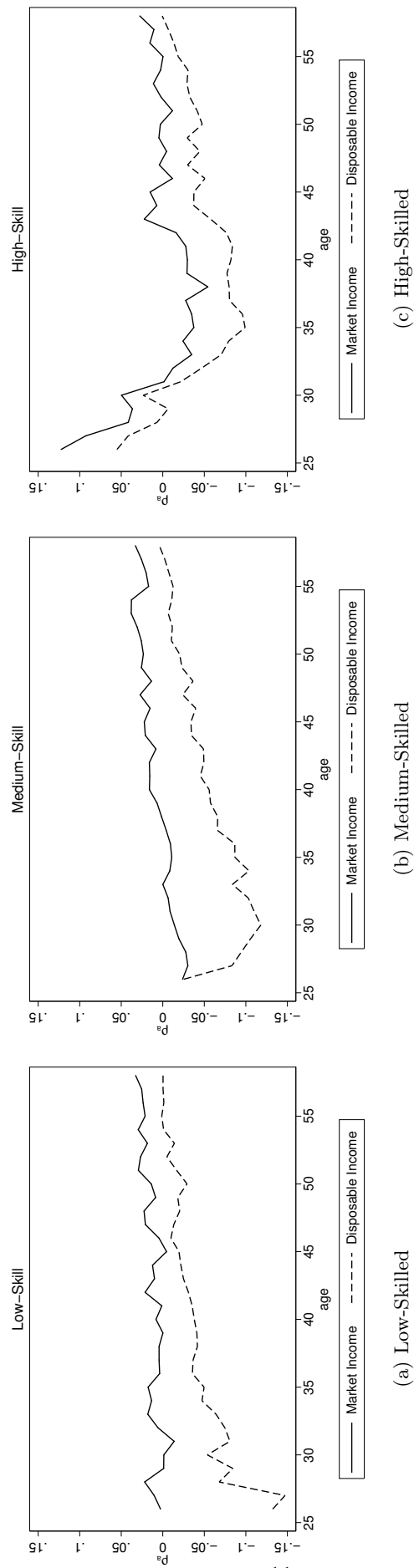


Figure 9: Age profiles in the correlation in permanent shocks across spouses

**Notes:** This figure graphs the age profiles in the variances of transitory shocks to income. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

# Investigation of the labor income process

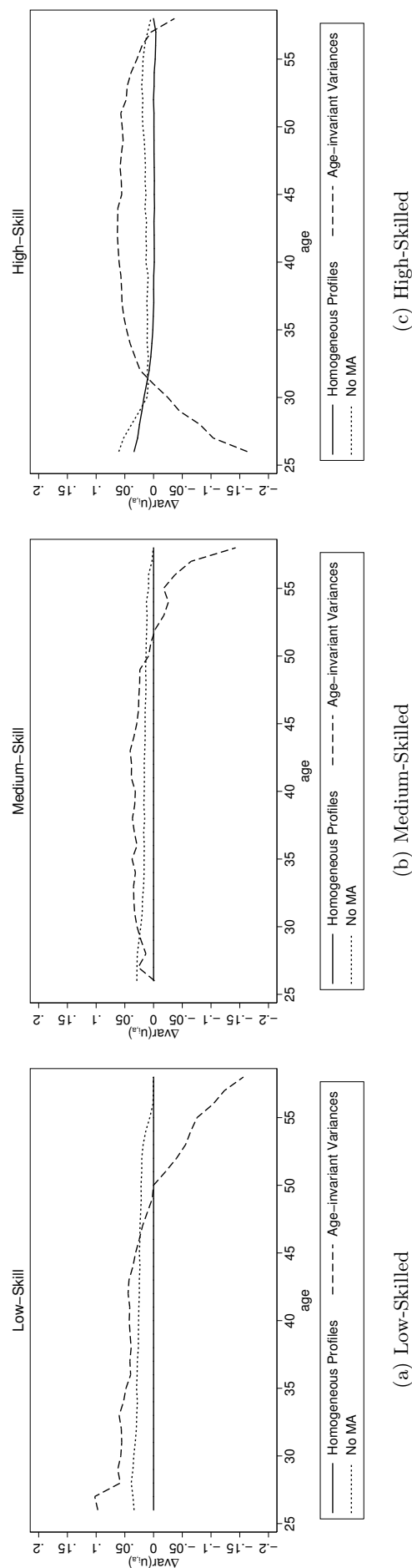


Figure 10: Misspecification bias in the variance of permanent shocks to individual market income

**Notes:** This figure graphs the differences in the estimated variances of permanent shocks by age between the specification without and with age-dependent variances of shocks, heterogeneous profiles and purely transitory shocks. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects.

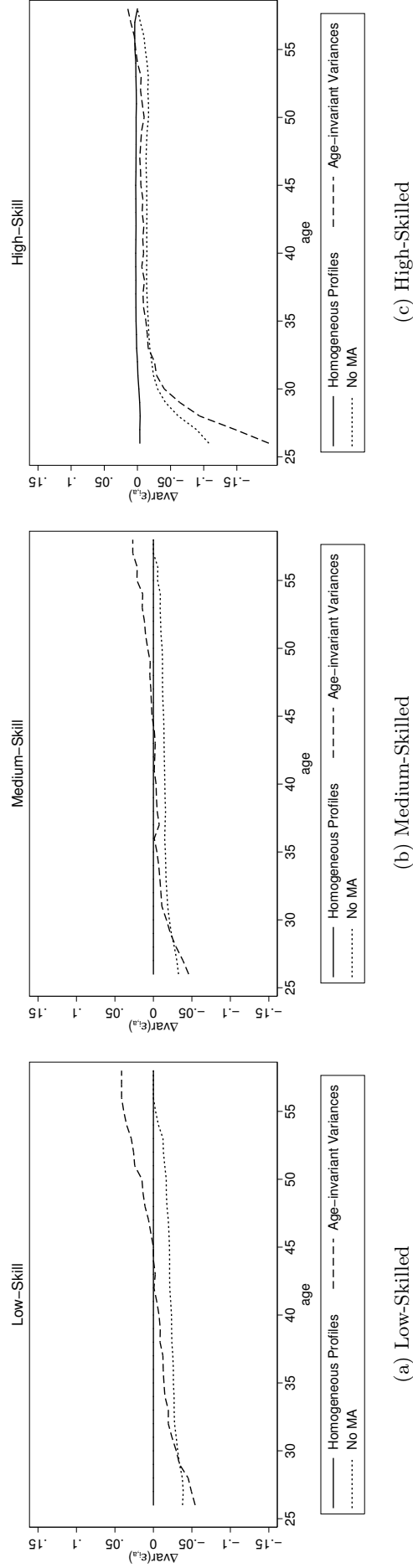


Figure 11: Misspecification bias in the variance of transitory shocks to individual market income

**Notes:** This figure graphs the differences in the estimated variances of permanent shocks by age between the specification without and with age-dependent variances of shocks, heterogeneous profiles and purely transitory shocks. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects.

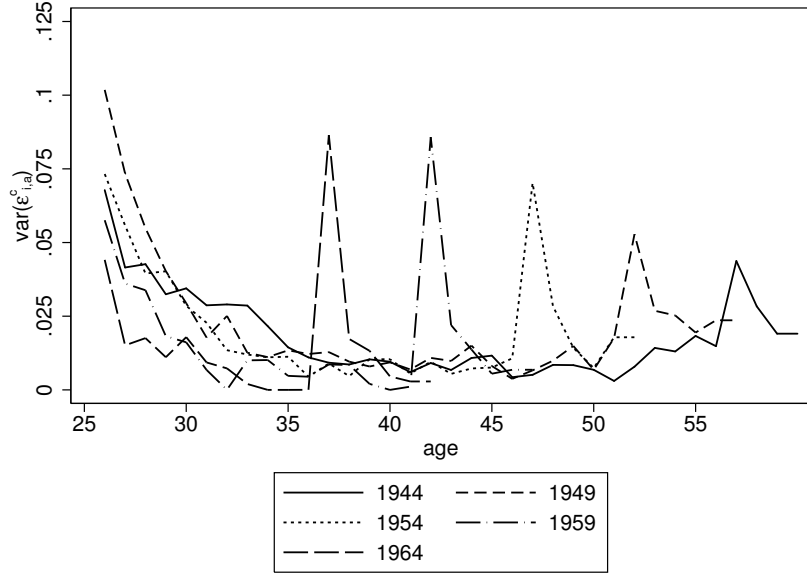


Figure 12: Age profiles in the variances of transitory shocks to individual disposable income by birth cohort

**Notes:** This figure graphs the age profiles in the variances of transitory shocks to individual disposable income by birth cohort. The age profiles are based on the model of income dynamics described in Section 3.1. We use subsample of individuals born in 1944, 1949, 1954, 1959, and 1964. The age profiles are *not* adjusted for calendar time effects.

## Appendix

	Low-Skilled	Medium-Skilled	High-Skilled
$\rho$	1.000	1.000	0.750
$\sigma_\alpha^2$	-	-	0.07708
$\sigma^2$	0.17659	0.12803	0.10959
$\omega^2$	0.041355	0.026831	0.014493
$\theta$	0.28902	0.29516	0.30634

Table C.1: Parameter estimates from the model of income dynamics with age-independent variance of shocks

**Notes:** This table presents the parameter estimates from the model of income dynamics. We estimate the model described in Section XYZ, except for imposing age-independent variances of transitory and permanent shocks. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.

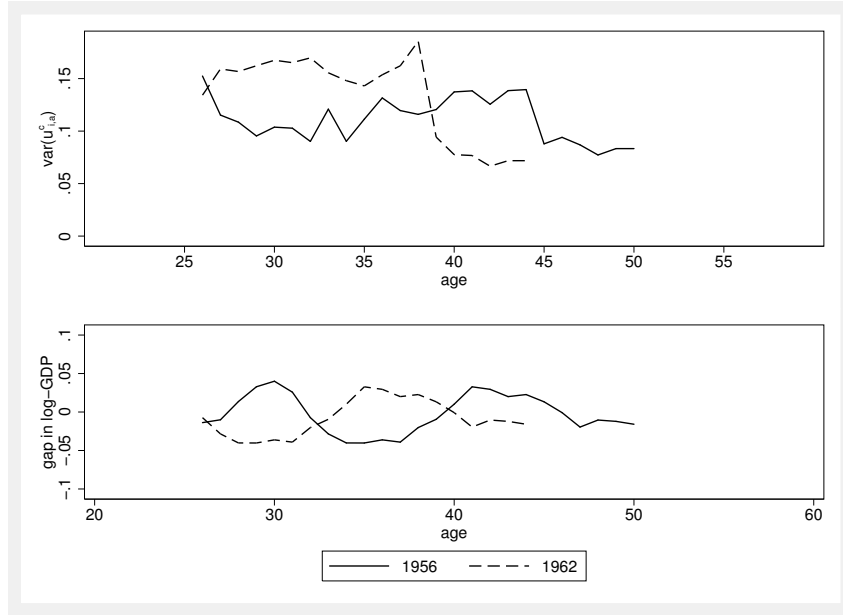


Figure 13: Age profiles in business cycles and the variances of permanent shocks by birth cohort

**Notes:** This figure graphs the age profiles in business cycles and the variances of permanent shocks to individual market income by birth cohort. The age profiles are based on the model of income dynamics described in Section 3.1. We use the subsample of individuals born in 1950 and 1962. The age profiles are *not* adjusted for calendar time effects. We measure the business cycle as the output gap in a given year.

	Individual Market Income	Individual Disposable Income	Family Disposable Income
	Pooled		
$\rho$	1.000 (.)	0.854 (.)	0.856 (.)
$\sigma_{\alpha}^2$	-	0.035415 (.)	0.031811 (.)
$\theta$	0.27147 (.)	0.25120 (.)	0.25154 (.)

Table C.2: Parameter estimates from the model of income dynamics in the pooled sample

**Notes:** This table presents the parameter estimates from the model of income dynamics. We estimate the model described in Section XYZ. We use the baseline sample, but do *not* estimate the model separately by educational levels. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

	Individual Market Income	Individual Disposable Income	Family Disposable Income
Low-Skill			
$\rho$	1.000	0.849	0.848
$\sigma_\alpha^2$	-	0.20771	0.19842
$\sigma_\beta^2$	0.000000	0.000067	0.000080
$\rho_{\alpha\beta}$	-	-0.90357	-0.90367
$\theta$	0.23850	0.21447	0.20648
Medium-Skill			
$\rho$	1.000	0.887	0.855
$\sigma_\alpha^2$	-	0.026654	0.089907
$\sigma_\beta^2$	0.000000	0.000014	0.000050
$\rho_{\alpha\beta}$	-	-0.51619	-0.85878
$\theta$	0.25884	0.23828	0.24007
High-Skill			
$\rho$	0.909	0.844	0.800
$\sigma_\alpha^2$	0.20079	0.011319	0.024662
$\sigma_\beta^2$	0.00197	0.000038	0.000033
$\rho_{\alpha\beta}$	-0.99985	-0.95881	-0.75941
$\theta$	0.29377	0.26866	0.27447

Table C.3: Parameter estimates from the model of income dynamics with heterogeneous profiles

**Notes:** This table presents the parameter estimates from the model of income dynamics. We estimate the model described in Section XYZ extended for heterogenous profiles. We use the baseline sample and estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college.



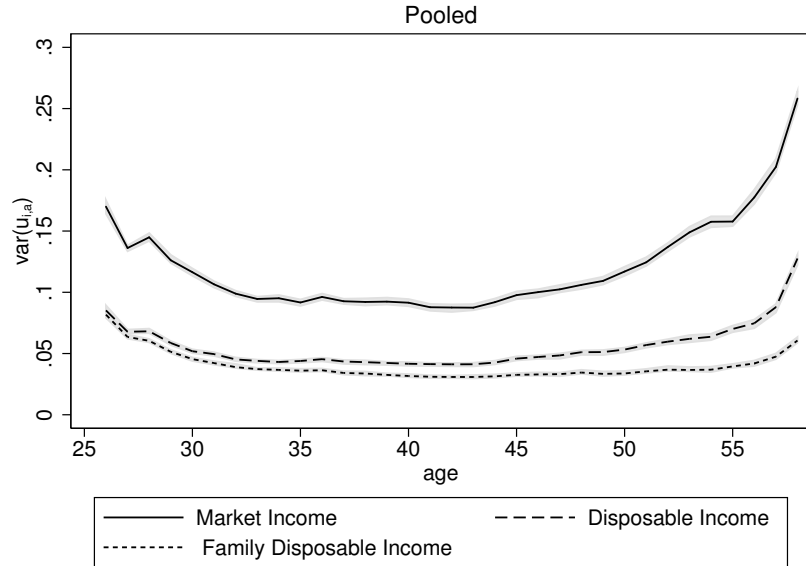


Figure C.1: Age profiles in the variances of permanent shocks in the pooled sample

**Notes:** This figure graphs the age profiles in the variances of permanent shocks. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample, but do *not* estimate the model separately by educational levels. The age profiles are adjusted for calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

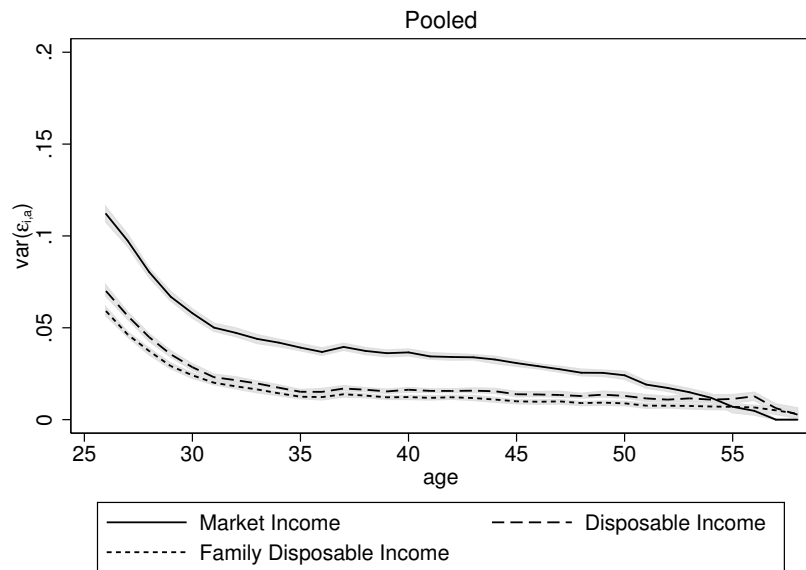
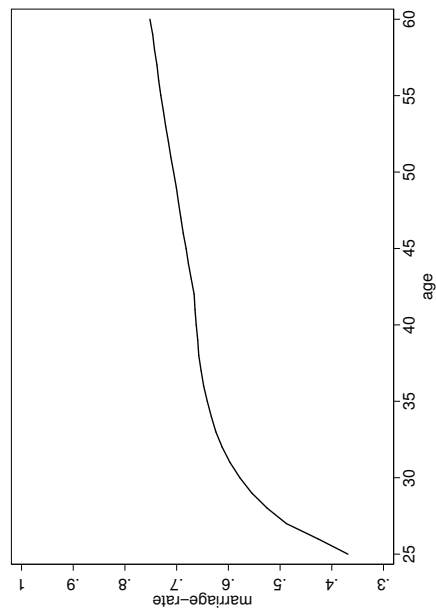
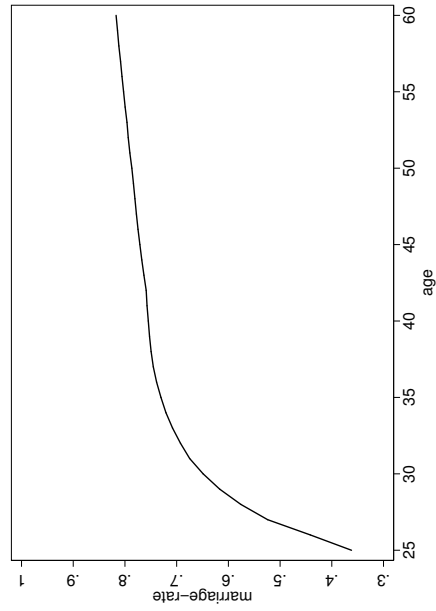


Figure C.2: Age profiles in the variances of transitory shocks in the pooled sample

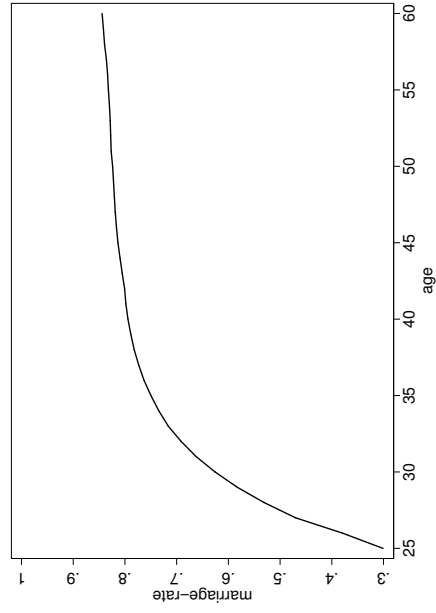
**Notes:** This figure graphs the age profiles in the variances of transitory shocks. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample, but do *not* estimate the model separately by educational levels. The age profiles are adjusted for calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.



(a) Low-Skilled



(b) Medium-Skilled



(c) High-Skilled

Figure C.3: The share of the baseline sample that is married by age and educational levels

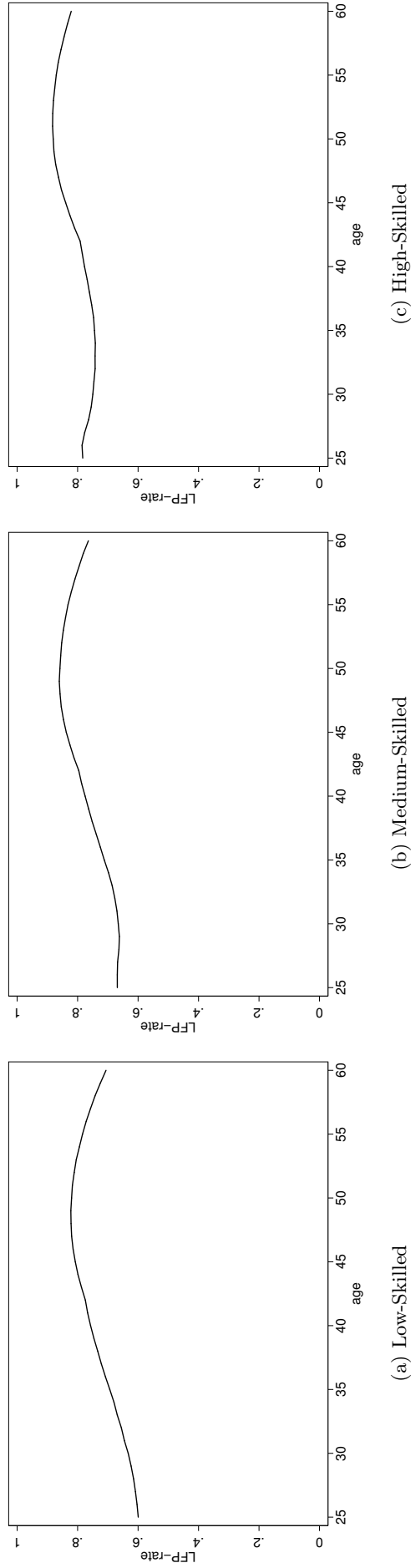


Figure C.4: Labour Force Participation (LFP) rate of the spouse by age and educational levels

*Note:* This figure shows the labor force participation of the spouses rate by the age and educational levels of the husbands. Labor force participation (LFP) is equal to one if the wife has positive labor income in a given year. This figure uses the baseline sample and, in each year, excludes individuals who are not married.

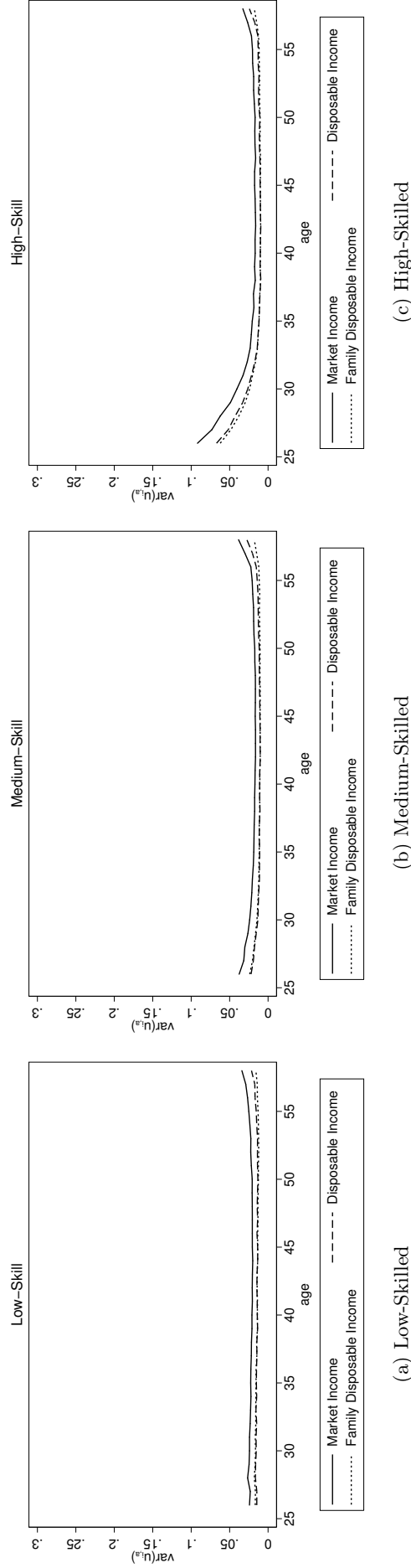


Figure C.5: Age profiles in the variance of permanent shocks to income when excluding individuals with low market income.

**Notes:** This figure graphs the age profiles in the variances of permanent shocks to individual income. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample; in each year, we exclude individuals with market income less than one basic amount. We estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

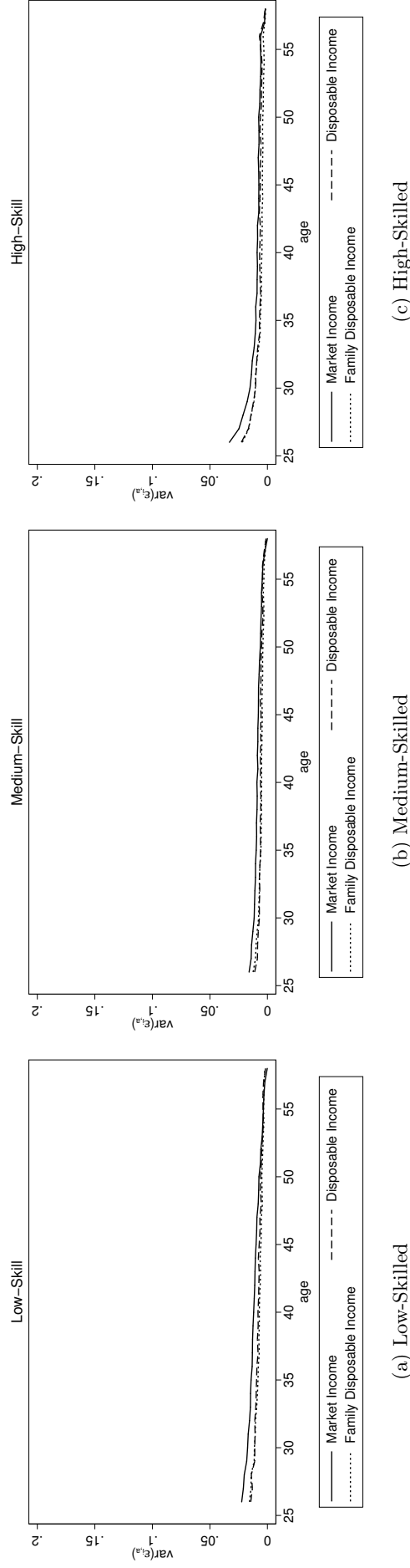


Figure C.6: Age profiles in the variance of transitory shocks to income when excluding individuals with low market income.

**Notes:** This figure graphs the age profiles in the variances of transitory shocks to individual income. The age profiles are based on the model of income dynamics described in Section 3.1. We use the baseline sample; in each year, we exclude individuals with market income less than one basic amount. We estimate the model separately by educational levels. Low skilled is defined as not having completed high school, medium skilled includes individuals with a high school degree, and high skilled consists of individuals who have attended college. The age profiles are adjusted for education-specific calendar time effects. The 95 percent confidence interval is based on nonparametric bootstrap (of both estimation stages) with 50 bootstrap replications.

