

Estimating the Effect of Parental Education and Employment Status on Children's Wealth: Evidence from Egypt

Sarah H. Serag

Assistant Professor of Economics,
Sadat Academy for Management Sciences,
EGYPT.

sarah.serag@sadacademy.edu.eg, sarah.serag.sams@gmail.com

ABSTRACT

In this study, the researcher examines the impact of parental education and employment status on children's household wealth in Egypt across three generations (1960s, 1970s, and 1980s). Using the ordinal logistic regression model, the results indicate a significant effect of mothers' and fathers' level of education and employment status on their children's level of wealth. Mothers who work seem to have a negative impact on their children's level of wealth compared to mothers who don't work, which may indicate that mothers in low classes may need to work more than mothers from higher classes in Egypt. In addition, fathers who work as wage workers decrease the odds of their children to be in the highest level of wealth compared to fathers who work as employers or self-employed. The results also indicate a positive impact of parental level of education on their children level of wealth; however, the effect of mothers' level of education was greater than fathers in two generations. These results may also indicate that despite the effect of children's education, income, and qualifications that should affect their level of wealth, parental education and employment status are important factors that may affect their children's level of wealth.

Keywords: parental education; working mother; wage-worker father; self-employed father; children's household wealth

JEL classification: D31, J62

INTRODUCTION

Wealth is generally understood as ownership of economic capital (OECD, 2013) and household wealth is usually used as an indicator for the household economic status. As known, there are many studies that discuss the socio-economic determinants of household wealth. Some of these factors are related to the individual him or herself; such as, income, educational attainment, personal qualifications, consumption, and employment status. Other factors are related to individuals' childhood and parental circumstances; for instance, parents income, employment status, parental education, family structure, and inherited wealth.

In fact, the relationship between parents and their children is complex and interrelated; therefore, the way parents affect their children can't be easily interpreted. Literature is full of many studies that indicated the impact of parents on children education, way of thinking, health, and also income. Several studies also tried to measure this effect through estimating the relationship between the socioeconomic status of parents and the status of their children when becoming adults, which is known as intergenerational social mobility (OECD, 2010).

Studies included the parental effect on children's level of household wealth usually concentrate on the impact of wealth transmission. A study by Karagiannaki (2017) showed

that there is a positive correlation between parental wealth and several outcomes; including, educational attainment, earnings, employment, and also earnings in early adulthood. In a research paper conducted to measure the impact of parental wealth on children's homeownership, children at the age of 30 who don't have parental property wealth are 60 percent less likely to own a home (Wood and Clarke, 2018).

Furthermore, family structure may also affect children's wealth. A study by Fagereng et al., (2018) indicated the importance of family background on children's accumulation of wealth. However, some studies showed that the effect of family structure on children's accumulation of wealth is moderate across the life course (Bernardi et al., 2019).

Another factor that is significantly correlated to parental wealth and income is parental education. Parental education may actually affect children through multiple ways; including educational attainment and parental income. Parental education may actually affect their income; since education is known as investment in human capital and can strongly affect earned money (Wolla and Sullivan, 2017). Through the effect of parental education on their income, parents' income may also affect the level of their children's educational attainment. As a result, poorer families are less likely to invest in education; meanwhile, more financial transfers doesn't necessary increase the chance of higher educational attainment because of families' choices (Chevailier and Lanot, 2002). Another study by Lin and Lv (2017) indicated that parental income can have a major influence on their children's educational level; as the increase of families' income can positively affect the educational attainment of their children. Similarly, a study by Hotz et al., (2018) showed that children who have higher level of parental wealth tend to have more chances to attend college.

Meanwhile, parental education plays a vital role in affecting children's educational attainment which may affect their level of household wealth through their earned income. Parents' employment status can also have a crucial effect on children's level of educational attainment; therefore, it may have an impact on their employment status and income that might be reflected on their level of household wealth. Parents' years of education is considered an important factor in determining the schooling of their children too (Kean, 2005). However, literature generally believed that mother's education has a higher impact on children than father's education (Chevailier et al., 2013).

As for parental employment status, the overall effect of parental employment on the educational level of their children is not obvious; since parental employment can positively affect their children because of higher income but decreases the time spent with them (Hörisch, 2016). In addition, a study by Ermisch and Francesconi (2001) showed that mothers' longer period of full-time employment tend to negatively affect children educational attainment and increase the risk of unemployment in early adulthood. On the contrary, the impact of fathers' employment was hard to be determined since most fathers in the sample were employed; however, the study shows that longer periods of fathers' employment may negatively affect their pre-school children's educational attainment but might decrease the psychological distress as young adults.

As per previous studies, parental wealth may affect children through many ways; including the transmission of wealth and education. However, due to the difficulty of estimating parental wealth and income in Egypt, the researcher chose to estimate the parental effect on children's household wealth through education and employment status. To date, the researcher hasn't found studies that measure the impact of parental education and employment status on children's level of household wealth in Egypt. Nevertheless, a study by the European Bank for Reconstruction and Development (EBRD) referred to the importance

of socio-economic parental background and geographic dispersion – urban versus rural- in wealth inequality in Egypt before and after 2011 (Abd el Ghaffar, 2018).

In this paper, the researcher tests two hypotheses; first, parental education has an impact on children's level of household wealth, and second, parental employment status affects the level of children's household wealth. Household wealth is the indicator used to reflect the economic status of individuals in Egypt.

METHOD

Sample Characteristics

The study relies on the data included in the ELMPS "Egyptian labor market panel survey" that was released in 2012. The survey used an estimated wealth score to divide respondents into three social classes. The researcher also classified respondents according to their ages into three groups; (30-39), (40-49), and (50-59) at the time of the survey in order to estimate the parental effect on the level of household wealth across three generations.

In figure 1a, the share of the high level of wealth is the highest across the three generations, while the middle level represents the lowest. Figure 1b shows that the number of respondents who live in urban areas decreased gradually across the three sample generations.

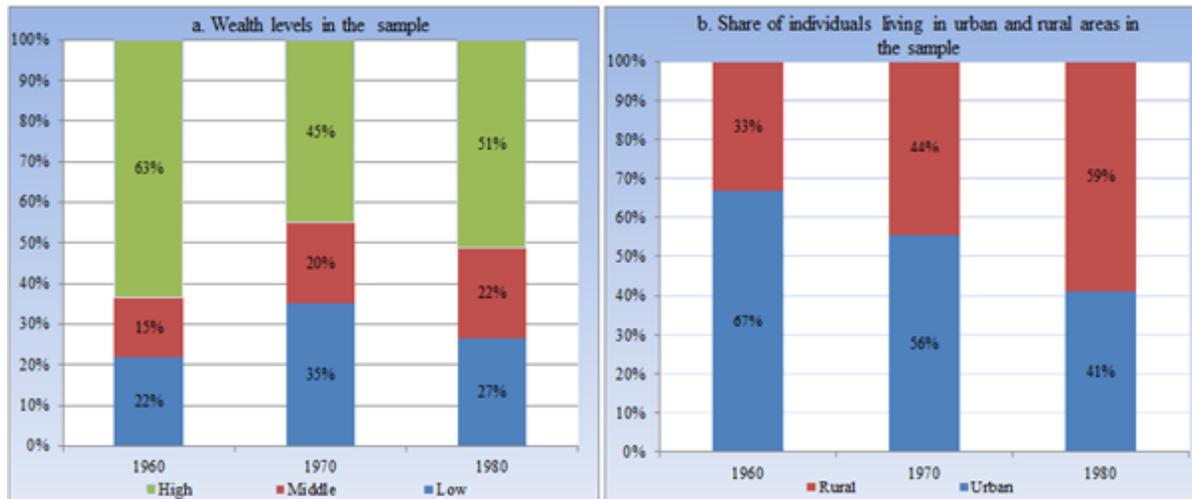


Figure 1(a,b). Summary of sample characteristics

Reference: Economic Research Forum (ERF), Egypt Labor Market Panel Surveys (2012), <http://erf.org.eg/data-portal/>. Version 2.2 of Licensed Data Files; 2016

The share of working mothers in the sample is increasing across the three generations; however, the share of non-working mothers is dominant (Figure 1c). On the other hand, most fathers in the sample are working; as a result, fathers are coded as wage workers and employers or self-employed. The percentage of fathers who work as wage workers is higher than self-employed fathers across the three generations. Moreover, 65% and 68% of illiterate mothers and fathers are found in individuals born in 1970s, while 36% and 31% of mothers and fathers who can read and write or educated are found in 1980s generation, respectively (Figure 1e).

As for the highest level of individuals education, 45% of individuals born in 1970s are illiterate or can read and write, which is the highest compared to individuals born in 1960s and 1980s. Furthermore, 89% of individuals born in 1980s are intermediate or university graduates (Figure 1f).

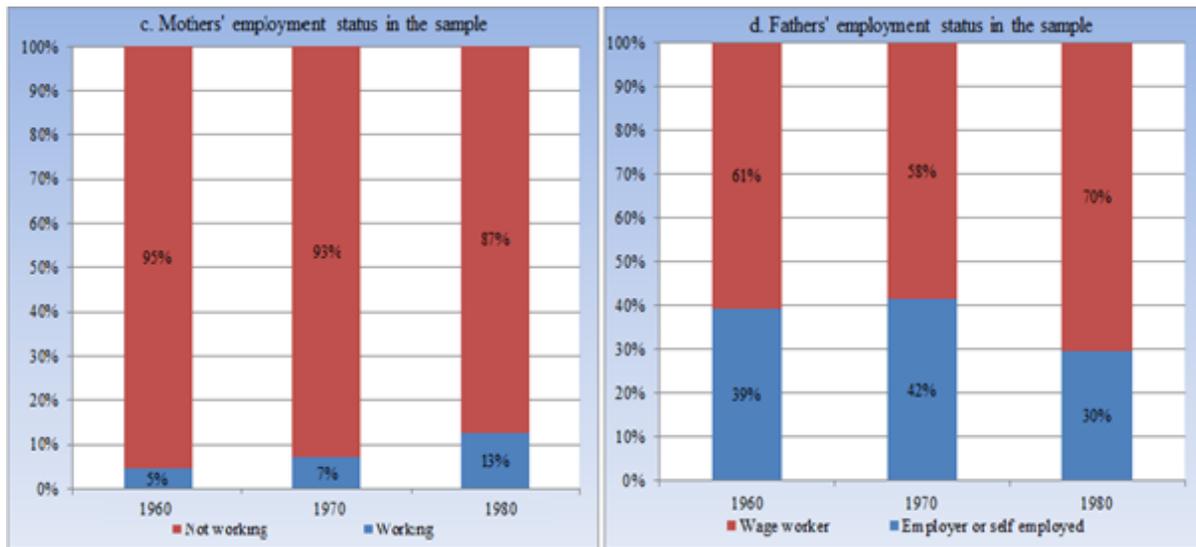


Figure 1(c, d). Summary of sample characteristics

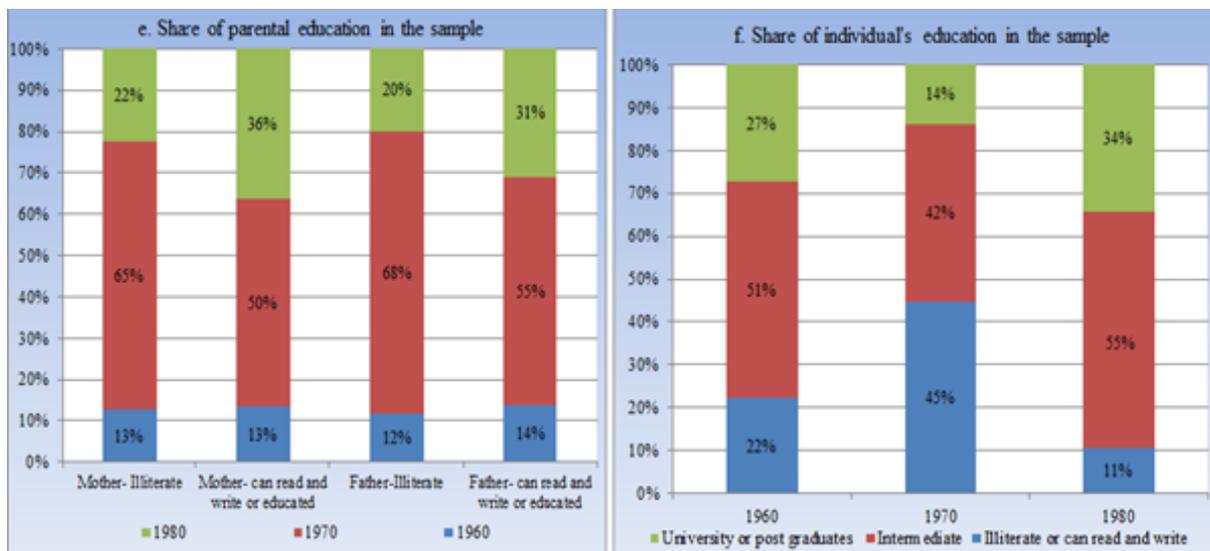


Figure 1(e, f). Summary of sample characteristics

Reference: Economic Research Forum (ERF), Egypt Labor Market Panel Surveys (2012), <http://erf.org.eg/data-portal/>. Version 2.2 of Licensed Data Files; 2016

Model

In order to test both hypotheses, the researcher applied the ordinal logistic regression model on each of the three groups of ages in order to test the impact of the parental factors on household wealth across generations. The applied model is:

$$\text{Household wealth} = \alpha + \beta_1 \text{urban} + \beta_2 \text{mthedu} + \beta_3 \text{fthedu} + \beta_4 \text{mthmpst} + \beta_5 \text{fthmpst} + \beta_6 \text{edu} + \varepsilon$$

The dependent variable is household wealth which is divided into three ordinal levels; (Low=1), (Middle=2), and (High=3). Furthermore, the explanatory variables include mother's education (mthedu), father's education (fthedu), mother's employment status (mthmpst), father's employment status (fthmpst), urban or rural (urban), and education (edu).

Father's and mother's education is coded as (illiterate=0) and (read and write or educated=1) because of the high percentage of illiterate parents. Maternal and paternal education is also

separated in order to determine the effect of each of them. Meanwhile, due to the high percentage of unemployed mothers in the sample, the researcher decided to code mother's employment status as (working=1) and (not working=0).

On the other hand, since most fathers in the sample are working, father's employment status is coded as (wage worker=1) and (employer or self-employed=0). The researcher also chose to include the urban variable in the model because of her belief that the effect may differ due to the place where the respondent lives. Respondents living in urban areas are coded as (1) and respondents who live in rural areas are coded as (0); while respondents' level of education is classified into three ordinal levels (illiterate or can read and write=1), (intermediate=2), and (university and post graduates=3).

RESULTS

Results of the applied models varied across generations. Therefore, the analysis of results is divided according to each group. Results are summarized in Table 1:

Table 1. Summary of models' results

Wealth	1960		1970		1980	
	Coef.	% change in odds	Coef.	% change in odds	Coef.	% change in odds
urban	1.199	232.0	1.186	227.6	1.06	188.5
mthedu	1.314	272.2	0.642	90.1	0.867	138.1
fthedu	0.598	81.9	0.8000	122.6	0.853	134.7
mthmpst	-0.546	-42.1	-0.623	-46.3	-0.123*	-11.6*
fthmpst	-0.145*	-13.5*	-0.338	-28.7	-0.186	-17.0
edu	1.315	272.6	1.222	239.6	1.083	195.5

(*) denotes insignificant variables at 0.05

Reference: calculated by the researcher

The following sections include further analysis of the results mentioned in Table 1:

The 1960's Generation (50-59)

The valid number of observations included in the model is 2106 (N=2106); the model is statistically significant, and the test of parallel lines shows that slope coefficients are the same across response categories.

Using Stata statistical package, the results show that the variables of the study are significant except father's employment status. It turns out that living in urban areas increases the odds of being in the high level of wealth versus the combined middle and low levels by 232% than living in rural areas, given that all other variables in the study are held constant. For respondents who have mothers who can read and write or educated, the odds of being in the high level of wealth versus the combined middle and low levels is 3.72 greater than the odds of respondents who have illiterate mothers, given that all other variables are constant. Furthermore, when having a father who can read and write or educated, the odds of being in the high level of wealth versus the combined middle and low levels is 1.81 greater than having an illiterate father supposing that all other variables are constant.

On the other hand, having working mothers decreases the odds of being in the high level of wealth versus the combined middle and low levels by 42% than those who have mothers who don't work, supposing that all other variables are held constant. Finally, the increase in the level of education by one unit going from 1 to 3 increases the odds of being in the high level

of wealth versus the combined middle and low levels by 272%, given that all other variables are constant.

The 1970's Generation (40-49)

The valid number of observations in this model is 10,199 (N=10199); the model is statistically significant, and the results show that the proportional odds assumption is not violated.

All the coefficients of the estimated model are statistically significant; furthermore, the odds of respondents living in urban areas to be in the high level of wealth versus the combined middle and low levels is 3.28 greater than respondents living in rural areas, given that all other variables are held constant.

In addition, having a mother or a father who can read and write or educated increase the odds of being in the high level of wealth versus the combined middle and low class by 90% and 123% respectively than having an illiterate mother or illiterate father supposing that all other variables are held constant.

On the other hand, having a working mother decreases the odds of being in the high level of wealth versus the combined middle and low levels by 46% than having a mother who doesn't work. Meanwhile, fathers who work as wage workers decreases the odds of their children to be in the high level of wealth versus the combined middle and low levels by 29% than fathers who work as employers or self-employed, given that all other variables are constant. As in 1960's model, the increase in education by one unit increases the odds of being in the high level of wealth versus the combined middle and low levels by 239.6%, given all other variables are constant.

The 1980's Generation (30-39)

The number of valid observations in this model is 4137 (N=4137), the probability of chi-square shows that the model is significant and the proportional odds assumption is not violated.

The coefficients of the estimated model are significant except mother's employment status. As in preceding models, respondents live in urban have higher odds to be in the high level of wealth versus the combined middle and low levels by 188% than respondents living in rural areas, supposing that all other variables are held constant. Furthermore, having a mother or father who can read and write or educated increases the odds of being in the high level of wealth versus the combined middle and low levels by 138% and 135%, respectively; given that all other variables are constant. However, when having a father who works as a wage worker decreases the odds of being in the high level of wealth versus the combined middle and low levels by 17% than having a father who works as an employer or self-employed. Education is still an effective determinant in the level of household wealth in this model too; as for every increase in the level of education from 1 to 3, the odds of being in the high level of wealth versus the combined middle and low levels is 1.95 greater, given that all other variables are constant.

DISCUSSION

Results of the study indicated the validity of the first and second hypotheses; parental education and employment status may have an impact on their children's level of wealth across the three generations chosen in this paper. Despite the fact that there are other variables that may affect individual's level of wealth; such as, the place where the individual lives and the highest level of education, parental education and employment status are still effective variables.

As for mothers and fathers education, it turns out that having a mother who can read and write or educated has higher effect on their children's level of education more than fathers' level of education; except in 1970s generation. On the other side, there is a negative impact of having a working mother on children's level of wealth in 1960s and 1970s generation compared to non-working mothers. The effect of mothers' employment status on their children was also measured through children's academic performance, which may affect their level of wealth. A study by Hoque et al., (2017) mentioned that mothers' employment status has a negative impact on children's academic performance except mothers who are employed in teaching profession. In Egypt, this negative effect of mothers employment status could be interpreted by the fact that mothers in lower classes need to work more than mothers in higher classes, which may indicate a relationship between mothers and children level of wealth; however, mothers employment status doesn't seem to have an impact on children's level of wealth who were born in 1980s.

Another study by Lee et al., (2018) also found a positive relationship between parents' education and children's earnings, but the relationship between parental education and children's education wasn't clear.

Fathers' employment status doesn't affect children born in 1960s; in contrast, there is a negative effect of fathers who work as wage workers on their children level of wealth compared to fathers who work as employers or self-employed. This may refer to the fact that wage workers may not earn as much money as employers or self-employed fathers.

The results of this study indicate the importance of parental occupation and level of education on their children; these results are consistent with a study by Odoh et al., (2017) that tested the effect of parental education and occupation on children academic performance in Nigeria. The results obtained included a significant effect of parental education and occupation on students' academic performance in accounting studies in Nigeria. Despite the fact that this study didn't test the impact on children's level of wealth, it pointed out the importance of parents' level of education and employment status on children. However, more research needs to be conducted on 1990s generation in Egypt to investigate whether parental education and employment status still have an impact on children's level of wealth since economic conditions and structure may change the effect of these variables over time.

REFERENCES

- [1]. Abd el Ghaffar, A., (2018). *A stable Egypt for a stable region: Socioeconomic challenges and prospects*. Directorate-General for External Policies, Policy department, European Parliament, p 16, doi:10.2861/262760 (pdf)
- [2]. Bernardi, F., Boertien, D., Geven, K., (2019). Childhood Family Structure and the Accumulation of Wealth Across the Life Course. *Journal of marriage and family*, 81(1) 230-247, doi:10.1111/jomf.12523
- [3]. Causa, O., Johansson, A., (2010). Intergenerational social mobility in OECD countries. *OECD Journal: Economic studies*, Vol. 2010, P 2
- [4]. Chevalier, A., Lanot, G., (2002). The Relative Effect of Family Characteristics and Financial Situation on Educational Achievement, *Education Economics*, 10(2), PP 165-181, doi: 10.1080/09645290210126904
- [5]. Chevalier, A., Harmon, C., Sullivan, V., Walker I., (2013). The impact of parental income and education on the schooling of their children. *IZA Journal of Labor Economics*, vol.2, 2-8, doi: 10.1186/2193-8997-2-8
- [6]. Economic Research Forum-ERF(2016). *Egypt Labor Market Panel Surveys*, Version 2.2, Retrieved September 9, 2019, from <http://erf.org.eg/data-portal>
- [7]. Ermisch, J., Francesconi, M., (2001). Retrieved October 23, from <https://www.jrf.org.uk/> *The effect of parents' employment on outcomes for children*. Joseph Rowntree Foundation, report/effect-parents-employmentoutcomes-children
- [8]. Fagereng, A., Mogstad, M., Ronning, M., (2018). *Why Do Wealthy Parents Have Wealthy Children?*, SSRN e-library, doi:10.2139/ssrn.3146928
- [9]. Hoque, M., Khanam, S., Nobi, M., (2017). The Effects of Mothers' Profession on their Children's Academic Performance: An Econometric Analysis. *Global Journal of Human-Social Science*, 7(2), Version 1, 1-8
- [10]. Hotz, J., Wiemers, E., Rasmussen, J., Koegel, K., (2018). *The Role of Parental Wealth & Income in Financing Children's College Attendance & Its Consequences*, IZA Institute of Labor Economics, Deutsche Post Foundation, No. 11842, Retrieved October 28, 2019, from <https://www.iza.org/publications/dp/11842/the-role-of-parental-wealth-and-income-in-financing-childrens-college-attendance-and-itsconsequences>
- [11]. Karagiannaki, E., (2017). The effect of parental wealth on children's outcomes in early adulthood. *Journal of Economic Inequality*, 15. 217-243.
- [12]. Kean, Pamela Davis. (2002). The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment. *Journal of family psychology*, 19(2), 294–304., doi: 10.1037/0893-3200.19.2.294
- [13]. Lee Y., Roys, N., Seshadri, A., (2018). *The Causal Effect of Parents' Education on Children's Earnings*, Social Science Computing Cooperative. University of Wisconsin-Madison, 1-39
- [14]. Lin, T., Lv, H., (2017). The effects of family income on children's education: An empirical analysis of CHNS data, 4th International Conference on Information Technology and Career Education 2017. Research on Modern Higher education, Asian Academic press, 49-54, doi: 10.24104/rmhe/2017.04.02002

- [15]. Odoh, L., Ugwuanyi, U., Odigbo, B., Chukwuani, N., (2017). Influence of Parental Occupation and Level of Education on Academic Performance of Accounting Students in Nigeria. *Research on Humanities and Social Sciences*, 7(10), 21-26
- [16]. OECD, (2013). *OECD Guidelines for Micro Statistics on Household Wealth*. OECD Publishing, Paris. Retrieved October 17, 2019, from <https://www.oecd.org/statistics/guidelines-for-micro-statistics-on-household-wealth-9789264194878-en.htm>
- [17]. Schildberg-Hörisch, H., (2016). Parental employment and children's academic achievement. *IZA World of Labor*, doi: 10.15185/izawol.231
- [18]. Wood, J., Clarke, S., (2018). *House of the rising son or daughter: The impact of parental wealth on their children's homeownership*. Resolution Foundation, Intergenerational center, P 3
- [19]. Wolla, S., Sullivan, J., (2017). Education, income, and wealth. *Page One Economics*, Periodic Essays, Federal Reserve Bank of St. Louis. Retrieved October 23, 2019, from https://files.stlouisfed.org/files/htdocs/publications/page1-econ/2017-01-03/education-income-and-wealth_SE.pdf