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The value of male height in the marriage market

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ABSTRACT

Analyzing the Indonesian Family Life Survey 2007, this paper estimates the value of relative height (relative to the spouse's height) in the marriage market of a developing country. The results indicate that the value of a 1 cm reduction in the husband's height relative to his wife's height is about 3% of his earnings. 3% of the mean of yearly earnings amounts to Rp. 492,000 or US$54 in 2007. That value is reduced to 1% when earnings-generating attributes are controlled for. This difference of 2% points can be considered the value that women attach to their husbands' earnings-generating attributes; meanwhile, the remaining 1% suggests that there are still other attributes that women look for in male height.

1. Introduction

It has long been understood that tall people generally exhibit a variety of positive attributes: they are healthier, stronger, smarter, more educated, more sociable, more liked, and more confident than short people. Hence, it is not surprising that they are richer, more influential, more fertile, happier, and longer-lived than short people (see references in Mueller and Mazur, 2001; Carrieri and De Paola, 2012). Relatedly, height has been found to have an interesting relationship regarding marriage, particularly for men: tall men are more likely to get married than short men. Although the details therein vary, this pattern holds across time and space, as explained in the next section. The advantages that tall men enjoy in the marriage market suggest that women prefer tall men to short men, which is supported by ample evidence. Human biologists have attributed it to evolutionary processes. (e.g., Symons, 1979, pp. 196–198; Gregor, 1979; Ellis, 1992, pp. 279–281; Buss, 1994, pp. 38–40; Courtiol et al., 2010). In addition, such men would beget male offspring who, in turn, would be reproductively successful and carry copies of the women's genes (i.e., the sexy son hypothesis).

However, women of the same height are married to men of a variety of heights, which suggests that height can be traded off with other attributes. For example, short men can compensate for their shortness by earning more money. Based on this idea, Chiappori et al. (2012) provided a theory that allowed them to define "iso-attractiveness profiles" and marginal rates of substitution among individual attributes. When height is very important to women, a natural exercise in economics is to estimate the value of height. This exercise can attach a value to height in the marriage market. One crucial point to note in this exercise is that male height is relative not only to the male population, but also to a woman herself. In addition, the criterion of the male-taller norm is so prevalent, it is referred to as the "cardinal principle of date selection" (Ellis, 1992, p. 280).

This paper attempts to estimate the value of a wife's height given her husband's height (or a husband's height given his wife's height). The idea is simple: when a woman prefers a tall man, the issue is identifying the additional amount a short man needs to earn to compensate for his shortness relative to her height (or the amount a tall woman demands for her tallness relative to his height).

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Because this paper considers relative height (relative within a pair), both interpretations of the value are equally valid. For brevity, both values are denoted as the value of relative height.

For this attempt, the last survey of the Indonesian Family Life Survey (IFLS) is analyzed. This data set is nationally representative and has a sufficient number of observations for our purpose. Indonesia is of great interest because the literature on the relationship between height and marriage largely neglects the developing world. The value of relative height in the developing world can be higher or lower than that in the developed world. On the one hand, if muscular strength is more important at home and work in the developing than developed world, the value would be higher in the developing world. On the other hand, if beauty is mainly what women seek in male height, the value would be lower in the developing world because beauty may not be a priority there. In either case, if the value of relative height exists, it could serve as evidence that the female preference for male height may be universal. It is noteworthy that we adopt the revealed preference approach—that is, *actually* married couples.

This paper finds that the value of relative height exists in Indonesia, and that its magnitude is non-negligible. An additional centimeter of relative height corresponds to roughly 3% of a man's hourly or yearly earnings; 3% of the mean of yearly earnings amounts to Rp. 492,000 or US$54 in 2007. When earnings-generating attributes are controlled for, the value of relative height diminishes to about 1% of earnings, but the estimate remains statistically significant. The difference between the 3% and 1% figures can be considered the value that women attach to their husbands' earnings-generating attributes. This difference implies that women in Indonesia mainly seek tall men for their ability to provide resources. This is consistent with the importance of the evolutionary selection process that is deep-seated in women; it may also reflect the importance of resourcefulness in a developing country. The remaining 1%, however, suggests that there are still other attributes that women look for in male height, and this indicates that there are marriage market penalties for short men.

2. Literature review

Since Francis Galton showed an interest in height in statistical analyses, it has been extensively considered in various academic disciplines. When attention is confined to economics, Steckel's (1995, 2009) reviews provide excellent summaries of the research on height in economics. Steckel (1995) reviewed a positive relationship between height and living standards for an array of areas and periods. Subsequently, to keep abreast of the fast-growing body of literature, Steckel (2009) wrote another review and considered more than living standards: he covered a wide range of topics in economic history, labor economics, health economics, and development economics. Nonetheless, both reviews shed little light on the relationship between height and marriage.

Attempts have been made – although few in number – to examine the relationship between height and marriage, using historical and contemporary data. Baten and Murray (1998) reported that women shorter than 150 cm in preindustrial Bavaria, Germany, were 8% points less likely to have ever been married than women 150–165 cm tall. Turning to the US, Murray (2000) examined the 1884–1899 classes of Amherst College and found that relative to medium-height men (-1 standard deviation (SD) $\leq$ height ≤ 1 SD), very short men (height < -2 SD) were 11% less likely to have ever been married and 45% less likely to get married conditional on being unmarried up to the point. In contrast, very tall men (height >2 SD) were 15% more likely to have ever been married and 40% more likely to get married conditional on being unmarried up to the point.

Murray's (2000) study differed from that of Baten and Murray (1998) in that the former found a positive relationship between height and marriage even for tall men, whereas the latter found no such relationship for tall women. The difference could be attributed to the different focal gender in each study – women by Baten and Murray (1998) and men by Murray (2000) – but it could also result from other factors. Hacker (2008) demonstrated this point. He also considered US historical data (i.e., Civil War soldiers) and found that the relationship was weaker and less robust than expected. Specifically, in one sample (the Gould Sample), he estimated that men 1 SD above the age-specific mean height were 16% more likely to ever be married than men 1 SD below the mean height, but this result was driven by non-farmers. In another sample (the Early Indicators Sample), the size of the relationship (13%) was similar to that found in the Gould Sample, but the statistical significance was weak, and the separation of this sample by farmer status further weakened the statistical significance.

Manfredini et al. (2013) shed additional light on the relationship. They compared the relationship between height and marriage by age 40 for men between two Italian communities (Alghero and Treppo Carnico) at the turn of the 20th century. Their findings indicated that the relationship was almost linear for men in Treppo Carnico but inverse U-shaped for men in Alghero. Hence, tall men in Treppo Carnico experienced an advantage in the marriage market compared to short or medium-height men, but tall men in Alghero experienced disadvantages in the marriage market compared to medium-height men.

In addition to historical studies, studies that employed contemporary data also agreed that height is positively associated with marriage, although the details thereof differed. Fu and Goldman (1996) examined 1979–1991 US data and estimated with a set of covariates that conditional on being unmarried up to the point, a man of height 2 SD *below* the gender by age mean height was 33% less likely to get married than a man of height between -1 SD and 1 SD, whereas a woman of height 2 SD *above* the mean height was 21% less likely to get married than a woman of height between -1 SD and 1 SD.

In the case of the UK, Harper (2000) drew on data for year 1991 and argued that only very short men (height $<$ the 10th percentile) experienced a handicap in the marriage market: a 7% points lower probability of marriage than medium-height men (the 20th percentile $\leq$ height $<$ the 80th percentile). On the other hand, very tall