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Was Weber Wrong? A Human Capital Theory of Protestant Economic History: A Comment on Becker and Woessmann

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Abstract:

This comment makes a contribution to Becker and Woessmann's paper on a human capital theory of Protestant economic history eventually challenging the famous thesis by Max Weber who attributed economic success to a specific Protestant work ethic (Quarterly Journal of Economics 124 (2) (2009) forthcoming). The authors argue for a human capital approach: higher literacy among Protestants of the 19th century (and not a Protestant work ethic) contributed to higher economic prosperity at that point in history. However, the paper leaves the question open as to whether a Protestant specific work ethic existed or exists at all. Are there observable denomination-based differences in work ethic or is Protestantism only a veil hiding the underlying role of education? We use recent data to explore the role of Protestantism on work ethic. The results indicate that today's work ethic in fact is influenced by denomination-based religiosity and also education.

JEL classification: Z120, I200, J240

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1. INTRODUCTION

In a recent paper in the *Quarterly Journal of Economics*, Becker and Woessmann (2009) provide a fascinating explanation for the impact of Protestant work ethic on economic prosperity. With county-level data from the late 19th-century Prussia they convincingly demonstrate that the difference in economic success between Catholics and Protestants can predominantly be attributed to higher literacy among Protestants and not due to purely denominational differences at that time. This is a reasonable assumption since Luther translated the Bible from Latin into German so that Christians were able to read the Gospel by themselves. For the same reason, he favoured elementary schooling to increase literacy. He also strongly opposed the Catholic Church's practice of the preaching the Gospel in scholarly Latin, a language that was only understood by a very small elite. Thus, ordinary Protestants had both incentive and greater opportunity to become well educated in order to be able to understand the words of God, a situation quite different to that of the Catholic population at that time.

With this important piece of work, it seems that there is no longer much space for the famous thesis by Max Weber, who argued in his seminal book on "The Protestant Ethic and the Spirit of Capitalism" in 1904/1905 that economic prosperity can be attributed especially to Protestant reformer Calvin's theological doctrine of work as God's chosen duty.¹ Calvin taught that it is God's will that all men must work hard, even the rich. In addition, the fruits of work were not to be spent for easy living, possessions or wealth but must be reinvested over and over again (Hill, 1996). Hence, according to Becker and Woessmann (2009), economic prosperity in some regions at that time is rather the effect of increased human capital formation due to the fact that ordinary people were told to learn German so that they could read the words of God, rather than the effect of a specific Protestant work ethic.

Becker and Woessman's (2009) paper raises an important subsequent question: if denomination-based human capital and not Protestantism itself accounted for the majority of economic success in the 19th century, then it is questionable whether a Protestant specific work ethic exists at all. This problem could be rephrased in the following way: Is work ethic influenced by denomination or is the so-called Protestant work ethic only a veil hiding a possible underlying impact of education? In answering this question, we provide evidence that today's work ethic is in fact influenced by denomination-based religiosity as well as by education.

The structure of the comment is as follows: section two provides the foundations of work ethic in Protestantism which are essential to Max Weber's thesis, while section three presents the empirical analysis on the determination of today's work ethic.

¹ Of course, there are many other criticisms of Weber's thesis than the work by Becker and Woessmann (2009). See Iannaccone (1998), Delacroix and Nielsen (2001) and many other studies cited by Becker and Woessmann (2009) or Iannaccone (1998).

2. WORK ETHIC AND PROTESTANTISM

Studies addressing the influence of religion in economics have increased in importance over the past few years. This is because such studies have generated information about the impact of religious institutions like beliefs, cultural norms, and moral values which systematically influence decision-making in a society (Iannaccone, 1998).² According to McCleary and Barro (2006) religion affects the economy by fostering traits such as work ethic or trust. If this is true, we should observe differences in economic success determined by religious denomination. Max Weber (1904/1905) is probably the most popular representative of this thesis, even though he was not the first.³ His view on the protestant reformation's impact on the spirit of capitalism not only greatly influenced sociologists, economists and theologians but has also influenced the public discourse ever since. The central argument is that Protestants have developed a distinct work ethic as a path to salvation. This is different to other religions, and serves as the basis for economic success.⁴ According to Weber (1904/1905) the roots of this distinct work ethic go back to Luther and Calvin: for the first time in history they set a cultural norm that stresses that doing a good job for its own sake has a positive moral value as a service to God. On page 53 Weber (translation of 1976) says: "In fact, the *summum bonum* of this ethic, the earning of more and more money, combined with the strict avoidance of all spontaneous enjoyment of life, is above all completely devoid of any eudaemonistic, not to say hedonistic, admixture. [...] Economic acquisition is no longer subordinated to man as the means for the satisfaction of his material needs. This reversal of what we should call the natural relationship, so irrational from a naive point of view, is evidently as definitely a leading principle of capitalism as it is foreign to all peoples not under capitalistic influence. At the same time it expresses a type of feeling which is closely connected with certain religious ideas."

Contrary to this Protestant work ethic, ancient Greeks or Romans viewed work as dishonourable for a free man (Hill, 1996). Work was done by slaves: the ancient ideal was seen in self-sufficiency and satisfaction with life, although some extreme philosophical views also existed (for example that of the Stoics, who valued work as a means to serve society).⁵ Very much the same holds true for the medieval times. Work was basically seen as a punishment by God for man's original sin. However, with the formation of monasteries, monks were educated in religious and intellectual work and St. Thomas Aquinas even developed a hierarchy of work (Tilgher, 1930).

In any case, the great move towards a new perspective on work did not evolve until Protestant reformers like Luther, Calvin or Zwingli gave hard work a divine dignity.

² See Frey (1990) on the general impact of institutions as an incentive structure shaping the decision-making process and Tabellini (2007) for the impact of culture on economic development in European regions.

³ Becker and Woessmann (2009) cite Menschenfreund (1773) who, in the 18th-century, formulated a denomination-based thesis on Protestant's impact on economic prosperity.

⁴ Ekelund, Hebert and Tollison (2002) provide a detailed economic explanation of Protestant reformation. According to their theoretical considerations, monopolistic practices of the Roman Catholic Church encouraged rivals like the various Protestant reformers to enter in this market.

⁵ A famous example is Marc Aurel's mediation: "Work! But not like an unfortunate or like somebody who wants to be admired or pitied. Work or rest, as it may best please to the community"

Weber (1904/1905) points to Calvin's predestination doctrine: a decree by God that there are certain souls that were previously appointed to salvation.⁶ Since the intentions of God remain hidden for all humans, everyone must act in the sense of a virtuously conducted life, as if being chosen by God. However, humans do not have any influence on the divine decision. Whether someone is nominated to hell or to heaven after death is already specified at the beginning of his life. Weber (1976) writes "In what was for the man of the age of the Reformation the most important thing in life, his eternal salvation, he was forced to follow his path alone to meet a destiny which had been decreed for him from eternity. No one could help him. No priest, for the chosen one can understand the word of God only in his own heart. No sacraments, for though the sacraments had been ordained by God for the increase of His glory, and must hence be scrupulously observed, they are not a means to the attainment of grace, but only the subjective *externa subsidia* of faith. [...] This, the complete elimination of salvation through the Church and the sacraments (which was in Lutheranism by no means developed to its final conclusions), was what formed the absolutely decisive difference from Catholicism" (p. 104/105).

In any case, sooner or later, the question of "Am I one of the chosen?" must have been of great interest for a believing Calvinist at that time. Are there any criteria which could serve as a signal of the state of grace? Since Calvin was very suspicious regarding mysticism and emotions as means to salvation – he solely counted on *sola fide* – faith in the sense *fides efficax* had to be proven by true, clear and measurable Christian conduct to increase the glory of God (Barth, 1922). Restless diligence, austere asceticism and economic success can consequently be seen as indications of God's eternal grace. Weber (1976, p. 115) writes: "In practice this means that God helps those who help themselves. Thus the Calvinist, as it is sometimes put, himself creates his own salvation, or, as would be more correct, the conviction of it. But this creation cannot, as in Catholicism, consist in a gradual accumulation of individual good works to one's credit, but rather in a systematic self-control which at every moment stands before the inexorable alternative, chosen or damned."

All in all, uncertainty about salvation is seen as the central aspect because it provided strong incentives for the religious Calvinists to be active, austere, and hard-working and thereby take this as a signal to be among the God's chosen ones (McCleary and Barro, 2006). It can of course be debated whether the Protestant work ethic was developed due to theological interpretations or due to the economic conditions specific to the sixteenth century. Bernstein (1988) argues, for example, that a rapid population increase, serious price inflation, and a high rate of unemployment at that time had an important influence on the writings and the sermons of the Protestant reformers. Being aware of the problems of poverty, Luther and Zwingli, were among the first who drafted poor-relief laws in the 1520's. Tawney (1938) also stresses the fact that Europe in the 16th-century faced a vast economic crisis accompanied by moral laxity and corruptions of society and the Church. This created a desire for regeneration and reconstruction of conduct and institutions derived from the forgotten purity of Christianity. However, common to all these factors is the systematic concept of religious beliefs that had created an institutional framework,

⁶ Karl Bart's lectures in Goettingen (1922), assembled in "The Theology of John Calvin" provide an important theological analysis of the Reformation in general and of John Calvin in particular.

eventually providing incentives to work hard, and arguably creating the basis for economic prosperity.⁷

At this point, Becker and Woessmann (2009) add an important puzzle-stone and argue that religious beliefs are probably only a veil: that it is human capital formation and not a specific Protestant work ethic is the true reason for economic success. Luther not only translated the Bible from Latin into German so that everyone could understand God's words, but was also quite progressive in requesting elementary schools for every town to increase literacy among the population. In his tract *To Town Councillors to keep Children at School*, he expressed the importance of schooling in the training of children for the church and the state (Thompson, 1984). From the early 1520's on, literacy rates increased considerably in the German speaking areas (Haile, 1976). However, Luther's aim was purely religious and not economic: reading, understanding and knowing the Word. Thus, increased literacy among Protestants as a by-product of Protestant reformation was only incidentally the breeding ground for economic success according to Becker and Woessmann (2009). This stands in contrast to Weber's reasoning who claims the specific incentive structure of the Protestant work ethic especially closely linked to Calvin's writings are decisive for economic prosperity.⁸

If Becker and Woessmann (2009) are right, then the subsequent question is: does any specific Protestant work ethic exist at all? Is work ethic systematically influenced by denomination-based religiosity or is it also an education driven aspect?

3. EMPIRICAL ANALYSIS

In order to test the impact of Protestantism, religiosity and education on work ethic, we exploited recent data from the European Values Survey (EVS). This is a European-wide survey that collects data on the basic values and beliefs of people throughout Europe. The first EVS survey was conducted between 1981 and 1983, the second between 1990 and 1991 and the third between 1999 and 2001, with an increasing number of countries participating over time. The methodological approach is explained in detail in the EVS (1999) source book, which provides information on response rates, the stages of sampling procedures, a translation of the questionnaire, and field work, along with measures of coding reliability, reliability of data, and data checks. For our investigation, we explore the third wave focusing on Western European countries covering 16 countries (see *Appendix Table A1*). All these country surveys are conducted by experienced professional survey organizations. Interviews are face-to-face and those interviewed are adult citizens aged 18 years and older. Tilburg University coordinates the project and provides the guidelines to guarantee the use of standardized information in the surveys and to maintain the national representativeness of the data. To avoid framing biases, the questions are asked in a prescribed order. The response rates vary from country to country. However,

⁷ Note that the specific work ethic is central to the argument of economic prosperity. The suggestion that conservative Protestants would favour free-market positions or had implemented an economic agenda is largely a myth. The reality is both different and more complex as Iannaccone (1993) convincingly shows.

⁸ A similar study by Boppert et al. (2008) using Swiss historical data from the 19th-century comes to the conclusion that religious denomination only in a conservative milieu exhibits a significant impact on educational performance.

the average response rate is around 60%. Because the EVS asks an identical set of questions in various European countries, the survey provides a unique opportunity to examine whether work ethic is systematically influenced by denomination-based religiosity and education. From the EVS survey data we have selected the following question to proxy work ethic: “Work should always come first, even if it means less spare time.” (5=agree strongly; 4=agree; 3=neither agree nor disagree; 2=disagree; 1=disagree strongly).

Two steps of investigation are of importance: First, is there an impact of Protestantism on work ethic? What is its impact in relation to Catholicism? According to Weber (1904/1905) the Protestant specific work ethic can be traced back to asceticism important especially to the predestination doctrine developed by Calvin. Thus, religiosity should be important in the case of Protestantism but not with respect to Catholicism. We therefore include interaction terms. The data on religiosity were retrieved from the EVS, asking “Independently of whether you go to church or not, would you say you are: 1= A convinced atheist; 2= Not a religious person; 3 = A religious person”. Second, if Protestantism is a veil hiding a possible impact of education on work ethic, education should also play a key role. The introduction of an interaction term *education * denomination* could prove whether education can account for the denomination gap in work ethic. We therefore consider the following question of the EVS: “At what age did you complete or will you complete your full time education, either at school or at an institution of higher education? Please exclude apprenticeships.”

TABLE 1: WORK ETHIC, RELIGION AND EDUCATION IN WESTERN EUROPE

| <i>WEIGHTED</i> <i>PROBIT</i> | <i>ORDERED</i> | <i>Coeff.</i> | <i>z-Stat.</i> | <i>Marg.</i> <i>Effects</i> | <i>Coeff.</i> | <i>z-Stat.</i> | <i>Marg.</i> <i>Effects</i> | <i>Coeff.</i> | <i>z-Stat.</i> | <i>Marg.</i> <i>Effects</i> |
|--------------------------------------|----------------|------------------------------------|----------------|--------------------------------|------------------------------------|----------------|--------------------------------|------------------------------------|----------------|--------------------------------|
| <i>DEPENDENT V.: WORK ETHIC</i> | | clustering over 249 regions [1] | | | clustering over 249 regions [2] | | | clustering over 249 regions [3] | | |
| <i>Religion and Education</i> | | | | | | | | | | |
| PROTESTANT | | -0.056 | -0.60 | -0.010 | -0.159 | -1.13 | -0.027 | -0.355** | -2.11 | -0.056 |
| CATHOLIC | | 0.192* | 1.80 | 0.034 | 0.216 | 1.41 | 0.039 | 0.256 | 1.26 | 0.046 |
| RELIGIOUS | | 0.085*** | 3.15 | 0.015 | 0.065 | 1.53 | 0.012 | 0.065 | 1.52 | 0.012 |
| EDUCATION | | -0.032*** | -7.78 | -0.006 | -0.030*** | -12.28 | -0.005 | -0.033*** | -7.76 | -0.006 |
| PROTESTANT*EDUCATION | | 0.010** | 2.15 | 0.002 | | | | 0.010** | 2.19 | 0.002 |
| CATHOLIC*EDUCATION | | -0.002 | -0.38 | 0.000 | | | | -0.002 | -0.41 | 0.000 |
| PROTESTANT * RELIGIOUS | | | | | 0.114** | 2.17 | 0.020 | 0.116** | 2.20 | 0.021 |
| CATHOLIC * RELIGIOUS | | | | | -0.015 | -0.28 | -0.003 | -0.017 | -0.32 | -0.003 |
| <i>Demographic Factors</i> | | | | | | | | | | |
| AGE 30-39 | | -0.035 | -1.19 | -0.006 | -0.039 | -1.32 | -0.007 | -0.037 | -1.24 | -0.006 |
| AGE 40-49 | | 0.088** | 2.54 | 0.016 | 0.086** | 2.49 | 0.016 | 0.085** | 2.47 | 0.016 |
| AGE 50-59 | | 0.246*** | 6.72 | 0.049 | 0.248*** | 6.74 | 0.049 | 0.245*** | 6.69 | 0.048 |
| AGE 60-69 | | 0.453*** | 8.71 | 0.098 | 0.455*** | 8.64 | 0.099 | 0.451*** | 8.61 | 0.098 |
| AGE 70+ | | 0.629*** | 11.12 | 0.149 | 0.630*** | 11.02 | 0.149 | 0.626*** | 10.96 | 0.148 |
| FEMALE | | -0.126*** | -5.83 | -0.023 | -0.127*** | -6.00 | -0.023 | -0.128*** | -6.02 | -0.023 |
| <i>Marital Status</i> | | | | | | | | | | |
| WIDOWED | | -0.047 | -1.18 | -0.008 | -0.043 | -1.09 | -0.007 | -0.045 | -1.14 | -0.008 |
| DIVORCED | | -0.041 | -0.99 | -0.007 | -0.041 | -0.99 | -0.007 | -0.040 | -0.95 | -0.007 |
| SEPARATED | | 0.045 | 0.66 | 0.008 | 0.046 | 0.67 | 0.008 | 0.045 | 0.65 | 0.008 |
| NEVER MARRIED | | -0.071** | -2.53 | -0.012 | -0.075*** | -2.66 | -0.013 | -0.070** | -2.49 | -0.012 |
| <i>Employment Status</i> | | | | | | | | | | |
| PART TIME EMPLOYEE | | -0.134*** | -3.75 | -0.022 | -0.134*** | -3.77 | -0.022 | -0.133*** | -3.73 | -0.022 |
| SELF-EMPLOYED | | 0.163*** | 4.21 | 0.032 | 0.163*** | 4.23 | 0.032 | 0.162*** | 4.18 | 0.032 |
| RETIRED | | 0.046 | 1.27 | 0.008 | 0.041 | 1.12 | 0.007 | 0.045 | 1.24 | 0.008 |
| AT HOME | | -0.070* | -1.93 | -0.012 | -0.062* | -1.71 | -0.011 | -0.066* | -1.84 | -0.011 |
| STUDENT | | -0.011 | -0.19 | -0.002 | -0.023 | -0.40 | -0.004 | -0.013 | -0.22 | -0.002 |
| UNEMPLOYED | | 0.135** | 2.20 | 0.026 | 0.136*8 | 2.23 | 0.026 | 0.134** | 2.18 | 0.026 |
| OTHER | | -0.027 | -0.33 | -0.005 | -0.027 | -0.34 | -0.005 | -0.031 | -0.38 | -0.005 |
| Pseudo R2 | | 0.039 | | | 0.039 | | | 0.039 | | |
| Number of observations | | 17221 | | | 17221 | | | 17221 | | |
| Prob > chi2 | | 0.000 | | | 0.000 | | | 0.000 | | |

Notes: The reference group consists of OTHER RELIGION/NO RELIGION, AGE<30, MALE, MARRIED, FULL-TIME EMPLOYEE. Significance levels are: * 0.05 < p < 0.10, ** 0.01 < p < 0.05, *** p < 0.01. marginal effects for the highest value reported (5). Robust standard errors.

As one can argue that our key factors could be influenced by other variables that affect work ethic we control in our multivariate analysis for variables such as age, gender, marital and employment status. We use an ordered probit model in order to analyse the ranking information of the scaled dependent variable. We also use *weighted* estimations to correct the samples and thus to get a reflection of the national distribution⁹.

Moreover, since such equations have a nonlinear form, only the sign of the coefficient can be directly interpreted and not its size. We therefore also calculate the marginal effects to find the quantitative effect of a variable on our dependent variable. The marginal effect indicates the probability of belonging to a specific work ethic level, when

⁹ The weighting variable is provided by the EVS.

the independent variable increases by one unit. In all estimations the marginal effects are presented in relation to the highest work ethic value. In addition, we also cluster the standard errors by 249 official local regions based on the Eurostat NUTS level 2 (Nomenclature of Units for Territorial Statistics) classification. Such clustering on the basis of where the individuals come from will pick up any regional characteristics that are not controlled in the specification.

Table 1 presents the results. In specification [1] we explore the relevance of the education channel and in specification [2] the channel through religiosity. In specification [3] we investigate the joint impact of education and religiosity. The results indicate that there are indeed denomination-based differences in work ethic. Specification [1] shows that education has a statistically significant impact on work ethic if people are Protestant but not if they are Catholic. Similarly, specification [2] reports that there is also an interaction with religiosity. The effect of religiosity depends on the denomination. We observe that the additional effect of religiosity is only statistically significant when an individual is Protestant. In specification [3] we are interested to explore how strong both channels work together. As can be seen both interaction terms *PROTESTANT*EDUCATION* and *PROTESTANT*RELIGIOUS* are statistically significant. In sum, our results indicate that it is not only education that accounts for the gap in work ethic between Catholics and Protestants, but also religiosity.¹⁰ In other words, when focusing on work ethic instead of economic success not only human capital accumulation matters but also denomination-based religiosity.

4. CONCLUSIONS

In this comment we concentrate on the paper by Becker and Woessmann (2009), who argue that Max Weber's famous thesis on the impact of Protestant work ethic on economic success might be rather influenced by incidental human capital accumulation than by denomination-based religiosity. This leaves the question open as to whether there is a Protestant specific work ethic at all or if work ethic can be explained by higher education. Thus, we explore this question with data from the recent European Values Survey. We find that denomination-based-effects reported by Weber remain observable in present times. Religiosity is crucial for Protestant work ethic, which is compatible with Weber's thesis, since the specific work ethic only provides strong incentives if the individual seeks for salvation by hard work and an ascetic lifestyle. However, we also find that work ethic is influenced by education, pointing to the important role of education not only for economic success but also for a commitment to work ethic.

¹⁰ It can be debated whether education is endogenously dependent on work ethic which would result in biased estimates. IV estimates with town size as the instrument for education however does not give rise to spurious results. The significant impact remains. Town size is supposed to be a good instrument as in more densely populated areas, the provision of education services is more pronounced. Results of the first-stage regression support this reasoning (The F-test statistic of excluded instruments reports a value of 32.57 (p=0.000)).

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TABLE A1: COUNTRIES

| Western European Countries | |
|-----------------------------------|-------------------|
| Country | Work Ethic (Mean) |
| Germany | 3.46 |
| Spain | 3.34 |
| Italy | 3.29 |
| Denmark | 3.25 |
| Malta | 3.18 |
| Portugal | 3.12 |
| Luxembourg | 2.96 |
| Finland | 2.94 |
| Ireland | 2.91 |
| Northern Ireland | 2.86 |
| Iceland | 2.83 |
| Belgium | 2.82 |
| France | 2.75 |
| Sweden | 2.72 |
| Great Britain | 2.63 |
| Netherlands | 2.48 |

TABLE A2: DESCRIPTIVE STATISTICS

| | Obs | Mean | Std. Dev. | Min | Max |
|--------------------------------------|-------|--------|-----------|-----|-----|
| <i>Dependent Variable</i> | | | | | |
| WORK ETHIC | 19754 | 3.003 | 1.201 | 1 | 5 |
| <i>Religion and Education</i> | | | | | |
| PROTESTANT | 21399 | 0.485 | 0.500 | 0 | 1 |
| CATHOLIC | 21399 | 0.235 | 0.424 | 0 | 1 |
| RELIGIOUS | 20524 | 2.589 | 0.601 | 1 | 3 |
| EDUCATION | 20754 | 18.312 | 5.277 | 5 | 74 |
| <i>Demographic Factors</i> | | | | | |
| AGE 30-39 | 21436 | 0.204 | 0.403 | 0 | 1 |
| AGE 40-49 | 21436 | 0.182 | 0.386 | 0 | 1 |
| AGE 50-59 | 21436 | 0.156 | 0.363 | 0 | 1 |
| AGE 60-69 | 21436 | 0.138 | 0.345 | 0 | 1 |
| AGE 70+ | 21436 | 0.108 | 0.311 | 0 | 1 |
| FEMALE | 21549 | 0.532 | 0.499 | 0 | 1 |
| <i>Marital Status</i> | | | | | |
| WIDOWED | 20759 | 0.080 | 0.272 | 0 | 1 |
| DIVORCED | 20759 | 0.066 | 0.249 | 0 | 1 |
| SEPARATED | 20759 | 0.020 | 0.139 | 0 | 1 |
| NEVER MARRIED | 20759 | 0.257 | 0.437 | 0 | 1 |
| <i>Employment Status</i> | | | | | |
| PART TIME EMPLOYEE | 21398 | 0.081 | 0.273 | 0 | 1 |
| SELF-EMPLOYED | 21398 | 0.061 | 0.239 | 0 | 1 |
| RETIRED | 21398 | 0.209 | 0.406 | 0 | 1 |
| AT HOME | 21398 | 0.120 | 0.325 | 0 | 1 |
| STUDENT | 21398 | 0.065 | 0.246 | 0 | 1 |
| UNEMPLOYED | 21398 | 0.057 | 0.231 | 0 | 1 |
| OTHER | 21398 | 0.019 | 0.138 | 0 | 1 |

Note: Descriptive statistics without the reference groups.