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Spiritual Enhancement or Utilitarian Benefit: How would Religion affect Income and Assets and Future of Teenagers?

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Abstract: *Extensive research has researched on the attainment of education in a variety of life aspects. Yet the study on the correlation between education, tax payment and religiosity are extremely rare. This paper aims at analysing the effects of education and its benefit on respondents' income and tax contributions and their religiosity preferences. It provides ideas based on the data of National Longitudinal Survey of Youth 1997 (NLSY97) and the Form 1040 Data provided by the Statistics of Internal Revenue Code (www.irs.gov/statistics/) to gain exploration on how education would contribute to personal income, how tax payments correlated with income, and how respondents' religious activities influence income.*

Keywords: *Labour Economics, Utilitarian, Income and Assets, Adolescent Development*

1. Literature Review

"Our new constitution is now established and has an appearance that promises permanency; but in this world nothing can be said to be certain, except death and taxes." ———Daniel Defoe, the political history of the devil, 1726.

"In god we trust." ——————————— U.S. congress in 1956.

There has never been a savior, nor a God Emperor ——————————— L'Internationale in 1888.

Extensive research has examined the benefit of education, both in monetary or utilitarian measurements and in spiritual aspects. for instance, Acemoglu, d., Autor d (2011) mentioned that changes in wage levels have been accompanied by" systematic, non-monotone shifts in the composition of employment across occupations, with rapid simultaneous growth of both high-education, high-wage occupations and low-education, low-wage occupations". it implied a correlation between education and personal earnings. Angrist,j., Krueger, a.(1991) also answered the question 1 by their paper "does compulsory school attendance affect schooling and earnings?". on individual level, Ashenfelter, o., Krueger, a. (1994) talked about the economic return to schooling from a sample of identical twins in two of their subsequent papers published. ben-Porath's lifecycle of earnings provides theoretical and quantitative basis of how education increases human capital. a variety of studies on education attainment and earnings boomed after the theoretical basis was established in the 1970s. Oreopoulos, p., Salvanes, k.g. (2011) believed that education is "priceless" and they studied on the non-pecuniary benefits of schooling by studying the correlation between schooling and individuals 'status quo indicators such as "good health", "divorce rate" and some other behavioral indicators. are these behavioral indicators reflecting human beings' motivation on self-enhancing? another paper by Willis, r. j., Rosen,s. (1979) talked on education and self-selection by establishing selection criteria functions and in this paper, they mentioned the religion effects in their analysis by putting catholic and Jewish believers in their categorization. they then concluded that expected gains influence the decision to attend college and there's a self-selection effect on the decision to be educated. however, research purely on the effect of religion to earnings, are rare both domestically and internationally.

Tax researchers, on the other hand, care more about the income tax payment and the wealth distributions among taxpayers. even most of the research in individual income tax realm focused on tax avoidance and wealth by financial derivatives and estates, gifts and bequests, there are still scholars interested in tax research on miscellaneous topics such as educational credit for individuals etc. for example, john w. diamond, ralph a. rector, and Michael Weber (2007) in their tax panel discussion

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paper mentioned that current tax law, in a variety of deductions considered educational credit but was too limited. from here we could see that education has both pecuniary and non-pecuniary effects on individuals' lifecycle. hypothesis has it that education would possibly make individuals richer, or spiritually more accomplished. how would that happen? could education do both? what are the idiosyncratic characteristics that make this person richer but not the other? why more education, to some people, would not make them richer? this paper aims as answering such seemingly hodgepodge questions on education attainment, both in a pecuniary way and non-pecuniary manner. to define what are pecuniary and non-pecuniary benefits brought by education, we start with what was mentioned as "non-pecuniary benefits" defined and described by Kouropoulos, p. & salvages (2011). several noon-pecuniary indicators mentioned by them in a series of research are:

Job satisfaction.

Life satisfaction after completing a degree.

Spouse choices.

Child-birth year's age.

Divorce rate.

Favoring spanking to discipline child.

Whether on welfare.

And in the paper "Priceless: The Non-pecuniary Benefits of Schooling (2011)", the researchers arranged the schooling years to:

12 years and below (High school diploma and below);

13-15 years (Assoc. Degree).

16 Years (bachelor's degree).

The above research gained a rough conclusion that, education brings more than just pecuniary income. but what exactly is the drive force that increases positivity such as satisfaction and decreases negativity, say, crime rates? we would associate such good benefit with beliefs. two previous research purely on the correlation of education, religion and earnings are extremely rare. Brigham young university once had stan Albrecht & Tim Heaton (1984) published their conclusion that in general "the more educated are the least religious," yet "there's a positive relationship between education and church attendance..." internationally, such research associating religion, education and tax payment only appeared in religious-based countries such as Malaysia. Mohd Rizal Palil (2013) published "the perception of taxpayers on tax knowledge and tax education with level of tax compliance: a study the influences of religiosity" on Asean journal of economics. this localized research provides some idea on why some taxpayers are more compliant than others. other than descriptive induction on morality, this paper regressed education and knowledge setting tax compliance as independent variable and heavily mentioned religion but did not put religious preference or participation as any dependent variable. from here we could see the need of studying religious preference and religious participation in economics, as such research would draw a general view of how beliefs forge behaviors and how behaviors turn to pecuniary benefits or losses.

2. Pecuniary Variables: Income and Assets

We discuss the data and the logic of the research in this section. For pecuniary part, we could see the importance of the variables representing earnings, Adjusted Gross Income (AGI: for tax purposes), Assets (Debts) and so forth. We will use both NLSY97 and the IRS statistics databases to compare earnings and tax payment generated from such earnings. For non-pecuniary part, initially, we mostly collect the sub-session "Attitudes, Expectations, Noncognitive Tests" of the database NLSY97.As this article focuses on the spiritual development, under the attitudes, expectations, and non-cognitive tests, we selected all of the variables reflecting religiosity including the 48 variables for the religiosity of respondents and 16 variables for that of their parents.

2.1. NLSY97

This is mainly the database ranging from 1997 to 2017 surveying a nationally representative sample.

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The sample consists of 8,984 individuals born during 1980-1984 and living in the United States 1997 when the initial survey took place. Participants in between age of 12 to 16 as of December 31, 1996. Annual interviews started from 1997 to 2011 and subsequent interviews were conducted biennially since 2011. The continuous cohort was surveyed 18 times as of 2017. Data are accessible from Round 1 (1997-1998) through Round 18 (2017-2018). According to the U.S. Bureau of Labour Statistics (BLS) data overview, NLSY97 database collects abundant information of respondents' labour market behaviour as well as their educational experiences. The survey also includes data and descriptive information on the youths' family and community traits to help assessing the impact of schooling and other environmental factors on the labour market entrants. Data from NLSY97 also assists on gaining an idea of how youths' experiences correlate their establishing careers, governmental activities participation, and family formations in their subsequent years. Additionally, information from the NLSY97 also allows a comparison between the progress of this cohort with that of other cohorts. Yet for simplicity, we are only focusing on this relatively near cohort. We are selecting data reflecting pecuniary and non-pecuniary benefits of education. For the NLSY97 database, we could select the following variables:

Schooling Years Completed.

High school Degree Completed?

College Degree Completed?

Graduate master's degree Completed?

Graduate Doctoral Degree Completed?

Among the above variables, schooling years has a direct numerical value, say if schooling years is greater than 12, we could assume that the individual has completed the K-12 level education, but that is not always the case. Other variables come into being as Yes/No types of questions, yet as we examine the tax payment stats and indicators on attitude, expectation, and non-cognitive and cognitive indicators, we will form an idea of whether these question-type variables could be added as dummies or not.

2.2. Income from NLSY 97

To measure the pecuniary effects of education, we mostly select what was directly surveyed in the NLSY97 data under the "Income & Assets & Program Participation" Session.

Here we could see that the income measured in NLSY97 basically measures several questions. About 321 variables are reflecting income from wages and salary and tips, as well as income from business or farms of the family members of the respondents including the respondent himself/herself, respondents' parents, and respondents' spouse/partner (if any). After the listed family members, the data also gives an overall summation of gross family income and gross household income, for family aid purposes, it also included the EITC participation and the data of ratio of household income to poverty level.

Table 1. Income Data Review

#	Income Related Questions	Key Variables	Min 1997 - 2017	Max 1997 - 2017	Mean 1997 - 2017
1	Self-Total Income from Wages, Salary, Tips in past year	22	0	$235884	$49477.02
2	Self-Total Income from Business or Farm in past year	18	-35000	$222500	$11431.04
3	Spouse/partner Total income from Wages, Salary, Tips in past year	20	0	340000(2004)	$28150.46
4	Spouse/partner Total income from Business or Farm in past year	17	-$31000(2015)	600000(2005)	$24411.91
5	Gross Households Income	18	-$48100(1997)	$469576(2017)	$58237.01
6	Ratio of Household Income to Poverty level	18	0 (every year)	32.37	3.36

As we observe the trend of the data, average mean of income, in general, increases and approaches to the present level because as the respondents grow older, their income and spouse income increased.

Table 1 summarizes the income reported for individuals from wages, salary (ordinary jobs) and business or farm (self-employed) and the evaluation of the household's income and poverty level line. There are 22 key variables for individuals earning salary and wage and tips and the mean to max was about 49k to 235k. Jobs are more stable than opening a business. For 8984 respondents, their total

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average income from wage, salary and tips are $49477.02 in the year of 2017 with this number being $21259.23 in the year of 1997. For their spouses, the income from wage salary and tips increased from $11338.98 to $25926.03 as an average of the whole observations. For farm and business holders, situations fluctuate as they bear loss and receive large number of gains at the same time. For respondents who are independent and have business/farms, the largest loss, negative $35000 observation happened in 2013 and the largest gain was $222500 in the year of 2015. On average, by running a business or a farm, the respondents could have income of $11431.04 per year. For those who married a business/farm runner, the maximum amount of loss happened in 2015 with a loss of $31000 and the most fortune business/farm running spouse earned $600000 in 2005. So, for spouses, the 20-year average income from business/ farm is $24411.91. In general, the gross household income from 1997 to 2017, is $58237.01, with one negative observation of negative $48100 in 1997(probably because this household had a severe loss during that year) and the maximum amount of household income observed in 2017 was $469576. In general, household's income is increasing by year. How about the ratio to poverty level? That is, how many times a household's income is, to the poverty line standard, there are about 100 observations every year reporting 0-100% which means these households are struggling around the poverty line. So, the minimum ratio of household income to poverty level, in this case, is always 0. Yet for people with better socioeconomic status, this number ranged from 16.27 to 32.37 in the twenty years, which means, respondents with better socioeconomic status have household income 16.27-32.37 times the standard of poverty line. On average, a household's income is 3.36 times the poverty line (The poverty line in the U.S. in 2017 was about $12060 per person).

2.3. Assets from NLSY 97

Now let us look at the key data of assets. Assets of this cohort contains 103 variables focusing on each asset categories. These categories include Financial and non-financial assets, retirement plans, financial disposition, assets, and debts at certain age, house-related includes house value, house type, and house debt. Finally, there is an overall net worth surveyed every year and at certain age of the respondents. Also, for those who have several properties, we add the property tax paid, to illustrate the real properties they possess, and this could give us an idea of the tax payment of the financially advantaged groups.

From Table 2 we could see the situation of assets data. For financial assets including securities, bonds and all types of financial assets, the average amount held by respondents were $19120.44. For non-financial assets (excluding the value of the first living house) is $29042.05. Respondents have a variety of retirement accounts excluding the basic 401(k). Only 221 responds were received in the year of 2017, the last year of the 17-round survey. For advantaged accounts, 44% have traditional IRA, 61% have Roth IRA, only 2% have Coverdell/Educational IRA and 0 participated in Keough Plans. 37% participated in 529 plans and 3% in variable annuities and 8% in other types of retirement plans.

Table 2. Assets Data Review

#	Assets Related Questions	Variables	Min 1997 - 2017	Max 1997 - 2017	Mean 1997 - 2017
1	Financial Assets	4	0	$300000(top-coated)	$19120.44
2	Non-Financial assets	4	-$570500	$600000(top-coated)	$29042.05
3	Retirement Plans	1	0	$310000(top-coated)	$66128.48
3	Financial debt at certain age (20,25,30,35)	4	0	$370000(top-coated)	$12875.82
4	House value at certain age (20,25,30,35)	4	0(not owning a house)	$425000(top-coated)	$43399.17
5	House type at certain age (20,25,30,35)	Doesn't Own (95.82%-56.64%), House (2.32%-38.8%), Mobile Home(about 1.08%-2.79%), Mobile Home and lot(About 0.04%- 1.08%), Lot(0.01%-1.08%), Ranch/Farm(0.02%-0.05%), Unit(0.27%-1.47%), Building(0.04%-0.56%).			
6	House debt at certain age (20,25,30,35)	4	0	$325000	$60145.66
7	Net worth of household every year	13	-$935251	$600000(top-coated)	$27617.77
8	Net worth at certain age (20,25,30,35)	4	-5014150	$600000(top-coated)	$47819.16
9	Property Tax Paid	24	0	$50000	$1219.65

Also, about 45.99%, 69.86%, 67.24%, 66.60% of the 8984 respondents never took financial debts in their age of 20,25,30,35, respectively.

Considering house situations, we could specifically refer to house debt and other variables about housing. Starting from house debt, this variable measures the debt on primary housing. The maximum debt is $32500 and intuitively, the minimum debt amount is 0 for those who never take a debt. The

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average house debt is about $60145.66, excessing the average house value of $43399.17 during 1997 to 2017. And such debt is used for purchasing different types of houses include house, mobile home and its lot, ranch or farm, unit or building. What's notable is that there are still 95.82% of the respondents didn't own a house at age of 20, and as they grow older this number turned to 56.64%.

After listing all the assets possessed by the respondents, we could vaguely come up with the net worth of the households every year and the net worth of the respondents at certain age (age 20,25, 30,35, respectively, see Table 2 and the Appendix for details.) For net worth of household every year, as this group in 1997 was only 12-14 teenagers, we allow parent's report on the initial year of the survey, so parents report net worth had a minimum of negative $935251. We top-coated the richest respondents with a maximum value of $60000, however, the average mean of the respondents' household is $27617.77 per year in the year 1997 to 2017. The net worth value at certain age points also is meaningful here, so for each respondent, the average net worth is $14692.90, $25702.70, $50841.60, and $100039.40 at the age of 20,25,30,35, respectively.

Property tax payment could be seen as a good indicator of how many exactly, properties one really owns. In general, tax law has it that property settlement because of divorce, is not taxable, it is not included for the payer to claim a deduction, nor included in the gross income of the receiver. A homestead exemption of $200000 could be used to claim for primary housing, otherwise property owners must pay property tax according to each state, some states have low property tax such as Hawaii (0.27%), some other states have heavier property tax such as New Jersey (2.44%). In general, it is a good indicator for the rich because by tax payment we could understand their socio-economic status accordingly. For NLSY97 data, every time the property tax payment observation, among all the 8984 observations, were only less than 50. Most people do not meet the threshold of paying property tax, so the minimum amount is of course 0, the maximum amount paid was one observation of $50000 in 2002. Yet in general, the mean of property tax during a year between 1997 to 2017 is just $1219.64.

3. Religiosity in NLSY 97

Above is just the pecuniary analysis of 8984 respondents' income and assets conditions. Now we analyse religion-related variables, with the 68 variables, there are 219 measurements directly reflecting religious preference and religious practice frequency and 115 variables under "Education" tab telling how many of the respondents attended a religious school. We discuss from the general religious preference and religious practice frequency and family religious environment.

Is religion good or bad? Would more education enhance church attendance or not? Would religious believers pay more tax or not? This section talks about the non-pecuniary benefit of education. As such spiritual enhancement is hard to quantify, we could look at how researchers quantify religious preference and participation. In the only existing research purely on this topic by Mohd Rusyidi Md Akir & Wan Fadillah Bin Wan Ahmad (2013), the researchers concluded that without tax education, taxpayers from the U.S. still comply the tax laws better than those of Hong Kong, because they have better education compared to Hong Kong taxpayers. But in Malaysia, the tax compliance correlated with religious beliefs. As is known to amateurs of geography, Malaysia itself is a country with abundant and diversified believers (61.3% Islamism, 19.8% Buddhism,9.2% Christianity, 6.3% Hinduism, 1.3%Chinese folk religion, 1.7% Unknown, 0.4% Other), so no wonder such research has a root. However, the limitation of this research is that the definition of "tax payment" and "taxpayer" is too broad because international income tax law does not necessarily reflect the situation in the U.S., also the method of this research is a single regression on tax compliance as dependent variable and education, knowledge as dependent variables. Yet this paper, unlike the NLSY97, does not disclose its data source well. So going back to the NLSY97 data base, we believe that this cohort is surveyed thoroughly on religiosity as each question is visible and the survey provided extensive questions and rich information on the young's religious preference and the participation. Here we use every survey result (Youth Report 48 variables, Parent Report 16 Variables) reported under the religiosity tab of NLSY97.

Table 3 provides the beliefs of the religious faith in 1997. A brief data description is that, among the 8984 respondents of NLSY97, 5988 answered the question "Do you ask God to help make decisions", 5698 answered "yes" to the same above question.7274 answered the question "What's the importance of religious faith in your life", and we 6 could see the answer reflected in the table 3.

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Table 3. Importance of religious faith in life, as of 1997

*Sample Size	Score in Scale	Importance	Percentage
1564	1	Extremely Important	21.94%
1853	2	Very Important	25.99%
1922	3	Somewhat Important	26.96%
905	4	Not Very Important	12.69%
885	5	Not Important at all	12.41%
7129	Total	—	100%

3.1. Youth Religiosity from NLSY 97

There are 48 variables under this tab presenting as a thorough reflection of the NLSY97 cohorts. Questions cover religious practice frequency, religious beliefs, praying frequency, spiritual enhancement, parental influence on religious background etc. Sample questions asked in these 48 variables include:

1) Yes/No: One needs religion for good values.

2) Do you ask God to help make decisions?

3) What is your current religious preference?

4) Were you born again as evangelical Christian (Baptized)?

5) What is the importance of religious faith in your life?

6) Do you pray more than once a day?

7) What is your present religion?

8) What is your present religious preference?

9) Number of days parents do something religious.

3.2. Parent Religiosity from NLSY 97

In the 16 variables under this tab, similar questions were asked to the cohort teenagers about their parents' behavioural religious participation and beliefs. Teens in this section, has the chance to evaluate their parents' and originally born family's religious behaviours. Sample questions include:

1) What religion were your parents raised in?

2) What's your parents' current religion?

3) What religion was your spouse/partner raised in?

4) What's your spouse/partner's current religion?

5) Are your parents very religious?

These questions thoroughly reflect a respondent's religious preference and participation. The questions even provided enough information on the respondents' originally born family religious environment. These unobserved traits are important in deciding the dependent variable representing religiosity, in addition, detailed religions are listed here as follows in Table 4. About 39.91% of the total surveyed believed in Roman Catholic, 31.5% belived in Baptist, 6.76% in Methodist and so forth. (See Table 4). The rest are Lutheran, Presbyterian, Episcopal Anglican, Evangelical Reformed, Christian Church, 0.62% believed in Koran and Islamism, 0.79% in Toran and Indian and 2.04% in general Holiness. Mind that the data is only surveyed in the United States so the scope might be limited.

To define the religious preference well, Table 5 is provided as a view of many religions in the United States. Surprisingly among the 5961 respondents, only 212 teenagers in this cohort believed that their parents are not religious, and 931 claimed that their parents are very religious. The majority claims the existence of the religion in their originally born families. Here another important indicator would be the religion practice frequency. We could take a glimpse at it, as is defined for "Religious Practice Frequency", most people don't practice anything, 1737 respondents only practice religion once a week and so on and so forth. 406 people are most loyal to religion as they report that they practice religion 7 days a week, namely every day.

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Table 4. Religious Preferences among the surveyed, as of 1997

*Sample Size	Series	Religion	Percentage
2522	1	Roman Catholic	39.91%
1991	2	Baptist	31.50%
427	3	Methodist	6.76%
420	4	Lutheran	6.65%
119	5	Presbyterian	1.88%
95	6	Episcopal Anglican	1.50%
112	7	United Church of Christ (Evangelical Reformed)	1.77%
190	8	Disciples of Christ/Christian Church	3.01%
36	9	Reformed	0.57%
39	10	Koran, Islamism	0.62%
50	11	Toran, Indian	0.79%
129	12	Holiness (Nazarene, Wesleyan, Free Methodist)	2.04%
6320	Total	—-	100%

Table 5. Religious Practice Frequency, as of 1997

*Sample Size	Scale
1814	0 day/week
1737	1 day/week
677	2 days/week
341	3 days/week
158	4 days/week
140	5 days/week
91	6 days/week
406	7 days/week
5364	Total

After combing through the data with stories, now we could better define religiosity into several behavioural indicators, which are:

1) Religion preference.

2) Religion practice frequency.

3) Beliefs in religion and good faith.

4) Originally born family religious environment.

Such notional categories could help us better compare the 48 teen religion variables and the 16 parental religion variables and when appropriate, put the variables and notations into the main regression that we are about to discuss in the next section.

3.3. Religion Variables Autocorrelated

This part quantifies the religion-related notions we established in 3.1 and 3.2. NLSY97 provides 68 variables about religiosity of the surveyed respondents. The data of this part was extensively missing after 2000. Now we try to correlate same types of questions under the same question category. After weeding out unimportant questions, we get the following categories of questions. The questions are listed in Table 6, regarding religious practice frequency, religion preference, religious faith importance, evangelical or temporal, and so forth.

Table 6. Quantified Religiosity Questions, as of 1997

Series	Variables	Question
1	4	Number of days per week typically family does something religious.
2	8	What is the current religious preference of the respondent?
3	5+1(1 for parent report)	What is respondents' parents' spouse/partner (multiple relatives) current religious preference?
4	2	Importance of religious faith in daily life.
5	5	Do you consider yourself to be a born-again or evangelical Christian?
6	7	A person does not need religion for good values.
7	7+3(Buddhism and Islamism consider during that year)	Respondent obeys religious teachings /such teachings should be obeyed in every situation.
8	7	Respondent asks god help make decisions.
9	7	God has nothing to do with what happens to me.
10	7	I prays more than once a day

We could see that question 8 and question 9 are in general contradictory and so are mathematically

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orthogonal, if we try regressing the variables reflecting question 8 and question 9 in the year 1997, which are R0625000 and R6525100, we could get Table 7's coefficient, 1.111, they are almost codependent to each other.

Table 7. Orthogonal Variables Regressed, as of 1997

Source	SS	df	MS	# of Obs	=	8984
Model	45501.5379	1	45501.5379	F(1,8982)	>	99999.00
Residual	2495.7318	8982	0.277859252	Prob >F	=	0.0000
Total	47997.2697	8983	5.34312253	R square	=	0.9480
				Adj R squared	=	0.9480
				Root MSE	=	0.52712
R0625000	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval	]
R0625100	1.111585	0.0027469	404.67	0.000	1.1062	1.11697
_cons	5594446	0.0064454	86.80	0.000	0.54681	0.5720791

So, we could find lots of interesting results just by regressing variables in the Table 6. If we regress all the variables under Q 8 (7 variables) and Q 9 (7 variables), we get Table 8:

Table 8. Example of Groups of Orthogonal Variables Regressed, 1997 to 2017

Source	SS	df	MS	# of Obs	=	8984
Model	45547.6801	13	3503.6677	F(13,8970)	>	12829.86
Residual	2449.5896	8970	0.273086912	Prob >F	=	0.0000
Total	47997.2697	8983	5.34312253	R square	=	0.9480
				Adj R squared	=	0.9480
				Root MSE	=	0.52258
R0625000	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval	]
S0919600	.0682902	.0087605	7.80	0.000	.0511176	.0854628
S6317000	.0128462	.0073347	1.75	0.080	-.0015315	.027224
S8331900	.1621512	.381513	0.43	0.671	-.5857016	.9100039
T2782100	.0055407	.0074402	0.74	0.456	-.0090439	.0201252
T7637700	.012709	.0071866	1.77	0.077	-.0013785	.0267965
U1982700	.0240498	.0082659	2.91	0.004	.0078466	.0402529
R0625100	1.111133	.0027413	405.33	0.000	1.10576	1.116507
S0919700	-.0746096	.0094375	-7.91	0.000	-.0931092	-.0561099
S6317100	-.0150584	.0078305	-1.92	0.055	-.0304079	.0002911
S8332000	-.1498628	.3874143	-0.39	0.699	-.9092834	.6095578
T2782200	.0013911	.0077819	0.18	0.858	-.0138631	.0166454
T7637800	-.0127071	.0074947	-1.70	0.090	-.0273984	.0019842
U1982800	-.0219866	.0087232	-2.52	0.012	-.0390861	-.0048872
_cons	.5602887	.0890037	6.30	0.000	.385821	.7347563

We can see that starting from variable R0625100, the correlation coefficients of variables are negatively correlated, recall in question 8 and question 9: "Respondent asks god help make decisions." and "God has nothing to do with what happens to me.", these two questions mean opposite, so their coefficient is naturally negatively correlated.

Now we could observe these religion-related questions and categorize them into the following items to get clearer regression results (See Table 6 notations):

1) Religion practice frequency. (Q1 and Q10);

2) Religion preference. (Q2, Q3, and Q5(Q5 is only Christianity-based).);

3) Attitude in religion and good faith. (Q6, Q8 and Q9).

4) Seriousness of obeying a religion (Q4 and Q7).

If we try regressing according to these, notions, we get:

3.3.1. Religion Practice Frequency Result

Table 9 is the coefficient of religion practice frequency, and the coefficients can be both negative and positive, this is saying that the more family religion practice frequency does not necessarily lead to individual religious practice. My father's belief on certain religion does not lead to my own practice. Everyone is separated from family for religious or faith, in general, choices.

3.3.2. Religion Preference Result

Try regressing variables of Q2, Q3 and Q5, we get Table 10. This demonstrated the current religious preference, parents' current religious preference, or a born-again or a evangelical believer, The result is also very interesting. Most coefficient are close to 0 except for R0552200 and R0552300. These are the variables of parental and individual religious preference. This says that the next

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generation might inherit the belief from the last generation, however, there might be other factors impacting a person's transition from an old religion to a new religion, or from non-believer to believer, or from a believer to a non-believer.

Table 9. Regressing Religious Practice Frequency (Q1 and Q10, 11 variables), 1997 to 2017

Source	SS	df	MS	# of Obs	=	8984
Model	61046.9374	10	6104.6937	F(10,8973)	=	1833.24
Residual	29880.1836	8973	3.33001043	Prob >F	=	0.0000
Total	90927.121	8,983	10.122133	R square	=	0.6714
				Adj R squared	=	0.6710
				Root MSE	=	1.8248

R0323900	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
R2165200	.2980898	.0109194	27.30	0.000	.2766853 .3194943
R3483100	.3526328	.0116768	30.20	0.000	.3297437 .3755219
R4881300	.213529	.0105945	20.15	0.000	.1927613 .2342966
R0625200	.2036146	.0101245	20.11	0.000	.1837683 .223461
S0919800	-.1400621	.0127247	-11.01	0.000	-.1650055 -.1151187
S6317200	-.0192347	.0122906	-1.56	0.118	-.043327 .0048577
S8332100	-.0339393	.0715036	-0.47	0.635	-.1741026 .106224
T2782300	.0133461	.0136094	0.98	0.327	-.0133314 .0400236
T7637900	-.0060355	.0129722	-0.47	0.642	-.0314639 .0193929
U1982900	-.0304236	.0097254	-3.13	0.002	-.0494875 -.0113596
_cons	.4700516	.2914093	1.61	0.107	-.1011771 1.04128

Table 10. Regressing Religious Preference (Q2, Q3 and Q5, 19 variables), 1997 to 2017

Source	SS	df	MS	# of Obs	=	8984
Model	123714.534	16	7732.1584	F(10,8973)	=	351.44
Residual	197283.813	8,967	22.0010943	Prob >F	=	0.0000
Total	320998.347	8,983	35.7339805	R square	=	0.3854
				Adj R squared	=	0.3843
				Root MSE	=	4.6905

R0552200	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
R0552300	.3885979	.0072808	53.37	0.000	.3743258 .4028699
S5532800	.0014879	.0013262	1.12	0.262	-.0011117 .0040875
T2111400	.000785	.001606	0.49	0.625	-.0023632 .0039332
T6759300	.0029972	.003645	0.82	0.411	-.0041478 .0101422
T8233500	.0209662	.0534764	0.39	0.695	-.0838599 .1257922
U0129100	-.0545771	.0472887	-1.15	0.248	-.1472738 .0381197
U1982100	.0001844	.0015436	0.12	0.905	-.0028414 .0032102
R0555700	.1960341	.0105712	18.54	0.000	.1753122 .2167561
R0555800	-.0186894	.0085379	-2.19	0.029	-.0354256 -.0019532
R0560600	.102373	.0106751	9.59	0.000	.0814474 .1232986
R0560700	.0933244	.0290614	3.21	0.001	.0363574 .1502915
R0624500	0	(omitted)			
R1486900	.0023367	.0002286	10.22	0.000	.0018886 .0027848
T6759300	0	(omitted)			
T9759400	-.0096211	.0266904	-0.36	0.719	-.0619405 .0426983
T8233600	-.0938892	.1641072	-0.57	0.567	-.4155768 .2277984
U0129200	-.2598495	.1663366	-1.56	0.118	-.5859072 .0662082
U1982200	.0262983	.0308766	0.85	0.394	-.034227 .0868236
_cons	-.4110817	.7873675	-0.52	0.602	-1.954502 1.132339

The goodness of fit decreased to 0.3854. What is interesting is that Stata omitted two irrelevant variables, representing "parents' religious preference (1997)" and "Do you consider yourself to be a born-again or evangelical Christian? (2008)" It seems that parental religious preference has nothing to do with the current religious preference. Whether the respondents consider they are a born-again or an evangelical Christian also has nothing to do with the religion preference. Looking at relatively highly related correlation coefficient, they are "What's your current religious preference" (0.3886) and "what religion was your spouse/partner raised in" (0.1960) and "what religion was nonresponding parent 01 raised in?" (0.1024) the most negatively related questions are "Do you consider yourself to be a born-again or evangelical Christian? "In 2015(-0.2598), so people would marry/date others with the same religion, but don't really care if themselves or their spouses/partners are new-born or evangelical. So, we could see that a person's religious preference is strongly correlated with original-born family's (parents') religious preference.

3.3.3. Attitude in Religion and Good Faith Result

Here we regress Q6, Q8 and Q9 and get Table 11. Table 11 demonstrates good attitudes and good decisions guided by the good religions. Except for the first 3 coefficients, 0,0407728, 0.3818066,

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0.5755054, all other variables do not reflect a certain correlation as they can be positive or negative, this is saying that religion does lead to good decision-making, however, not vice versa. It is possible that a non-believer makes good decisions in life too.

Table 11. Regressing Religion and Good Value Questions (Q6, Q8 and Q9, 24 variables), 1997 to 2017

Source	SS	df	MS	# of Obs	=	8984
Model	37246.4916	19	1960.34166	F(10,8973)	=	10783.09
Residual	1629.63562	8,964	.181797816	Prob >F	=	0.0000
Total	38876.1272	8,983	4.32774432	R square	=	0.9581
				Adj R squared	=	0.9580
				Root MSE	=	.42638

R0624400	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
S0919400	.0407728	.0090886	4.49	0.000	.022957 .0585886
S6316800	.0171582	.0067007	2.56	0.010	.0040233 .0302932
S8331700	-.1856378	.3115815	-0.60	0.551	-.7964087 .4251332
T2781900	.0143402	.0069757	2.06	0.040	.0006663 .0280141
T7637500	.0108831	.0068901	1.58	0.114	-.002623 .0243892
U1982500	.0170115	.0088392	1.92	0.054	-.0003154 .0343383
R0625000	.3818066	.0086228	44.28	0.000	.364904 .3987091
S0919600	-.0546552	.0081447	-6.71	0.000	-.0706207 -.0386897
S6317000	-.0175732	.0071394	-2.46	0.014	-.031568 -.0035784
S8331900	0	omitted			
T2782100	-.0086328	.0074088	-1.17	0.244	-.0231558 .0058903
T7637700	-.0136925	.0071651	-1.91	0.056	-.0277377 .0003526
U1982700	-.022436	.0083764	-2.68	0.007	-.0388557 -.0060162
R0625100	.5755054	.0098411	58.48	0.000	.5562145 .5947962
S0919700	.0136614	.0096642	1.41	0.158	-.0052827 .0326056
S6317100	.0033218	.0068422	0.49	0.627	-.0100906 .0167341
S8332000	.192686	.316484	0.61	0.543	-.427695 .8130671
T2782200	-.0026389	.0067671	-0.39	0.697	-.015904 .0106263
T7637800	-.0016863	.0065731	-0.26	0.798	-.0145711 .0111985
U1982800	.009553	.0083897	1.14	0.255	-.0068928 .0259988
_cons	-.4110817	.7873675	-0.52	0.602	-1.954502 1.132339

Recall that Q6 and Q8 and Q9 are "Respondent does not need religion for good values", "Respondent asks god help make decisions", "god has nothing to do with what happens to respondent" …This gives an idea of how much the respondents believe that religion is associated with good faith. In this case, these questions are extremely related so the R-squared is 0.9581. The model includes most of the religion-faith components and indeed, S8332000 is omittable because it was not a continuous survey conducted with enough samples.

3.3.4. Seriousness of "Obeying a Religion" Result

Some believers are more serious than others. This category has question Q4 "Importance of religious faith in daily life" and Q7 "Respondent obeys religious teachings in every situation". If we regress the 12 variables under this category, we could get Table 12. The coefficient 0,5091787 says that most people believe in religious faith but they do not necessarily obey religious teachings in every situation, this is evaluating the temporal level of the public. Most Americans are way more temporal than religious.

Table 12. Regressing "Obeying a Religion" Questions (Q4 and Q7, 12 variables), 1997 to 2017.

Source	SS	df	MS	# of Obs	=	8984
Model	66396.6836	11	6036.06215	F(10,8973)	=	2793.67
Residual	19385.0785	8,972	2.16061954	Prob >F	=	0.0000
Total	85781.7621	8,983	9.54934455	R square	=	0.7740
				Adj R squared	=	0.7737
				Root MSE	=	1.4699

T2782400	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
T7638000	.5091787	.00883	57.66	0.000	.4918697 .5264876
R0624600	-.0371012	.0076555	-4.85	0.000	-.0521077 -.0220946
R0624700	-.1540853	.0490168	-3.14	0.002	-.2501695 -.0580011
R0624800	.1147645	.0504272	2.28	0.023	.0159157 .2136134
R0624900	.0171234	.0094789	1.81	0.071	-.0014574 .0357042
S0919500	-.0018059	.0099343	-0.18	0.856	-.0212793 .0176676
S6316900	-.0008024	.0096152	-0.08	0.933	-.0196503 .0180455
S8331800	.5351092	.0580485	9.22	0.000	.421321 .6488974
T2782000	1.132264	.010584	106.98	0.000	1.111517 1.153011
T7637600	-.5862279	.0145052	-40.42	0.000	-.6146614 -.5577944
U1982600	.0038229	.0080273	0.48	0.634	-.0119125 .0195583
_cons	3.023556	.3730171	8.11	0.000	2.292358 3.754755

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This model also has a pretty good goodness of fit (0.7740). Notice that some measurements of Q4 and Q7 are negatively related, this tells us that even a respondent believes that religion is important in daily life, he/she might not agree while religion should be obeyed exactly as written. This provides the existence of many "loose believers" just as we observed in temporal life. To increase the goodness of fit we could also add interaction terms, yet we are not in a rush here, because when we think about the relationship between religiosity and its pecuniary effect, we need some local treatment, namely an instrumental variable mentioning not only family-environment but also education on religion, here we come up with "Whether respondent has attended a religious-affiliated school" as an instrumental variable.

3.4. Religious School Attendance: A Potential Instrumental Variable

This part aims at trial regressions of adding religious school attendance as a possible instrumental variable to depict religious environment at school rather than in family. Such variables are under "Education" --------"School Experience" tab of NLSY97. There are 115 such variables. Questions ask the respondents to distinguish old/new school type and current school curriculum type. With the 1997 example, school types are presented in Table 13. Students mostly go to public school and then private school without religious affiliation. Only 3.45% goes to Catholic School and 2.04% goes to private school with other religious affiliation.

Table 13. School Types and the Distribution, as of 1997

Series	School Type	Sample Size	Percentage
1	Public School	8166	91.12%
2	Technical or Vocational High School	100	1.16%
3	Catholic School	309	3.45%
4	Private School- Other Religious Affiliation	183	2.04%
5	Private School- No religious affiliation	79	8.81%
6	Alternative School	98	1.20%
7	Other	10	0.11%
8	Homeschool	16	0.18%
9	Detention/Rehab	1	0.0116%
10	Charter School	0	0
11	Magnet School	0	0
	Total	8962	100%

In this research we care about how religious school attendance affect future income and assets, so we care about these 115 variables in this category if their value is 3 or 4, all else is non-religious school attendance. So, we could set up the potential instrumental variable:

$$SchoolType = \begin{Bmatrix} 3 \\ 4 \\ Otherwise \end{Bmatrix}, \begin{Bmatrix} religious \\ nonreligious \end{Bmatrix} \quad (1)$$

So, we could prepare to see the effect of a religious school attendance on income and assets in next part.

4. Models and Regressions

With the notations and the variables on schooling, income, assets, and religious preference, religious frequency, religious environments established, we could set up several regression models including the main regressions and perhaps some auxiliary regressions. We talk about the main regressions and then when there's selection bias or when we need to calibrate the parameters, we would add the discussion of auxiliary regressions.

4.1. Main Regressions

Following the preceding logic, the main single probit model could be constructed as:

$$Y_{ist} = \alpha_0 + \beta_1 \mathrm{Re}ligiousSchool + \beta_2 \mathrm{Pr}eference + \beta_3 Frequency + \beta_4 \mathrm{PovertyMultiplier} + \beta_5 \mathrm{PropertyTax} + \beta_5 Assets + \varepsilon_{ist} \quad (2)$$

We could only put the regression once at a time for one regression. So we will do it from 1997 to

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2017 subsequently. We first start with no instrumental variable, so the model turns out to be:

$$Y_{ist} = \alpha_0 + \beta_2 \text{Preference} + \beta_3 Frequency + \beta_4 \text{PovertyMultiplier} + \beta_5 \text{PropertyTax} + \beta_5 AssetsNetworth + \varepsilon_{ist} \quad (3)$$

Regressing, the variables accordingly, we get Table 14 on religious preference and religious frequency and the poverty multiplier. These are highly correlated with coefficients of 58.84, 167.25, 146.61, respectively. Religion does not have business with tax or net worth though. So, believing in certain religion can not make temporal benefits. Yet believers can be good property tax contributors.

Table 14. 1997 Model, no I.V.

Source	SS	df	MS	# of Obs	=	8984
Model	1.3456e+13	5	2.6912e+12	F(10,8973)	=	11961.81
Residual	2.0199e+12	8978	224985031	Prob >F	=	0.0000
Total	1.5476e+13	8,983	1.7228e+09	R square	=	0.8695
				Adj R squared	=	0.8694
				Root MSE	=	15000

Income R1204500	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
PreferenceR0552300	**58.84314**	**20.36993**	**2.89**	**0.004**	**18.91344**	**98.77284**
PrequencyR0323900	**167.2542**	**49.79213**	**3.36**	**0.001**	**69.65026**	**264.8581**
Poverty Multiplier R1204900	146.6113	.6082921	241.02	0.000	145.4189	147.8037
Property Tax R0506400	1.456064	1.818955	0.80	0.423	-2.109502	5.02163
Net worth R1204800	.0044824	.0102627	0.44	0.662	-.0156348	.0245997
_cons	3603.822	221.1703	16.29	0.000	3170.278	4037.367

This is a decent model according to the R-squared. We have found that religious preference correlated with income and so does religious practice frequency. Ratio to poverty line also matters. What's least matter is net worth and property tax payment. This is saying that future income does not correlate with assets possessed or what we have already possessed. One could always build up from nothing or start from scratch to earn a decent amount of income. Similarly, if we regress the year-by-year data, we could fill the next table with coefficient and standard error in Table 15 from 1997, 2005, 2008, 2011, 2013, 2015, 2017, respectively. We could see a trend that in 1997, 2013, 2015, the preference and the frequency are all positive. The poverty multiplier is all positive and similar every year. This is saying that although the economy has upturn and downturns, the poverty multiplier remained unchanged. Religious variables do not necessarily lead to or cause poverty. Believing or not believing in a religion would not change socioeconomic status.

Table 15 gives this article's main idea: There has never been a savior, nor a God Emperor. From Year 1997 to 2017, Trends come and go, yet no matter what religion you prefer, what frequency you practice, in general it does not affect the poverty multiplier, property tax, and each respondent's net worth. Just as what was written in L'Internationale (1888) by Eugène Edine Pottier and composed by Pierre De Geyter, Il n'est pas de sauveurs suprêmes, Ni Dieu, ni césar, ni tribun Producteurs, sauvons-nous nous-mêmes, Décrétons le salut commun ! There has never been a savior, nor a God Emperor, to create human being's own happiness, we need to work with our own hand.

Table 15. Model 1997-2017, no I.V.

		Single regression, dependent Variable : Y_{ist}					
	1997	2005	2008	2011	2013	2015	2017
Model R-square	0.8695	0.9346	0.9263	0.9277	0.9213	0.9204	0.9364
Preference	**58.84314**	-8.46994	-11.61315	-15.29365	**401.3106**	**648.8695**	-43.90842
Std. Err	**20.36993**	4.137893	5.194779	11.12605	**152.4439**	**163.2461**	12.89628
Frequency	**167.2542**	-32.47444	**2368.983**	**881.3867**	**739.9475**	Missing	**1720.791**
Std. Err	**49.79213**	77.54211	**446.8267**	**82.26723**	**87.6863**	-	**268.3514**
Poverty Multiplier	**146.6113**	**162.6751**	**157.3742**	**157.9553**	**170.8964**	**181.6403**	**193.7266**
Std. Err	.6082921	.476819	.481956	.4826172	.5519206	.5691421	.5855448
Property Tax	1.456064	-.9769359	missing	missing	missing	missing	missing
Std. Err	1.818955	4.273413	-	-	-	-	-
Net worth	.0044824	missing	missing	missing	missing	missing	missing
Std. Err	.0102627	-	-	-	-	-	-
_cons	3603.822	519.0676	13159.17	5795.629	7227.748	7818.074	9236.702
Std. Err	3603.822	209.646	1898.486	229.6583	687.3138	738.6992	1265.992

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