

# Problem Set 1: PSID - Labor Outcomes

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## Description of graphs and data

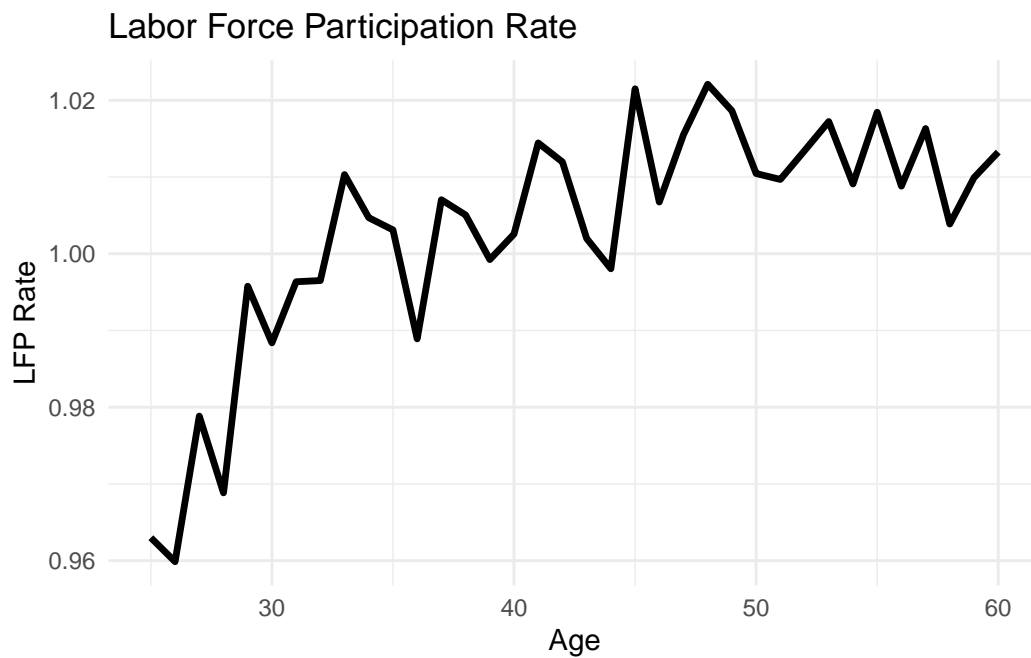
There are some key data facts worth pointing out. First, in the education data, we see that units act much how one would expect, with the college educated having higher LFP rates, higher annual incomes, and higher hourly wages, upon hitting age 40 when many of them have entered long term careers if pursuing post graduate education. The variance of wages and hours worked is also very erratic, especially for those with college education. When looking at industry, more interesting patterns arise with a larger gulf in LFP, hours worked, and income for the white collar segment. Though we do see higher hourly wages for blue collar workers, which could perhaps be explained by white collar incomes being comprised of other sources than wages. The variance of income sees a massive spike for the white collar agents at age 56, but is otherwise in lock step with blue collar agents, perhaps due to late career advancement to executive roles or otherwise growing in career stature. When segmenting by wealth, the wealthy have higher LFP by a wide margin with slightly higher weekly hours worked as well. Wages are much less static, with rankings shifting frequently until around 45 before a ranking is defined for the rest of the time period. Income, of course, is a wide gulf from high to medium and then a smaller gap between medium and low. This makes sense given we are segmenting on wealth. Again, in this specification, we see massive variances of wage and hours worked, perhaps due to high wealth individuals earnings fluctuating with age and earlier retirement opportunities.

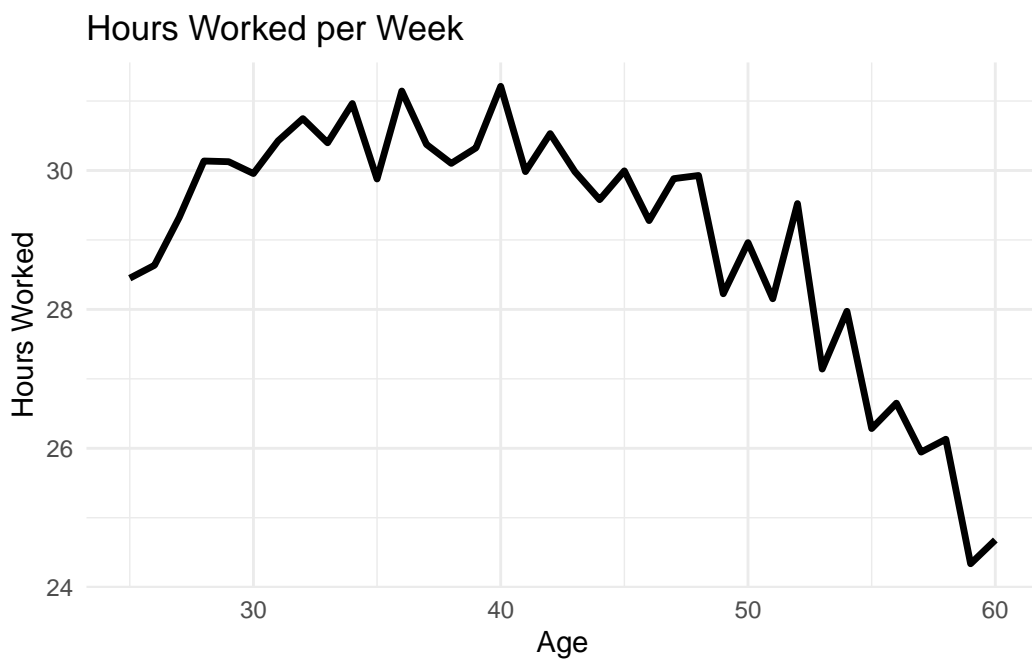
```
library(AER)
library(haven)
library(tidyverse)
library(psych)
library(patchwork)
library(broom)
library(Hmisc)
library(knitr)
```

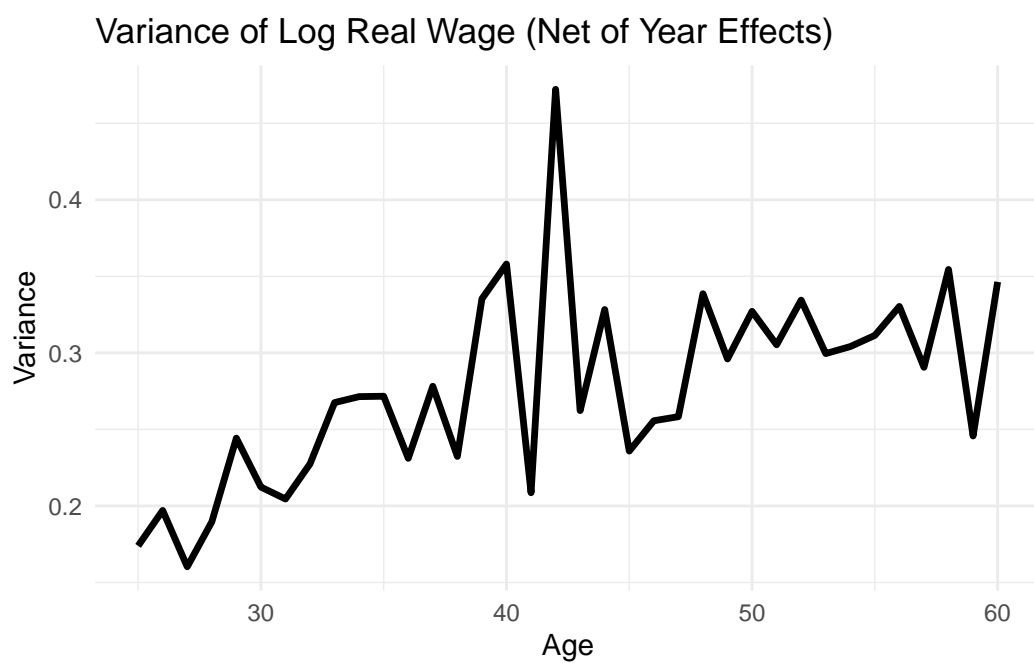
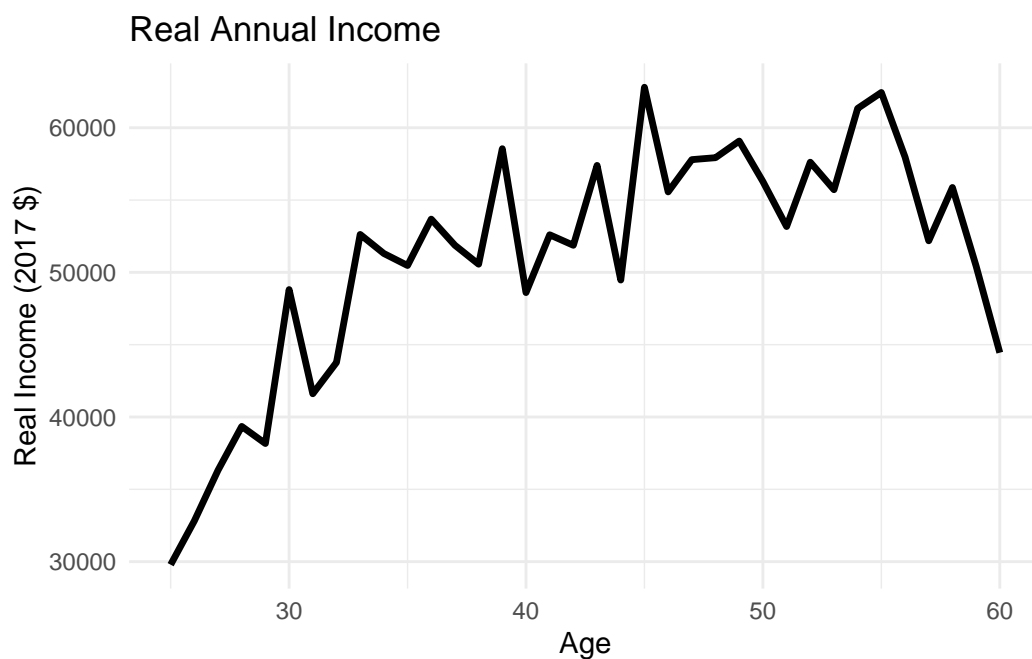
```
df <- read_dta("~/SchoolWork/Y2S1/Macro/Data/PSID/PSID.dta")
```

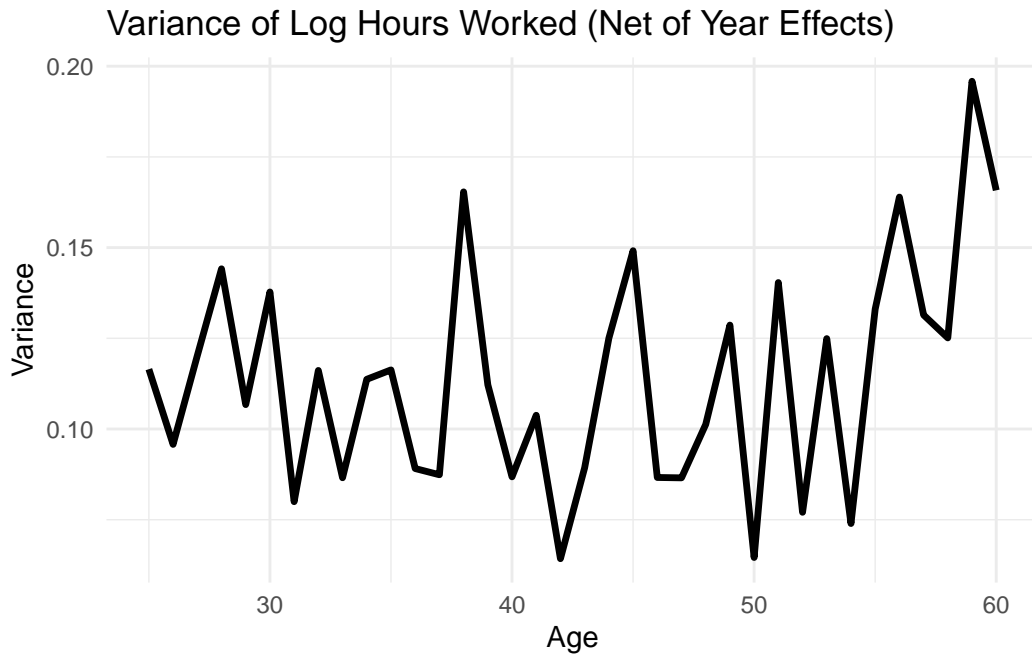
## Age profiles

Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.  
i Please use `linewidth` instead.

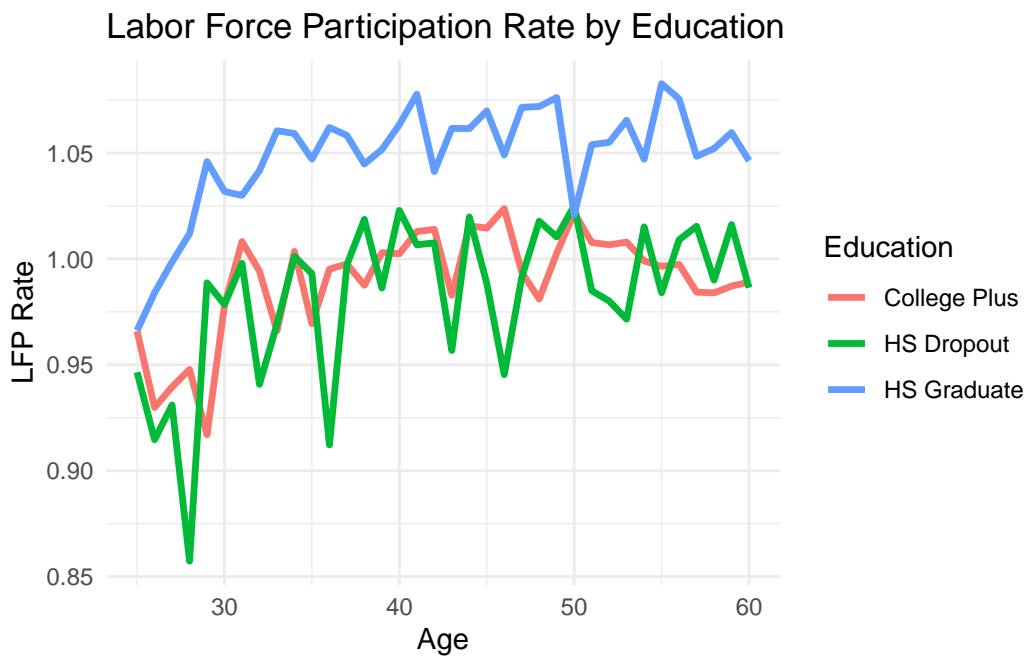


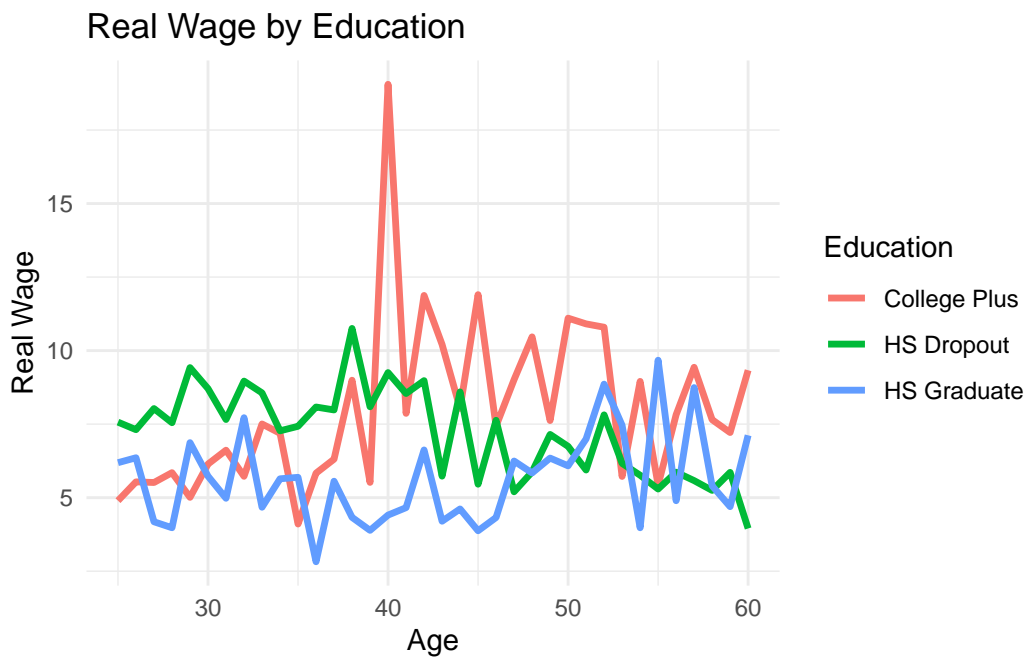
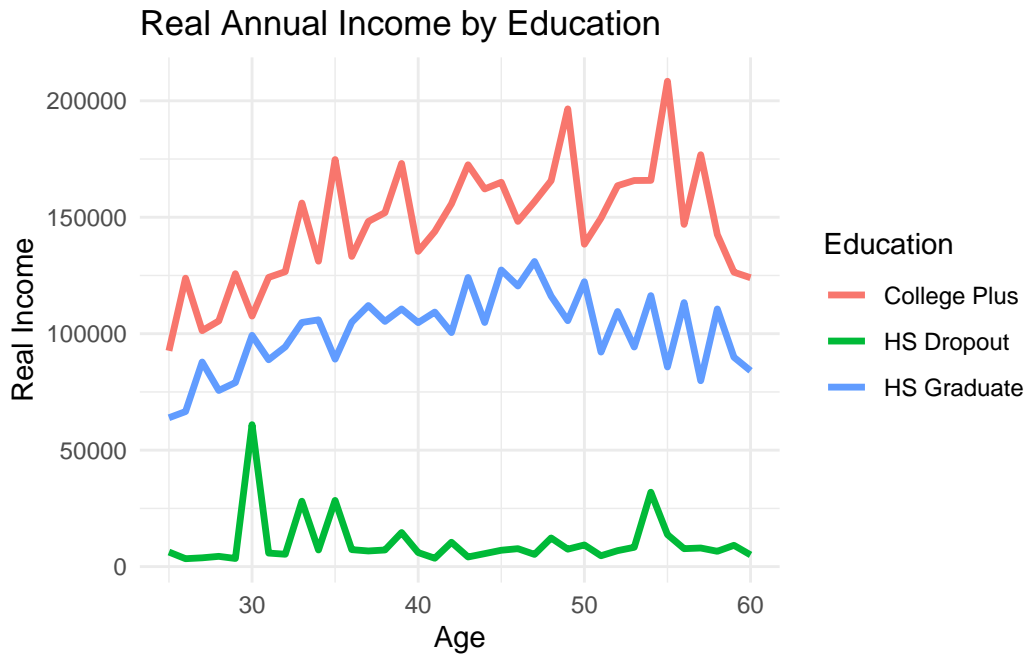




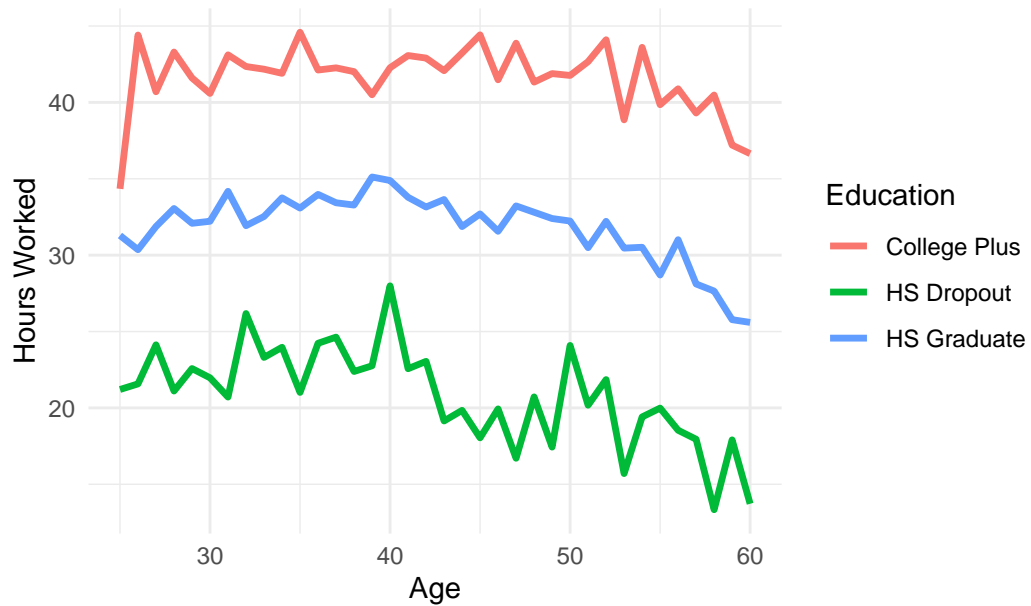


### Education groups

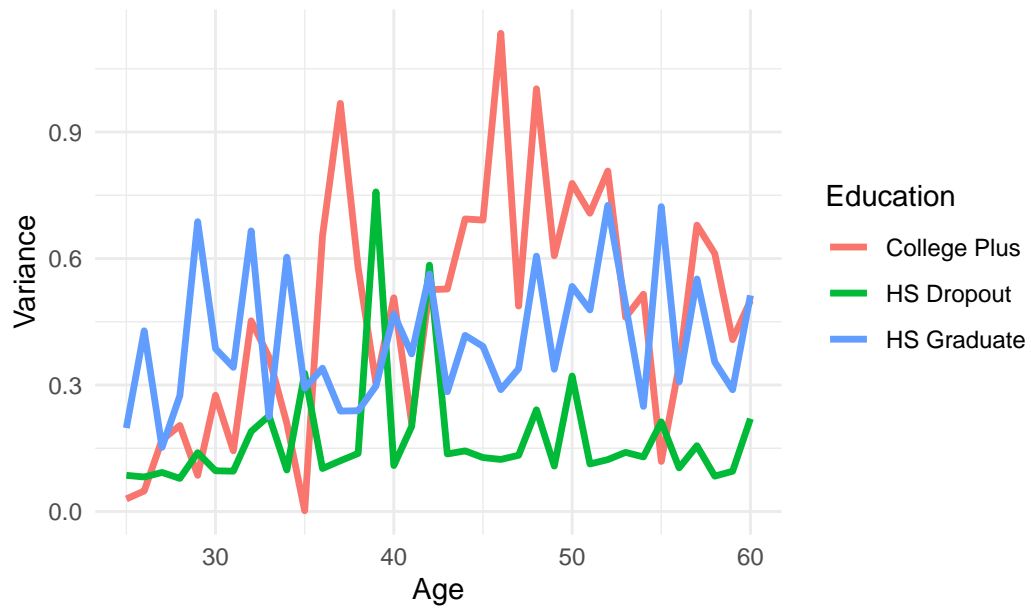




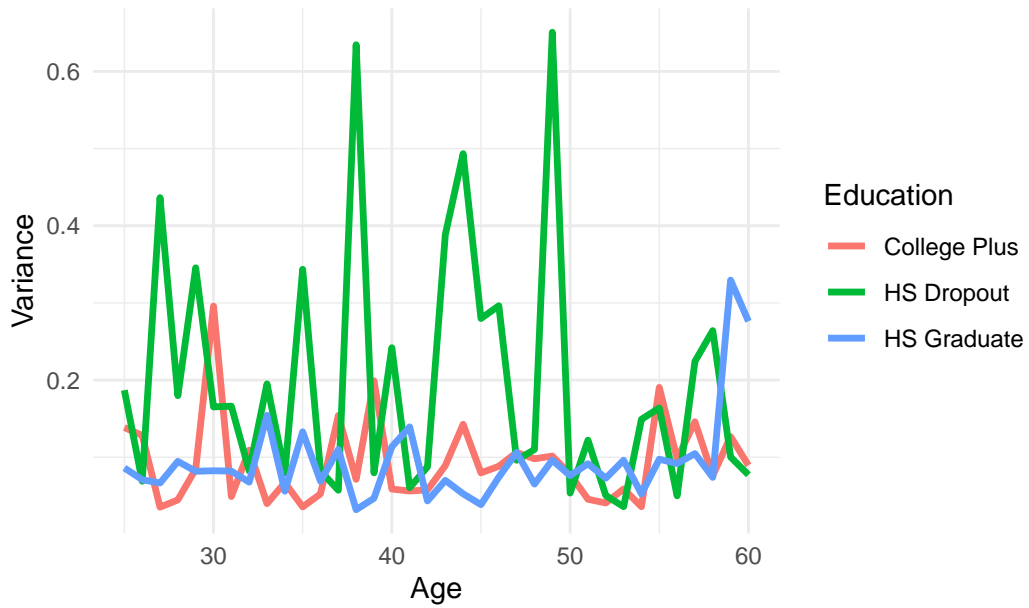
Hours Worked per Week by Education



Variance of Log Real Wage (Net of Year Effects) by Education

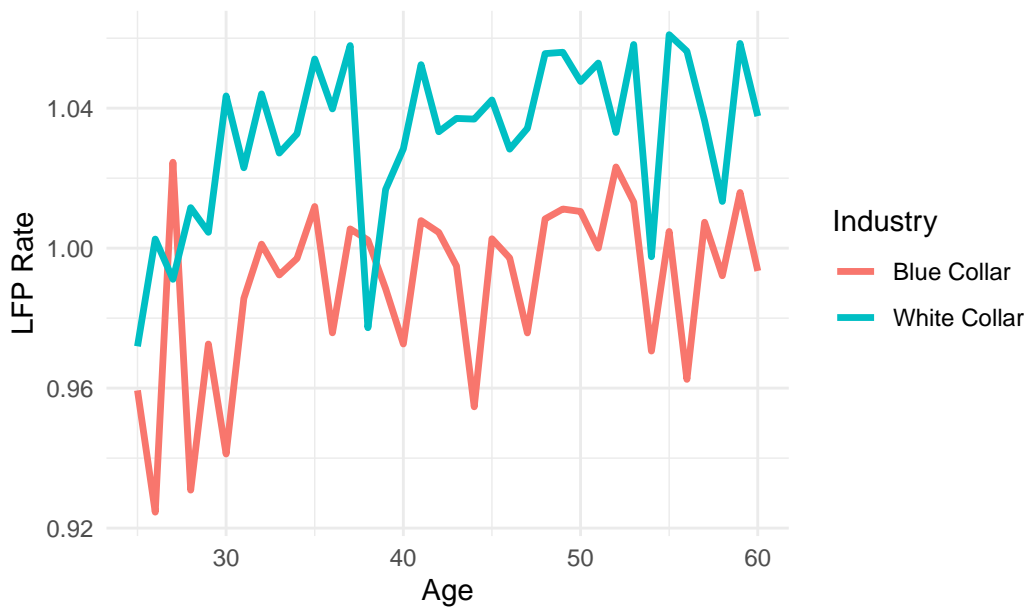


Variance of Log Hours Worked (Net of Year Effects) by Education

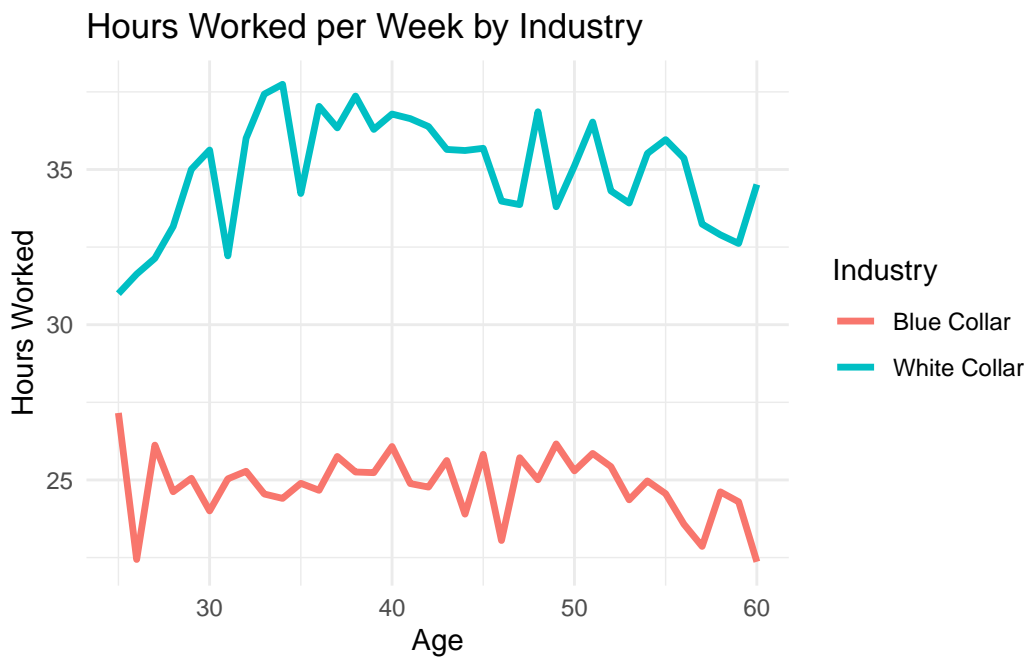
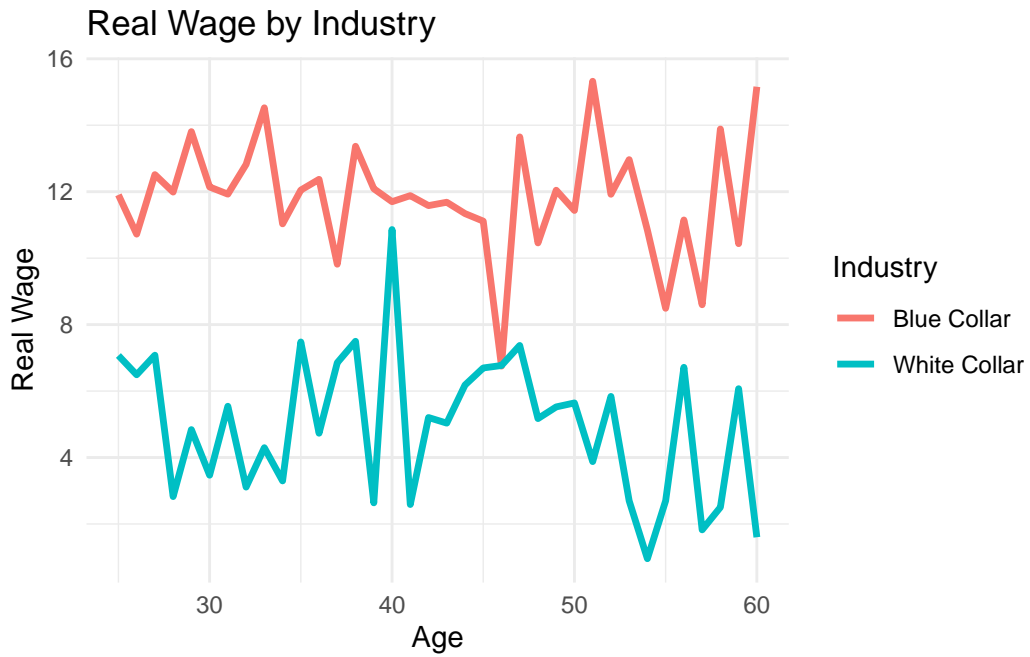


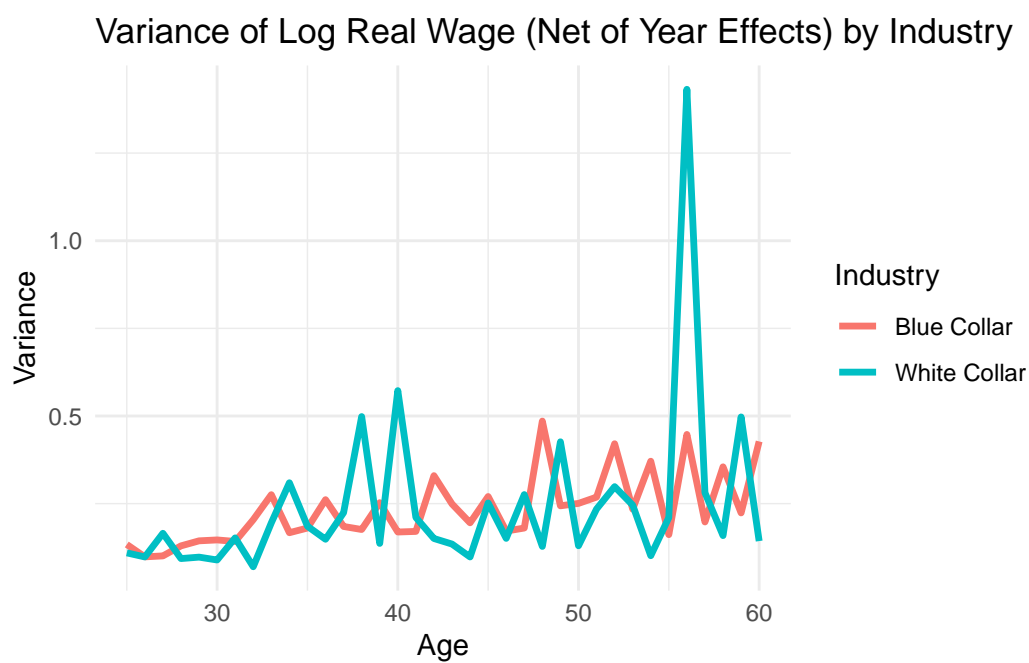
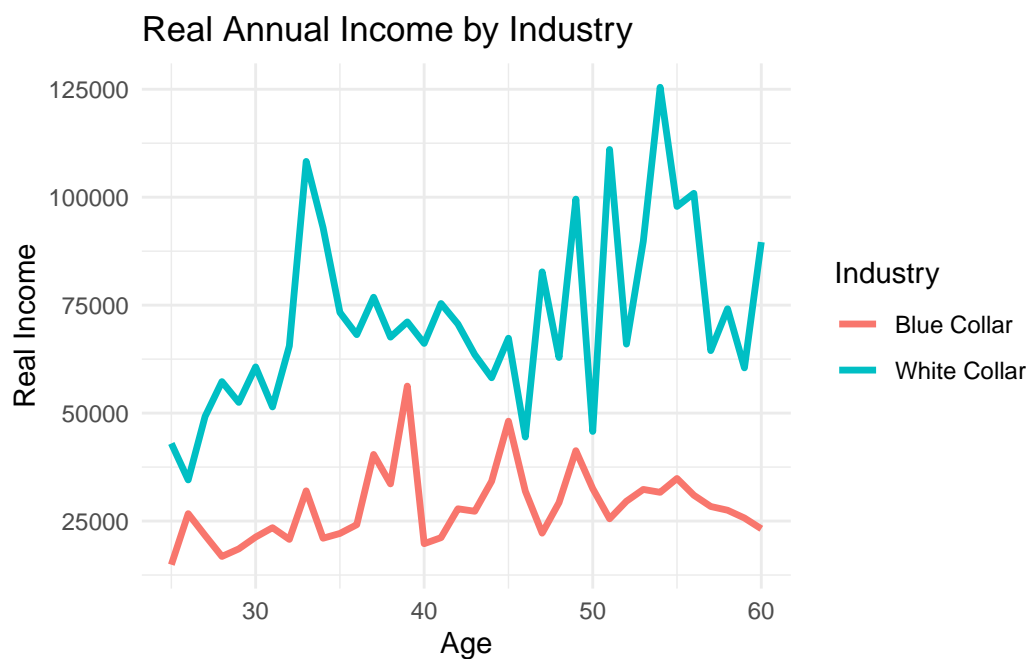
### Industry groups

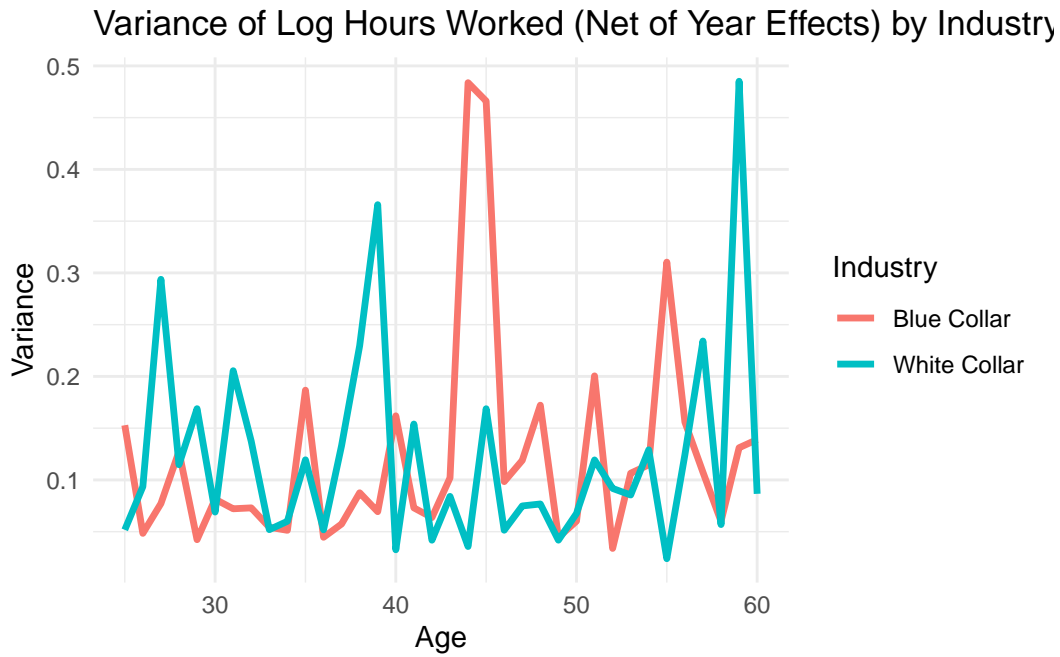
Labor Force Participation Rate by Industry



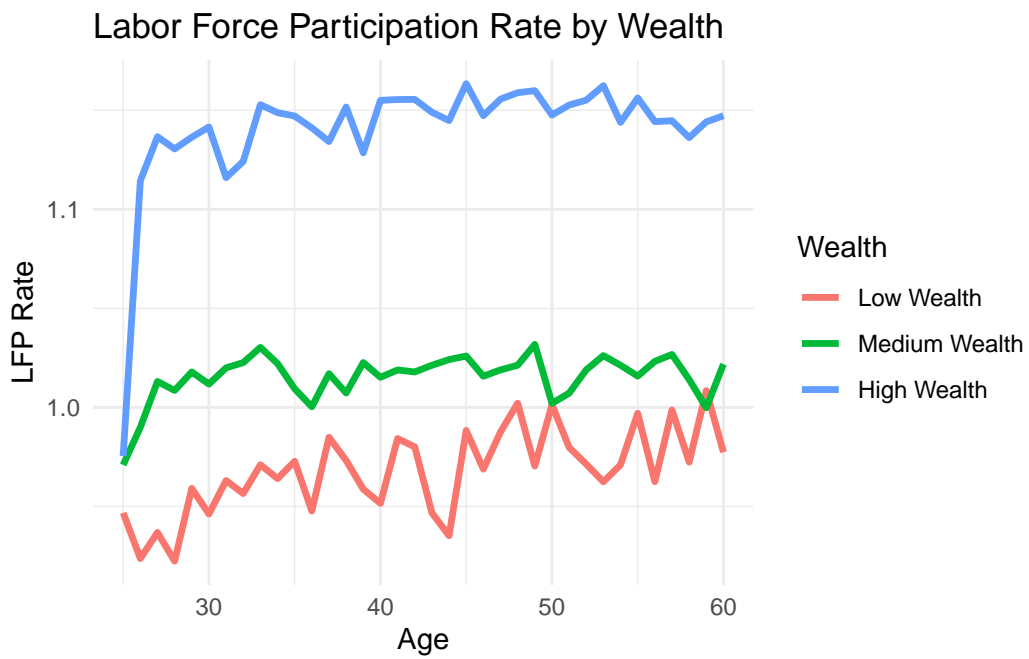


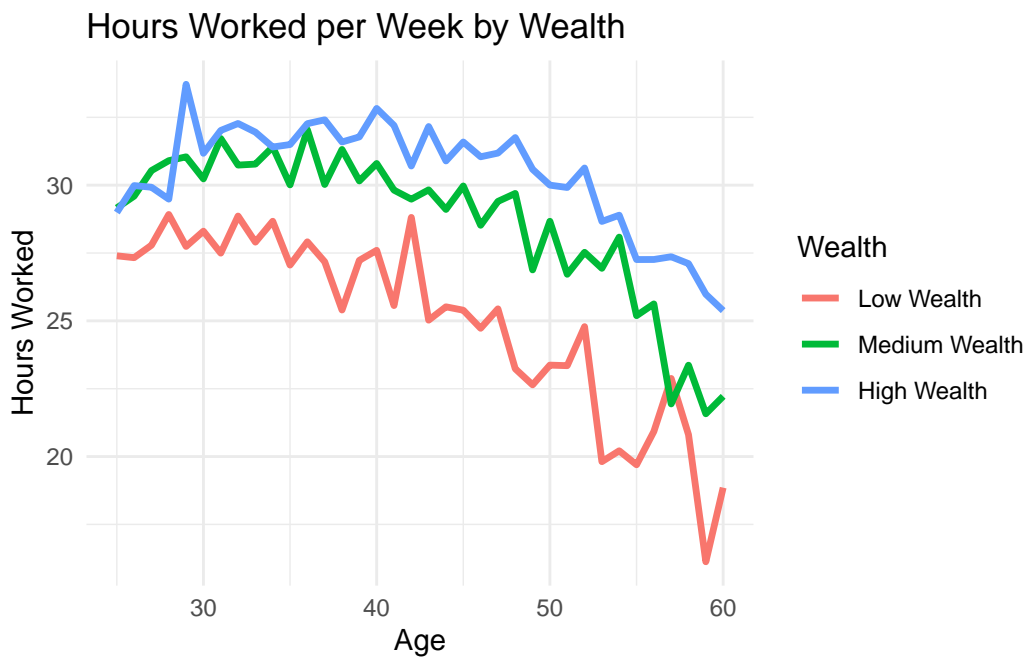
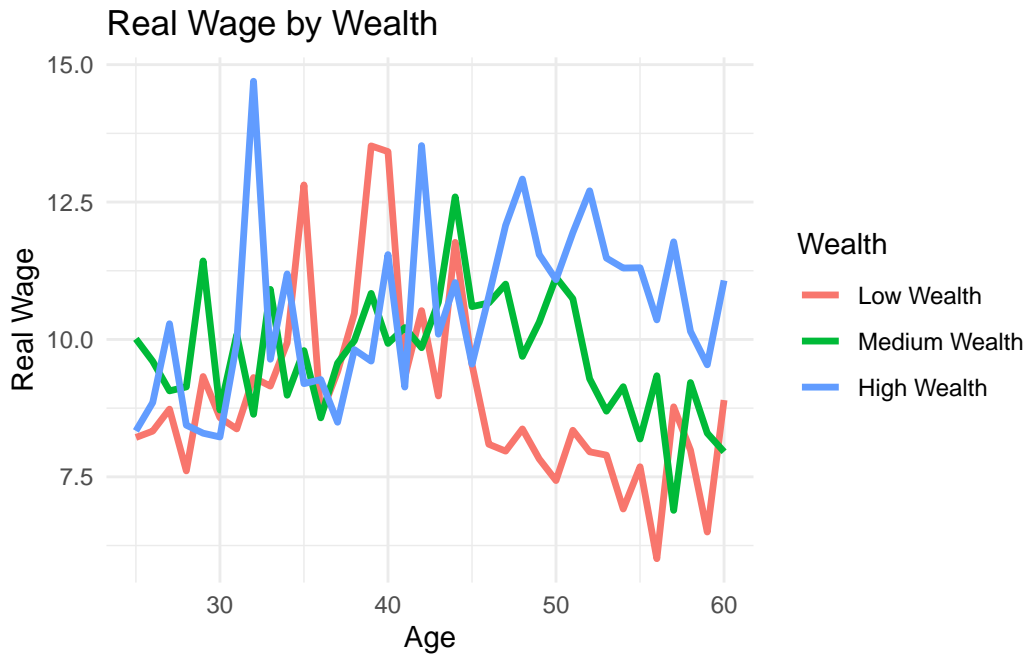


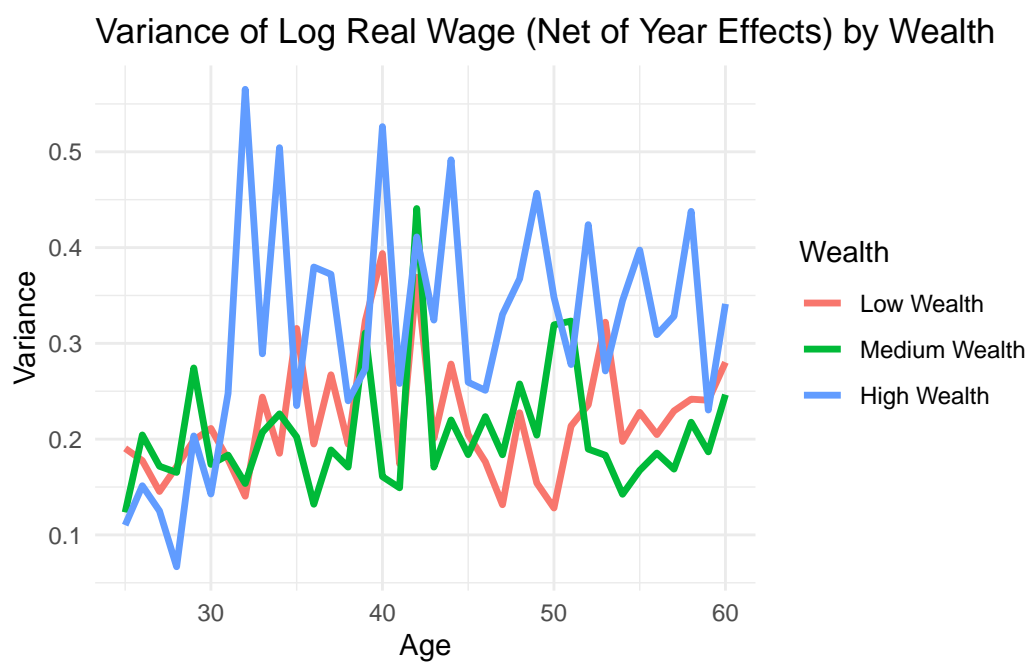
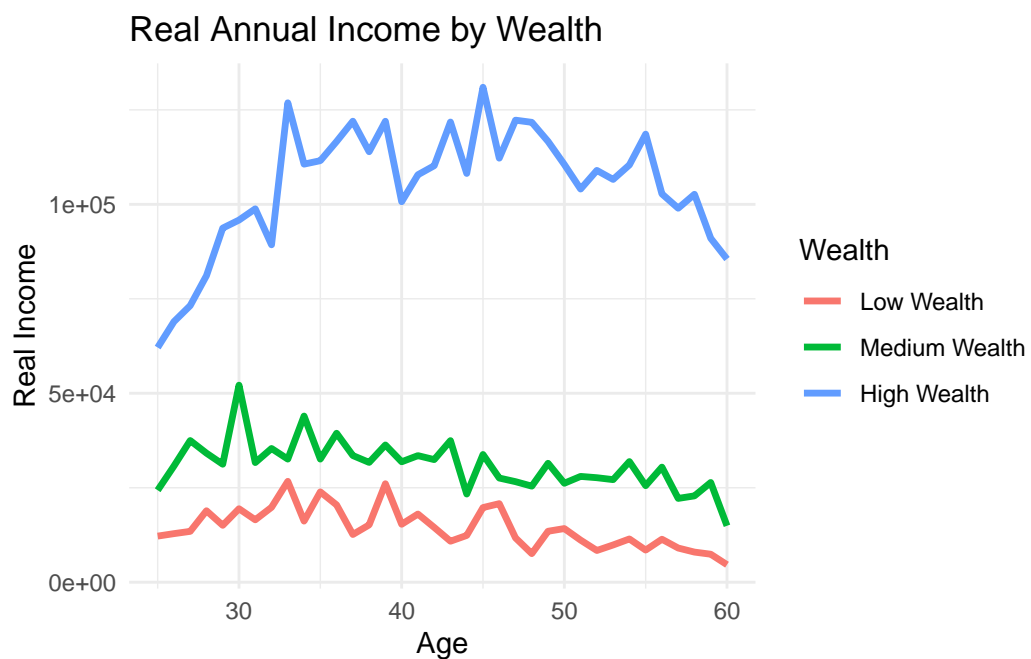




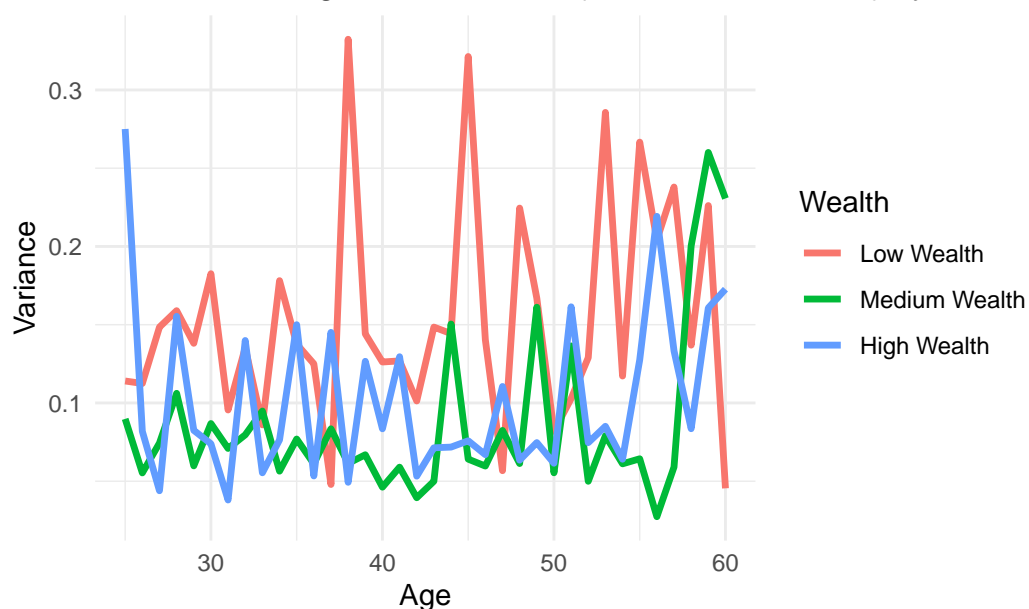
### Wealth groups







Variance of Log Hours Worked (Net of Year Effects) by Wealth



Year	Group	Category	Sample Size	Observations	College (%)	White Collar (%)
1999	All	All	1847	3795	22.6	57
	Education	HS Dropout	807	1288		
	Education	HS Grad	873	1288		
	Education	College +	873	1288		
	Industry	Blue Collar	507	629		
	Industry	White Collar	507	629		
	Wealth	Bottom 25%	1847	3795		
	Wealth	Middle 50%	1847	3795		
	Wealth	Top 25%	1847	3795		
2001	All	All	1855	4078	24.1	55.7
	Education	HS Dropout	883	1358		
	Education	HS Grad	883	1358		
	Education	College +	883	1358		
	Industry	Blue Collar	541	646		
	Industry	White Collar	541	646		
	Wealth	Bottom 25%	1855	4078		
	Wealth	Middle 50%	1855	4078		
	Wealth	Top 25%	1855	4078		
2003	All	All	1844	4209	24.1	28.2
	Education	HS Dropout	892	1384		
	Education	HS Grad	892	1384		
	Education	College +	892	1384		

Year	Group	Category	Sample Size	Observations	College (%)	White Collar (%)
2005	Industry	Blue Collar	597	773	22.1	26.4
	Industry	White Collar	597	773		
	Wealth	Bottom 25%	1844	4209		
	Wealth	Middle 50%	1844	4209		
	Wealth	Top 25%	1844	4209		
	All	All	1814	4231		
	Education	HS Dropout	872	1380		
	Education	HS Grad	872	1380		
	Education	College +	872	1380		
	Industry	Blue Collar	607	793		
2007	Industry	White Collar	607	793	21.2	25.0
	Wealth	Bottom 25%	1814	4231		
	Wealth	Middle 50%	1814	4231		
	Wealth	Top 25%	1814	4231		
	All	All	1799	4349		
	Education	HS Dropout	866	1387		
	Education	HS Grad	866	1387		
	Education	College +	866	1387		
	Industry	Blue Collar	642	839		
	Industry	White Collar	642	839		
2009	Wealth	Bottom 25%	1799	4349	29.3	26.2
	Wealth	Middle 50%	1799	4349		
	Wealth	Top 25%	1799	4349		
	All	All	1767	4421		
	Education	HS Dropout	929	1522		
	Education	HS Grad	929	1522		
	Education	College +	929	1522		
	Industry	Blue Collar	627	856		
	Industry	White Collar	627	856		
	Wealth	Bottom 25%	1767	4421		
2011	Wealth	Middle 50%	1767	4421	28.0	27.5
	Wealth	Top 25%	1767	4421		
	All	All	1713	4441		
	Education	HS Dropout	921	1536		
	Education	HS Grad	921	1536		
	Education	College +	921	1536		
	Industry	Blue Collar	557	777		
	Industry	White Collar	557	777		
	Wealth	Bottom 25%	1713	4441		
	Wealth	Middle 50%	1713	4441		
	Wealth	Top 25%	1713	4441		

Year	Group	Category	Sample Size	Observations	College (%)	White Collar (%)
2013	All	All	1701	4475	27.8	27.6
	Education	HS Dropout	928	1555		
	Education	HS Grad	928	1555		
	Education	College +	928	1555		
	Industry	Blue Collar	566	782		
	Industry	White Collar	566	782		
	Wealth	Bottom 25%	1701	4475		
	Wealth	Middle 50%	1701	4475		
	Wealth	Top 25%	1701	4475		
2015	All	All	1650	4365	27.3	28.1
	Education	HS Dropout	921	1512		
	Education	HS Grad	921	1512		
	Education	College +	921	1512		
	Industry	Blue Collar	566	782		
	Industry	White Collar	566	782		
	Wealth	Bottom 25%	1650	4365		
	Wealth	Middle 50%	1650	4365		
	Wealth	Top 25%	1650	4365		
2017	All	All	1908	4684	49.3	NA
	Education	HS Dropout	880	1399		
	Education	HS Grad	880	1399		
	Education	College +	880	1399		
	Industry	Blue Collar	551	764		
	Industry	White Collar	551	764		
	Wealth	Bottom 25%	1908	4684		
	Wealth	Middle 50%	1908	4684		
	Wealth	Top 25%	1908	4684		