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Time Preference and Religious Affiliation in Canada: A Quantitative Analysis

Abstract

In this paper, the author studies the association between religious affiliation and investment income as a proxy for individual rates of time preference, defined as the propensity to sacrifice present satisfaction in the anticipation of increasing future satisfaction. Data from the 2001 Census of the Canadian population is used to look at how religious affiliation is associated with the proportion of income coming from investments (a proxy for past rates of time preference) for individuals of working age (15–64). Two models (OLS and logistic) are used in order to compare by religious affiliation the magnitude of the proportion of income attributable to investments and the propensity to invest. Although there are a few exceptions in terms of cross-regional heterogeneity, individuals of Jewish affiliation tend to receive more investment income (as a proportion of their income) than Protestants, who tend to receive more than Catholics. As for the propensity to obtain any investment income, the results are more nuanced although a similar pattern can be observed. The contribution of this paper is to quantitatively assess the association of religious affiliation with time preference through the use of an investment income variable, an endeavour which has not been undertaken so far and which complements the literature on the economic outcomes of religion and the sociological determinants of time preference.

Résumé

Dans cet article, l'auteur étudie l'association entre l'affiliation religieuse et les revenus d'investissement comme une approximation des taux individuels de préférence temporelle, définie comme la propension à sacrifier la satisfaction présente dans l'attente d'une satisfaction future croissante. Des données du recensement de la population canadienne de 2001 sont examinées pour mesurer comment l'appartenance religieuse est associée à la proportion de revenus provenant d'investissements (une approximation des taux passés de préférence temporelle) pour les personnes en âge de travailler (15–64 ans). Deux modèles (MCO et logistique) sont utilisés afin de comparer par appartenance religieuse l'ampleur de la proportion de revenu attribuable aux investissements et la propension à investir. Bien qu'il y ait quelques exceptions en termes d'hétérogénéité interrégionale, les individus d'affiliation juive ont tendance à recevoir plus de revenus d'investissement (en proportion de leurs revenus) que les Protestants, qui ont tendance à recevoir plus que les Catholiques. En ce qui concerne la propension à obtenir des revenus d'investissement, les résultats sont plus nuancés, bien qu'un schéma similaire puisse être observé. La contribution de ce document est d'évaluer quantitativement l'association entre l'appartenance religieuse et la préférence temporelle en utilisant une variable de revenu d'investissement, un effort qui n'a pas été entrepris jusqu'à présent et qui complète la littérature

sur les résultats économiques de la religion et les déterminants sociologiques de la préférence temporelle.

My general goal is to see to what extent (if any) the economic concept of time preference (through a proxy) is associated with differences in religious affiliation. To address this general question, this paper is divided into four distinct, but interrelated sections. First, I will provide a few elementary theoretical remarks on the concept of time preference and its potential links to religious affiliations. Second, I will elaborate on the data and models which I use in order to address my research question. Third, I will review and address the theoretical and empirical literature concerning the economics and sociology of religion while relating it to the quantitative results obtained. Last, I will discuss the scope and limits of what has been done in the present paper. The contribution of this paper is to address for the first time the potential connections between religion and time preference by using an investment income variable. Indeed, much of the literature is based on the economic and sociological comparisons of religious groups through the study of differences in wages, earnings, or returns on education. However, differences in investment income have been left unaddressed. This is important as differences in magnitude (relative to total income) and propensity of investments illustrate how willing, on average, individuals from one religious group are to sacrifice income (sacrificing potential past spending) for the anticipation of higher future standards of living (through returns on sacrificed past spending). This can shed light on the *reasons* why there are different outcomes by religious groups, for if a group is on average more future-oriented than another, then it demonstrates a capacity for delaying satisfaction and to invest more on education (and obtain higher returns on education investments), to obtain more highly paying jobs or higher earnings, and much of the other economic advantages observed in the literature.

A few words on the limitations of this study must be mentioned here. It is important to note, first of all, that investment income (in proportion of total income) obtained in year 2000 is an imperfect measure for time preference. Indeed, although a higher proportion of investment income received and a higher propensity to invest certainly tend to indicate an individual's comparatively lower time preference, one can conceive of particular situations in which this would not be the case. Second, this dataset does not include many potentially important control variables (such as the number of children). Third, the variable "religious affiliation" does not consider the degree of religiosity of an individual, which would be likely to have implications on the individual degree of time preference. This paper thus does not claim to establish causality. In spite of these limitations, this study can be helpful in order to have a general idea about the potential religious determinants of individual rates of time preference.

Theoretical Perspectives

Economic science provides us with the insight that human action is constrained by individual rates of time preference. In acting, one always seeks to modify the external world to substitute a more highly valued situation for a lesser-valued one.[1] Acting is thus always a *temporal* activity, and any complex and long actions are made at the *cost* of not accomplishing various simpler and shorter actions (because means of action, including time, are scarce). An actor therefore always sacrifices the immediate benefits of these simpler and shorter actions *only* if he judges that actions motivated by long-term goals will provide him with greater subjective benefits in the future than the small satisfactions he sacrifices in the present. The degree to which an individual is willing to sacrifice present goods in order to obtain greater future goods is called an individual's degree of *time preference*. It can be interpreted as the capacity to delay satisfaction in order to potentially enjoy higher standards of living in the future by sacrificing the extent to which one could enjoy immediate satisfactions.[2] An individual is said to have *high* time preference (*present* orientation) if it is difficult for him to delay present satisfaction and think about his future well-being; conversely, an individual is said to have *low* time preference (*future* orientation) if it is relatively easy for him to delay satisfaction. If I have the choice between spending 10$ today or invest this 10$ in the anticipation of obtaining, say, 20$ in a week, and I choose to spend the 10$ today I have higher time preference than if I choose to wait. If I spend my time working and investing in order to enjoy leisure time when I retire, then I have lower time preference than if I decide to spend all my time and money on enjoying present satisfactions without thinking or caring about my standards of living when I retire. There are different tools we might use in order to estimate one's rate of time preference in terms of material standards of living: e.g., saving habits (the more I save, the more I am *future*-oriented), amount of debt (the more I borrow to spend money on present goods, the more I am *present*-oriented), health decisions (the more I practise sports or the less I smoke or drink, the more *future*-oriented I am), or entrepreneurial/investment skills. Indeed, investments imply the capacity to renounce an amount of money (or of other resources) in the present in the expectation of enjoying more of it in the future.

With respect to an individual's degree of time preference, beliefs and group affiliations can play a major role. If I believe I will die in the near future, then I will have a higher rate of time preference (higher present orientation) than if I did not hold that belief. Religious-related beliefs and affiliations and the way individuals or social groups react to them are unlikely to be an exception to this rule. Indeed, although they do not empirically investigate it, Becker and Mulligan indicate religion as being a possible factor determining an individual's rate of time preference.[3]

Indeed, some religions are linked to beliefs about whether or not some economic activities must be realized during the present earthly life in order to enjoy a future afterlife. Other religions, without discussing the afterlife, provide prescriptions or guidelines on how one must act in order to live a good or a virtuous life. For instance, many religions insist on the importance of charity or of avoiding "greed"; this could provide incentives for their members to use their extra money in charity and not to accumulate income or material goods. The way in which a particular faith is perceived within society can also affect individual economic decision-making. For instance, some religions are badly perceived in various societies, and throughout history, and individuals affiliated to these religions might fear persecution or expropriation, and thus adjust their economic behaviours accordingly. Depending upon what these specific requirements or perceptions are, these facts will indeed affect economic outcomes, not merely when contrasting believers to non-believers, but also when contrasting individuals from one religion with individuals from another. Thus, my general research question is: are different religious beliefs (including no religious belief at all) associated, on average, to different individual rates of time preference? And if so, how and to what extent? I will use the variable "investment income," as a proportion of total income, as a proxy for time preference. The higher the propensity to invest (and the magnitude of their returns in terms of total income) the more an individual has low time preference (is future-oriented), and vice versa.

Data Overview and Models

Data Description

In this paper, I use the 2001 Canadian census[4] to study the differences in the proportion of investment income (which is linked to time preference) by religious affiliation for Canadians of working age (15-64). I chose this dataset because it was the last mandatory census of population which included information about *both* the religious affiliation *and* the investment income of individuals in the sample. As will be seen, the conclusions that can be drawn from analyzing this dataset are limited but can nonetheless provide useful information in and of themselves or can orient future research.

As Iannaccone mentions, there are very few data sets that include religion as a variable.[5] It is even more difficult to find a data set which includes both religion *and* variables which we expect religion influences. This is why the following study must use the ratio of investment income as a proxy for time preference. It is worth noting that no Canadian survey includes both the variable "religion" and variables such as saving rates: Statistics Canada data including saving rates do not include religion and vice versa.[6] It is also important to take income into consideration as it does have an impact on individual rates of time preference. Wealthier individuals are expected to have lower time preference than poorer individuals.[7] This will be done in both models:

in the first one by considering the proportion of income coming from investments, and in the second one by including a control for income groups. By looking at the association between religious affiliation and the proportion of income coming from investment, it is possible to approximate the effect of religious affiliation on time preference. Indeed, investment income comes from a previous sacrifice of consumption in order to invest. This proportion also allows us to roughly control for wealth which impacts time preference.

Relevant Descriptive Statistics

Let us first describe a few relevant characteristics of the sample. Figure 1 provides a pie chart describing investment income received by Canadians of working age in year 2000.[8] As can be seen, the majority (82.7%) of the sample did not receive either positive or negative investment income. This suggests that most Canadians chose *not* to invest money in the past. For those individuals who did invest, however, most received between 1$ and 10,000$. Very few Canadians (2.2%) obtained more investment income than 10,000$ or a negative one (only 0.3%).

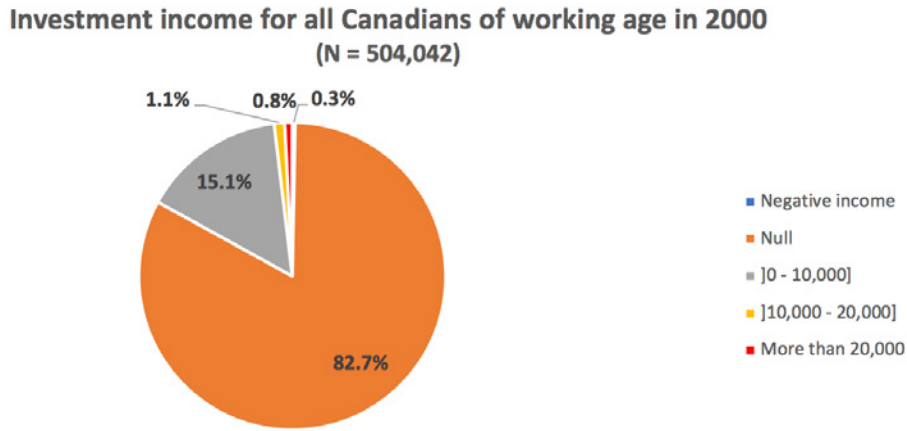

Figure 1
Investment income (in CAD) of Canadians of working age in 2000. Statistics Canada, 2001.

For our purposes, this pie chart would indicate that a majority of Canadians of working age tend to have high time preference since most of them did not choose to sacrifice past savings in order to invest it.

Figure 2 provides a description of the proportion of selected religious affiliations (Catholic, Protestant, Jewish, and the non-affiliated) within each region of analysis.[9] One can easily observe heterogeneity in the composition of the sample across re-

gions. Indeed, Catholics constitute the overwhelming majority in Québec, whereas Protestants or the non-affiliated ("None") are the modal group in the other regions (although Catholics are slightly more numerous in Ontario, but not to the same extent as in Québec). This was to be expected as there exists cultural heterogeneity among the various provinces. It indicates the necessity to analyze results separately for each region in order to see whether differences in culture affect how individuals of a particular religious group behave.

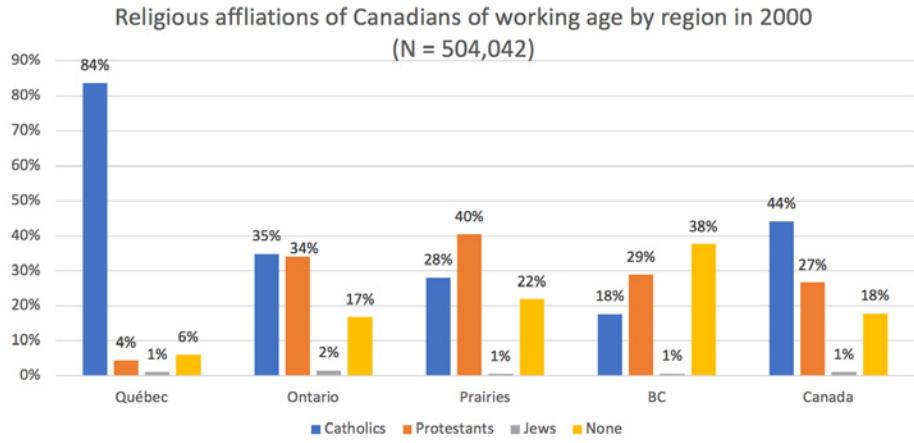

Figure 2
Produced from data provided by Statistics Canada, 2001.

Figure 3 describes the highest degree obtained by Catholics, Protestants, Jews, and those with no religious affiliation. As can be seen, the proportion of Jews that are educated (86%) is larger than the proportion of Protestants (73%) and Catholics (72%). Out of the religious affiliations presented, Catholics and "No affiliation" would appear to be the groups containing the highest proportion of uneducated individuals (29%). Jews tend to be the most highly educated, whereas the other groups are by and large similarly distributed. Since it would be expected that education contributes to the ability to understand the material benefits of sacrificing present satisfactions for future returns on investments, and since there is heterogeneity of educational attainment across religions, it is of utmost importance to control for education to be sure that the effect of religious affiliation is properly captured. Indeed, previous studies found that religious affiliation has an impact on how educated an individual is. For instance, Burstein points out that the economic successes of Jews can be partly explained by the fact that they tend to invest more in their children's education and to receive more from this investment. This can perhaps be explained by a greater willingness to invest in human capital, and by extension in the transfer of better educational habits, due to historical marginalization that also increased their group cohesion and social networks.[10]

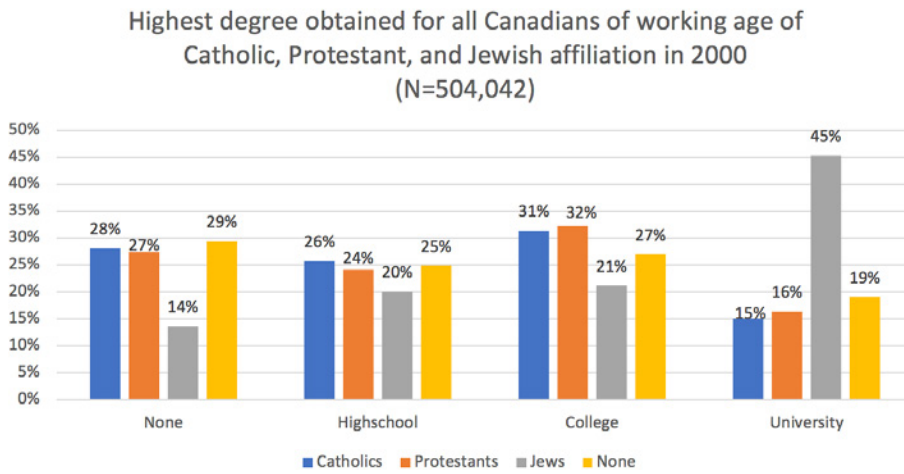

Figure 3
Produced from data provided by Statistics Canada, 2001.

Table 1 shows the mean, standard deviation and number of cases for each major religious affiliation of interest for this study. It can be noted that the mean investment income for Jews is much higher than for any other affiliation. However, the standard deviation is also much higher. Investment income seems to be unequally distributed for every religious group. Indeed, both the means and standard deviations differ considerably across religious affiliations.

Table 1: Descriptive statistics for investment income by religious affiliation for Canadians of working age

	Mean	*St. dev.*	*N*
Catholic	721	4,877	222,305
Protestant	1,010	6,073	133,828
Other Christian	695	5,409	23,417
Muslim	536	4,639	10,439
Jewish	3,095	12,899	5,653
Eastern Religion	620	4,208	17,295
All other	411	3,288	1,242
None	811	5,577	89,863
Total (all faiths combined)	831	5,496	504,042

In $CAD for year 2000. Statistics Canada, 2001

Models

In order to study if and how religious affiliation affects time preference, through the proxy of investment income, I use two different models. The first model is used in order to assess the *degree* to which a religion affects time preference. It consists

of a regression of the natural logarithm of the proportion of income that is linked to investments on religious affiliations and a series of control variables. The model looks as follows:

$$\log\left(\frac{invst+1}{totinc+1}\right) = \beta_0 + \beta_1 Protestant + \beta_2 OtherChristian + \beta_3 Muslim + \beta_4 Jew + \beta_5 Eastern + \beta_6 Other + \beta_7 None + \delta_1 C + \varepsilon_i$$

"C" can be understood as a vector containing a whole set of control variables (including variables for sex, education, marital status, age, ethnicity, knowledge of an official language, place of birth, and so forth). Using a logarithmic transformation for a regression which has an income variable as a dependent variable is consistent with what was done in the literature.[11] In order not to lose the massive amount of data located at "0" (see figure 1) due to the logarithmic transformation, a small constant of "1" has been added to investment incomes and to total income (since investment income is part of it), as is often done in order to deal with transformations of variables containing many null cases.[12] Also, negative values were discarded (i.e., those who had a negative investment income and those who had a negative total income due to other types of negative income). Individuals who obtained a strictly positive or negative self-employment income were also omitted because of the possibility of obtaining a negative value (thus making comparisons with other individuals difficult).

This model allows us to quantify the average ability to obtain a proportion of one's income from investment while identifying correlations with religious affiliation. This can be linked to the average degree of time preference that an individual from a specific religious affiliation *had in the past* (present investment income is the result of past investments). The model is first run for Canada as a whole, incrementally and using age groups (instead of ages and ages squared), in order to see the big picture. Then, a more specific model using ages and ages squared (instead of age groups) is executed for each region.[13]

Although this model presents us with an average approximation of differences in *the extent* to which one is able to obtain a return from past investments as compared to other sources of income, it does not provide us with a measure of differences in the *propensity* to invest money by religious affiliation. Moreover, this first model must exclude the few strictly negative cases (0.3%) of the sample. Finally, its construction does not clearly distinguish investors from non-investors. This analysis thus needs to be complemented by another model.

The second model uses a new transformation of the dependent variable. Let me provide a simple explanation. Trivially enough, those individuals who receive investment income (negative or positive) invested money in the past. This is a relatively good

measure of the willingness an individual *had* to sacrifice present income for (expected) future material well-being.[14] This is why I transformed the dependent variable into a binary dependent variable taking the value "0" when investment income is null and value "1" when investment income is either strictly negative or strictly positive. This transformation has also been done in other studies of census data using investment income as a dependent variable.[15] Once this transformation was done, I proceeded to a logistic regression of this new variable on religious affiliation in addition to a list of control variables *including an income variable*. This model allows us to see if religion has an impact on the odds of being an investor (higher odds indicating the propensity for lower time preference). The model was run by region in order to capture the heterogeneous effects across various locations in Canada in order to improve the precision of the model.

Expectations and Results

Empirical Expectations

Many authors in the social sciences have argued that some religious affiliations are more likely to lead to beneficial economic outcomes than others. In his classical work *The Protestant Ethic and the Spirit of Capitalism*, Max Weber identified a link between Protestantism and incentives to accumulate capital. In other words, the Protestant faith is linked to a more capitalistic mindset than the Catholic faith, and is thus more likely to lead its adherents to have, using our previous terminology, *lower* time preference (which tends to lead to higher long-run economic outcomes).[16] From this insight, we would expect Protestants to have higher investment income and propensity to invest than Catholics.[17]

Thalos also argued that systems of beliefs originating from religions encouraging (to some extent) the respect for private property rights can serve to develop society's cooperation, thus increasing productivity.[18] To expand on this point, Hülsmann asserts that the belief in Christianity tends to lead to beneficial economic outcomes (subjective or material) because Christianity insists that its adherents must respect property rights (the Decalogue, for instance, provides *universal rules of property* that apply to every individual).[19] For example, the fact that a particular individual is a Christian can lead the rest of society to adopt a set of positive attitudes (precisely because this fact suggests that he will respect property rights and contracts). As Hülsmann argues in his paper: "Persons dealing with Christians can infer from this that Christians believe in a universal ethics and do not reclaim particular rights in case of disputes."[20] Therefore, as one can infer from Hülsmann's argument, Christianity provides an incentive to adopt lower time preference. This argument would imply that Christians tend not to act impulsively and set rules of conducts for their economic activities. From these insights, we could expect individuals of the Christian faith to receive higher investment incomes than, at least, those who are not affiliated to any faith.

It is also expected that Jews will tend to receive higher investment incomes and have a higher propensity to invest than individuals of other faiths. As will be discussed later on, the empirical literature almost always indicates that Jews have higher rates of economic success than other groups. Muller indicates that a potential explanation for this might be found in the historical fact that Jewish groups tended to exercise commercial and banking activities at the time of usury laws.[21] Muller argues that Jews of the European Middle Ages – although they generally did not charge interests *internally*[22] – were allowed to charge interest because loans were desired and necessary, but Christians were prohibited from charging interest. It can also be argued that the historical marginalization of Jews explains their higher group cohesion, degree of internal marriages, and their main occupations.[23] This might explain the consistent transfer of better educational habits, their higher average IQ and the internal transfer of investing habits and inherited capital.[24] Being more careful in order to survive or make a living in often hostile social environments, it can be argued that Jews had to perform economic activities which helped develop lower time preferences and better saving and investing habits, which could have been transmitted from one generation to the other.

Indeed, according to Kessler-Harris and Yans-McLaughlin, American Jewish immigrants, mostly fleeing Eastern Europe at the end of the 19th century and early 20th century, have historically climbed the economic ladder rather quickly, with many of them rapidly becoming businessmen.[25] This is also true of the next generations.[26] They also invested more in their children's education than other European immigrants:

> When choices had to be made, such groups as Italians, Irish, and Poles would sacrifice the educational interests of their young, withdrawing them from school, sending them to work, and absorbing their earnings. Such decisions increase present earnings at the expense of future skills. Jews do not seem to have made similar compromises.[27]

This would suggest that, historically, Jews tended to have lower time preference than Catholics (the religion of Italians, Irish, and Poles when they immigrated to the United States).

There is very little literature on economic outcomes linked to Islam or to Eastern religions. Patai argues that the Muslim faith has remained more fatalistic than its Jewish and Christian counterparts; that is, if something happens, it is by divine will, and there is little one can do about it.[28] This might be linked to higher time preference, since one's economic activities can be seen as having little influence on what is the divine will. Rice, however, argues that Islam can provide incentives to do business and to invest, contradicting Patai's proposition.[29] Sidani and Thornberry also disagree with Patai's claim that Islam is more deterministic; it is rather differences in

culture that impact work ethics, and therefore economic growth and development in the Arab world.[30] Moreover, Buddhism and many other Eastern religions are less incentivizing of wealth accumulation than other major religions.[31]

Benjamin, Choi, and Fisher attempted to evaluate the impact of the salience of religious identity on various economic variables such as public good contributions, risk aversion, or discount rates (measured by this study in terms of choices made by participants between $10 received now or more in one week).[32] The idea is that certain situations of everyday life make one identify more strongly with a particular identity one has – in particular, one's religious identity. If one can isolate the effect of the salience of religious affiliation on economic outcomes, then one obtains a clearer idea of the comparative impacts of religious identity on these economic outcomes. In terms of their differential discount rate, which is of the highest interest for the purposes of the present study on time preference, they do not find any significant difference between different religious identities.[33] As for the effect of culture, Carroll et al., using the 1982 and 1986 Canadian Survey of Family Expenditures, analyze whether there are cultural differences in household saving rates.[34] They do not find any evidence for them, although they do not take religious affiliation into account since this variable is absent from the Canadian Survey of Family Expenditures.

At the macro-level, McCleary and Barro found that there is a positive association between religious beliefs such as widespread belief in an afterlife and a country's economic growth. On the other hand, some measures of religiosity, such as monthly attendance of a religious service, are negatively associated with a country's economic growth.[35]

Most empirical comparisons concentrated on economic differences between Jews, Catholics, and Protestants. For instance, Steen finds out that men who were *raised* as Jews and Catholics obtained higher incomes than Protestants in the United States.[36] Indeed, they respectively earned 49.8% and 6% more than Protestants.[37] Likewise, men who *identified* as Jewish or Catholic obtained, respectively, 36.6% and 9% more earnings than Protestants.[38] Steen completed his analysis by concentrating on women rather than men.[39] His findings partially corroborate his previous analysis for men. Indeed, he finds that women of Catholic affiliation had a 7.8% bonus in terms of earnings when compared to those of Protestant affiliation.[40] Kortt and Dollery reproduced a similar study in Australia. Their results indicate a 6.7% higher wage for Catholics.[41] The Catholic premium in the United States was also confirmed by Ewing,who used the NLSY 1979 (as Steen did), but this time analyzing *wage* differences across religious affiliations.[42] His results show that individuals of Catholic background had 6% higher wages than others.[43] Due to a small sample of Jews, no statistically significant conclusion could be found as to their wage differentials compared to the others, although their average wage was much higher than the others in the descriptive statistics presented.[44]

In Canada, the picture is slightly different. Tomes used data from the 1971 Canadian

Census to study the effect of religious affiliation on the "rate of return on human capital."[45] His study concentrates on white males born in Canada, analyzing Quebec and the rest of Canada separately because of potential cultural heterogeneity.[46] His findings suggest that both earnings and the rate of return for education are significantly *greater* for Jews when contrasted to Catholics and Protestants in most of Canada. As for Catholics, they invest less in education and enjoy a comparatively smaller rate of return on education than Protestants. Thus, the ranking of religious affiliation with respect to earnings and returns on education, from highest to lowest, would be: Jews, Protestants, and Catholics. Meng and Sentance reproduced Tomes' study but using the 1973 Canadian National Mobility Study in order to account for socio-economic and demographic aspects which could not be taken into account using the 1971 Census. Their results are essentially the same, thus supporting with further evidence Tomes' findings.[47]

Brenner and Kiefer argued that Jews tend to invest more in education and other human capital because of the history of discrimination against them (the fear of the expropriation of physical property can lead one to invest in non-physical capital).[48] This is consistent with Dean and DeVortez which found that Canadian Jews are more highly educated than Canadian non-Jews.[49] This complements the results already discussed of Tomes in which Jews received higher returns from education.[50] A similar pattern was identified in the United States by Chiswick as well as by Keister, who finds out that Jews tend to participate more in investments, savings, and "wealth accumulation" as young adults than Catholics and Protestants.[51] Likewise, Fuchs' study indicates that Jewish females are less likely to answer that they prefer a smaller amount of money now than wait for a larger amount when compared to Catholic or Protestant females, which suggests a lower rate of time preference.[52]

Chiswick concurs by finding that Jews of the United States obtain higher incomes and earnings than non-Jews as well as a premium on their rate of return on education.[53] As a main hypothesis, he explains that this is possibly due to the fact that American Jews tend to have lower fertility rates and that "[t]hus, Jewish mothers are more likely to be providing care to their smaller number of children prior to, and concurrent with, the children's schooling."[54] This was also noticed for earlier generations of American Jewish immigrants.[55] Since the fertility rates of the mothers of Canadian Jews were lower than that of Catholics and Protestants[56], this hypothesis remains plausible for the Canadian context. Dean and DeVoretz have also found, using the 1991 Canadian Census, that Canadian immigrants of Jewish affiliation obtained higher incomes than any other type of immigrant.[57] They also confirm that, *regardless* of their immigration status, they tend to do better than others in terms of earnings. They also enjoyed higher median family incomes and higher education in 1969.[58]

As was just shown, the literature for Canada differs slightly from that for the United States. Although in both countries individuals of Jewish affiliation do economically better than all other religious groups, Protestants do better than Catholics in Canada while the opposite is the case in the United States. The question of why this is the case remains open. But as the present study relies on Canadian data, one would expect that the results show higher investment incomes for Protestants than Catholics. Indeed, higher economic outcomes tend to suggest a higher likelihood to be more future-oriented (as they are usually the result of some past sacrifices).

The present paper's contribution is to draw a more direct link between faith and time preference by using an investment income variable in order to determine both the comparative ability to invest and likelihood to be an investor.

OLS Results

The first results presented in Table 2 are the results for the simplest possible model for all Canada. It simply regresses the proportion of income due to investment on religious affiliation. The preliminary effects (regression (1)) show that, using Catholics as the reference category, Protestants received, on average 17%[59] higher investment incomes, Muslims 17% *more*, Jews 185% more, and individuals without affiliation obtained 3% less. The preliminary hierarchy in terms of magnitude of investment income received is therefore (from highest average income received to lowest): 1) Jews, 2) Protestants, Muslims, and Eastern (Buddhist, Hindu, Sikh, and other eastern), 3) Catholics and Other Christians (Orthodox and unidentified), and 4) the non-affiliated. Note that, although not reported, the regressions were conducted one by one in order to establish this hierarchy. The results show large variations and are, for the most part, significant, but they might capture other effects, and the model fails so far to explain much of the variation in the proportion of income related to investment (only about 0.2%).

For this reason, I incrementally added control variables to see if these preliminary results would remain. Regression (2) adds sex (the reference category is male) and education (the reference category is no education). Contrary to expectations, education seems to reduce one's proportion of income related to investment. But as will be seen, this is due to the absence of control of other variables interfering (see regression (8)). Females have a significant (73%) advantage over males.

As for religious affiliation, the effects do not seem to change much in nature, but they do change in magnitude. The positive effects are indeed lower than they were for Protestants, Jews, Muslims, and individuals of Eastern Religions as compared to Catholics but once again, when we control for more variables, it will come back

stronger. Regressions (3) to (7) were not included in the table to avoid unnecessary complications. In these regressions were incrementally added controls for marital status (married or widowed individuals enjoy on average a higher investment income than singles), region, size of metropolitan area, and age group. Regression (8) represents the complete model including all relevant control variables. Although, one should note that not all control variables (an extensive list of them) were included in the table. The variables added were the visible minority status, place of birth, the knowledge of an official language, work status, and the size of the unit of the household. It would have been desirable to include other important controls (such as number of children, receiving inheritance, degree of religiosity, and so forth), but those presented represent what could be used with this particular dataset.

As for the results, in terms of visible minority status, the Chinese tend to do considerably better (246% more) than those who are not members of any visible minority group whereas Blacks tend to receive less (–18%). Moreover, the larger the household size, the less investment income is obtained for an individual in proportion to his overall income. Knowledge of an official language increases investment income. Age does have an important significant effect (until age 55, each age group tends to receive less of investment income in proportion of their income than the youngest age group (15–24). Finally, those who are unemployed earn considerably less than those who are not part of the labour force (but who worked in the past, such as retirees). As for the effects of religious affiliation, a few interesting things occurred while we increased the number of controls. On the one hand, Protestants make 16% more and Jews make 149% more. On the other hand, the difference is no longer significant between Muslims and Catholics, while the non-affiliated make even less compared to Catholics than before the controls were added. Last, the effect of "Eastern Religion" turned from positive to slightly negative (as compared to Catholics), indicating that one of the control variables added explains the previous positive advantage that individuals from Eastern religions had. One would suspect that the large positive impact for "Chinese" minority status can explain why the effect of "Eastern Religion" is now negative.

These preliminary results are consistent with what the literature indicated for Canada. Although the variable of investment income is used instead of other economic variables, the final hierarchy in terms of magnitude of the proportion of investment income received is therefore (from highest average income received to lowest): Jews, Protestants, and then all the others (including Catholics). Again, this claim is not strictly based on the results presented. Regressions were conducted separately (with different reference categories) to determine this hierarchy. For instance, this is the same pattern found by Tomes and Meng and Sentance for the variables of rate of return on education and earnings, but for investment incomes.[60] The model accounts for a moderate portion of the variability of investment income ratio (12%).

Table 2 : OLS results for working age Canadians in 2000

	(1)	(2)	(8)
Religion:			
- Protestant	0.159***	0.146***	0.152***
	(0.0110)	(0.0109)	(0.0120)
- Other Christian	-0.0205	-0.0303	-0.0553***
	(0.0201)	(0.0200)	(0.0199)
- Muslim	0.158***	0.144***	0.0323
	(0.0280)	(0.0279)	(0.0306)
- Jewish	1.046***	1.014***	0.913***
	(0.0549)	(0.0548)	(0.0531)
- Eastern Religion	0.181***	0.129***	-0.0687**
	(0.0241)	(0.0240)	(0.0312)
- All other	-0.0635	-0.0960	-0.0544
	(0.0745)	(0.0747)	(0.0737)
- None	-0.0307**	-0.0179	-0.0766***
	(0.0120)	(0.0119)	(0.0127)
Gender: - Female		0.550***	0.431***
		(0.00867)	(0.00829)
Education:			
- High school		-0.286***	0.0618***
		(0.0113)	(0.0109)
- College		-0.502***	0.0622***
		(0.0111)	(0.0109)
- Bachelor or medical		-0.182***	0.422***
		(0.0155)	(0.0155)
- Master's		0.0272	0.565***
		(0.0320)	(0.0314)
- Doctorate		0.145*	0.545***
Marital status:		(0.0757)	(0.0735)
- Divorced			-0.587***
			(0.0171)
- Married			-0.152***
			(0.0115)
- Separated			-0.648***
			(0.0220)
- Widowed			-0.0663

Age group:			(0.0433)
- 25 to 34			-1.059***
			(0.0119)
- 35 to 44			-0.757***
			(0.0135)
- 45 to 54			-0.235***
			(0.0159)
- 55 to 64			0.527***
Visible minority:			(0.0202)
- Chinese			1.241***
			(0.0355)
- South Asian			0.0905**
			(0.0353)
- Black			-0.197***
			(0.0281)
- Other			-0.0809***
			(0.0268)
Knows at least an official language			0.212***
			(0.0451)
Region:			
- Ontario			-0.171***
			(0.0168)
- Prairies			0.0139
			(0.0202)
- BC			-0.0522***
			(0.0199)
Constant	-8.573***	-8.595***	-7.276***
	(0.00640)	(0.0101)	(0.0525)
Observations	433,422	433,422	431,982
R-squared	0.002	0.016	0.122

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Statistics Canada, 2001

But what about regional differences? As the descriptive statistics and literature hinted, there seems to be a lot of heterogeneity across regions. This is why I used a similar model, but applied it this time to each region (Quebec, Ontario, Prairies, and British Columbia) separately.

The results can be found in Table 3. Protestants no longer have a significantly higher proportion of investment income than Catholics in Quebec, where the latter constitute the majority group (although Protestants maintain their advantage in all the other regions of interest). Moreover, Jews keep their premium in every region. Other control variables, and in particular education[61] and marital status, compared to Canada as a whole, follow a similar pattern across regions. Note again that not all variables used for the regression were reported (age, age squared, visible minority status, size of the household are among those control variables). Here, since other studies have not typically conducted separate regressions for each region of Canada, these nuances were not previously captured. One exception can be nonetheless noted: Tomes indicated that Quebec Jews did not surpass Catholics in terms of returns to education.[62] Table 3 suggests that – assuming Tomes' results are still valid for 2001 – this does not translate in terms of comparable investment income proportions (Quebec Jews having a premium of 138% compared to Catholics).

Table 3: OLS results for Canadians of working age by region in 2000

	Canada	Quebec	Ontario	Prairies	BC
Religion:					
- Protestant	0.151***	0.00810	0.169***	0.143***	0.173***
	(0.0119)	(0.0423)	(0.0165)	(0.0242)	(0.0359)
- Other Christian	-0.0399**	-0.0367	-0.0498*	0.0148	-0.0987**
	(0.0198)	(0.0566)	(0.0285)	(0.0425)	(0.0502)
- Muslim	0.0466	-0.110*	0.0720*	0.193**	0.134
	(0.0305)	(0.0659)	(0.0406)	(0.0917)	(0.101)
- Jewish	0.912***	0.868***	0.960***	0.555***	0.992***
	(0.0532)	(0.103)	(0.0702)	(0.179)	(0.201)
- Eastern Religion	-0.0524*	-0.0247	-0.0458	-0.0754	-0.0133
	(0.0312)	(0.0952)	(0.0415)	(0.0802)	(0.0757)
- All other	-0.0223	-0.215	0.0295	-0.0816	-0.0179
	(0.0734)	(0.238)	(0.133)	(0.120)	(0.152)
- None	-0.0557***	-0.0130	-0.0495**	-0.101***	-0.0179
	(0.0125)	(0.0335)	(0.0193)	(0.0261)	(0.0333)
Education:					
- High school	0.128***	0.141***	0.124***	0.0986***	0.188***
	(0.0108)	(0.0214)	(0.0168)	(0.0243)	(0.0304)
- College	0.113***	0.204***	0.0888***	0.00382	0.163***
	(0.0110)	(0.0211)	(0.0175)	(0.0245)	(0.0304)
- Bachelor or medical	0.449***	0.364***	0.430***	0.551***	0.538***
	(0.0154)	(0.0307)	(0.0234)	(0.0368)	(0.0430)

- Master's	0.601***	0.469***	0.615***	0.719***	0.697***
	(0.0314)	(0.0626)	(0.0453)	(0.0869)	(0.0861)
- Doctorate	0.597***	0.162	0.746***	0.511***	0.875***
	(0.0733)	(0.148)	(0.109)	(0.176)	(0.199)
Visible minority:					
- Chinese	1.247***	1.078***	1.214***	0.891***	1.293***
	(0.0354)	(0.123)	(0.0516)	(0.0881)	(0.0730)
- South Asian	0.0350	0.0207	0.0619	0.185*	-0.115
	(0.0352)	(0.108)	(0.0472)	(0.0958)	(0.0857)
- Black	-0.231***	-0.132**	-0.260***	-0.207**	-0.129
	(0.0281)	(0.0627)	(0.0370)	(0.0852)	(0.125)
- Other	-0.0872***	-0.105	-0.0748**	-0.129*	-0.0776
	(0.0267)	(0.0664)	(0.0371)	(0.0671)	(0.0687)
Knows at least one official language	0.241***	0.339**	0.221***	0.332**	0.291***
	(0.0455)	(0.136)	(0.0606)	(0.129)	(0.0979)
Constant	-4.507***	-5.109***	-4.291***	-4.235***	-4.510***
	(0.0611)	(0.159)	(0.0892)	(0.158)	(0.153)
Observations	431,982	115,889	177,990	77,909	60,194
R-squared	0.124	0.097	0.129	0.138	0.155

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Statistics Canada, 2001

Logistic Model

Let us now take a look at the other model. Table 4 presents the results of logistic regressions applied to different regions. Only the odds ratio is presented in order to facilitate interpretation. Note that only the results for "religion," "gender," "education," "income group," and "marital status" are presented here in order to limit the size of what are already considerably large tables. Other socio-economic and demographic variables served as control variables in the models, including visible minority categories. Perhaps not surprisingly, educated individuals have better odds of obtaining investment income than uneducated individuals. Let us now turn our attention to religious affiliation variables.

With the exception of Quebec, Protestants always have better odds than Catholics to obtain any investment income. In other words, they are more likely to have been investors. In Quebec, however, there is no significant difference between Protestants and Catholics. In British Columbia, the odds are higher for Protestants than Catholics. In Ontario and the Prairies as well, the Protestant advantage over Catholics is

always statistically significant.

As for Jews, they tend to have better odds to obtain investment income than Catholics in Québec. However, in the Prairies there is no statistically significant difference between Jews and Catholics in terms of the likelihood to obtain investment income. This is likely due to a much smaller sample size of Jews there (the odds ratio remains higher, but is no longer statistically significant). When the results are significant and the model is a good fit, Jews tend to have better odds than Catholics to obtain investment income. One must keep in mind, however, that the sample sizes for Jews in British Columbia and in the Prairies are very small. With this in mind, and while Jews have much higher odds of being investors in the Prairies than other groups, the results are only statistically significant for the other regions.

Notwithstanding these nuances, which have not been captured in the previous literature due to the absence of a comparable model, the general ranking of religious groups in terms of investment incomes remains the same as it is for other economic variables.[63] Indeed, it tends to show that Jews and Protestants have a higher propensity to invest than Catholics.

Table 4: Logistic results for Canadians of working age by region in 2000

	Canada	Quebec	Ontario	Prairies	BC
Religion:					
- Protestant	1.135***	0.934	1.171***	1.129***	1.168***
	(0.0139)	(0.0444)	(0.0199)	(0.0287)	(0.0398)
- Other Christian	0.844***	0.833***	0.840***	0.913*	0.834***
	(0.0196)	(0.0522)	(0.0290)	(0.0458)	(0.0463)
- Muslim	0.818***	0.581***	0.859***	0.948	0.953
	(0.0341)	(0.0639)	(0.0473)	(0.118)	(0.107)
- Jewish	1.709***	1.621***	1.802***	1.203	1.747***
	(0.0614)	(0.118)	(0.0846)	(0.160)	(0.228)
- Eastern Religion	0.862***	0.914	0.858***	0.788**	0.965
	(0.0287)	(0.0969)	(0.0407)	(0.0761)	(0.0639)
- All other	0.744***	0.657	0.919	0.535***	0.827
	(0.0789)	(0.238)	(0.159)	(0.123)	(0.156)
- None	0.884***	0.869***	0.901***	0.847***	0.966
	(0.0125)	(0.0337)	(0.0196)	(0.0264)	(0.0328)

Gender:					
-Female	1.316***	1.314***	1.287***	1.351***	1.388***
	(0.0119)	(0.0226)	(0.0182)	(0.0297)	(0.0329)
Education:					
- High School	1.419***	1.368***	1.383***	1.534***	1.463***
	(0.0187)	(0.0344)	(0.0288)	(0.0479)	(0.0516)
- College	1.588***	1.768***	1.508***	1.502***	1.543***
	(0.0200)	(0.0428)	(0.0305)	(0.0437)	(0.0516)
- Bachelor or medical	2.311***	2.269***	2.208***	2.615***	2.200***
	(0.0343)	(0.0675)	(0.0510)	(0.0901)	(0.0860)
- Master's	2.421***	2.275***	2.361***	2.661***	2.464***
	(0.0566)	(0.109)	(0.0824)	(0.162)	(0.148)
- Doctorate	2.373***	1.857***	2.465***	2.678***	2.455***
	(0.116)	(0.196)	(0.180)	(0.309)	(0.316)
Income group:					
- Moderate-low	1.243***	1.360***	1.133***	1.226***	1.359***
($10,001-$20,000)	(0.0188)	(0.0389)	(0.0277)	(0.0439)	(0.0521)
- Moderate	1.595***	1.852***	1.449***	1.571***	1.573***
($20,001-$50,000)	(0.0217)	(0.0483)	(0.0311)	(0.0516)	(0.0549)
- High	2.624***	3.105***	2.427***	2.496***	2.679***
($50,001-$100,000)	(0.0431)	(0.103)	(0.0614)	(0.0993)	(0.113)
- Very high	5.495***	6.034***	5.270***	5.293***	5.500***
(more than $100,000)	(0.144)	(0.362)	(0.201)	(0.325)	(0.396)
Marital status:					
- Divorced	0.663***	0.742***	0.580***	0.634***	0.763***
	(0.0122)	(0.0225)	(0.0186)	(0.0297)	(0.0369)
- Married	1.013	1.111***	0.929***	0.987	1.134***
	(0.0129)	(0.0257)	(0.0192)	(0.0314)	(0.0390)
- Separated	0.606***	0.694***	0.563***	0.643***	0.558***
	(0.0168)	(0.0386)	(0.0239)	(0.0439)	(0.0406)
- Widowed	1.072**	1.365***	0.907**	1.057	1.038
	(0.0323)	(0.0719)	(0.0440)	(0.0818)	(0.0869)
Constant	0.147***	0.107***	0.186***	0.111***	0.0920***
	(0.0101)	(0.0190)	(0.0189)	(0.0219)	(0.0146)
Observations	433,112	116,239	178,393	78,058	60,422

seEform in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Statistics Canada, 2001

Summary of Findings

Religious beliefs and religious affiliation are important factors that can influence individual rates of time preference. Using data from the 2001 Canadian Census, I have contributed to the previous literature on the economics and sociology of religion by considering the effects of religious affiliation on an individual's proportion of investment income, the latter being a proxy for the individual rate of time preference. I have divided my regression analysis into two distinct parts. The results of the OLS model are largely consistent with the literature on comparative religion in Canada. Indeed, Jews earn more investment income than Protestants who in turn earn more than Catholics in Canada. Looking at the effects of religious affiliation for each region individually, I was able to identify a few cross-regional heterogeneities. Indeed, Protestants *do not* differ significantly from Catholics in Quebec, although the pattern for Canada as a whole remained largely the same for all other regions.

The second model analyzed the differences between religious affiliations in terms of the odds of receiving any investment income by region. The results of this logistic regression model were more nuanced. Indeed, although it tended to confirm our previous results on Protestants having generally lower time preference than Catholics (through a higher propensity to invest) except for Quebec, the Jewish premium identified in the first model seems to be statistically significant mostly in terms of magnitude. There remains, except for the Prairies, better odds to be investors for Jews than for Catholics, thus suggesting lower individual rates of time preference. However, in the Prairies, the results were not statistically significant (which may be attributed to a decrease in sample sizes when analyzing the data by region separately).

I have already presented the limitations of this study. First, using investment income is an imperfect measure for time preference. Second, the dataset does not include information on important potential controls (e.g., data on the number of children, religious *background*, on comparative levels of religiosity, wealth, saving rates, and so forth). Third, we should also note that statistics of this kind do not tell us about which widely shared religious affiliation within a country provides the better cultural norms to encourage lower time preference. Rather, it provides us insights about how, within a Western and mostly Christian country, each particular affiliation is associated to how individual members make investment decisions.

These limitations notwithstanding, this study may be useful to better understand the concept of time preference and its determinants. In fact, this study has found evidence for the lower time preference of Canadian Jews and Protestants as compared to Catholics, thus helping us understand the economic advantages of these groups discovered in the Canadian literature. Indeed, Canadian Jews and Protestants seem to be, by and large, more future-oriented than Canadian Catholics, and individuals

of other religious affiliations, and this can explain, at least in part, their economic success.

1
Mises, Ludwig von. [1949] 1998. *Human Action. A Treatise on Economics.* Auburn: Ludwig von Mises Institute, p. 13; Hoppe, Hans-Hermann. 1994. "Time Preference, Government, and the Process of De-Civilization." *Journal des Économistes et des Études Humaines 5*, no. 2/3 : 319-51.

2
Rothbard, Murray N. 2009. *Man, Economy, and State with Power and Market*. Auburn: Ludwig von Mises Institute, pp. 56 and the following.

3
Becker, Gary S. and Casey B. Mulligan. 1997. "The Endogenous Determination of Time Preference." *Quarterly Journal of Economics* 112, no. 3: 729-758, p. 754.

4
Statistics Canada. 2006. *2001 Census of Population [Canada] Public Use Microdata Files (PUMF): Individual File (revision 2).* Ottawa.

5
Iannaccone, Laurence R. 1998. "Introduction to the Economics of Religion." *Journal of Economic Literature* 36, no. 3: 1465-1495, p. 1467.

6
For instance, the Canadian Survey of Family Expenditures includes exhaustive data on household saving and consumption habits but it does not include information about religious affiliation. On the other hand, the public use microdata files of the Canadian Census records every 10 years individual religious affiliations but does not record exhaustive measures of saving and spending habits.

7
Becker & Mulligan 1997, 744-746. On the hypothesis that time preference does not affect growth in intergenerational per capita consumption, see also Becker, Gary S. and Robert J. Barro. 1988. "A Reformulation of the Economic Theory of Fertility." *Quarterly Journal of Economics* 103, no. 1: 1-25.

8
The Atlantic provinces and the Territories were excluded from the analysis because the data on religious affiliation were not exhaustive, thus rendering difficult meaningful comparisons.

9
The other religious affiliations used were not included in the graph in order to preserve its readability.

10
Burstein, Paul. 2007. "Jewish Educational and Economic Success in the United States: A Search for Explanations." *Sociological Perspectives* 50, no. 2: 209-228.

11
See, for instance, Tomes, Nigel. 1983. "Religion and the Rate of Return on Human Capital: Evidence from Canada." *Canadian Journal of Economics 16*, no. 1 : 122-38; Keister, Lisa A. 2003. "Religion and Wealth: The Role of Religious Affiliation and Participation in Early Adult Asset Accumulation." *Social Forces 82*, no. 1: 173-205; Steen, Todd P. 2004. "The Relationship Between Religion and Earnings: Recent Evidence from the NLS Youth Cohort." *International Journal of Social Economics 31*, no. 5/6:572-81; Steen, Todd P. 2005. "Is There an Earning Premium for Catholic Women? Evidence from the NLS Youth Cohort." *Faith & Economics 45*: 21-39.

12
See, for instance, Tucker-Seeley, Reginald D et al. 2009. "Neighborhood Safety, Socioeconomic Status, and Physical Activity in Older Adults." *American Journal of Preventive Medicine 37*, no. 3:207-213, p. 209; Bove, Vincenzo and Leandro Elia. 2017. "Migration, Diversity, and Economic Growth." *World Development 89*: 227-39, p. 232.

13
Note that whether we used the variable "age groups" or "age" and "age squared" does not change substantially the results (general hierarchies remain the same).

14
Whether investment income is negative or positive is irrelevant here. Receiving non-null investment income demonstrates that, at some point in the past, one *chose* to sacrifice a part of one's resources in the (correct or incorrect) anticipation of obtaining more material resources in the future.

15
See, for instance, Cole, Shawn et al. 2014. "Smart Money? The Effect of Education on Financial Outcomes." *The Review of Financial Studies 27*, no. 7: 2022-51.

16
Weber, Max. [1904-1905] 2005. *The Protestant Ethic and The Spirit of Capitalism*. T. Parsons (trans.) London and New York : Routledge.

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Although, one must keep in mind that many empirical studies contradicted Weber's claims about the Protestant ethics (Iannaccone 1998, 1474-1475).

18
Thalos, Mariam. 1998. "The Economy of Belief Or, Explaining Cooperation Among the Prudent." *American Philosophical Quarterly 35*, no. 4: 349-63.

19
Hülsmann, Jörg Guido. 1999. "Discursive Rationality and the Division of Labour: How Cooperation Emerges." *The American Journal of Economics and Sociology 58*, no. 4: 713-27.

20
Ibid, p. 724

21
Muller, Jerry Z. 2010. *Capitalism and the Jews*. Princeton: Princeton University Press.

22
Such a thing would have been badly seen in the Jewish community, since the Deuteronomy proscribes charging interest to one's "brother," although it does authorize to charge it to "strangers" or "others." The same is true for the Christians. Christians considered Jews as being already condemned, thus justifying allowing them to perform the economically necessary task of lending money with interests. Likewise, Jews considered Christians as the "others." See Muller (2010, 8-9; 20-26). For a history of religious interpretations of the Deuteronomy, see Nelson, Benjamin. 1969. *The Idea of Usury. From Tribal Brotherhood to Universal Otherhood*. Second enlarged ed. Chicago and London: Chicago University Press.

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For higher group cohesion and degree of internal marriages, see Kessler-Harris, A. and V. Yans-McLaughlin. 1978. "European Immigrant Groups." In T. Sowell (ed.) *American Ethnic Groups*. Washington D.C.: The Urban Institute, p. 121, 125. For estimates of their main occupations, see Rubinstein, William D. 2000. "Jews in the Economic Elites of Western Nations and Antisemitism." *Jewish Journal of Sociology* 42: 5-35, pp. 22-30.

24
Cochran, Gregory et al. 2006. "Natural History of Ashkenazi Intelligence." *Journal of Biosocial Science* 38, no. 5: 659-693; Keister, Lisa A. 2003. "Religion and Wealth: The Role of Religious Affiliation and Participation in Early Adult Asset Accumulation." *Social Forces 82*, no. 1: 173-205.

25
Kessler-Harris and Yans-McLaughlin (1978), pp. 111-112.

26
Ibid, p. 114.

27
Ibid

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Patai, Raphael. [1973] 2002. *The Arab Mind*. New York: Hatherleigh Press (Revised edition).

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Sidani, Yusuf M. and Jon Thornberry. 2009. "The Current Arab Work Ethic: Antecedents, Implications, and Potential Remedies." *Journal of Business Ethics 91*: 35-49.

31
McCleary, Rachel M. and Robert J. Barro. 2006. "Religion and Economy." *Journal of Economic Perspectives* 20, no. 2: 49-72, p. 52.

32
Benjamin, Daniel J. et al. 2016. "Religious Identity and Economic Behavior." *The Review of Economics and Statistics* 98, no. 4: 617-637.

33
Ibid., p. 629, 632.

34
Carroll, Christopher D. et al. 1994. "Are There Cultural Effects on Saving? Some Cross-Sectional Evidence." *Quarterly Journal of Economics* 109, no. 3: 685-699.

35
McCleary, Rachel M. and Robert J. Barro. 2006. "Religion and Economy." *Journal of Economic Perspectives* 20, no. 2: 49-72, pp. 66-67.

36
Steen, Todd P. 2004. "The Relationship Between Religion and Earnings: Recent Evidence from the NLS Youth Cohort." *International Journal of Social Economics 31*, no. 5/6:572-81.

37
Ibid., p. 577.

38
Ibid., pp. 579 – 580.

39
See Steen (2004) and Steen (2005)

40
Steen (2005), p. 35.

41
Kott, Michael A. and Brian Dollery. 2012. "Religion and the Rate of Return to Human Capital: Evidence from Australia." *Applied Economics Letter 19*: 943-46.

42
Ewing, Bradley T. 2000. "The Wage Effects of Being Raised in the Catholic Religion." *American Journal of Economics and Sociology 59*, no. 3: 419-32.

43
Ibid., p.425.

44
Ibid., p. 423, pp. 425-426.

45
Tomes, Nigel. 1983. "Religion and the Rate of Return on Human Capital: Evidence from Canada." *Canadian Journal of Economics 16*, no. 1 : 122-38.

46
Ibid., p. 123, 127.

47
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The interpretation of the coefficients is not straightforward due to the use of a logarithmic transformation. To find all of these values, I simply followed the following formula, where the percentage differential in the proportion of investment income can be found using the exponential of the coefficient minus one (as indicated in Halvorsen, Robert and Raymond Palmquist. 1980. "The Interpretation of Dummy Variables in Semilogarithmic Equations." *The American Economic Review 70,* no. 3: 474-75).

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College and University differ in that many colleges in Canada (and, in particular in Quebec's "Cégeps") offer pre-university or technical programs rather than University degrees.

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