

# Charitable donations in Taiwan: A revisit to the effect of religiosity

Tungshan Chou & Hiewu Su

National Dong-Hwa University, Taiwan, R.O.C.

## ***Abstract***

*This study examines charitable donations outside the context of religious institutions and concentrated on charities managed and operated by both religious and non-religious Taiwanese charity organizations. The long-time issue of religiosity and age is revisited using a large scale 2009 Taiwan Social Change Survey data by means of logistic regression analysis. The results clearly indicate that both religiosity and age are major determinants of the actual donating behavior, even after controlling for education and income. The universality of the relationships is consistent with factors identified by Azzi and Ehrenberg's (1975) salvation motivation assumption. Although it is beyond dispute that the religious are thankfully more inclined to do it willingly, the decision process may be part of a conscious process of cognitive reasoning associated with what is a recurring moral dilemma – if and when to give and how much?*

## **Introduction:**

Charitable giving is a subject that has been much discussed and researched in a western context by economists and social scientists over the past fifty years or so. Laurence Iannaccone, in his seminal paper “Introduction to the Economics of Religion” (1998) discusses the role of religion in the social and economic sphere within the context of one of the world's top giving nations, the United States. He refers to the work of economists, Azzi and Ehrenberg (1975) who developed a multi-period utility maximizing model, which they subsequently used to examine a large statewide data bank of American households in order to establish the factors likely to predict levels of giving within various religious communities. Their findings encouraged a number of other economists to pursue similar U.S. studies, an area that continues to attract attention in the new millennium (e.g., Brooks, 2003; Hrungrung, 2004; Blomberg et al., 2006; Thornton et al, 2010).

Continued interest may be warranted as, according to a 2010 report published by the U.K. based Charities Aid Foundation (CAF), the United States ranks fifth out of 153 countries included in a comprehensive survey of social trends. Reported charitable giving is measured using a world giving index that ranks nations according to the incidence of giving of both money and time by

individuals. The Giving USA Foundation also reports that charitable giving currently amounts to 2.1% of annual GDP (US\$304 billion), although donations in 2010 dropped 3.6% compared to the previous year. The amounts involved are nonetheless significant in economic terms and justify the attention of researchers interested in identifying the factors motivating U.S. citizens to give, particularly the religious community, who are major contributors to this invaluable largesse.

The motivating issues that have attracted the attention of economists in recently published articles include the usual demographics: age, gender, education, income, and religiosity (generally defined in terms of attendance) as well as an interesting variable, ‘after-life consumption’, one that gains more than its share of academic interest especially among economists. The term appears to have been coined by Azzi and Ehrenberg (1975) who included it as a major variable in their household-allocation-of-time model. These and other matters are discussed in greater detail in the literature section.

The United States is a nation where close to 40% of the population attends a church or its equivalent on a regular basis and it is the financial giving that emerges from these individuals that underpins much of the philanthropic benevolence reported by the Giving USA Foundation. Christians and members of other faiths in the United States give to both religious (e.g., churches in the form of tithes and offerings) as well as non-religious institutions (particularly charitable giving) many of which are managed and operated by Christians and other faith based organisations.

Charitable giving within the religious community and its antecedents has been little studied in other cultural settings within the sociological or business literature. Taiwan is the exception in that in the last few years studies of Social Change Survey data by economists Chang (2005) and Tao and Yeh (2007) present some useful insights into the issue of giving within an oriental setting providing a very different worldview in terms of its religious and cultural underpinnings.

The CAF survey ranked Taiwan number 72 out of 153 participants, much lower than its American counterpart, but significantly higher than its giant neighbor, China, which was ranked

near the bottom at 147. Taiwan enjoys the same cultural heritage as China in that it fits the culture classification ‘less developed Asian group’ according to Hofstede (1980) and Chong et al. (1983) Both nations present high on Power distance and Uncertainty avoidance scales and low on Individualism. They also share similar ratings with respect to Confucian work dynamism (Hofstede and Bond, 1988), a local worldview that emphasizes self-examination and preservation along with respect for tradition.

This cultural mix does not appear to espouse public giving of finances in any large degree. Familial concerns are considered much more relevant within societies that place relatively little trust in groups and institutions outside the extended family, a recipe for what Fukuyama (1996) attests leads to a low investment in social capital. Giving, in the traditional Chinese context is likely to be restricted to transfers within the extended family, with limited charitable and religious donations to third parties (including religions). The fact that Taiwan finds itself much higher on the CAF giving scale than China is likely a function of its relatively early move to industrialize, supported by a process of democratization that recognizes human rights and encourages religious freedom, with its attendant interest in charitable giving.

Given the recent Taiwanese studies of charitable giving, an issue that encourages one to again review more recent survey data is a concern about whether these studies can continue to apply theoretical assumptions based on an economic model developed in a western setting. Are these assumptions relevant in an oriental cultural setting, where the religious mix is divergent and where the giving is directed to charitable organisations other than religious institutions?

## **Literature review**

### *The decision to give*

A person’s level of commitment to giving to charity, whether in terms of time or money is generally based on a number of rational attitudes and beliefs. His or her motives would fit the scale somewhere along the self-interest – altruism continuum and consist of a set of intuitions that are difficult to verbalize, except that the actions fulfill some heartfelt desire to serve the

community, virtues that include compassion, care and sacrifice, components possibly hardwired into the psyche, a function of their upbringing or spiritual experience.

Admirable commitment choices can arise regardless of one's religious status and contribute to a parcel of lifetime consumption and investment decision options that can be fitted into a household utility function. In their study of Christian giving in the United States, Azzi and Ehrenberg (1975) presented a case for a 'salvation motive' (p.32), which they factored into their economic model along with two other less considered options, namely 'consumption motive' and 'social pressure motive'. Most attention in the subsequent research literature, including that applied to Taiwanese residents, concentrates on the effect of the first mentioned, whereas the others, particularly the 'consumption motive' have received less attention.

Azzi and Ehrenberg maintained that 'afterlife consumption' is the investment decision made by a religious person to supplement normal consumption with a provision for 'benefits' understood to accrue to that believer at death and that this reward (e.g., eternal life) is a function of their religious commitments as demonstrated by charitable giving. The evidence they sought shows older people devoting more money and time to religious activities with the object of maximizing the benefits that accrue at death. They discovered that the salvation motive was stronger with older women as demonstrated by increasing tendencies to devote more time to religious activities (as shown in the U.S. data used).

Subsequent research, using Azzi and Ehrenberg's household production function has justifiably broadened the 'consumption motive' to include current life benefits such as an improved sense of purpose, moral instruction, social support and status, and mutual aid. (Iannaccone, 1998) From a psychological perspective, it can be argued that deciding to give of one's time and money for charitable purposes requires a moral behavioral position capable of being reasoned through by the both the religious and non-religious, depending on their level of cognitive moral development. (Kohlberg, 1969; Rest et al, 1999) According to this theory, lower level reasoning ability assumes a self-interest motive, where one perceives that giving to charity produces benefits both now (in terms of one's reputation and standing in the community) and in the future

(acceptance into heaven and eternal life – ‘salvation motive’). The choice involves enlightened self interest, the type that fits the Azzi and Ehrenberg model.

However, the religious giver is also aware of his or her responsibilities under the law of God (e.g., as espoused in the New Testament teachings of Jesus) and of their commitment to a body of believers, which creates expectations that deserve attention and adherence. This Conventional level of moral reasoning fuels the choice to give and is less concerned with earthly or heavenly rewards. The attendant simply wishes to please God through his or her actions. Enjoyment and fulfillment in life’s purpose are pleasant byproducts in the process. Finally, individuals acquainted with the use of higher level principled reasoning skills can think through the decision to give from a universal perspective, drawing on a range of deontological and teleological arguments affecting the process from which an independent conclusion can be drawn. In this instance, one’s state of grace from a religious perspective plays no essential role in the decision to give.

Which approach to giving is appropriate under the circumstances is indiscernible and subject to review and revision during life’s journey and raises the question as to whether age or religion (or religious commitment) are necessary prerequisites. It does, however raise the need to question the role of religion in giving and to consider the non-religious in any population survey. And if one includes religion in the analysis, then giving for non-religious purposes (especially giving to charitable organisations) ought also to be considered.

In her comparative analysis of the four major religions, Rachel McCleary (2007) devotes a good deal of attention to identifying how one’s faith type influences the decision to be charitable and how this impacts economic activity. In particular, she asserts that: “Contrary to the social capital argument, we find that religion contributes to economic growth by providing people with religious beliefs.” (p.50) In this context, her focus is on salvation, an issue relevant to all four of the major religions. She coins the term ‘salvific merit’ (p.51) as a measure by which religious processes encourage the individual to work towards attaining salvation. These processes can be earned (i.e., through works, which have economic outcomes) or attained spiritually as a gift. Debits (failing to perform obligatory acts) and credits (supererogatory acts) derived relate

directly to a believer's salvific merit. In this context, charitable giving is productive and earns merit.

McCleary presents an informative overview of the four religions, and sub-divides Christianity into its Protestant and Roman Catholic parts (including a discussion of their fundamentalist offshoots). She provides a synthesis of salvific merit and its association with charity and hell across the religions (viz., Hinduism, Buddhism, Christianity and Islam) and presents an evaluation that suggests that all (except for particular Protestant groups) are likely to fall within the range of medium to high merit status. In terms of the form of salvific merit described for each religious group, charity is either supererogatory or obligatory and therefore guides the believer in determining the degree of economic impetus within the process.

The analysis, although thorough, relies solely on a doctrinal interpretation of religious principles and ought not to be applied in determining which religious group is likely to be more charitable in their giving. In fact, McCleary makes this point in her conclusion by asserting that the world religions have different ways of motivating economic activity and that it is unclear whether one religion is more supportive than another in economic activity. In reality a believer's personal decision about how much time and money to give to charity is a function of their spiritual condition at a particular time in the face of what they understand their religion requires of them as part of a broader cognitive deliberation. This can alter just as their economic means alter. In the extreme, giving beyond one's means in anticipation of being rewarded (in this life or the next) although laudable appears somewhat irrational in a worldly context, for as McCleary comments, "... a world religion...would not survive if it emphasized universal charity to the detriment of hard work and wealth accumulation." (p. 69)

Thornton and Helms (2010) used U.S. data supplied by the Center on Philanthropy Panel Study and Study of Income Dynamics for the period 2001-2005 to explore the extent to which religious affiliation effects charitable giving within households. Using McCleary's religious typology, they tested the hypothesis that U.S. household beliefs associated with high salvific merit are relatively insensitive to changes in tax subsidies for charitable giving and that the opposite applies to secular households and those holding beliefs connected with low salvific merit. The

theoretical Tobit regression model is ambitious and well-constructed making good use of available data and incorporates periodic tax incentives (expressed as variations in tax price elasticity) and household incomes along with covariates that include a range of demographics, in particular a breakdown of religious affiliation (mainly Christian denominations) and including a devotion parameter based on attendance. The natural log of charitable household contributions acts as the dependent variable.

After rating households within various salvific merit groupings, the regression analysis produced mixed findings, which only approximately accord with the expectations of changes in giving anticipated within the various merit groupings. A subsequent OLS test of variables provided no support for their initial analysis, drawing the researchers to conclude "...that religion matters more in the decision about whether to give rather than how much." (p.20) This conclusion at least supports the fundamental proposition that one's religious faith plays a crucial role in the process of charitable giving, even if it is not proven to be associated with affiliation (as presented in their hypothesis).

It is interesting to note that Thornton and Helms exclude non-devoted households from their predictions relating to salvific merit. Their study did identify that devoted households (those attending religious services at least twice a month) presented strongly inelastic with respect to price changes, twice as high as their non-devoted counterparts. Perhaps this allows one to presume that the latter are possibly less aware of their denomination's official position on the salvation benefits accruing to faithful givers. Their research also affirms that giving increases with age, consistent with earlier U.S. research findings (Hrung, 2004; Blomberg et al., 2006). Giving also increases with education, good health and levels and income.

#### *Taiwan research*

Chang (2005) reports the results of a study of household consumption patterns in Taiwan, using Azzi and Ehrenberg's (1975) utility model. Households are presumed to allocate spending on secular and religious activities, in order to maximize utility, guided by current and afterlife consumption demands. He produces a Tobit regression model for analysis that uses data acquired from the 2003 Survey of Social development Trends, a large government funded project.

Demographic data includes the usual household information, but also includes amounts of non-profit donations, volunteer work provided and reasons for making donations. Donations are provided to a variety of causes, including religious, charitable, academic, medical and political. The survey data also indicated that 54% of donors gave money to the largest category of donations, namely religious organisations, equivalent to NT\$6,000 (US\$189) per donor in 2003. Chang makes the point that the structure of Taiwan's religious community is very different from the Christianity based populations in North America, where most equivalent studies relating to religious giving have been conducted. Over 70% of Taiwan's population is associated with Buddhism and folk religions (including Taoism), while Christians represent around 7%. He devotes some space to describing the different faiths but says little about their relative afterlife expectations, except that they are similar to that held by Christians. His analysis makes no attempt to differentiate between the faiths in terms of their giving tendencies, but allows for differences in religious participation (including no attendance).

His further establishes that both religious and charitable giving are closely related to afterlife consumption, based on the finding that giving increases with age. The aged also devote more time to volunteering for religious activities with women being the dominant providers. Income level has no significant effect on religious giving but does influence charitable giving. Chang's findings are somewhat similar to those reported in other western studies despite apparent differences in culture and religion.

Tao and Yeh (2007) report on religion in Taiwan as an investment, comparing giving and volunteering among its inhabitants Christians, Buddhists and folk religionists. They used data provided by the Taiwan Social Change Survey (1999) including information similar to that obtained by Chang (2005) from the 2003 survey. Tao and Yeh, however exclude atheists and members of minor religions in order to concentrate on the three major religions. This left a sample of 1278 observations consisting of 60% folk religionists, 32% Buddhists and 9% Christians. Charitable giving and volunteering are examined as dependent variables within the context of each religion (volunteering excluded for folk religionists) and information acquired from the 1999 Survey data also allows Tao and Yeh to make some inferences about the attitudes believers have about the benefits of belonging to their faith, including present and afterlife



considerations. Selective responses are used as dummy variables in a Tobit regression model that also includes other standard demographics (sex, age, marital status, education, wage and family income).

Based on their initial understanding of the apparent incentives associated with religious membership including attitudes towards afterlife consumption, Tao and Yeh predict that Christians will make more contributions (money and time) to their religion than Buddhists and folk religionists. However, their descriptive analysis of data leaves one with the impression that believers attain as much value from the present life benefits that flow from their religion as they do from an anticipated afterlife. This appears to be reflected in the effect this has on charitable giving and volunteering, although their analysis points to Christians being the most likely to give, in accordance with their stated predictions. The dummy variables identifying religious devotion clearly positively influences giving (including time and money), as does that associating giving to a Christian's belief in the existence of heaven, however these pointers are not sufficient to conclude that one's major incentive to give depends on the afterlife benefits. Age is strongly represented in Tao and Yeh' regression model for all four variations tested suggesting the higher the age the greater return on religious investment.

Whether this pertains to an investment in afterlife benefits remains a subjective assessment at best. Certainly, a case can be presented to suggest that older believers have the time and interest to invest in religious activities and this is particularly relevant to older females, who Tao and Yeh also reported were the dominant donors of time and money. The concept of afterlife consumption as the major factor disposing the religious elderly to give more of their time and money to religious institutions would be an affront to many, who would prefer to identify a number of moral, respectable and commonsense present life reasons why they devote themselves more to charitable enterprises. Following a telephone survey of Tawanese adults, Lee and Chang (2007) report that the amount of charitable giving tended to depend on demographic and socioeconomic issues, unlike volunteering, which appeared to demand personal commitment and enthusiasm.

## **Research methodology, hypotheses and data collection**

This paper draws on charitable giving data provided in a Taiwan based university survey completed in 2008 and the approach adopted is different from that undertaken by Chang (2005). Chang argues that religious giving is different from non-religious giving, because the former is motivated by a desire to invest in afterlife consumption. The reality is that the religious, in any community, are just as likely to donate directly to non-religious entities, including those supporting charitable, medical and educational objectives. Many of the aforementioned are often operated or sponsored by religious entities and the religious are encouraged by their institutions to allocate their time and money to supporting worthwhile projects.

To those familiar with teachings of the three major religions in Taiwan (viz., Buddhism, Folk Religion (including Taoism), and Christianity), the giving behavior performed in this life should not be limited to giving directly to religious entities. Innaccone (1998) recognizes that the variety of payoffs associated with giving is broad and affects charity and generosity in a broad community sense. In fact, charitable giving to non-religious entities should be viewed just as important as charitable giving made to religious entities, if one adheres to the doctrines of his/her religion. It can be reasonably argued that, within the context of the teachings associated with each of the major religions, charitable giving is a rational behavior, and that adherents should have a higher tendency to engage in charitable giving behavior than non-religious people.

Three hypotheses are presented for testing in this study:

**H<sub>1</sub>:** Taiwan adults who profess a religious affiliation will be more likely to engage in giving to charitable organisations than those who do not profess a religion.

Most studies exclude charitable giving by non-religious people, mainly because of the emphasis on afterlife consumption, and it should not be assumed that this group has no interest in humanitarian issues affecting their community. The argument is, however, that the religious are likely to feel encouraged to give and are more sensitized to the process.

**H<sub>2</sub>:** Age is positively related to whether a Taiwanese adult makes a charitable donation.

Past research, including Chang's (2005) Taiwan study report that giving to religious entities is positively related to age (Azzi and Ehrenberg, 1975; Hrung, 2004). However, non-religious charitable contributions do not appear to reflect this relationship. (Duncan, 1999) This paper reports the issue from the perspective of giving to charity as supported by both religious and non-religious organizations.

**H<sub>3</sub>:** The likelihood of giving over not giving for charity is related to both religion and age simultaneously.

**H<sub>4</sub>:** Taiwanese adults' charitable giving behavior is significantly related to religion and age after controlling for the effects of income and education.

Tao and Yeh (2007) included education and income in the Tobit model and found that both influenced giving to religious entities. Their study however does not include giving to charitable entities, whether supported by religious bodies or otherwise, nor does it include contributions made by adults with no religious affiliation.

The Taiwan Social Change Survey (TSCS) represents the most comprehensive self-report data source in relation to Taiwan's political, economic, social, and cultural trends of change. It began in 1985 as an interdisciplinary research project funded by Taiwan's National Science Council, operated by the Institute of Sociology, Academia Sinica, the highest level research institution in Taiwan, and has been run on 5-year cycles of rotating selective modules on various topics since. All precincts in cities and townships across Taiwan are marked out as ten strata, and stratified random sampling procedure is applied to all registered residents in each stratum proportionately weighted to the size of its population. The survey is conducted in face-to-face interviews with randomly selected residents. All TSCS survey data have been archived on the Internet and are available for download. It should be noted that items regarding both religious and non-religious giving were both arranged in the sub-section under the heading of *Activities With Charitable Organizations* (慈善團體行為).

The data used in this study are comprised of responses from 1,927 individuals to only a small number of relevant items from the religion section of the cultural module used in the 2008 survey (Chang (2005) used 2003 survey data). These items are: age, giving to religious organizations during 2008 (yes or no), giving to non-religious organizations during 2008 (yes or no), education level, income level, and frequency of attending religious activities. Albeit the 2008 TSCS archive contained a total of 1,927 data records, a small number of people did not answer all items of concern (e.g., one person did not answer the question whether he/she made charitable donations to religious entities during the year 2008). Therefore, the effective sample size varies slightly from one statistical analysis to the other.

For hypotheses **H<sub>1</sub>** and **H<sub>2</sub>**, the data relating charitable giving behavior to religion (Religion) and age groups (AGEGRP) is first tested by the chi-square test of association. A significant chi-square test result would mean that charitable giving behavior is significantly related to the predictor variable (Religion or AGEGRP). The predictability of the charitable giving behavior is also evaluated by logistic regression analysis, firstly with Religion and AGEGRP serving as two predictors separately, then jointly in a two-predictor model. The third hypothesis is tested by including income and education level in a four-predictor logistic regression model. The response variable takes on the form of an odds ratio computed as the ratio of the probability of giving over the probability of not giving when a predictor (or a set of predictors) is present. If the odds ratio is greater than one, then the person is more likely to give than not to give. If the odds ratio is less than one, then the person is more likely not to give.

A logistic regression model is evaluated in the similar manner as an ordinary least-squares regression model in that a regression coefficient estimate of each independent variable is accompanied with its standard error. The squared ratio of the estimate to its standard error is assessed by a one degree-of-freedom Chi-square distribution known as the Wald's Chi-square test. It is important to note that logistic regression makes no distributional assumption about the independent variables, nor is homoscedasticity required of the error variances.

## Results of analysis

The TSCS survey data indicates that Taiwanese citizens donate to a number of different causes. Chang (2005) and Tao and Yeh (2007) concentrated on giving to religious entities due to their interest in testing afterlife consumption patterns. In this study attention is directed to giving to charities (supported by religious and non-religious organisations). These include large and small scale arrangements ranging from Red Cross donations through to local community raffles. The analysis of data is discussed firstly in terms of giving to organisations backed by religious entities, followed by giving to charities supported by non-religious entities.

### *Influence of Religion on giving to charities operated by religious entities*

The frequency data regarding the act of making a charitable donation on the religion information (whether one claims to belong to one of the three religion types) is given in Table 1. The odds of making a charitable donation over not making one for those with religion are  $981/697=1.407$ . For those adults without a professed religion type, such odds are  $80/169=.473$ . The odds of 1.407 mean that for those adults with a self-professed religion type, each is 40.7% more likely to give to religious entities than not to give. In contrast, for those without a religion, giving is not unexpectedly much less likely,  $1-.473=52.7\%$  less chance of making a donation. It can be seen that giving for charity to religious entities is related to whether one has a professed religion or not. In fact, a test of association produces a highly significant result when Chi-square test of independence is applied ( $\chi^2(1) = 60.643, P < .000$ ).

**Table 1**  
Frequency data for religion and charitable giving to religious entities

	Religion	
	Yes	No
Give	981	80
Not Give	697	169
Total	1678	249
Odds of Giving vs Not Giving	1.407	0.473

By dividing the odds of giving derived from those with religion by the odds derived from those without religion, the resulting odds ratio suggests that religious Taiwanese adults are 2.975 times (1.407/.473) more likely to give for charity than their non-religious counterparts. The natural logarithm of 2.975 becomes 1.090, the estimated regression coefficient of the logistic regression equation using Religion to predict the odds of making a charitable donation. The result of the logistic model with Religion as the single predictor is given in Table 2. The intercept term in a multi-prediction model is usually not of pragmatic concern. In this case, there is only one dichotomous predictor. The intercept term is meaningful because it represents the logit of odds of giving over not giving for the non-religious Taiwanese adults. It is negative because the odds of giving are smaller than the odds of not giving for the non-religious adults (as seen in the Table 2,  $80/169=.473$ ,  $\ln(.473)=-.748$ ).

**Table 2**  
Logistic Regression Analysis for religion effect on charitable giving to religious entities

Predictor	Regression Coefficient	Standard Error	Odds Ratio	Wald's Square	Chi-Square	P
Intercept	-0.748	0.136	0.473	30.250		0.000
Religion	1.090	0.145	2.973	56.881		0.000

*Age Influence on giving to charities supported by religious entities*

Age was obtained in the 2008 TSCS data as a continuous variable with values ranging from 18 to 98. To assist in making the regression coefficients of the logistic model more readily interpretable and without any loss in generalizability, a new age variable was created called AGEGRP according the following criteria: 1='Age<30', 2='30≤Age<45', 3='45≤Age≤60', and 4='Age>60'. The frequency distribution of the survey participants' charitable giving over four age groups is reported in Table 3. As seen, the odds of giving over not giving seem to increase in relation to age. In particular, the odds of giving over not giving almost doubles for the adults in the 30-45 age group when compared to the adults under 30 years of age. This sharp increase could be at least partially explained by the fact that adults in the 30-45 age group are usually in better financial conditions than their younger counterparts. The odds of giving over not giving again increased from 1.293 to 1.807 when age group changed from 30-45 to 45-60. It

is worthy to note that the odds of giving decreases for adults aged over 60 compared to their younger counterparts. This noticeable drop in giving odds may reasonably be expected because adults in this age group are mostly retired and may not be as well off. This may be offset by increased personal involvement in charitable organisations as predicted by Tao and Yeh (2007). Despite this noticeable drop, the odds of giving are still greater than one, in contrast to that in the youngest adult age group (1.204 versus 0.671).

The results of applying a logistic regression in the prediction of charitable giving from AGEGRP are summarized in Table 4, with AGEGRP treated as a continuous variable. The use of continuous variables as predictors in a logistic regression model has been extensively discussed by Cheung and Smith (1981). The intercept of the logistic model is not directly interpretable in terms of the odds ratio when a continuous predictor is used. The regression coefficient for AGEGRP is an estimate of impact attributed to a unit change in age (approximately every 15 years here) increasing or decreasing the probability of charitable giving behavior. Since the regression coefficient associated with AGEGRP is 0.208, an increase in age contributes positively to the odds of charitable giving over not giving. Exponentiation of this value yields an odds ratio of 1.231, indicating that the addition of 15 years in age increases the probability of Taiwanese adults giving over not giving to charity by 23.1%. Wald's Chi-square test of this regression coefficient shows that AGEGRP is a highly and positively significant predictor of Taiwanese adults' charitable giving to religious entities ( $\chi^2(1)=22.034, p<.000$ ). Age appears to influence giving to charities supported by religious entities regardless of the inclusion of donors holding no religious faith.

**Table 3**

Frequency data for age group and charitable giving to religious entities

	Age			
	<30	30-45	45-60	>60
Give	157	309	365	230
Not Give	234	239	202	191
Total	391	548	567	421
Odds of Giving vs Not Giving	0.671	1.293	1.807	1.204

**Table 4**

Logistic Regression Analysis for age effect on charitable giving to religious entities

Predictor	Regression Coefficient	Standard Error	Odds Ratio	Wald's Chi-Square	P
Intercept	-0.320	0.120	n/a	7.093	0.008
AGEGRP	0.208	0.044	1.231	22.034	0.000

*Religion and Age together*

To this point it has been demonstrated with logistic regression that religion and age are indeed positively related to Taiwanese adults' charitable giving, but their effects were analyzed separately and independently of each other. The hypothesis **H<sub>3</sub>** aims to test whether the likelihood of giving over not giving for charity is related to both religion and age simultaneously. The use of both dichotomous and continuous variables as predictors in the logistic regression scenario has been successfully demonstrated by Cheung and Smith (1981). The results of applying this two-predictor logistic model to the 2008 TSCS data are summarized in Table 5.



**Table 5**

Logistic Regression Analysis for effects of religion and age on charitable giving to religious entities

Predictor	Regression Coefficient	Standard Error	Odds Ratio	Wald's Square	Chi-P
Intercept	-1.120	0.169	n/a		
Religion	1.027	0.146	2.793	49.67	0.000
AGEGRP	0.169	0.045	1.185	14.071	0.000

The regression coefficients for Religion and AGEGRP in Table 5 are not expected to be identical to those obtained in Table 2 and Table 4 respectively. The interpretation of the regression coefficients for the logistic model with multiple predictors is similar to that for the ordinary regression model in that each coefficient conveys an effect after adjusting for the remaining predictors. The fact that the regression coefficients obtained for religion and age in Table 5 are not identical, but quite similar to their counterparts obtained in the one-predictor models suggest that age and religion are relatively independent to each other in relation to their effect on charitable giving, as evidenced by the weak, albeit significant point-biserial correlation between religion and log-transformed age ( $r=.141, p<.000$ ).

As seen, the odds of a Taiwanese adult's charitable giving to religious entities are highly positively related to both Religion and AGEGRP. From the two-predictor logistic model, the probability of an adult with religion making a charitable donation over an adult without religion is empirically confirmed by the positive slope of 1.027, which indicates that religious adults are  $\exp(1.027)=2.793$  times more likely to give for charity than non-religious adults. Conversely, an increase of age by 15 years will increase the odds of charitable giving by 1.185 times (which is equivalent to an increase of 18.5%) whether this individual is religious or not.

The analyses reported above have, to this point considered charitable giving to organisations operated by religious entities and the influence that religiosity and age (individually and jointly) have on the process. In terms of the stated hypotheses, it appears that the tests indicate that

hypotheses **H<sub>1</sub>**, **H<sub>2</sub>** and **H<sub>3</sub>** can be accepted. Further analysis relating to charitable giving to charities operated by non-religious entities will now proceed, to determine whether the stated hypotheses can again be supported.

*Charitable Giving to organisations operated by non-religious entities*

The 2008 TSCS data indicate 55.1% of Taiwanese adults contribute to religious charities, whereas a relatively low 26.8% contribute to the various types of non-religious charities. The frequency distribution of giving versus not giving across religion and age groups and the results of three logistic regression analyses are reported in Table 6. As seen, the odds of charitable giving over not giving for both religious and non-religious Taiwanese adults are less than one (0.363 and 0.383, respectively), indicating that both religious and non-religious Taiwanese adults appear less inclined to donate to non-religious charities. The same tendency may also be observed across all age groups, albeit the highest odds of giving were observed to be 0.484 for the 45-60 age group. The results of the logistic regression analyses showed that neither age nor religion showed any significant effect on predicting the odds of giving to non-religious entities. In this situation, hypotheses **H<sub>1</sub>**, **H<sub>2</sub>** and **H<sub>3</sub>** as they apply to donations to non-religious organisations by all Taiwanese adults, stand to be rejected.

**Table 6**

Associating religion and age with charitable giving to non-religious entities: Frequencies and logistic regression analyses

	Religion		Age			
	Yes	No	<30	30-45	45-60	>60
Give	447	69	94	164	185	73
Not Give	1230	180	297	383	382	348
Total	1677	249	391	547	567	421
Odds of Giving vs Not Giving	0.363	0.383	0.316	0.428	0.484	0.210

Logistic Regression Analysis (individual and joint tests of age and religion)

Variable	Regression Coefficient	Standard Error	Odds Ratio	Chi-Square	P
Intercept	-0.959	0.142			
Religion	-0.053	0.152	0.948	0.123	0.726
Intercept	-0.788	0.133			
AGEGRP	-0.087	0.049	0.917	3.091	0.079
Intercept	-0.775	0.177			
Religion	-0.017	0.154	0.983	0.013	0.910
AGEGRP	-0.086	0.050	0.918	2.981	0.084

#### *Controlling for Income and Education*

Having seen that Taiwanese adults' charitable giving to religious entities is related to both religion and age, a legitimate hypothesis to test here is: Is Taiwanese adults' charitable giving behavior still related to religion and age, after the effects of income and education level are removed (**H<sub>4</sub>**)? When income and education level are taken into account by being included in the logistic regression equation, a four-predictor model is created. The four-predictor logistic model is applied to charitable giving to religious and non-religious charities and the results are reported separately in Table 7.

Table 7 demonstrates that income shows a strong positive effect on the odds of giving both to religious and non-religious organisations (odds ratios are 1.363 and 1.652, respectively with  $P < .000$  for both). Education level is related to the odds of giving to non-religious entities (odds ratio=1.494,  $P < .000$ ), but not related to giving to religious entities (odds ratio=1.051,  $P < .284$ ). After controlling for income and education, religion is still highly positively related to giving to charities operated by religious entities (odds ratio=2.925,  $P < .000$ ), but not related to charitable giving to non-religious operated charities (odds ratio=1.154,  $P < .379$ ). An interesting phenomenon is observed here for the effect of age: while age effect was shown as non-significant in predicting the odds of giving to non-religious charities in Table 6 (odds ratio=.918,  $P < .084$ ), it is detected as significant when income and education are taken into account in Table 7 (odds ratio=1.228,  $P < .001$ ). This result suggests for example that for Taiwanese adults with the same level of income and education, an age increase of 15 years increases the odds of giving to religious entities and non-religious entities by roughly the same amount (26.6% and 22.8%, respectively). Alternatively, depending on a donor's income and education, age can influence the amount of giving to charities supported by non-religious entities.

**Table 8**

Predicting charitable giving to religious and non-religious entities: Including income and education level

Variable	Regression Coefficient	Standard Error	Odds Ratio	Chi-Square	P
<b>Charitable Giving To Religious Entities</b>					
Intercept	-1.793	0.262			
Religion	1.073	0.150	2.925	51.531	0.000
AGEGRP	0.236	0.053	1.266	19.640	0.000
Income	0.310	0.069	1.363	20.224	0.000
Education	0.049	0.046	1.051	1.149	0.284
<b>Charitable Giving to Non-Religious Entities</b>					
Intercept	-3.272	0.294			
Religion	0.143	0.163	1.154	0.776	0.379
AGEGRP	0.206	0.061	1.228	11.291	0.001
Income	0.502	0.081	1.652	38.896	0.000
Education	0.402	0.051	1.494	61.067	0.000

## **Discussion and conclusions**

This study differs from most other papers relating to charitable giving in that it examined giving outside the context of religious institutions and concentrated on charities managed and operated by both religious and non-religious Taiwanese organisations. The major issues of interest, namely the effect of age and religiosity, were again revisited using data acquired by a university supported survey completed in 2008.

The data clearly indicates that Taiwanese adults (including the non-religious) are more likely to give to charities supported by religious entities. It is also apparent that the non-religious appear much less inclined to give to charity regardless of the cause, although somewhat more interested in religion backed charities. Adherents to the major faiths (Buddhists, Christians and folk religionists) on the other hand are greatly disposed to give and this giving is likely to be in addition to the offerings made directly to the religious entities with which they are directly affiliated.

Logistic regression analyses identified significant positive associations between religiosity and giving to charities, although the stated hypotheses were not supported where the charities are operated by non-religious entities. Past Taiwanese research completed by Chang (2005) and Tao and Yeh (2007) identify age as a factor likely to influence giving to religious entities and it is again demonstrated in this latest study that older Taiwanese are more likely to give to charities supported by religious organisations. However, the hypotheses were not supported in respect of other non-religious charities.

When income and education were factored into the regression, it was found that education levels influence giving to non-religious charities but not religious based charities. Perhaps the higher educated Taiwanese adult is inclined to consider issues other than compassion and need when making a decision to give. For example, they may take time to investigate an entity's financial status, including governance and accountability performance issues.

It is interesting to note that the giving behavior of Taiwanese adults appears to differ little from their U.S. counterparts, in terms of the association with age and religiosity. Religious and

cultural practices are divergent and trust relationships within Taiwanese communities suggest that charitable transfers between extended family members in need are likely to limit public demonstrations of charity (Taiwan's relatively low CAF giving index compared to the U.S. tends to support this notion). The apparent universality of the aforementioned relationships need to be addressed, however is it sufficient or even appropriate to connect these factors with Azzi and Ehrenberg's (1975) salvation motivation assumption? The popularly invoked proposition that *ceteris paribus*, other factors remain constant, hardly justifies that the notion attract singular attention. Many issues are likely influence people's decision to give to charity (religious or otherwise), although it is beyond dispute that the religious are thankfully more inclined to do it willingly. As mentioned in the introduction to this paper, the decision process may be part of a conscious process of cognitive reasoning associated with what is a recurring moral dilemma (there will always be other competing uses for limited finances) – if and when to give and how much?

Researchers, sociologists and psychologists alike, are inclined to offer other proposals to explain why the religious give to charity and why it tends to increase with age. Virtues associated with good moral character may be hardwired into the genes of the spiritually inspired, or acquired as one progresses through stages of maturity which, when accompanied with relative financial stability and lowering adversity to financial risk, allows potential donors the liberty to reflect more on the needs of others. Marginal propensities to give improve as a consequence. Hauser (2006) maintains that underlying moral motivations, which would include charitable giving, may be universal and often not easily verbalized. People are often unclear and even confused and inconsistent when explaining their moral position.

O'Neill and Petrinovich (1998) further claims that an evolved psychology underpins moral judgment making and that processes are likely to be consistent across cultures. They demonstrated this in a study of U.S. and Taiwanese students. Moral positions taken in relation to the importance of the preservation of life at various levels were found to be very similar despite the obvious cultural differences between the two groups. They concluded that: "Individual moral judgments reflect evolved, universal decision-making processes that increase genetic fitness." (p. 364)

Clearly, further work needs to be undertaken to clarify the underlying issues associated with charitable giving, including moving beyond the use of mass survey data and the application of econometric models that overcommit to apparent rational interpretations and rely on proxies that can have limited application. Further effort needs to be given to investigating the charitable giving of the religious, since it is their contributions of time and money that are so relevant to the social welfare of needy citizens. To what extent are these people motivated by faith in the institutions they connect with, including their own religious centres, where considerable amounts find their way into the provision of humanitarian support? Are their decisions rational, in the sense that they consider the management practices and processes of the bodies to which they donate? Are these religious and charitable entities properly managed financially, accountable with respect to their decision making and do they uphold good governance practices? These and other issues are better examined within the context of more targeted sample surveys within specific communities.

Particular outcomes are not easy to predict and one's definition about what qualifies as a rational decision making event needs to be subjected to careful interpretation. In this context, one might be prepared to argue that the concept of afterlife consumption as a basis for giving is no more or less rational than a bequest to contribute all of one's considerable estate to a stranger in need?

## References

邱冠斌(2006).台灣宮廟組織及其運作之探討：以大甲媽祖鎮瀾宮為例。 *中華人文社會學報*, 5, 120-132。

Azzi, C., & Ehrenberg, R. (1975). Household Allocation of Time and Church Attendance. *Journal of Political Economy*, 83 (1), 27-56.

Blomberg, S. B., DeLeire, T., & Hess, G. (2006). The (After) Life-Cycle Theory of Religious Contributions. *CESifo Working Paper*.

Brooks, A. C. (2003). Religious Faith and Charitable Giving. *Policy Review*, 39-50.

Chang, W. C. (2005). Religious giving, non-religious giving, and after-life consumption: Empirical evidence from Taiwan. *Journal of Economic Analysis & Policy*, 5(1), Article 13, 1-31

Charities Aid Foundation (2010) *The World Giving Index 2010*. Retrieved from [www.cafonline.org/Default.aspx?page=19428](http://www.cafonline.org/Default.aspx?page=19428) - United Kingdom on 1 February 2011.

Cheung, P. L., & Smith, H. L. (1981). Logistic Regression Models with Continuous Independent Variables. *American Sociological Review*, 46, 946-949.

Chong, L.E., Cragin, J.P. & Scherling, S.A. (1983) *Manager work-related values in a Chinese Corporation*. Paper read at Academy of International Business, April 1983, San Francisco.

Duncan, B. (1999) Modeling charitable contributions of time and money. *Journal of Public Economics* 72, 213-242

Fukuyama, F. (1995) *Trust: The social virtues and the creation of prosperity*, New York, Simon & Schuster.

Giving USA Foundation. (2010). *GivingUSA. 2009: The Annual Report on Philanthropy for the Year 2010*. Retrieved from [www.givingusareports.org/](http://www.givingusareports.org/) Accessed 1 February 2011

Hauser, M.D. (2006) *Moral minds*. U.K., Little, Brown.

Hofstede, G.H. (1980) *Culture's consequences: International differences in work-related values*, Beverly Hills, Sage.

Hrung, W. (2004). After-Life Consumption and Charitable Giving. *The American Journal of Economics and Sociology*, 63 (3), 731-745.

Iannaccone L.R. (1998) Introduction to the Economics of Religion *Journal of Economic Literature*, 36 (3) 1465-1495.



Kohlberg, L. (1969), Stages and sequences: The cognitive development approach to socialization. In *Handbook of Socialization Theory and Research*, edited by D.A. Goslin, Chicago, Rand McNally.

Lee, Y. K., & Chang, C. T. (2007). Who gives what to charity? Characteristics affecting donation behavior. *Social Behavior and Personality*, 35(9), 1173-1180.

McCleary, R. M. (2007). Salvation, Damnation, and Economic Incentives. *Journal of Contemporary Religion*, 22 (1), 49-74.

O'Neill, P. & Petrinovich, L. (1998) A preliminary cross-cultural study of moral intuitions. *Evolution and Human Behavior*, 19, 349-367

Rest, J., Navaez, D., Bebeau, M.J. and Thoma, S.J. (1999) *Postconventional moral thinking: A Neo-Kohlbergian Approach*. Mahwah, New Jersey, Lawrence Erlbaum Associates.

Taiwan Academia Sinica (2009). Results of 2008 Taiwan Social Change Survey.

Tao, H.-L., & Yeh, P. (2007). Religion as an Investment: Comparing the Contributions and Volunteer Frequency among Christians, Buddhists, and Folk Religionists. *Southern Economic Journal*, 73 (3), 770-790.

Thornton, J. & Helms, S (2010). Afterlife Incentives in Charitable Giving. Samford University paper. Retrieved from [www.religionomics.com/.../Helms%20&%20Thornton%20-%20Afterlife%20Incentives%20in%20Charitable%20Giving.pdf](http://www.religionomics.com/.../Helms%20&%20Thornton%20-%20Afterlife%20Incentives%20in%20Charitable%20Giving.pdf). Version 6 August 2010