All Equal in the Sight of God:
Economic Inequality and Religion in the Early Twentieth Century

By

Livio Di Matteo
Department of Economics
Lakehead University
Thunder Bay, Ontario
P7B 5E1

Livio.DiMatteo@Lakeheadu.ca

All Equal in the Sight of God:
Economic Inequality and Religion in the Early Twentieth Century

Livio Di Matteo

Introduction

Little explicit attention has been paid to the effect of religion on economic inequality in nineteenth century Canada. Given the historical evidence documents a high degree of economic inequality in the late nineteenth century, the potential contribution of religion to economic inequality is an interesting and important question.[1] A natural question is how much inequality was a function of economic and demographic factors and how much can be ascribed to factors like religious affiliation?

Economic inequality is a function of individual differences over the mastery of economic resources. While complicated, the determinants of inequality ultimately depend on the ability to reap the benefits from economic opportunities, resilience when absorbing economic shocks and the effects of institutions and government policy on both income and wealth. Industrialization particularly appears to be associated with increasing inequality and the timing of economic growth and industrialization can be a factor.[2]

According to Jeffrey Williamson, inequality is not driven by changes in income or wealth alone but is also a function of public policy, institutions, education, resource endowments and age structure of the population.[3] Values and beliefs about inequality can be a factor in determining the distribution of wealth as well as the measurement of that distribution.[4] If religion is a significant determinant of wealth, then it too is a factor in explaining wealth inequality. If the values and beliefs of religion affect the level of wealth and income, then by extension there must also be an effect on distribution and inequality.

Using census-linked probate wealth data for Ontario from 1902 and a Canada wide earnings sample from the 1901 census, this paper examines the distribution of both wealth and earnings by religious affiliation. While there is a high degree of wealth and earnings inequality in this data, there are substantial differences when the analysis is conducted according to religious affiliation. Wealth inequality appears to be higher for the more hierarchical faiths such as Anglicans and Roman Catholics relative to Methodists, Baptists, Lutherans and Presbyterians. Income inequality is generally lower than wealth inequality but is higher for Anglicans, Presbyterians and Methodists, relative to the Lutherans, Baptists and Catholics.

---

[1] The literature on nineteenth century wealth accumulation and inequality is substantial. For an overview, see Di Matteo (2012).

[2] Ohlsson et al., 'Changes' (2008).

[3] Williamson (1996, 1998) and Higgins and Williamson (1999).

[4] For example, the Atkinson Index of Inequality explicitly enables one to measure the extent of inequality relative to assumptions about a society's aversion to inequality. The higher the value of the inequality aversion parameter assumed, the more concerned is a society about the share of the bottom end of the wealth distribution. See Cowell (1977: 150-155) and Atkinson (1983: 56-59).

Other confounding factors that may be of significance include socio-economic characteristics such as birthplace and portfolio composition as well as wealth transmission patterns.[5] Indeed, the evidence in this paper suggests that there were differences across religious affiliations when it came to the degree of partibility in estate division with greater partibility associated with less wealth inequality.

Context

At a macroeconomic level, the classic thesis linking religion and economic performance is the Weber Thesis[6] maintaining that the Protestant Reformation triggered modern capitalism with the economic development of Protestant societies outpacing Catholic ones.[7] As a revolt against hierarchical Catholic tradition that emphasized free thought and rationality, Protestantism was supposed to have fostered wealth accumulation, profit seeking and economic growth by also making wealth accumulation respectable given the traditional sanctions against wealth in the Bible.[8] For example, Calvinism, a forerunner of Puritanism and Presbyterianism, by emphasizing honest punctual labor and wealth accumulation as glorification of God, justified the activities of capitalism and businessmen.[9] There is however considerable debate over the relevance and significance of the Weber Thesis.[10]

At a more microeconomic level, Adam Smith saw individual moral reputation as a capital stock with religious affiliation distributing information about the "moral character" of an individual that helped participants assess the potential riskiness of transactions affecting wealth and income.[11] Religious groups can be viewed as voluntary clubs that help reduce the transactions costs of doing business among members by sending signals about trustworthiness. By providing "valuable, reliable information concerning the level of risk attached to dealings with particular

---

[5] Di Matteo (2012) considers the relationship between religious affiliation and portfolio allocation.

[6] Engerman (2000) argues there has been little attention paid to it recently.

[7] Weber (1930/1958).

[8] The intellectual fuel for the new rising capitalist order according to Tawney (Weber 1958: 3) was "a new conception of religion, which taught them to regard the pursuit of wealth as, not merely an advantage, but a duty."

[9] Frey (2001).

[10] According to Iannaccone (1998: 1474) the "most noteworthy feature of the Protestant Ethic Thesis is its absence of empirical support." Baskerville (2001: 63) notes that the Weber Thesis has "had a rough ride, and few scholars embrace it without serious caveats." Iannaccone (1998) notes that Samuelsson (1993) and Tawney (1926) demonstrate that nearly all of the capitalist institutions emphasized by Weber preceded the Protestant reformation. As well, Delacroix (1995) showed that Amsterdam's wealth was concentrated in Catholic families while the economically advanced German Rhineland, was more Catholic than Protestant. Furthermore, Iannaccone (1998: 1475) notes that while the broad macro support for the Weber Thesis is weak, at the micro level of individuals and households, economic behaviour and outcomes do appear to correlate with religion. As well, David Landes (1998: 174-181) argues that the key element of the Weber Thesis is the role of group dynamics and mutual scrutiny in business life offered by the spread of Protestantism with he most important long run economic impacts of Protestantism being the stress on instruction and literacy and the importance of measuring time as evidenced by the diffusion of the use and production of clocks and watches amongst Protestants.

[11] Anderson (1988).

individuals, religions benefit their members in a tangible way and also improve the efficiency of the allocation of human resources."[12] If some religions provide better "benefits" than others, then this could be reflected by differences in economic success by religion group and ultimately differences in wealth, earnings and inequality.

A modern empirical literature examines the impact of religion on individual economic performance.[13] With respect to wealth, Keister (2003) uses the U.S. National Longitudinal Survey of Youth 1979 Cohort and finds Jews enjoyed substantial wealth accumulation, conservative Protestants did not fare as well and mainline Protestants and Roman Catholics were indistinguishable from one another in terms of their wealth accumulation performance. Keister also finds Jews less likely and Conservative Catholics and Protestants more likely to own a home.[14] Lipford and Tollison (2003) estimate the effects of religious participation on income and of income on religious participation using U.S. state data on per capita income and church membership. They find that religious participation, through its effect on preferences and earning potential, reduces participants' incomes.

Keister (2008) shows religion affects wealth via educational attainment, fertility and female labour force participation with conservative Protestants having significantly lower wealth.   York and Dutton (2012) employ regression analysis on the U.S. National Survey of Families and Household data to find that households with more literalist Biblical beliefs have lower net worth, though regression analysis reveals this relationship only seems to hold for the upper half of the wealth distribution.

For Canada, Tomes (1985, 1983) finds that human capital returns to Protestants exceeded those of Catholics in both 1970 and 1980 data and that all other things equal, Jewish males earn more than other religious-ethnic groups.[15] Meng and Sentence (1984) replicate Tomes work using the 1973 Canadian National Mobility Study and the Canadian Labour Force Survey and find Jews receiving higher earnings returns to education while Catholics earned lower returns.

Of course, the mechanism whereby religious affiliation affects wealth accumulation and its distribution is complex. According to Keister (2003, 2008), religion affects wealth accumulation through direct and indirect effects. Keister argues that: "The moral codes articulated in religious doctrines are typically manifest in ideal orientations or values"[16] which then have an effect on economic

---

[12] Anderson (1988: 1072).

[13] For example Guiso, Sapienza, and Zingales (2003) use World Values Surveys data to examine the cross-country relationship between religious beliefs and economic attitudes across countries and find religious beliefs correlated with higher per capita income and economic growth, with Christian religions more positively associated with attitudes conducive to economic growth. Stultz and Williamson (2003) argue that differences in religious affiliation and language have an impact on investor protection, with Catholic countries protecting the rights of creditors less well than Protestant countries. McCleary and Barro (2006) focus on macroeconomic aspects and find that religious affiliation can influence economic growth through belief formation affecting individual traits.

[14] Keister (2003: 199).

[15] Tomes uses Canadian Census data.

[16] Keister (2008: 63).

behavior. For example, religion can directly shape values and attitudes towards wealth accumulation as well as provide social contacts and networks that facilitate accumulation.   On the other hand, religion can indirectly affect wealth because of differences generated towards age at marriage, fertility, child rearing and education, all of which can affect wealth accumulation.[17] In turn, differential wealth accumulation differences result in an effect on wealth distribution as illustrated in the simple schematic of Figure 1. At the same time, values and attitudes towards wealth can also affect the distribution of wealth directly in terms of how members of a religious community view fairness towards other members of their group and society in general.

With respect to the nineteenth century, Baskerville (2001:61-62) remarks that the "studies of the relationship between religion and wealth in the late nineteenth and early twentieth centuries have not been at the forefront of current scholarship in business, economic, religious or social history." The substantial literature on historical wealth determinants and inequality in North America focuses on the role of occupation, ethnic origin, birthplace, urbanization and age and rarely considers religious affiliation.[18]

There are some exceptions. Darroch and Soltow (1994) examine real property ownership in Ontario using the 1871 Census and find a striking similarity in land ownership proportions among all religious groups with Anglicans reporting the lowest proportion. Catholics were least likely to own homes or large amounts of land while members of evangelical religions such as Baptists were more likely to own land and homes.   Di Matteo (1997) using census-linked probated wealth data for Ontario in 1892 found religion not a significant determinant of total wealth but found that Roman Catholics and Methodists were more likely to own real estate while Roman Catholics were less likely to own financial assets. However, when weighted regression is used, placing heavier weight on younger decedents, Catholics and Methodists had significantly less wealth than Anglicans in 1892 (Di Matteo, 1996). Di Matteo and Emery (2002) find that Roman Catholics made less use of market life insurance as an asset. Di Matteo (2007) finds that relative to Anglicans, the wealth of Methodists and Roman Catholics in the late nineteenth was significantly lower.

Baskerville (2001) draws upon a five-percent national sample of Census returns for Canada in 1901 to examine the extent to which religion affected socio-

[17] For example, Jewish culture encouraged the accumulation of human capital as opposed to physical capital because of the effect of migration and diaspora. As a result, Jews have high educational attainment and occupational status, which translate to greater wealth accumulation. See Brenner and Kiefer (1981). Another example noted by Keister (2008) is that Conservative Protestants often have traditional attitudes which translate into high fertility which can make saving more difficult in adulthood by diverting resources. In addition, they can sometimes engage in literal biblical interpretations, leading to the conclusion that wealth accumulation is sinful and excessive tithing that diminishes wealth.
[18] See for example Atack and Bateman (1981), Pope (1989), Steckel (1990), Galenson (1991), Haines and Goodman (1991), Herscovici (1993, 1998), Ferrie (1994, 1995, 1999), Gregson (1996) and Di Matteo (1997, 1998), Conley and Galenson (1998), Walker (2000), Steckel and Moehling (2001).

economic status in urban Canada. He finds ethnicity and religion appear to be important factors in people's wealth as measured by home ownership, but other factors such as age and city size were also important. Presbyterians ranked at the top of various categories of wealth status while Anglicans who are often assumed to be a nineteenth century elite fared only moderately well in wealth-status measurements. Indeed, according to Baskerville, the data suggest that by the late nineteenth century, Irish and English Catholics "had arrived" in terms of their property ownership and home ownership rates.

While traditional Christian teaching tends to de-emphasize the importance of wealth accumulation, research has shown differences in the level of wealth and the rates of accumulation across religious affiliations in late nineteenth century Ontario.[19] Anglicans in Ontario were the establishment church with its economic power established early on via a land grants system reserving one-seventh of land grants for the Church of England.[20] Religion and politics in nineteenth century Canada were intertwined and organizations such as the Orange Order may have played a role in reducing economic opportunities for Roman Catholics whose average wealth was below that of Anglicans and Presbyterians. As Houston and Smyth (1980: 128) write: "In a mixed community, an Orange employer faced with the choice of hiring a fellow Orangeman, another Protestant, or a Catholic, required no written by-laws to guide him in his decision." The fact that the Anglicans were generally the largest denomination within the Orange order might also help explain some of that group's perceived economic dominance.

The variation in the impact of these determinants across the various religious groupings may be evidence of the function of religious affiliation as an "investment club." Each affiliation provides a signal as to the character of the adherent as well as basic rules of behavior with respect to the establishment of trustworthiness and reputation for economic transactions. Indeed, as has been remarked, Scottish Baptists in southwestern Ontario "felt a trifle more akin to those clansmen who were members of their own congregation than to others. They attached rather more credence to the intelligence on markets, crop payments, the weather outlook or the last speech by Sir Wilfrid Laurier or Mr. William Lyon Mackenzie King that was communicated to them after church than to anything that was picked up on a purely secular occasion." (Galbraith, 104). Religious affiliations were information networks and some networks are more successful than others in distributing relevant information on economic opportunity.

Different religions may also emphasize different inputs into the "wealth production function" and therefore create differential impacts of these variables on wealth across religious groupings. It is also possible religious affiliation affected wealth through the beliefs that were practiced such as the degree of contributions or tithing to the church or the expenses of maintaining churches.[21] Again, Scottish

---

[19] Di Matteo (2007).

[20] Myers (1972/1914: 74)

[21] Another example from the Baptists finds that the Covenanted Baptist Church of Canada had churches that "contained nothing, literally nothing, but square oaken pews and a plain wooden pulpit..." Galbraith (1985: 94).

Baptists in southwestern Ontario appear particularly frugal when it came to administering their faith and their church and this no doubt was reflected in the management of their wealth and personal affairs.[22] Methodists were evangelical Christians who were "second to none in the urgency and passion of their calls to repentance and conversion…" and who were also "unusually pragmatic in adopting and adapting methods that promised results."[23] Yet, it is not entirely clear why some traits would result in significantly less wealth or income for one religious affiliation relative to another or how they might ultimately affect economic inequality.

Data

There are two independent data sets used in this paper drawn from early twentieth century sources. The first is wealth micro-data consisting of 3,641 census-linked probated decedents from the counties and districts of Ontario, Canada for the year 1902. The 1902 wealth data includes total earnings as a variable, which is the sum of earnings and extra earnings as reported in the 1901 Census of Canada. Of the 3641 individuals in the 1902 wealth data, there is a report of non-zero total earnings for 594 individuals or 16.3 percent of the 1902 probated decedents, which provides a basis for some comparison with the second data set used in this paper - a Canada-wide urban sample of 3,357 household heads collected separately from the 1901 Census of Canada.

The probate wealth data set was constructed from the probate records of the county surrogate courts and the 1901 Census of Canada.[24] Probate was an institutional process transferring property from the dead to the living with the inventory and valuation of property of key importance. The executor of the estate (or administrator in intestate cases) conducted the inventory,[25] which legally needed to be conducted in response to a request by a legatee or creditor but was usually brought in voluntarily without awaiting the compulsory summons (Howell 1880: 325-326).[26] The inventory provided wealth estimates grouped into sixteen

---

[22] According to Galbraith (pp.94-95) "Central to the creed of the church was an uncompromising predestinarianism. A man was born saved or he was born damned…It followed, further that money spent on an eloquent pastor was wasted; a competent exposition of man's inevitable faith was all that was required…A Sunday school was redundant for the same reasons; there was no need to bring the young to faith. They were either already there or they never would be."

[23] Grant (1988: 58).

[24] Sources for the data set were: (1) Public Archives of Ontario, Surrogate Court Wills, 1902 and (2) Public Archives of Canada, Census of Canada, 1901 Manuscripts.

[25] Intestates are decedents without a will.

[26] According to Howell's (1880: 325-326) *Probate, Administration and Guardianship* "The inventory should contain a statement of all the goods, chattels, wares and merchandize, as well moveable as not moveable, which were of the person deceased at the time of his death within the jurisdiction of the court. A proper inventory should enumerate every item of which the personal estate consisted, and should specify the value of each particular. But unless by order of court, or in obedience to a citation, an inventory does not set forth the goods and chattels in detail."   It should be noted that real estate was usually recorded net of any mortgages outstanding so that the wealth figure used in this paper is a measure of net wealth.

categories[27] allowing for separate estimates of real estate, financial assets and personal property. Any potential limitations to using probate records must be balanced against the fact that wealth in the probate records is inventoried in detail not found in other nineteenth century primary sources.[28]

  The construction of the data set proceeded by recording onto standardized data collection forms those estates probated in 1902. Individuals were then linked back to census returns in order to obtain additional information.[29] Those individuals who died prior to the taking of the census or were non-Ontario residents with property in one of the counties were omitted from the census tracing procedure.[30] For 1902, a total of 4,969 estates were taken down of which 4,233 were traceable and 3,646[31] successfully traced for a success rate of 86 percent.

---

[27] The inventory categories were:(1) Household goods and furniture, (2) Farm implements, (3) Stock in trade, (4) Horses, (5) Cattle, (6) Sheep and Swine, (7) Book Debts and Promissory Notes, (8) Moneys secured by mortgage, (9) Life Insurance, (10) Bank stocks and other shares, (11) Securities, (12) Cash on hand, (13) Cash in bank (14) Farm produce, (15) Real estate, (16) Other personal property.

[28] Discussions of Ontario probate records as historical sources of data are contained in Elliott (1985: 125-32) and Osborne (1980: 235-47). See also Siddiq and Gwyn (1991: 103-117). In terms of limitations, probated decedents are often of higher socio-economic status, which can be an issue if the data set is used to draw inferences about the wealth of the general population but not if the focus of analysis is the probated decedents themselves thereby limiting the problem of selection bias. When studying the wealth holding of the general population, an attempt can be made to adjust the data for potential biases using the estate multiplier technique. See Siddiq and Gwyn (1991: 103-17) and Di Matteo and George (1992: 453-483). As well, the presence of estate taxes may cause an executor or administrator to underestimate inventoried wealth but wealth data from nineteenth century Ontario probate records does not likely suffer from such a bias because succession duties in Ontario appear July 1, 1892 when the *Succession Duty Act* (Statutes of Ontario, 55 Vict., Cap. 6, 1892) came into effect and the Act allowed for many exemptions. The Succession Duty Act did not apply: (1) To any estate the value of which, after payment of all debts and expenses of administration, does not exceed $10,000; nor (2) To property given, devised or bequeathed for religious, charitable or educational purposes; nor (3) To property passing under a will, intestacy or otherwise, to or for the use of the father, mother, husband, wife, child, grandchild, daughter-in-law, or son-in-law of the deceased, where the aggregate value of the property of the deceased does not exceed $100,000 in value. Revisions to the Act in 1897 (Revised Statutes of Ontario (1897), Cap. 24) kept the $100,000 exemption value but it was later reduced to $50,000 in 1907 (5 Edw.VII, c.6, s.6) which is after the period of these two cross-sections. Finally, it should be acknowledged that probate wealth might be an incomplete accounting of terminal wealth due to *inter vivos* transfers, meaning that an unknown portion of wealth may have been transferred during life." Generally, the property liable to duty was quite comprehensive. After 1896, it even included property vested jointly with interest to survivor. The Succession Duty Act applied even to property "voluntarily transferred by deed, grant or gift made in contemplation of the death of the grantor or bargainor, or made or intended to take effect, in possession or enjoyment after such death... "if they were made in the 12 months preceding death. Moreover, after 1896, *donatio mortis causa*, that is, goods and possessions delivered in apprehension of death, were also clearly defined as property liable to duty. A report on the Succession Duty Act in the Welland Tribune (April 1, 1892: 2) asserted that: "The act provides for evasion by transfers before death, although the fear of revival makes such attempts very rare."

[29] For fuller accounts of data collection, see Di Matteo (1997, 2008).

[30] Some of these omitted probated decedents were residents of other provinces of Canada, the United States and Britain but with property in Ontario. Other omitted individuals were Ontario residents who died before the taking of the census (in April) and therefore would not have been recorded in the Census schedule of the living. There often was a lag between the date of death and

The second data set is a Canada-wide urban sample of 3,357 household heads for 17 jurisdictions[32] collected from the 1901 Census of Canada using the microfilmed census and the resources of Automated Genealogy.[33] Approximately 48 percent of observations were from Ontario, another 18 percent were from Manitoba, 26 percent were from British Columbia and 7 percent from New Brunswick. The variables recorded for the data collection were gender, marital status, age, place of birth, the year immigrated to Canada if foreign born, religion, occupation, the number of children and total earnings – the sum of earnings from occupation (column 26) and extra earnings (column 27). Of the 3,357 household heads in the income data set, 70 percent reported a positive or non-zero level of earnings. This proportion was much higher than the census-linked probate wealth data reflecting the higher average age of the probated decedents.   The remaining thirty percent either did not report their income or did not have earned income to report. As a result, subsequent analysis will need to take this into account.

Tables 1 and 2 provide summary statistics and an overview of inequality by religious affiliation for each of the data sets. Average wealth in the probate wealth data was $6,335 and ranged from a low of 0 to a high of $1,197,095. For the probate wealth data in Table 1, the largest denomination was the Methodists, followed by Presbyterians and then Anglicans. Average and median wealth is reported in the table but the presence of outliers makes medians a better focus for discussion. Roman Catholics, for example, report the second highest average wealth but that is due to the presence in the 1902 data of lumber merchant William McKay who was Roman Catholic and died with an estate of $1,197,095.   The next largest estate was $326,963 and belonged to Henry S. Howland, a Bank President[34] who was a founding director of both the Canadian Bank of Commerce and the Imperial Bank of Canada and a Quaker and therefore included in the Other Religions category.[35]

---

the probating of the estate. For example, in some intestate cases, time was expended searching for a will. As well, there were sometimes complicated intestate estates with incomplete administrations. For example, an individual could die intestate and the surviving spouse applied for administration of the estate, and in turn also die leaving the administration incomplete. If there were no surviving children or none resident in the immediate vicinity, it could take many months to apply for probate and settle the estate.

[31] Five of these individuals did not have age recorded and therefore for analysis, the final number for 1902 is actually 3641.

[32] The jurisdictions areas follows: Ontario - Hamilton, Kingston, London, Guelph, Sudbury, Berlin, Fort William, Port Arthur, Bellville, Peterborough; Manitoba- Brandon, Winnipeg; British Columbia – Burrard. Cowichan, Vancouver, Victoria; New Brunswick – Saint John.

[33] Automated Genealogy is found at: http://automatedgenealogy.com/census/. This data was collected via research assistance provided by Economics MA students at Lakehead University enrolled in Economics 4230: Cliometric Analysis. The first portion of the data (n=1603) was collected in 2011 from the microfilm census while the second portion was collected in 2013 (n=1754) using Automated Genealogy.

[34] Canadian Dictionary of Biography. http://www.biographi.ca/en/bio/howland_henry_stark_13E.html.

[35] It should be noted that the Other Religions category is generally other Protestants such as Quakers, Salvation Army, Unitarians, Congregationalists as well as United Brethern and Disciples. It also includes those individuals listing themselves as Jewish, Latter Day Saints (Mormon), Christian Scientists and Christadelphians. As well those who listed themselves as agnostic or atheist or having

Median wealth was highest for Presbyterians followed by Anglicans and then Methodists with Roman Catholics and Lutherans at the bottom. Roman Catholics were tied with Presbyterians, Methodists and Baptists when it came to the highest median values of real estate. As for financial assets, median values were the greatest for Presbyterians and Lutherans and the lowest for Roman Catholics and Baptists. Presbyterians also ranked highly when it comes to average asset values reporting the third highest average wealth (after Other Religion and Roman Catholics), the second highest average real estate value (after Other Religion) and the third highest average financial asset value (after Roman Catholics and Anglicans).

In terms of other characteristics, Lutherans, Baptists and Other Religions were most likely to be male while Anglicans, Catholics and Other Religions were the most likely to be urban residents. Mennonites, Baptists and Lutherans were the most likely to be employed as farmers. In addition, Mennonites, Baptists and Methodists were the most likely to be Canadian born while Anglicans and Lutherans were the least likely. For those in the probate wealth data with a positive estimate of total earnings, these earnings were highest for Presbyterians, followed by Anglicans, Catholics, Methodists, Other Religions, Baptists, Lutherans and finally Mennonites.

Table 2 provides selected characteristics by religious affiliation for the 1901 census sample data. Overall, these individual household heads reflect a younger age distribution of the population than the wealth data with average age ranging from 45.5 years for Methodists to 42.4 years for Mennonites.[36] The total earnings data set is also characterized by a larger proportion of males than the wealth data with the largest proportion of females in the Catholic designation and the lowest amongst the Mennonites. Methodists and Baptists were the most likely to be Canadian born while Anglicans, Presbyterians and Mennonites the least likely. In terms of total earnings, Presbyterians and Anglicans were the highest earners while Catholics, Lutherans and Mennonites were the lowest earners. Average earnings were naturally higher when only positive total earnings were considered. In addition, when only positive earnings were used, the average earning levels were comparable to those available for the wealth data.

---

no religion are also in this category. Other examples in this category include "Infidel" (John Shuel, Essex County, Will No. 3183) and "Christian".

[36] Average age in the 1902 wealth data was 61.7 years while in the census earnings sample it was 44.3 years.

Overview of Wealth and Earnings Inequality

Table 3 and Figures 2 and 3 present evidence on wealth and total earnings distribution by religious affiliation using several inequality measures.[37] While the individuals in these data sets were undoubtedly all equal in the sight of God, wealth was nevertheless unequally distributed and much more unequally held amongst Catholics, Anglicans and the remaining Other Religions category than Methodists, Baptists and Mennonites. For example, the Gini coefficients for wealth for Other Religions and Roman Catholics were almost identical at 0.768 and 0.766 respectively, while Anglicans came in next at 0.673. The lowest Gini coefficients for wealth were for Methodists at 0.616, Baptists at 0.589 and Mennonites at 0.521.

With respect to total earnings, the highest Gini coefficients were for Anglicans, Presbyterians and the Other Religion category. Catholics and Lutherans had the lowest Gini coefficients for total earnings. Thus it would appear that Roman Catholics were distinguished by relatively high wealth inequality and relatively lower income inequality. Catholic wealth inequality is also high when real estate and financial assets distribution are considered separately (See Figure 3). Catholics had the second highest Gini Coefficient for both real estate (after Other Religions) and financial asset wealth (after Lutherans).

Of course, the fact that wealth was more unequally held amongst Anglicans, Catholics and All Other Religions does not necessarily mean that Presbyterians, Baptists and Methodists were necessarily more egalitarian. A similar point can be made with respect to the distribution of the total earnings by religion, which suggests the most equitable income distributions were amongst Lutherans and Mennonites. Williamson has noted, inequality is not only driven by changes in wealth or income alone but can be a function of other factors such as public policy, institutions, schooling, natural resource endowments and demography.[38] Thus one needs to control for other influences on wealth, income and inequality such as age and employment structure as well as religious affiliation. How much wealth inequality is driven by religion and how much by other factors? This is turn is related to the role of religion and other factors as determinants of wealth and total earnings and requires regression analysis.

---

[37] The Gini coefficient takes on a value between 0 and 1 with 0 as perfect equality and 1 as perfect inequality. The Theil coefficient uses information theory to interpret individuals as events and their wealth share as probability and then proceeds to construct an index. It is an entropy index that measures the lack of diversity by comparing the maximum possible entropy minus the observed entropy.   It ranges from 0 to infinity with larger values being associated with greater degrees of inequality. The coefficient of variation is equal to the standard deviation of a distribution divided by its mean and is a measure of relative dispersion. Larger coefficients of variation are associated with greater inequality. For a discussion of various inequality measures, see Cowell (1977).
[38] Williamson (1996, 1998), Higgins and Williamson (1999).

Determinants of Wealth and Total Earnings

Wealth and total earnings regressions were estimated whereby each dependent variable was regressed on a vector of socio-economic variables including dummy variables for religious affiliation with Anglicans as the omitted category. [39] The regressions were done using STATA 13 as the estimation package and the results are presented in Tables 5 and 7. Both wealth and total earnings were transformed using the inverse hyperbolic sine[40] transform.

The independent variables for each regression are defined in Tables 4 and 6. The variables for the wealth determinants regression were more comprehensive than the total earnings regression. They include age and age squared, gender, being an urban resident, birthplace[41] (with Canadian born as the omitted group), occupational status variables, marital status variables (with individuals with deceased spouses as the omitted group), being literate, region of residence (with the Golden Horseshoe region omitted), the share of wealth held in financial assets (with 1892 as the omitted category) and finally the religious affiliation variables. The wealth regressions were done using Ordinary Least Squares (OLS) and weighted OLS[42] with the inverse of the age-sex specific mortality rate[43] used to weight the data. This procedure places a higher weight on the younger individuals in the data set.

For the total earnings regression, the variables include age and age squared, gender, number of children, birthplace (with Canadian born as the omitted group), farmer as an occupation, marital status variables (with individuals with deceased spouses as the omitted group), region of residence and finally the religious affiliation variables, with Anglicans as the omitted comparison group. Results are estimated for all the household heads as well as for those with only positive total

---

[39] When religion is used as an independent variable in an economic determinant regression, we are also examining whether more liberal religious denominations have greater wealth than more conservative and hierarchical denominations. According to Haan (2005) conservative faiths in 19th century Canada include Anglicans, Baptists, Episcopalians, Lutherans, Mennonites, Methodists and Roman Catholics. Liberal faiths include Congregationalists, Presbyterians, Quakers and Unitarians. The Other Religions category cannot a priori be classified as either liberal or conservative given the presence of Quakers, Salvation Army, Unitarians, and Congregationalists in this variable.

[40] $LN[w_i+(w_i^2+1)^{1/2}]$ The inverse hyperbolic sine transform is a method of dealing with data that has potentially extreme observations. See Burbidge, Magee and Robb (1988).

[41] The probate wealth data also had Germans coded as a birthplace whereas coding for the income data placed it in the all other birthplace category.

[42] Suppose our initial model is $W_i=Z_i'B + v_i$ where W_i is wealth, Z_i is the independent variable, B is the coefficient to be estimated and v_i is the error term. If we define the inverse of the mortality rate as a multiplier M_i, then each observation W_i, Z_i is replicated M_i times. The weighted least squares estimator is obtained by applying OLS to the transformed model:
$M_i^{1/2} W_i = M_i^{1/2} Z_i'B + v_i$.

[43] Bourbeau-Legaré (1982) mortality rates are available for every five years – eg. Males aged 5, 10, 15, 20, 25 etc… For the purposes of assigning the mortality rates, the death rate for males aged 20 was assigned to males in the data set aged 17.6 to 22.5 years, for males aged 25 to those between the ages 22.6 to 27.5, etc.

earnings. Given that the wealth data is marked by nearly 100 percent positive wealth (only two out of 3,641 wealth observations are zero wealth) the use of only positive total earnings represent a more consistent comparison to the wealth data.

The results for the wealth regression show that the significant determinants of wealth include age, being an urban dweller, birthplace, occupational status, literacy, region of residence and religious affiliation.   The results are with some exceptions consistent across both the un-weighted and the weighted regression equation. Wealth peaks at age 69 for the un-weighted regression and 76 years for the weighted regression. With respect to religion, Catholics, Baptists, Methodists and those of All Other Religions generally have less wealth relative to Anglicans. All other things given, relative to Anglicans, Catholics have 13 percent less wealth, Baptists from 22 to 30 percent less wealth and Methodists 25 percent less wealth.

As for total earnings, when only those with positive earnings are considered, the significant determinants of total earnings include age, gender, birthplace, being a farmer, marital status, number of children, region of residence and religion. Total earnings peaked at a much earlier age than wealth with the peak being at age 39 in the non-zero total earnings regression. Interesting enough, being a farmer was a positive and significant determinant of wealth but a negative and significant determinant of total earnings. Whereas being male was a positive and significant determinant of wealth only at the 10 percent level, it was positive and significant at the 5 percent level for earnings. Relative to Anglicans, all the other religious groups have significantly lower total earnings except Baptists and Presbyterians – who were not significantly different. After controlling for confounding factors, Roman Catholic total earnings were 18 percent below the Anglicans while Methodists were 12 percent lower, Lutherans 20 percent lower, Mennonites 76 percent lower and All Other Religions 28 percent lower. As well, relative to Manitoba, total earnings in this data were generally lower in the other regions of the country.

The significance of these determinants of both wealth and total earnings means that age, gender, occupational status, birthplace and religion by affecting the level of wealth and income would ultimately be factors in economic inequality. However, even though wealth and income are correlated with these factors, they would only explain some of the inequality. Variation in wealth and income occurs not only across groups, but also within groups and this is implied by the fact that based on the adjusted r-square values, only a relatively small amount of the variation in wealth and total earnings is explained by the regression determinants. Thus, the next step is to decompose sources of economic inequality by the components that occur between groups and that which occurs within the groups. In our case, the religious groups will be a key focus of the decomposition.

Sources of Inequality

As noted, much of the variation in the wealth is a function of variables other than the personal characteristics in the regression equation. This analysis can be further advanced through the use of the Theil Index of Inequality. An advantage of the Theil Index of Inequality is that as a generalized entropy index - unlike the Gini Coefficient - it naturally lends itself to decomposition exercises that allows one to separate out the within group inequality from the between group inequality and calculate the contribution of each group to total inequality. The Theil Index is constructed as a weighted average of inequality within subgroups plus the inequality between those subgroups. [44]

Table 8 presents Theil coefficients for wealth and total earnings greater than zero by religious affiliation as well as for other variables – age groups, gender, birthplace and occupation. It should be noted that inequality in wealth rises with age as does total earnings inequality. The wealth and total earnings of males are more unequal than that of females. As for birthplace, wealth inequality was highest for the Irish born and lowest for the American born. With respect to total earnings, inequality was highest for the Other Birthplace category and lowest for the Canadian born. Finally, the wealth of non-farmers was more unequally held than farmers. However, the total earnings of farmers were more unequal than non-farmers.

Table 9 presents the inequality arising from within and between group for the categories in Table 8. In the case of wealth, it is within group inequality that is by far the largest contributor to inequality for each of these five broad categories of variables. In all cases, over 90 percent for wealth inequality was attributable to within group inequality with the lowest within group proportion attributable to birthplace and the highest to religion. In the case of total earnings, again over 90 percent of the inequality occurred within rather than between groups for all the categories except age. Thus, age differences appear to have been a more significant contributor to income inequality than differences in religion, birthplace, occupation and gender. While income inequality can therefore be attributed at least in part to age and life cycle effects, wealth inequality in this data cannot. In the case of wealth, differences across gender and birthplace are slightly more important contributors to inequality than age difference. Nevertheless, most inequality is the result of within rather than across group differences.

Of course, a key question is exactly what is the mechanism whereby within group inequality is affected? In particular, how does membership in a specific religion affect the level and ultimately the distribution of wealth and income even after controlling for other factors including gender, birthplace, occupation, and the

---

[44] For discussion and application of the Theil Index and decomposition, see Theil (1967), Bouguignon (1979) and Rosenbloom and Stutes (2005).

population's age distribution. Religion can have direct and indirect effects on decisions such as fertility, education and occupational choice – all of which in turn – can affect wealth accumulation and distribution as well as income. The impact of these types of feedback effects occur over longer periods of time and are particularly challenging to model with cross-section data. In the case of wealth, however, in may be able to more directly measure attitudes towards equality by religion by looking at how decedents treated their children when it came to inheritance.

A factor is that different religious denominations may have different intergenerational wealth transmission processes that affect wealth accumulation over time. The role of religion in bequest behaviour and intergenerational wealth transmission has also been examined in the literature. Religion is a factor in intergenerational transmission of wealth given that biblical texts had numerous passages dealing with inheritance and transmission of property.[45] McGranahan (2000) finds that amongst 17th century English wills, wealthier and more religious individuals with fewer children were more likely to leave charitable bequests. The religiosity of testators in McGranahan's study is measured by the intensity of the religious preamble in the will and by whether God, religion or the church was mentioned elsewhere in the will. Modern studies of bequest behaviour have also found that the probability of leaving a bequest can be driven by religion.[46]

The process of intergenerational wealth transmission can have significant effects on wealth distribution over time. For example, the simple decision as to whether inheritances go to the firstborn son (primogeniture) or whether there is more partible or equal division (multi-geniture) can be important in the distribution of wealth.[47] For the United States during the colonial era, Alston and Schapiro (1984) argue the North was characterized by multi-geniture while the South was marked by primogeniture. Salamon (1980) in an ethnic comparison finds in a study of east-central Illinois that Germans used partible inheritance whereas the Irish were characterized by impartible. Newell (1986) in a study of Butler County, Ohio found that there was a shift in inheritance patterns over time towards more equal division of estates.

For nineteenth century Ontario, the British legal legacy made primogeniture the dominant inheritance practice but over the course of the nineteenth century there was also a move towards greater equality in estate division. Gagan (1976) chronicles three inheritance systems in nineteenth century Peel County Ontario: partible, impartible and partible-impartible. While the first two are self-explanatory, the latter is a system, which combines aspects of the other two whereby the estate

---

[45] For a discussion of inheritances and bequests in the bible, see Hiers (1993-94). He notes that the bible laid out laws for intestate succession and bequests with sons receiving precedence.

[46] See Fink and Redaelli (2005).

[47] For a discussion of inheritance law and its evolution in western societies see Beckert (2004).

was devolved on one but sometimes several heirs (usually the sons) with compensation payments to the siblings.

Some additional evidence that the pattern of estate division may indeed be a factor in differences in inequality across religious groups can be garnered by examining the Gini coefficient by religion for individuals in the wealth data set who both had a will (were testate) and the number of children they had. Figure 4 presents the Gini coefficients by religious group for individuals with a will according to whether they had no children, one child or two or more children. The results suggest that wealth inequality grew between having only one child and two or more children especially for Roman Catholics and Lutherans. The differences were not as pronounced for the other religious denominations. For Roman Catholics in particular, having large families seems accompanied with greater wealth inequality.[48] However, whether the effect is due to some aspect of the intergenerational wealth transmission process or some other resource impact on accumulation by having large numbers of children is not readilyd iscernible.

An effort was made to determine the patterns of estate division for a small portion of the 1902 Ontario data by coding whether the estate division was partible, impartible or partible-impartible[49] for ten counties accounting for 918 decedents.[50] The evidence is provided in Table 10 for decedents who were testate and had with two or more children (n=435). Amongst these 435 decedents, process of bequest behaviour was dominated by some degree of partibility at 61.8 percent for partible and 20.5 percent for partible-impartible. However, there seems to be some substantial variation across the religious affiliations. Lutherans and Mennonites had the highest rate of partible estate division at 93.3 and 85.7 percent respectively while Baptists had the lowest rate. Baptists and Roman Catholics also had the highest rate of impartible estate division while Anglicans appear to have had the highest rate of partible-impartible.

Figures 5A-5C plot the Gini Coefficient for each religious affiliation against the percent for each type of estate division. A linear trend is then added. The results suggest that there is a simple correlation between wealth inequality and the pattern of estate division. Across religious affiliations, more partible behaviour is

---

[48] When these calculations were repeated for earnings inequality it should be noted that the pattern was repeated for Roman Catholics but not so much Lutherans. Roman Catholics with non-zero total earnings and one child had a Gini Coefficient of 0.26 while those with two or more children had a coefficient of 0.35.

[49] For the purposes of coding, partible division was defined as an effort to provide all the children with a separate and non-trivial bequest amount. It naturally included wills with the term "share and share alike" or "equal shares." The partible coding was also assigned where those terms were not used but all the children managed a share of the estate. Impartible was assigned to estates where one child either got all of the estate or approximately three-quarters or more. Partible-impartible the estate was devolved on one but sometimes several heirs (usually the sons but occasionally a daughter) with compensation payments to the siblings.

[50] The ten counties were from the Niagara region and western Ontario. They are: Wentworth, Lincoln, Welland, Haldimand, Norfolk, Elgin, Kent, Essex, Lambton and Waterloo.

associated with a lower Gini Coefficient whereas more impartible or partible-impartible behaviour is associated with greater wealth inequality.

Of course, factors aside from religious affiliation may influence the pattern of bequest behaviour such as the gender of the testator, the composition of the portfolio as well as the number of children. This subset of testate individuals with two or more children with coded bequest behaviour was used to run a set of regressions to see what the impact of religion was on bequest behaviour after controlling for some of these other factors. The results are presented in Table 11 for both unweighted and weighted[51] OLS regressions. Probit estimates are also done and are presented in Table 12.[52] The variables used are defined in Table 4.

The results for the weighted and unweighted regressions parallel each other. As the weighted regressions are more reflective of the age distribution of the general population, they are discussed. Looking at the weighted regressions, the results suggest that males were significantly less likely to bequeath their estates partibly but not significantly more likely to do so using the two other methods. Farmers were less likely to divide their estates partibly but more likely to do so with some degree of impartibility. The greater the size of the estate, the more likely there was partible estate division. In addition, the larger the share of wealth held as financial assets, the greater the probability of partible estate division and the less likely there would be impartible-partible division. As well, the number of children was positively associated with partible estate division (in the unweighted results) and negatively associated with impartible estate division (in both weighted and unweighted results).

After controlling for gender, employment as a farmer, wealth level, the financial asset share of wealth and the number of children, there also emerge some statistically significant relationships between these bequest practices and religious affiliation. The OLS results show that relative to Anglicans, Roman Catholics were significantly less likely to bequeath their estates using the impartible-partible method but did not differ in terms of the other two methods. However, the Probit results show Roman Catholics were significantly less likely to use partible and impartible-partible than Anglicans and significantly more likely to use impartible division.

Presbyterians according to the OLS results were significantly less likely to engage in impartible-partible estate division. However the Probit results suggest

---

[51] As with the previous determinants regression, the inverse of the age-sex mortality rate is used to place a higher rate on younger individuals and make the data somewhat more reflective of the living. Weighting for the OLS regression was done using the analytic weight option while for Probit it was importance weights.

[52] The Probit results generally parallel the OLS ones. OLS was used because Lutherans and Mennonites had no "impartible" estate divisions and therefore were dropped from the Probit regression by Stata. OLS makes use of all the observations – having a religious affiliation that exhibits no impartible estate division is important information.

they were significantly more likely to engage in partible estate division and but less likely to divide their estates impartibly or by the impartible-partible method. Baptists relative to Anglicans were more likely to be impartible and less likely to be impartible-partible. Lutherans and Mennonites were significantly more likely to have partible estate division while Methodists were significantly less likely to use the impartible-partible method. Finally, the Other Religions category was also positively and significantly related to partible estate division and negatively and significantly related to the other two types of estate division.

A final point worth considering in explaining differences in inequality across religions is that perhaps it may not be religion that affects wealth and income but wealth and income affecting religious affiliation and by extension then being correlated with distribution.[53] For example, assume that the distribution of wealth is skewed to the right and there are exactly ten religions. Next, assume that the poorest 10 percent of the distribution join the first religion, the second poorest ten percent join the second religion with the process s continuing until the wealthiest ten percent join the 10th religion. If religious affiliation is a function of wealth or income level with high wealth/income individuals clumping together with like, then one might expect to see high wealth religions with greater inequality than lower wealth religions. However, an examination of the wealth and total earnings data in this paper found that for the most part, all of the major religious affiliations are well represented across the deciles and do not deviate substantially from their average sample share.[54]

Conclusion

Understanding economic inequality in the late nineteenth century is a complicated undertaking. Wealth and total earnings were indeed unequally distributed but the overall picture of inequality is incomplete without taking the impact of religious affiliation into account. In terms of overall wealth distribution without controlling for other factors, wealth was more unequally held amongst Anglicans and Roman Catholics and less unequal amongst Methodists, Baptists and Mennonites. Total earnings, on the other hand were more unequally distributed for Anglicans and Methodists and much less so for Mennonites and Lutherans. However, most of the contribution to inequality was within religious group rather than across religious group. Thus membership in a specific religious affiliation

---

[53] Thanks to Nick Rowe, Carleton University for bringing this point to my attention.

[54] There was more deviation for total earnings as opposed to wealth. In the case of total earnings for all individuals (n=3357), the top 50 percent is distributed as follows: Anglicans, 19%, Catholic, 14.6%, Presbyterian, 20.7%, Baptist, 10.4%, Methodists, 19.2%, Lutherans, 5.9%, All others, 10.2%. For the bottom 50 percent: Anglicans, 17.8%, Catholic, 20.0, Presbyterian, 15.4%, Baptists, 7.8%, Methodists, 20.4%, Lutherans, 6.4% and All Others, 12.2%. In the case of wealth, the top 50 percent were distributed as follows: Anglicans, 18.4%, Catholic, 10.4%, Presbyterian, 30.1%, Baptist, 4.9%, Methodists, 28.6%, Lutherans, 2.0%, All others, 5.6%. The bottom 50 percent were distributed as follows: Anglicans, 17.9%, Catholic, 13.9%, Presbyterian, 24.5%, Baptist, 5.8%, Methodists, 28.5%, Lutherans, 3.1%, All others, 6.3%.

appears to be a contributor to the wealth and income inequality in the nineteenth century but the mechanism operating within a specific religious group is unclear.

Overall wealth inequality in any society is a function of differential changes in wealth across population sub-groups as well as the impact of a range of factors such as public policy, institutions, education, resource endowments and age structure of the population. Differences in wealth and earned income that are apparent across religious affiliations are inevitably also linked to these factors. Yet, personal characteristics such as religion only account for a relatively small proportion of the variation in wealth and income. The question that remains is why after controlling for an assortment of socio-economic factors including age, gender and occupation is the wealth and earned income affected by religious affiliation variables?

One possibility is that there are feed-back effects from religion to these socio-economic factors that need to be taken into account in order to more properly account for the effect of religion. For example, religion can shape fertility as well as educational choices, which can influence wealth accumulation, and by extension distribution. Another factor is that different denominations may have different intergenerational wealth transmission processes that affect accumulation from generation to generation. Differences in emphasis on primogeniture versus multi-geniture across religious affiliations may have also affected nineteenth century wealth distribution.

The evidence in this paper suggests that there were significant differences across religious affiliations when it came to the degree of partible type estate division behaviour. With respect to wealth, it was generally more unequal amongst Anglicans and Roman Catholics relative to Methodists, Lutherans, Mennonites and Presbyterians and these other affiliations were more likely to engage in pure partible type estate behaviour. If estate division is an indication of a religious group's approach to equity and fairness issues, then it could be correlated with the degree of inequality in wealth and earnings. Some of the within group inequality that is evident in this data may be the result of differences in the approach to equity across religious affiliations.

Bibliography

Alston, L.J. and M.O. Schapiro (1984) "Inheritance Laws Across Colonies: Causes and Consequences", Journal of Economic History, 44, 2, 277-287.

Anderson, G. M. (1988) "Mr. Smith and the Preachers: The Economics of Religion in the Wealth of Nations," Journal of Political Economy, 96, 1066-1088.

Atack, J. and F. Bateman (1981), "Egalitarianism, Inequality and Age: The Rural North in 1860," Journal of Economic History, 41: 85-93.

Atkinson, A.B. (1983) The Economics of Inequality, 2nd Edition, Oxford.

Baskerville, P. (2001) "Did Religion Matter? Religion and Wealth in Urban Canada at the Turn of the Twentieth Century: An Exploratory Study," Histoire sociale-Social History, 67: 61-96.

Baskerville, P. (1999) "Women and Investment in Late-nineteenth Century Urban Canada: Victoria and Hamilton, 1880-1901," Canadian Historical Review, 80, 2:191-218.

Beckert, J. (2004) Inherited Wealth. Princeton: Princeton University Press.

Bouguignon, F. (1979) "Decomposable Inequality Measures," Econometrica, vol. 47, 4, 901-920.

Bourbeau, R. and J. Legare (1982) Evolution de la mortalité au Canada et au Québec, 1831-1931. Montréal: Presses de l'université de Montréal.

Brenner, R. and N.M. Kiefer (1981) "The Economics of Diaspora: Discrimination and Occupational Structure," Economic Development and Cultural Change, 29: 517-33.

Burbidge, J.B., L. Magee and A.L. Robb (1988) "Alternative Transformations to Handle Extreme Values of the Dependent Variable," Journal of the American Statisitical Association, 83, 401, 123-127.

Chambers, L. (1997) Married Women and the Law of Property in Victorian Ontario, Osgoode Society for Legal History, Toronto: University of Toronto Press.

Conley, T.G. and D.W. Galenson (1998) "Nativity and Wealth in mid-Nineteenth Century Cities," Journal of Economic History, 58: 467-491.

Cowell, F.A. (1977) Measuring Inequality: Techniques for the Social Sciences. New York, Halsted Press, John Wiley and Sons.

Darroch, A.G. (1983a) "Early Industrialization and Inequality in Toronto,1861-1899" Labour/Le Travailleur, 11: 31-61.

Darroch, A.G. (1983b) "Occupational Structure, assessed Wealth, and homeowning during Toronto's Early Industrialization, 1861-1899" Histoire sociale/Social History, 16: 381-410.

Darroch, G. and L. Soltow (1994) Property and Inequality in Victorian Ontario. Toronto: University of Toronto Press.

Deininger, K. and L. Squire (1997) "Economic growth and income inequality: Reexamining the links," Finance and Development, March: 38-41.

Deininger, K. and L. Squire (1998) "New ways of looking at old issues: Inequality and growth," Journal of Development Economics, 57: 259-287.

Delacroix, J. (1995) "Religion and Economic Action: The Protestant Ethic, the Rise of Capitalism, and the Abuses of Scholarship," Journal of the Scientific Study of Religion, 34,1: 126-127.

Di Matteo, L. (2012) "Land and Inequality in Canada, 1870-1930," Scandinavian Economic History Review, 60:3, 309-334.

Di Matteo (2008) ""Wealth accumulation motives: evidence from the probate records of Ontario, 1892 and 1902," *Cliometrica*, 2, 143-171.

Di Matteo, L. (2007) "The Effect of Religious Denomination on Wealth: Who Were the Truly Blessed? Social Science History, 31,3, 299-341.

Di Matteo, L. (1996) "The Wealth of the Irish in Nineteenth-Century Ontario," Social Science History, 20, 2: 209-234.

Di Matteo, L. (1997) "The Determinants of Wealth and Asset Holding in 19th-Century Canada: Evidence from Microdata," Journal of Economic History, 57, 4: 907-934.

Di Matteo, L. (1998) "Wealth Accumulation and the Life-Cycle in Economic History: Implications of Alternative Approaches to Data," Explorations in Economic History, 35: 296-324.

Di Matteo, L. and P.J. George (1992) "Canadian Wealth Inequality in the Late Nineteenth Century: A Study of Wentworth County, Ontario, 1872-1902," Canadian Historical Review, LXXIII, 4: 453-483.

Di Matteo, L. and J.C.H. Emery (2002) "Wealth and the demand for life insurance: evidence from Ontario, 1892" Explorations in Economic History, 39, 4: 446-469.

Elliot, B.S. (1985) "Sources of bias in nineteenth-century Ontario wills," Histoire sociale-Social History, 18: 125-132.

Emery, G. (1993) The Facts of Life: The Social Construction of Vital Statistics, Ontario 1869-1952. Montreal: McGill-Queen's.

Engerman, S. (2000) "The Protestant Ethic and the Spirit of Capitalism," Project 2001: Significant Works in Twentieth-Century Economic History. http://www.eh.net/booktreviews/library/engerman.shtml.

Ferrie, J. (1999) Yankeys Now: Immigrants in the Antebellum U.S., 1840-1860, New York: Oxford University Press.

Ferrie, J. (1995) "The Entry into the U.S. Labour Market of Antebellum European Immigrants, 1840-1860," Explorations in Economic History, 34: 295-330.

Ferrie, J.P. (1994), The wealth accumulation of Antebellum European immigrants to the U.S., 1840-1860, Journal of Economic History, 54: 1-33.

Fink, G. and S. Redaelli (2005) "Understanding Bequest Motives-An Empirical analysis of Intergenerational Transfers," De Nederlansche Bank, DNB Working Paper, No. 42, May.

Frey, D. (2001) "The Protestant Ethic Thesis," EH.Net Encyclopaedia, http://eh.net/encyclopaedia/?article=frey.protestant.ethic.

Gagan, D. (1976) "The indivisibility of land: A micro-analysis of the system of inheritance in nineteenth century Ontario," Journal of Economic History 36:126-41.

Galbraith, J.K. (1985) The Scotch. Toronto: MacMillan.

Galenson, D.W. (1991) "Economic Opportunity on the Urban Frontier: Nativity, Work and Wealth in Early Chicago," Journal of Economic History, 51: 581-603.

Grant, J.W. (1988) A Profusion of Spires: Religion in Nineteenth-Century Ontario. Toronto: University of Toronto Press.

Green, A.G. and M.C. Urquhart (1987) "New Estimates of Output Growth in Canada: Measurement and Interpretation,"in Perspectives on Canadian Economic History, ed. D. McCalla, Toronto: Copp Clark Pitman Ltd.

Gregson, M.E. (1996), Wealth accumulation and distribution in the Midwest in the late nineteenth century, Explorations in Economic History, 33: 524-538.

Guiso, L. P. Sapienza and L. Zingales (2003) "People's Opium? Religion and Economic Attitudes," Journal of Monetary Economics, 50: 225-82.

Haan, M.D. (2005) "Studying the Impact of Religion on Fertility in Nineteenth-Century Canada," Social Science History, 29:3, 373-411.

Haines, M.R. and A.C. Goodman (1991) "A Home of One's Own: Aging and Homeownership in the United States in the Late Nineteenth and Early Twentieth Centuries," National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 21.

Hardle, W. (1991) Applied Non-Parametric Regression. Cambridge, UK: Cambridge University Press.

Hiers, R.H. (1993-94)"Transfer of Property by Inheritance and Bequest in Biblical Law and Tradition," Journal of Law and Religion, 10, 1, 121-155.

Herscovici, S. (1993) "The Distribution of Wealth in nineteenth Century Boston: Inequality among Natives and Immigrants, 1860" Explorations in Economic History, 30: 321-335.

Herscovici, S. (1998) "Migration and Economic Mobility: Wealth Accumulation and Occupational Change Among Antebellum Migrants and Persisters", Journal of Economic History, 58: 927-956.

Higgins, M. and J.G. Williamson (1999) "Explaining inequality the world round: Cohort size, Kuznets curves and openness." National Bureau of Economic Research, Working Paper 7224.

Houston, C.J. and W.J. Smyth (1980) The Sash Canada Wore: A historical Geography of the Orange Order in Canada. Toronto: University of Toronto Press.

Howell, A. (1880) The Law and Practice as to Probate, Administration and Guardianship in Surrogate Courts. Toronto: Carswell.

Inwood, K. and S. Ingram (2000) "The Impact of Married Women's Property Legislation in Victorian Ontario," The Dalhousie Law Journal, 23: 405-449.

Iannaccone, L.R. (1998) "Introduction to the Economics of Religion," Journal of Economic Literature, XXXVI: 1465-1496.

Jianakoplos, N. A., P. L. Menchik and F. O. Irvine (1989) "Using Panel Data to Assess the Bias in Cross-Sectional Inferences of Life-Cycle Changes in the Level and Composition of Household Wealth," eds. R.E. lipsey and H. S. Tice, The Measurement of Saving, Investment and Wealth, NBER Research Studies in Income and Wealth, vol. 52, Chicago and London: University of Chicago Press.

Katz, M. (1975) The People of Hamilton, Canada West: Family and Class in a Mid 19th Century City. Cambridge: Massachusetts.

Keister, L. (2008) "Conservative Protestants and Wealth: How Religion Perpetuates Asset Poverty," American Journal of Sociology, 113, 5, 1237-1271.

Keister, L. (2008) Faith and Money: How Religion Contributes to Wealth and Poverty. Cambridge University Press.

Keister, L.A. (2003) "Religion and Wealth: The Role of Religious Affiliation and Participation in Early Adult Asset Accumulation," Social Forces, 82: 175-207.

Kennedy, P. (1993) A Guide to Econometrics, 3rd Edition. Cambridge: MIT Press.

King, M.A. (1985) "The Economics of saving: a survey of recent contributions. In: Arrow, K.J., Honkapohja, S.(Eds.), Frontiers in Economics. Oxford: Basil Blackwell, 227-327.

Landes, D.S. (1998) The Wealth and Poverty of Nations. New York: Norton.

Lipford, J.W. and R. D. Tollison (2003) "Religious Participation and Income," Journal of Economic Behaviour and Organization, 51: 249-60.

Maddala, G. (1988) Introduction to Econometrics. New York: MacMillan

McCleary, R.M. and R.J. Barro (2006) "Religion and Economy," Journal of Economic Perspectives, 20: 49-72.

McGranahan, L.M. (2000) "Charity and the Bequest Motive: Evidence from Seventeenth-Century Wills," Journal of Political Economy, 108, 6, 1270-1291.

Meng, R. and J. Sentence (1984) "Religion and the determination of earnings: further results," Canadian Journal of Economics, XVII: 481-488.

Modigliani, F., (1988) "The role of intergenerational transfers and life cycle saving in the accumulation of wealth." Journal of Economic Perspectives, 2: 15-40.

Myers, G. (1972/1914) A History of Canadian Wealth, First Canadian Edition, Toronto: James Lewis and Samuel.

Newell, W.H. (1986) "Inheritance on the Maturing Frontier: Butler County, Ohio, 1803-1865," Long Term Factors in American Economic Growth, eds. S.L. Engerman and R.E. Gallman, University of Chicago Press, 261-304.

Ohlsson, H., Reine, J. and D. Waldenstrom (2008), 'Long-Run Changes in the Concentration of Wealth: An Overview of Recent Findings', in: Personal Wealth From A Global Perspective, ed. J.B. Davies, Oxford: Oxford University Press.

Oppenheimer, V.K. (1974) "The Life Cycle Squeeze: The Interaction of Men's Occupational and Family Life cycles," Demography, 11: 227-245.

Osborne, B.S. (1980) "Wills and Inventories: Records of Life and Death in a Developing society," Families, 19, 235-47.

Perotti, R. (1996) "Growth, income distribution, and democracy: what the data say," Journal of Economic Growth, 1: 149-187.

Pope, C.L. (1989) "Household on the American Frontier: The Distribution of Income and Wealth in Utah 1850-1900," In D.W. Galenson (Ed.), Markets in History: Economic Studies of the Past, Cambridge, UK: Cambridge University Press, 148-189.

Porter. J. (1968/1965) The Vertical Mosaic. An Analysis of Social class and Power in Canada. Toronto: University of Toronto Press.

Rosenbloom, J.L. (2005) "Reexamining the Distribution of Wealth in 1870," NBER Working Paper 11482, http://www.nber.org/papers/w11482.

Salmon, S. (1980) "Ethnic Differences in farm family land transfers," Rural Sociology, 45, 290-308.

Samulesson, K. (1993) Religion and Economic Action: The Protestant Ethic, the rise of
  Capitalism, and the abuses of Scholarship. Toronto: U. of Toronto Press.

Shorrocks, A.F. (1975) "The age-wealth relationship: a cross-section and cohort analysis,"
  Review of Economics and Statistics, LVII: 155-163.

Siddiq, F.K. and J. Gwyn (1991) "The Importance of Probate Inventories in Estimating the
  Distribution of Wealth," Nova Scotia Historical Review, 11: 103-17.

Steckel, R.H. (1990) "Poverty and Prosperity: A Longitudinal Study of Wealth Accumulation,
  1850-1860," Review of Economics and Statistics, 72: 275-285.

Steckel, R.H. and C.M. Moehling (2001) "Rising Inequality: Trends in the Distribution of
  Wealth in Industrializing New England," Journal of Economic History, 61: 160-183.

Stulz, R.M. (and R. Williamson (2003) "Culture, openess, and finance." Journal of Financial
  Economics, 70: 313-49.

Theil, H. (1967) Economics and Information Theory. Chicago: Rand McNally and Company.

Table 1

Selected Statistics By Religious Affiliation for 1902 Probated Decedents

	Anglicans	Catholics	Presbyterians	Methodists	Baptists	Lutherans	Mennonites	Other Religions	ALL
N	661	442	995	1041	196	93	21	192	3641
Percent distribution by religion	18.2	12.1	27.3	28.6	5.4	2.6	1.0	5.3	NA
Percent Male	67.8	70.8	70.1	70.5	71.4	79.6	66.7	72.4	70.3
Average Age (years)	62.2	59.0	62.3	61.5	61.8	65.1	59.5	62.9	61.7
Percent Urban	57.3	49.1	45.1	41.3	38.8	37.6	4.8	50.5	46.3
Percent Employed as Farmers	32.8	39.1	42.1	44.5	49.5	45.2	71.4	34.9	41.0
Average Number of Children	2.6	3.0	2.8	2.9	2.8	3.6	3.4	3.4	2.9
Percent Canadian Born	41.3	55.7	46.1	61.0	66.8	20.4	90.5	47.4	51.4
Percent Married	55.8	55.7	55.7	61.3	62.2	65.6	61.9	60.9	58.2
Percent Single	13.5	17.7	15.1	10.3	13.8	7.5	19.1	12.0	13.3
Average Wealth($)	6629.24	7311.36	6895.99	5341.94	4373.736	4794.74	4678.54	8470.51	6334.46
Median Wealth ($)	2821.00	2192.54	3179.51	2752.00	2401.8	2000.00	2689.68	2500.00	2750.00
Average Real Estate($)	2508.36	2526.33	2634.02	2470.51	2251.69	1576.52	2569.05	3541.16	2551.25
Median Real Estate($)	900.00	1000.00	1000.00	1000.00	1000.00	600.00	700.00	750.00	1000.00
Average Financial Assets($)	3515.97	4256.15	3371.94	2379.79	1662.25	2759.75	1533.09	3183.20	3093.53
Median Financial Assets ($)	500.00	327.50	704.39	469.25	200.00	650.00	490.00	560.00	500.00
Average Financial Asset Share of Wealth (%)	42.06	38.36	43.88	41.13	35.09	53.30	45.66	44.80	41.92
Average Total Earnings ($) - All	132.77	105.83	116.42	74.78	50.34	45.82	16.67	93.54	99.05
Proportion with Total Earnings > 0	0.18	0.20	0.14	0.15	0.12	0.19	0.10	0.20	0.16
Average Total Earnings ($) - For > 0 only	750.07	519.72	804.42	483.50	411.13	236.72	175.00	472.61	607.15

Table 2

Selected Statistics By Religious Affliation for 1901 Census Sample

	Anglicans	Catholics	Presbyterians	Methodists	Baptists	Lutherans	Mennonites	Other Religions	All
N	618	579	607	665	305	206	5	368	3357
Percent distribution by religion	18.4	17.2	18.1	19.8	9.1	6.1	0.0	11.0	NA
Percent Male	90.0	88.9	90.4	90.7	93.8	93.7	100.0	93.5	91.0
Average Age (years)	44.7	43.8	44.4	45.5	44.1	43.4	42.4	42.6	44.3
Percent Employed as Farmers	12.5	11.2	11.2	15.8	8.5	7.3	20.0	8.2	11.5
Average Number of Children	2.1	2.5	2.1	2.2	2.5	2.5	1.4	1.6	2.2
Percent Canadian Born	37.5	57.3	55.7	68.3	62.3	32.0	40.0	35.3	52.0
Percent Married	78.2	79.6	81.9	85.4	88.2	85.4	100.0	76.1	81.7
Percent Single	10.2	10.9	9.1	6.3	5.6	9.7	0.0	17.9	9.7
Average Total Earnings ($) - All	530.50	360.57	584.09	443.34	503.78	411.86	242.00	470.32	476.87
Proportion with Total Earnings > 0	0.67	0.66	0.67	0.66	0.78	0.84	0.81	0.75	0.70
Average Total Earnings ($) - For > 0 only	788.09	547.95	877.59	668.53	642.89	490.43	302.50	629.38	685.01

Table 3
Wealth Distribution Statistics by Religious Affiliation

1902 Probated Decedents

		Anglicans	Catholics	Presbyterians	Methodists	Baptists	Lutherans	Mennonites	Other Religions	ALL
Percent Share	Wealth share of Top 10%	55.2	68.1	53.4	48.1	45.5	52.8	43.5	68.6	55.2
	Average Wealth($)	6629.24	7311.36	6895.99	5341.94	4373.74	4794.74	4678.54	8470.51	6334.46
	Median Wealth($)	2821.00	2192.54	3179.51	2752.00	2401.8	2000.00	2689.68	2500.00	2750.00
All Decedents	Gini Coefficient	0.673	0.766	0.648	0.616	0.589	0.652	0.521	0.768	0.670
	Coefficient of Variation	2.193	7.912	2.361	2.008	2.007	1.894	1.067	3.476	3.873
	Theil Coefficient	0.956	2.171	0.927	0.790	0.754	0.852	0.459	1.518	1.119
Males Only	Gini Coefficient	0.657	0.757	0.627	0.591	0.555	0.633	0.464	0.756	0.653
	Coefficient of Variation	2.153	7.832	2.204	1.909	1.869	1.750	0.915	3.142	3.768
	Theil Coefficient	0.921	2.251	0.860	0.733	0.686	0.782	0.356	1.426	1.082

1901 Census Sample

		Anglicans	Catholics	Presbyterians	Methodists	Baptists	Lutherans	Mennonites	Other Religions	ALL
Percent Share	Income share of Top 10%*	33.9	27.8	30.5	30.8	28.8	25.9	24.8	35.8	32.0
	Average Total Earnings ($)*	788.09	547.95	877.59	668.53	642.89	490.43	302.50	629.38	685.01
	Median Total Earnings ($)*	600.00	440.00	600.00	500.00	500.00	400.00	255.00	452.50	500.00
All Decedents*	Gini Coefficient	0.421	0.336	0.381	0.381	0.357	0.323	0.333	0.466	0.399
	Coefficient of Variation	1.065	1.049	0.938	1.066	0.767	0.795	0.714	1.739	1.115
	Theil Coefficient	0.342	0.247	0.275	0.299	0.226	0.204	0.186	0.510	0.322
Males Only*	Gini Coefficient	0.416	0.333	0.378	0.378	0.355	0.311	0.333	0.464	0.395
	Coefficient of Variation	1.051	1.043	0.930	1.060	0.764	0.776	0.714	1.733	1.107
	Theil Coefficient	0.333	0.244	0.930	0.295	0.224	0.190	0.186	0.508	0.317

* For individuals with non-zero total earnings

Table 4
Wealth Regression Variables
n=3641

Variable	*Definition*
WEALTH	Wealth ($)
AGE	Age at death in years.
AGESQ	Age at death squared.
URB[a]	1 if urban resident, 0 otherwise.
SEX	1 if male, 0 otherwise
ENGLISH	1 if born in England or Wales, 0 otherwise.
IRISH	1 if born in Ireland, 0 otherwise.
SCOT	1 if born in Scotland, 0 otherwise.
GERMAN	1 if born in Germany, 0 otherwise.
USA	1 if born in United States, 0 otherwise.
CANBORN	1 if born in Canada (Ont, Que or Maritimes), 0 otherwise.
OTHBRTH	1 if born in any other place, 0 otherwise.
OCC1[b]	1 if Katz Category I, 0 otherwise
OCC2F	1 if Katz Category II and a farmer, 0 otherwise
OCC2NF	1 if Katz Category II and a non-farmer, 0 otherwise
OCC3	1 if Katz Category III, 0 otherwise
OCC4	1 if Katz Category IV, 0 otherwise
OCC5	1 if Katz Category V, 0 otherwise
OCC6	1 if Katz Category VI, 0 otherwise
MARRIED	1 if married, 0 otherwise
MARSPD	1 if married but spouse deceased, 0 otherwise
SINGLE	1 if single, 0 otherwise
PRESB	1 if Presbyterian, 0 otherwise
ANGLICAN	1 if Church of England, 0 otherwise
CATHOLIC	1 if Roman Catholic, 0 otherwise
BAPTIST	1 if Baptist, 0 otherwise
METH	1 if Methodist, 0 otherwise
LUTHERAN	1 if Lutheran 0 otherwise.
MENNONITE	1 if Mennonite, 0 otherwise.
OTHREL	1 if any other religion, 0 otherwise
LITERATE	1 if decedent could read and write, 0 otherwise
NORTHERN	1 if Northern Ontario, 0 otherwise
WESTERN[d]	1 if Western Ontario, 0 otherwise
HURONIA	1 if Huronia, 0 otherwise.
EASTERN	1 if Eastern Ontario, 0 otherwise
GOLDEN	1 if Golden Horseshoe, 0 otherwise.
MORT[c]	Age-sex specific mortality rate (deaths per 1000)
CHILDN	Number of children reported.
CHIL	1 if decedent had children, 0 otherwise.
FW	Ratio of financial assets to total wealth.

NOTES TO TABLE 4

a Urban is defined as a resident of a city, town or village.
b These are socio-economic occupational status categories with OCC1 as the highest, OCC5 as the lowest and OCC6 as an unclassifiable (See Katz, 1975, 343-348). Category OCC1, for example contains lawyers, merchants, doctors, etc...Categories OCC2F includes farmers while OCC2NF contains minor government officials and small businessmen. Category OCC3 includes skilled tradesmen such as blacksmiths while OCC4 contains barbers and restaurant workers. Category OCC5 is mainly unskilled labour while OCC6 is unclassifiable containing mainly women.
c Deaths per thousand. The age-sex specific mortality rates were assigned based on figures obtained from Bourgeau and Legare (1982). The inverse of the age-sex mortality rate can be used as a multiplier. For example, if there is a 25 year old with an age-sex specific mortality rate of 5 deaths per 1000, then the multiplier figure says that there are 200 such individuals.
d The counties in each regional dummy are as follows: NORTHERN- Renfrew, Districts of Muskoka and Parry Sound, Sudbury-Nipissing, Algoma, Manitoulin, Kenora and Rainy River and Thunder Bay; GOLDEN HORSESHOE- Wentworth, Lincoln, Welland, Peel, Halton, York; WESTERN- Haldimand, Norfolk, Elgin, Kent, Essex, Lambton, Middlesex, Oxford, Brant; HURONIA-Waterloo, Perth, Huron, Wellington, Bruce, Grey, Simcoe, Dufferin; EASTERN- Ontario, Victoria and Haliburton, Durham and Northumberland, Peterborough, Hastings, Prince Edward Lennox and Addington, Frontenac, Leeds-Grenville, Dundas-Glengarry-Stormont, Prescott and Russell, Carleton, Lanark.

Table 5
Wealth Regression Results

Dependent Variable: log(wealth+(wealth*wealth+1)^0.5)

	Unweighted Coefficient	t-statistic*,**	Weighted Coefficient	t-statistic
AGE	0.0828	**10.56**	0.0755	**10.32**
AGESQ	-0.0006	**-9.05**	-0.0005	**-7.25**
URB	0.1801	**3.45**	0.1519	**2.76**
SEX	0.3739	1.40	0.3767	*1.70*
ENGLISH	-0.1626	**-2.52**	-0.2160	**-2.80**
IRISH	-0.0644	-0.99	-0.1336	-1.55
SCOT	-0.0131	-0.17	-0.1117	-1.04
GERMAN	-0.1894	-1.26	-0.3429	*-1.67*
USA	-0.1604	-0.66	0.2302	0.89
OTHBRTH	0.3282	1.20	0.3043	1.05
OCC1	1.8603	**12.43**	1.9460	**13.45**
OCC2F	1.4815	**10.44**	1.3988	**10.67**
OCC2NF	1.3727	**8.93**	1.1724	**8.50**
OCC3	0.7278	**4.72**	0.6157	**4.35**
OCC4	0.2512	1.29	0.0850	0.51
OCC6	0.8678	**2.93**	0.8053	**3.23**
MARRIED	0.0515	0.96	-0.1207	*-1.81*
SINGLE	0.1055	1.32	-0.2217	**-2.69**
PRESB	0.0679	0.99	-0.0478	-0.70
CATHOLIC	-0.0896	-1.13	-0.1319	*-1.70*
BAPTIST	-0.2200	**-2.15**	-0.2965	**-2.85**
METH	-0.0396	-0.63	-0.2505	**-3.87**
LUTHERAN	-0.0961	-0.55	-0.2462	-1.38
MENNONITE	0.1150	0.42	0.3339	1.31
OTHREL	-0.2207	**-2.16**	-0.5776	**-5.26**
LITERATE	0.4746	**5.68**	0.2020	*1.93*
NORTHERN	-0.4175	**-3.47**	-0.0920	-0.89
WESTERN	-0.0956	-1.55	-0.1019	-1.61
HURONIA	-0.0957	-1.51	0.0550	0.83
EASTERN	-0.0381	-0.62	0.0443	0.71
CHILDN	0.0581	**6.66**	0.0309	**2.93**
FW	0.0225	0.40	-0.0203	-0.36
Constant	3.7895	**9.61**	4.6419	**13.66**
n	3641		3641	
Adjusted r squared	0.2334		0.2326	
F(32, 3608)	35.63		43.28	

*Bold denotes significant at 5% level
**Bold italic denotes significant at 10% level

Table 6
Total Earnings Determinants Regression Variables
n=3357

TOTEARNINGS	Total earnings ($)
AGE	Age at death in years.
AGESQ	Age at death squared.
SEX	1 if male, 0 otherwise
ENGLISH	1 if born in England or Wales, 0 otherwise.
IRISH	1 if born in Ireland, 0 otherwise.
SCOT	1 if born in Scotland, 0 otherwise.
USA	1 if born in United States, 0 otherwise.
OTHBRTH	1 if born in Canada (Ont, Que or Maritimes), 0 otherwise.
FARMER	1 if a farmer, 0 otherwise.
MARRIED	1 if married, 0 otherwise
MARSPD	1 if married but spouse deceased, 0 otherwise
SINGLE	1 if single, 0 otherwise
ANGLICAN	1 if Church of England, 0 otherwise
PRESB	1 if Presbyterian, 0 otherwise
CATHOLIC	1 if Roman Catholic, 0 otherwise
BAPTIST	1 if Baptist, 0 otherwise
METH	1 if Methodist, 0 otherwise
LUTHERAN	1 if Lutheran, 0 otherwise.
MENNONITE	1 if Mennonite, 0 otherwise
OTHREL	1 if any other religion, 0 otherwise
CHILDN	Number of children reported.
ONTARIO	1 if resident of Ontario, 0 otherwise.
MANITOBA	1 if resident of Manitoba, 0 otherwise
BC	1 if resident of British Columbia, 0 otherwise
NB	1 if resident of New Brunswick, 0 otherwise.

Table 7
Total Earnings Dispersion Regression Results

Dependent Variable: log(earnings+(earnings*earnings+1)^0.5)

	All Household Heads		Household Heads with non-zero total earnings only.	
	Coefficient	*t-statistic *,***	*Coefficient*	*t-statistic *,***
AGE	0.0641	**2.78**	0.0393	**5.72**
AGESQ	-0.0012	**-5.03**	-0.0005	**-6.21**
SEX	2.8100	**12.24**	0.4006	**4.94**
ENGLISH	0.3696	**2.45**	-0.0733	***-1.86***
IRISH	0.0182	0.08	-0.0846	-1.28
SCOT	0.0294	0.13	-0.0093	-0.15
USABORN	0.4306	1.48	0.1105	1.53
OTHBORN	0.0336	0.21	-0.2701	**-6.59**
FARMER	-2.2529	**-14.20**	-0.1896	**-3.61**
MARRIED	0.5050	**2.10**	0.3449	**4.49**
SINGLE	0.1401	0.51	0.0604	0.71
PRESB	0.0968	0.56	0.0592	1.27
CATHOLIC	-0.0641	-0.37	-0.1834	**-3.88**
BAPTIST	0.6796	**3.31**	-0.0701	-1.34
METH	0.1127	0.68	-0.1161	**-2.62**
LUTHERAN	0.8215	**3.33**	-0.1970	**-3.23**
MENNONITE	0.0036	0.00	-0.7573	**-2.40**
OTHREL	-0.0145	-0.07	-0.2830	**-5.53**
CHILDN	-0.0079	-0.30	0.0250	**3.56**
ONTARIO	-0.3039	**-2.13**	-0.5025	**-13.43**
BC	0.4758	**3.02**	-0.1121	**-2.80**
NB	-0.8384	**-3.59**	-0.7129	**-11.37**
Constant	1.6957	**2.94**	5.9019	**33.92**
n***	3350		2332	
Adj r-squared	0.2254		0.2272	
F(22, 3327)	45.29			
F(22, 2309)			32.14	

* **Bold** denotes significant at 5% level
** ***Bold Italic*** denotes significant at 10% level

*** Seven individuals did not have age recorded and were omitted from the regression.

Table 8
Theil Coefficients by Sub-Groups

		Wealth	Total Earnings>0
Religion	Anglicans	0.956	0.342
	Catholics	2.171	0.247
	Presbyterians	0.927	0.275
	Methodists	0.790	0.299
	Baptists	0.754	0.226
	Lutherans	0.852	0.204
	Mennonites	0.459	0.186
	Other Religions	1.518	0.510
Age	Age < 40	0.923	0.224
	Age 40 to 59	0.905	0.393
	Age 60 Plus	1.148	0.261
Gender	Male	1.082	0.317
	Female	0.950	0.191
Birthplace	England & Wales	0.985	0.279
	Ireland	1.714	0.316
	Scotland	0.807	0.362
	USA	0.653	0.383
	Canada	0.956	0.262
	Germany	0.743	
	Other Birthplace*	0.941	0.487
Occupation	Farmer	0.482	0.389
	Non-Farmer	1.470	0.317

*Includes Germany for Total Earnings

Table 9
Inequality Arising from Within and Between Group Inequality

	Wealth		Total Earnings > 0	
	Within	**Between**	**Within**	**Between**
Religion	1.106	0.013	0.306	0.016
Age	1.081	0.038	0.248	0.074
Gender	1.062	0.057	0.315	0.006
Birthplace	1.038	0.081	0.316	0.006
Occupation	1.103	0.015	0.322	0.000

As a Percentage of Total Inequality

	Wealth		Total Earnings > 0	
	Within	**Between**	**Within**	**Between**
Religion	98.8	1.2	95.0	5.0
Age	96.6	3.4	77.0	23.0
Gender	94.9	5.1	98.1	1.9
Birthplace	92.7	7.3	98.3	1.7
Occupation	98.6	1.4	100.0	0.0

Table 10
Estate Partibility by Religion for Selected Testate Probated Decedents withTwo or More Living Children, Ontario, 1902

Percentage Share

	Partible	Impartible	Partible-Impartible	Other*	N	Gini
Anglicans	57.1	7.1	28.6	7.1	56	0.673
Roman Catholics	56.7	10.0	21.7	11.7	60.0	0.766
Presbyterians	64.8	8.0	13.6	13.6	88.0	0.648
Baptists	43.6	17.9	25.6	12.8	39.0	0.616
Methodists	59.5	5.6	26.2	8.7	126.0	0.589
Lutherans	93.3	0.0	3.3	3.3	30.0	0.652
Mennonites	85.7	0.0	0.0	14.3	7.0	0.521
All Other Religion	69.0	3.4	13.8	13.8	29.0	0.768
All	61.8	7.4	20.5	10.3	435.0	0.662

*Intestate, all to surviving spouse, other relatives, or not classifiable

Table 11
OLS Regression Results: Determinants of Estate Division for Selected Testate Probated Decedents with Two or More Children

Unweighted Results

	Partible		Impartible		Impartible/Partible	
	Coefficient	t *,**	Coefficient	t	Coefficient	t
SEX	-0.164611	**-2.81**	-0.012650	-0.37	0.049947	1.02
FARMER (OCC2F)	-0.154856	**-2.98**	0.018520	0.60	0.225036	**5.20**
WEALTH	0.000003	**2.65**	0.000000	-0.50	-0.000001	-1.23
FW	0.327825	**5.07**	0.001583	0.04	-0.230264	**-4.27**
CHILDN	0.026149	**2.55**	-0.020270	**-3.34**	0.012341	1.44
CATHOLIC	0.052612	0.64	0.034880	0.72	-0.117509	***-1.73***
PRESB	0.080024	1.07	0.001116	0.03	-0.128082	***-2.05***
BAPTIST	-0.052190	-0.57	0.099007	*1.83*	-0.077562	-1.02
METH	0.088811	1.26	-0.018568	-0.45	-0.074264	-1.26
LUTHERAN	0.356848	**3.58**	-0.065018	-1.10	-0.240968	**-2.90**
MENNONITE	0.374050	**2.12**	-0.095585	-0.92	-0.350930	**-2.38**
OTHREL	0.205938	**2.05**	-0.044165	-0.74	-0.203474	**-2.43**
Constant	0.491901	**5.93**	0.164913	**3.36**	0.184147	**2.66**
N	435		435		435.000000	
Adj R2	0.1949		0.0258		0.189300	
F-STATISTIC (12,422)	9.76		1.96		9.440000	

*Bold denotes significant at 5% level
**Bold italic denotes significant at 10% level

Weighted Results

	Partible		Impartible		Impartible/Partible	
	Coefficient	t*,**	Coefficient	t	Coefficient	t
SEX	-0.201447	**-3.56**	-0.016264	-0.55	0.036764	0.78
FARMER (OCC2F)	-0.165726	**-3.18**	0.052440	*1.92*	0.214859	**4.97**
WEALTH	0.000003	**3.33**	0.000000	-0.78	-0.000001	-0.65
FW	0.347363	**5.27**	-0.011349	-0.33	-0.169554	**-3.11**
CHILDN	0.010699	1.02	-0.022174	**-4.02**	0.011813	1.36
CATHOLIC	-0.104841	-1.28	0.057498	1.34	-0.092156	-1.36
PRESB	0.064593	0.84	-0.017584	-0.44	-0.149929	**-2.36**
BAPTIST	-0.031420	-0.32	0.099676	*1.94*	-0.048194	-0.59
METH	-0.002897	-0.04	0.003541	0.10	-0.071472	-1.23
LUTHERAN	0.384037	**3.48**	-0.044240	-0.76	-0.252182	**-2.76**
MENNONITE	0.187666	1.04	-0.092400	-0.98	-0.372292	**-2.50**
OTHREL	0.159011	1.56	-0.036947	-0.69	-0.145483	***-1.73***
Constant	0.630310	**7.38**	0.133591	**2.98**	0.149710	**2.12**
N	435		435		435	
R2	0.2376		0.0410		0.1477	
F-STATISTIC (12,422)	12.27		2.55		7.27	

*Bold denotes significant at 5% level
**Bold italic denotes significant at 10% level

Table 12
Probit Regression Results: Determinants of Estate Division for Selected Testate Probated Decedents with Two or More Children

Unweighted Results

	Partible			Impartible			Impartible/Partible		
	Coefficient	z*,**		Coefficient	z		Coefficient	z	
SEX	-0.578741		**-2.96**	-0.085387		-0.32	0.388763		1.38
FARMER (OCC2F)	-0.464094		**-2.80**	0.144168		0.61	0.980138		**4.53**
WEALTH	0.000024		**2.86**	-0.000004		-0.53	-0.000022		*-1.65*
FW	1.028550		**4.63**	0.039564		0.13	-1.290159		**-4.02**
CHILDN	0.078338		**2.33**	-0.199753		**-3.41**	0.061583		1.60
CATHOLIC	0.219467		0.85	0.314952		0.88	-0.604830		**-2.03**
PRESB	0.234817		0.98	0.023757		0.07	-0.614513		**-2.15**
BAPTIST	-0.073550		-0.25	0.554708		1.52	-0.460638		-1.41
METH	0.275398		1.23	-0.142968		-0.43	-0.380175		-1.53
LUTHERAN	1.517110		**3.57**				-1.604886		**-2.85**
MENNONITE	1.289474		*1.85*				0.000000		
OTHREL	0.664706		**2.04**	-0.371370		-0.70	-0.943481		**-2.43**
Constant	-0.070309		-0.26	-0.706950		*-1.92*	-1.136311		**-3.45**
N	435			398			428		
Pseudo R2	0.1960			0.0952			0.2551		

*Bold denotes significant at 5% level
**Bold italic denotes significant at 10% level

Weighted Results

	Partible			Impartible			Impartible/Partible		
	Coefficient	z*,**		Coefficient	z		Coefficient	z	
SEX	-0.774333		**-18.62**	-0.238486		**-3.27**	0.334572		**5.89**
FARMER (OCC2F)	-0.475775		**-13.33**	0.582695		**9.38**	0.952163		**20.62**
WEALTH	0.000035		**15.68**	-0.000009		**-3.48**	-0.000015		**-5.43**
FW	1.170332		**23.22**	-0.167284		**-2.10**	-1.159081		**-15.96**
CHILDN	0.011807		1.58	-0.333340		**-17.94**	0.072103		**8.24**
CATHOLIC	-0.188222		**-3.24**	0.637885		**6.78**	-0.607875		**-9.14**
PRESB	0.182122		**3.24**	-0.238800		**-2.35**	-0.888099		**-12.84**
BAPTIST	0.027103		0.39	0.762915		**7.60**	-0.428728		**-5.70**
METH	0.054148		1.06	-0.004685		-0.05	-0.480565		**-8.40**
LUTHERAN	1.871979		**15.00**				-1.801590		**-12.38**
MENNONITE	0.547631		**4.30**						
OTHREL	0.584886		**7.85**	-0.444886		**-3.14**	-0.864903		**-9.87**
Constant	0.399925		**6.34**	-0.593999		**-5.66**	-1.192509		**-15.90**
N	435			398			428		
Pseudo R2	0.2416			0.1772			0.2196		

*Bold denotes significant at 5% level
**Bold italic denotes significant at 10% level
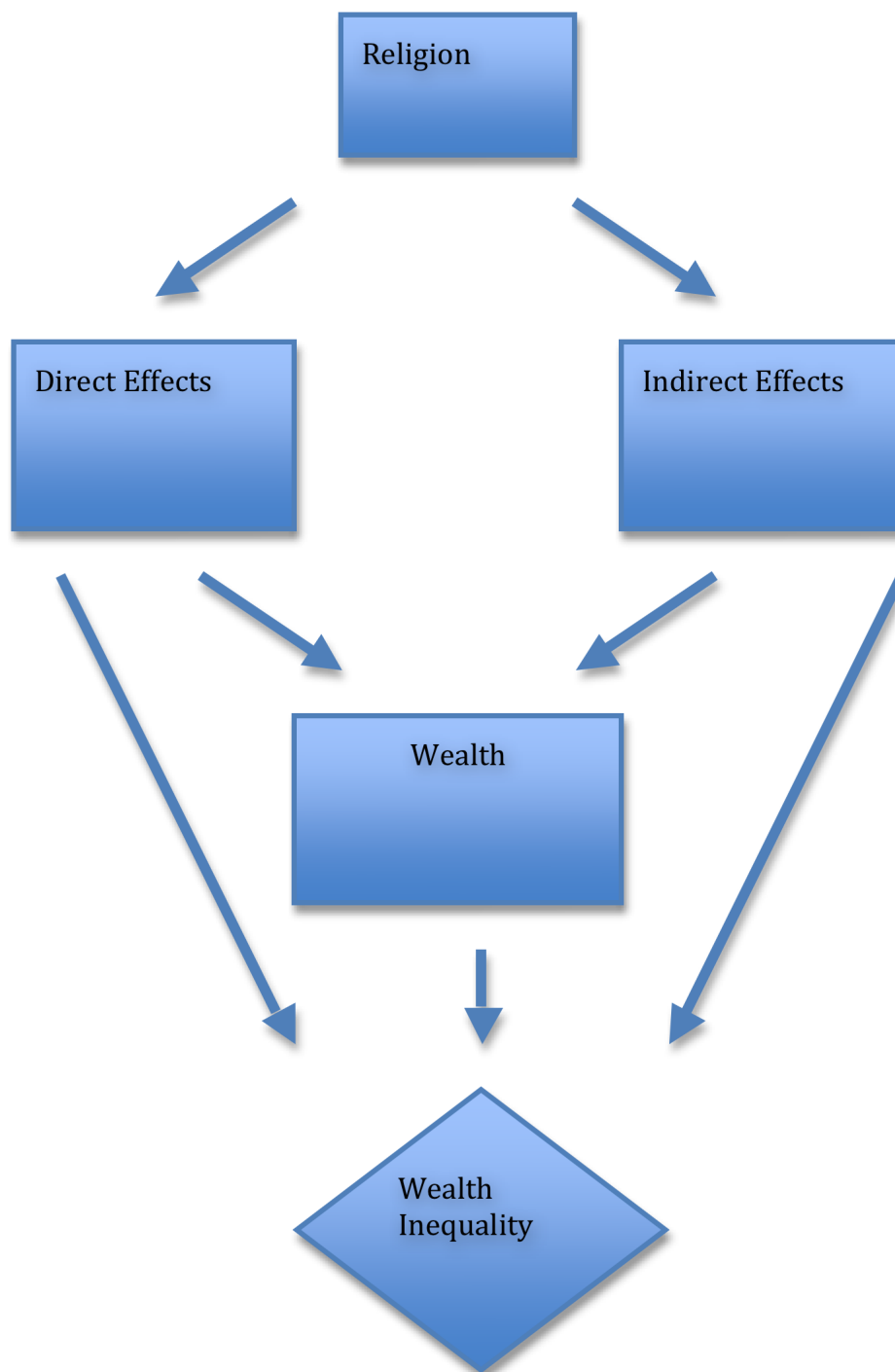
Figure 1
Religion, Wealth & Inequality

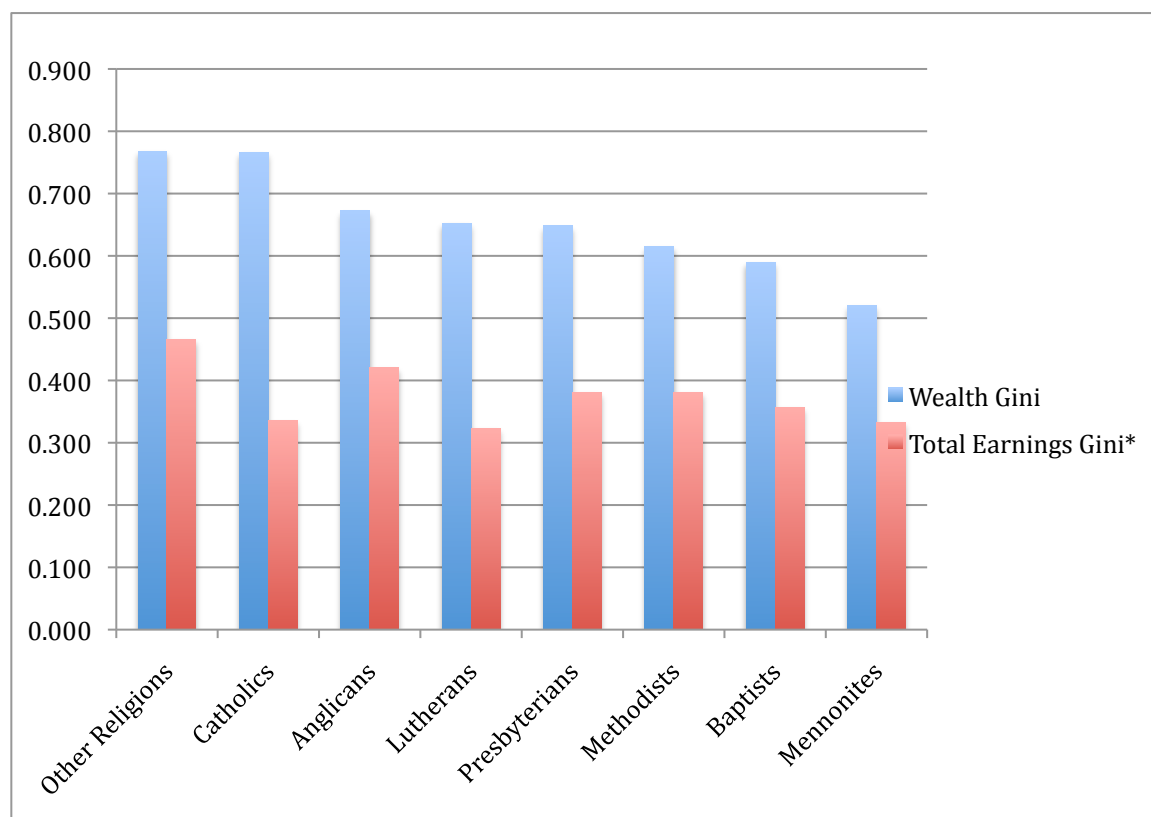**Figure 2: Wealth and Total Earning Gini Coefficients By Religion Ranked by Weath Gini**

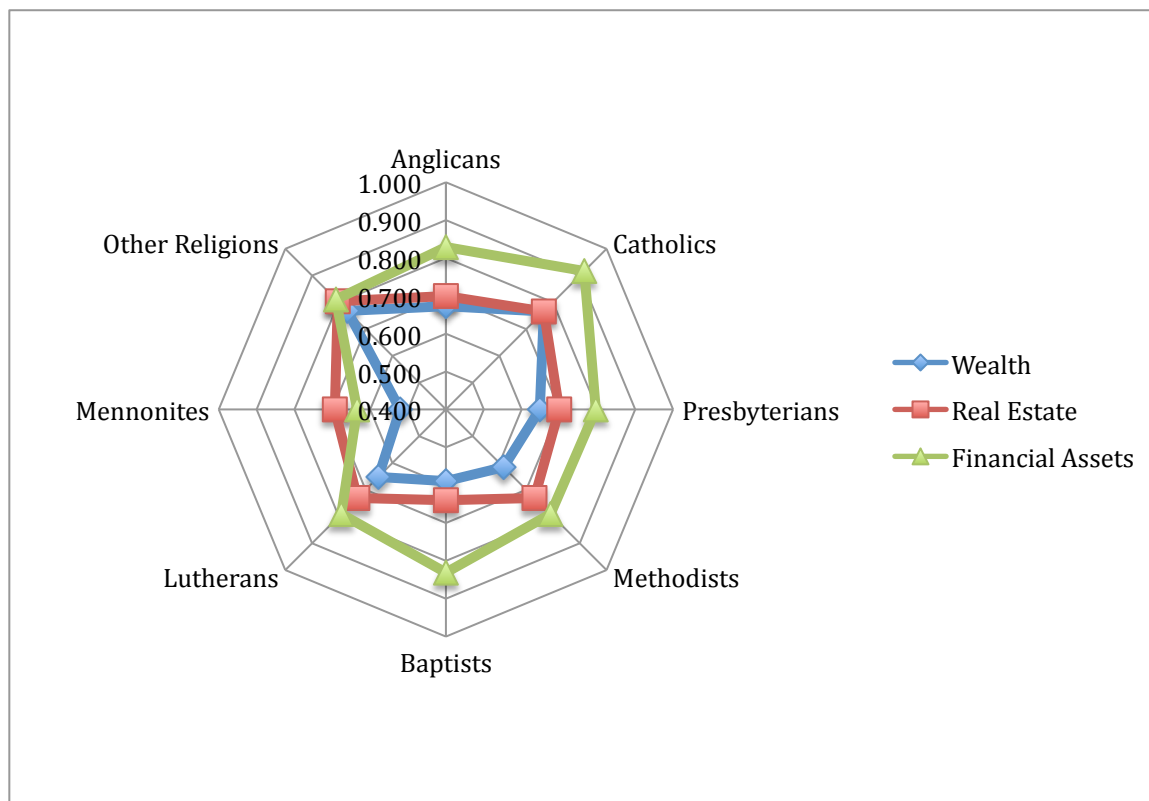**Figure 3: Gini Coefficients for Wealth by Religion - All Decedents**

Figure 4: Gini Coefficients for Wealth for Testate Decedents by Religion and Number of Children
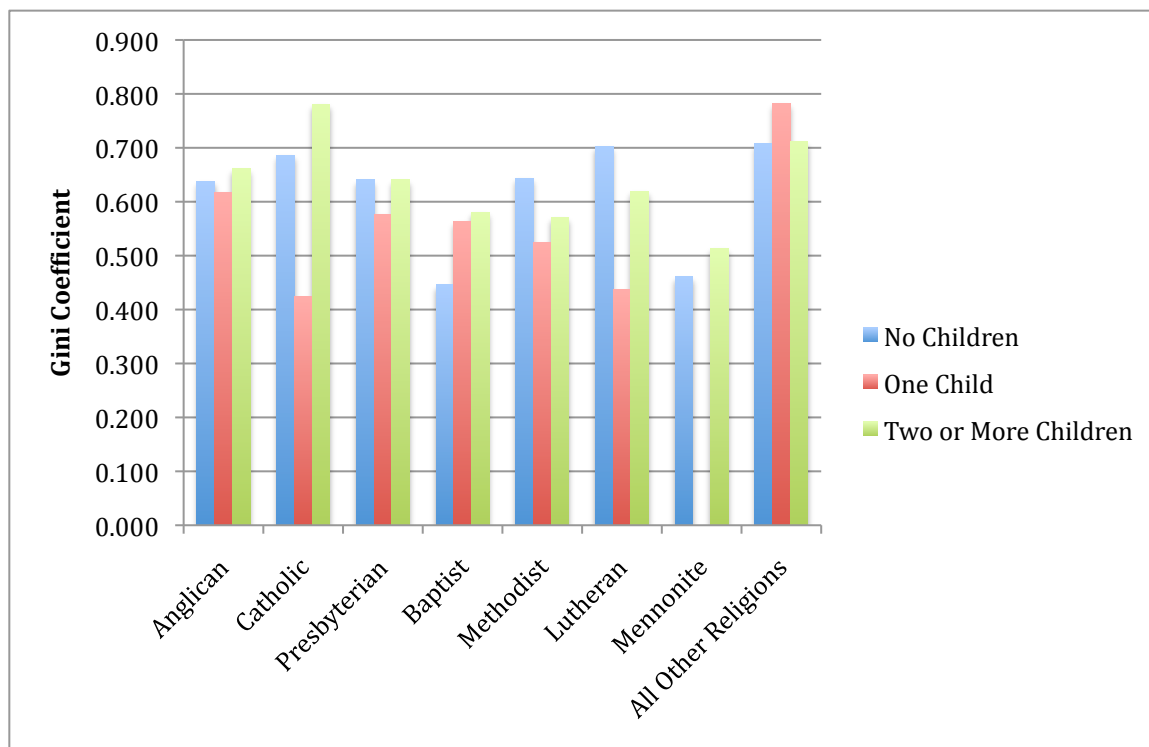
Figure 5: Gini Coefficients for Wealth versus Estate Division by Religion for Testate Probated Decedents with Two or More Children

5A: Percent Partible Versus Gini

5B: Percent Impartible Versus Gini

5C: Percent Partible-Impartible Versus Gini