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Topic 2: Further Research on the Impact of Religion on Economic Growth
September 25, 2019

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Religion undoubtedly has a significant impact on economic growth, since by linking ethical prescriptions to truths about ultimate reality it shapes the behavior of individuals; moreover, as a social phenomenon, it forms culture, and thus also indirectly sets informal rules governing people's economic activity. Robert Barro and Rachel McCleary (2003) have contributed to social science by offering a comprehensive quantitative analysis of the impact of religion on economic activity. Their research encompasses major world religions and multiple countries with the goal of drawing some general conclusions about the relationship between religion and economic achievement of countries. However, since the study distinguishes between particular religions and denominations merely by including them as dummy variables, it relies on a generalized effect of a particular religion-related variable, such as the belief in heaven, on the output.

The goal of this paper is to present conceptual arguments of why such generalization may be undesired, and to put forward suggestions on how to improve further research on the topic. Starting with a reflection on Max Weber's (1905) approach of appreciating the differences between religions and their effects on people's behavior, this paper will compare selected doctrines and their interpretations to argue that each religion, at least at the level of denomination, should be investigated separately, and that it is important to analyze a religion in its local context. This conceptual framework would not only clarify interpretation but would also motivate the extension of empirical tools in future research. Therefore, this paper will finally offer some suggestions of such an extension, namely the inclusion of interaction terms between belief and attendance variables and religion share variables and the inclusion of weights attached to the variables measuring the external expression of a religion's doctrine in a given country.

A pioneer in the field of sociology, Max Weber (1905) studied the impact of religion on the economy and proposed a prominent thesis which attributed the development of capitalism partly to the Calvinist ethic emerging from its doctrine of predestination. Noteworthy about Weber's (1905) thesis is not simply his observation that religion matters for economic growth, but that it is the difference in religious doctrines that plays an important role in countries' economic trajectories. In his view, the doctrinal divergence between Calvinism and Catholicism played a decisive role in driving the economic success of regions dominated by the former (Weber, 1905). Although Weber's (1905) thesis may or may not be empirically true, the author offers an interesting framework, which can inspire modern analysis of economic growth.

Another important, although implicit, aspect of Weber's (1905) work is that perhaps even more significant for the economy than a religion's doctrine is the common interpretation of that doctrine by the faithful. In his book, the most prominent example was the doctrine of predestination. By itself, the doctrine potentially has an ambiguous effect on its supporters. On the one hand, it may have a detrimental effect on people's morality. Since it posits that the relationship between one's actions on earth and his or her salvation is no longer causal, it leaves individuals with little incentive to do good, and in particular to work hard. On the other hand, Weber believes that the doctrine ultimately makes Calvinists more economically successful than Catholics (Weber, 1905, p. 39-40). To reconcile this contradiction, Weber describes a socially developed mechanism whereby individuals work harder to "[get] rid of the fear of damnation," which ignores rather than stems from logical consequences of the doctrine (Weber, 1905, p. 115):

> “So far as predestination was not reinterpreted, toned down, or fundamentally abandoned, two principal, mutually connected, types of pastoral advice appear. On the one hand it is held to be an absolute duty to consider oneself chosen, and to combat all doubts as temptations of the devil, since lack of self-confidence is the result of insufficient faith, hence of imperfect grace … On the other hand, in order to attain that self-confidence intense worldly activity is recommended as the most suitable means. It and it alone disperses religious doubts and gives the certainty of grace.” (Weber, 1905, 1905, p. 111-112)

Thus, it was the popular perception and response to the doctrine, rather than a deep understanding of its true implications, that mattered more for the economy.

Furthermore, Weber noticed one more aspect of a religion’s influence on economic activity, largely distinct from religion itself, that is, through culture. The author believes that the “power of religious influence” was a decisive factor accounting for the differences between the German and English cultures (Weber, 1905, p. 89). As he writes, "[w]e shall thus have to admit that the cultural consequences of the Reformation were to a great extent … unforeseen and even unwished-for results of the labours of the reformers” (Weber, 1905, p. 90). Because many factors shape a particular society in conjunction with religion, it is inevitable that the original message of a religion, if not altered, will be blurred in some aspects and sharpened in others. In Weber’s terms, there is a distinction between the “judgements of faith” and the “judgements of historical imputation,” and only the latter regards economic consequences (Weber, 1905, p. 98-99).

The observations of Weber discussed above point to the importance of the differences in religions as well as in the interactions between those religions and the societies they exist in. Variables describing formal service attendance or the belief in heaven, hell, or a god are perhaps universal in their general meaning, but they do not capture the differences in various religions’ definitions of those concepts, and thus cannot account for the differences in incentives.

Therefore, the economic impact of some aspects of religiosity in a generalized perspective may not be as informative as in a particularized perspective.

One problem with generalization is that whether the belief in heaven implies the incentive to do good depends on the perceived causal relationship between the two. In Catholic doctrine, there is a causal relationship between doing good and going to Heaven, so there is an incentive. In Calvinist doctrine, there is formally no causal relationship, but the *perceived* relationship between hard work and obtaining salvation exists and also creates incentives (assuming Weber's thesis). In some branches of Protestantism, there is a belief in universal salvation, which implies little incentive to improve (even if this may be derived from other sources). Finally, religions other than Christianity may have significantly different definitions of moral behavior, and thus may create entirely different economic incentives.

Another problem is that the understanding of heaven differs and hence may result in different strengths of incentives for moral behavior. Arguably, the Buddhist concept of Nirvana as a "state of absence" (Britannica) is less attractive than the Islamic concept of *Jannah*, "where water flows and abundant food and drink are served to the dead and their families" (Huda Dodge, 2019). Another example is the Catholic belief in purgatory as a time of penance before entering Heaven, which depends on the number and gravity of accumulated sins throughout lifetime. The belief could act as an incentive for further improvement even in already devout people.

Just as the difference in doctrines matters for incentives related to moral behavior, so it matters for church attendance. In Barro and McCleary (2003, p. 772), church attendance is considered a resource used up in order to increase religious beliefs. It is because religious services are not *services* in economic terms; as a non-transactional form of activity, they are not included in the GDP. Whether church attendance should be treated as a cost to the economy, rather than a benefit of some sort, remains a question beyond the scope of this paper. However, it cannot be overlooked that this assumption leaves religions treated unequally in terms of their *productivity*. In other words, the existing framework does not control for the fact that religions vary in terms of attendance requirements. In Catholicism, presence at Sunday Mass is considered obligatory under the penalty of a mortal sin; Protestant denominations, however, tend to be less strict in that regard. Therefore, while in both cases a stronger belief should lead to increased attendance, Catholicism overall creates stronger incentives to attend its services, and therefore it is likely penalized for being *less productive*, holding everything else constant.

To address the issues arising due to the differences in religious doctrines as discussed above, this paper suggests the introduction of interaction terms. In Barro and McCleary (2003, p. 773, Table 4), the variables *monthly church attendance*, *belief in heaven*, and *belief in hell* are regressed on *economic growth* separately from *religion shares* variables. This allows one to control for the effect of a particular religion on economic growth. However, it still takes *attendance and beliefs* without regard to the divergent effects they may have in conjunction with each religion. To improve that, interactions between each *attendance and beliefs* variable and each *religion shares* variable could be introduced, like in the following examples: *Catholic share * belief in heaven* or *Muslim share * monthly church attendance*.

Nonetheless, including the differences in these beliefs for their own sake would not be efficacious if they did not influence people's behavior but remained purely doctrinal definitions instead; the strength of belief in the exact articles of faith should be included when measuring a religion's impact on economic growth. An individual's indifference curve is impacted only when he or she seriously believes in the spiritual consequences of his or her actions. Therefore, data allowing, it is advisable to use a question about one's compliance with the doctrine of his or her religion. Because the faithful may often be inconsistent about their true convictions relative to the declared belief in the official doctrine, whenever possible, it is important to define the strength of belief by the former.

This would be difficult to measure directly but could be estimated by some proxy questions. For example, for a Catholic declaring him- or herself as strongly believing in Catholic doctrine, it would be inconsistent to admit the use of contraceptives; therefore, the strength of belief in the official doctrine would be expected to be low for that person. While obtaining individual-level data of this specificity would be challenging or even impossible to date, some national-level data with similar proxy questions exist. For example, there is a survey from 2015 done by CBOS in Poland, which estimates that while over 90% of Poles declared themselves as believing or strongly believing in God, 52% declared themselves as believing in their own way, compared to 39% believing according to the Church's teaching (Boguszewski, 2015[a], p. 3, 6).[1] However, only 36% of those surveyed believed in the Catholic belief on heaven, purgatory, and hell (Boguszewski, 2015[b], p. 3).

Due to a unique interaction between culture and religion in each place, the relationship between declared and true belief differs across countries; therefore, in order to correctly estimate a religion's impact on the country's economic growth, this fact should be accounted for. For more secularized cultures, for example, the influence of religion on people's behavior is presumably lower, even if a general belief in some ultimate reality persists.[2] Yet even in religious countries, such as the United States, the influence of a particular doctrine may be restrained. Alexis de

[1] Although the survey did not specify whether the surveyed people were all Catholic, the publication implicitly assumes that in its discussion of the results.
[2] The term "secularization" here is used to mean a decreased adherence to religious orthodoxy, rather than to refer to the secularization hypothesis.

Tocqueville studied the culture of America and found that the modus operandi of the Catholic Church in America was to conform to the power of the majority. This tempered the clergy's expression on public matters and led to a reduced number of required observances (de Tocqueville, 1835, p. 508, 510-511). Another possible case would be a country in which people declare a strong adherence to the dominant religion, because it is a part of their national identity; however, a commonly declared belonging to the faith need not translate into their particular beliefs or actions. Conceivably, there are many other different types of interactions between religion and culture, some favoring strict obedience to the doctrine and others favoring a more liberal approach. Although disentangling these relationships is not always easy, it would be a step forward to figure out the extent to which a particular religion influences the economic behavior of people.

Therefore, it would be helpful to clean the religion variable from bias by developing a method of dealing with local peculiarities. One example could be the introduction of weights to observations included in regressions. For example, let us consider two countries with the same dominant religion. In one of them, the declared belonging to a religion is high while the belief in its tenets is low; in the other one, both indicators are high. In a regression setup without weights, the former country would ramp up the effects of its religion on the economic outcome. Therefore, the former country should have a lower weight than the latter. The idea for a weight involves a simple calculation, namely multiplying the fraction of population declaring a religion times the fraction of people holding the core beliefs of that religion. Then, the exact formula would be different depending on what kind of data is available.

Another candidate indicator for a weight is the freedom of religious expression and religious autonomy. In countries where religion is suppressed, or where for some other reason it needs to conform with some external norms, religion may still inspire people's economic behavior but likely plays a smaller role. In most communist countries, for instance, external manifestations of religion (including church attendance) was limited, even if the population adhered to its doctrine in terms of beliefs. In Barro and McCleary (2003, p. 736, 766), *state regulation of religion* and *communism* were controlled for as dummy variables. However, this setup does not allow for varying external expressions of religion. Religion was suppressed more in the Soviet Union than in Poland, for example. To capture these differences, the introduction of weights would be expedient. The weights could be developed based an index of religious freedom. The higher the levels of religious freedom in a country, the larger the weight of the country's values, because religion likely affects economic behavior there by more.

Finally, there are important reservations to the solutions suggested in this paper. A technical caveat is that distinguishing between religions is only possible when the character of observations allows for it. When dealing with cross-country comparisons, like in Barro and McCleary (2003), obtaining the effects of a particular religion on the country is harder for countries pluralistic in terms of religion. Using the method of weights establishing the relationship between a society's confessed religion and true belief in its doctrine would reduce bias, but would not remove it, since the correlations between religions and the pluralistic culture are difficult to control for. Therefore, a dataset composed of countries with a clear domination of one religion would be preferred; this, however, would significantly decrease the number of observations. A way to address this problem is to collect regional data, as opposed to national data—since regions are most often more homogenous than the countries they are located in, especially when large cities are excluded. In turn, a conceptual problem with attributing weights based on the adherence to a doctrine is that religions differ in terms of their dogmatism. In the example given, the use of contraceptives would signal a weakened adherence to Catholic doctrine. However, not all religions have a precisely defined and enforced canon of beliefs. Therefore, finding indicators to be used to calculate weight for those religions would involve a more arbitrary assessment.

In conclusion, the study of the impact of religion on economic growth is a broad issue, and there are many possible ways to measure it. The goal of research in that area is to obtain precise results conducive to a clear interpretation. Thus, a key challenge to cross-national analyses is to establish what factors are comparable across religions, cultures, and nations. In order to achieve that, it is necessary to realize the differences before drawing general conclusions. Among those differences, the most important are doctrines, common perceptions of the doctrines, and behavioral expressions of those perceptions. While measuring these factors may pose a challenge due to data collection and empirical method application difficulties, this paper suggests relatively simple solutions to exemplify what direction further research in that area may take. The first suggestion is to include interaction terms between variables related to belief and attendance and variables indicating each religion. This is to take into account the differences in doctrines and participation expectations. The second solution is to include weights depending on the degree of internal belief in the doctrine and of external opportunity to express it. This would account for various cultural and political contexts, among others. Regardless of particular econometric tools used, it is essential to remember about the broader world of realities whose incidences these empirical methods attempt to capture.

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