

MPRA

Munich Personal RePEc Archive

Does Your Birthdate Tell Your Future? Evidence from Vietnam

Nguyen, Cuong

10 October 2017

Online at <https://mpra.ub.uni-muenchen.de/81826/>
MPRA Paper No. 81826, posted 09 Oct 2017 15:48 UTC

Does Your Birthdate Tell Your Future? Evidence from Vietnam

Cuong Nguyen*

Tung Phung**

Abstract

Many people have believed in astrology and horoscope for a long time, though there are no scientific theories on these topics. Yet, using the 2002 Vietnam National Health Survey, we find that individuals who report birthdates on the 10th and the 20th of a month have worse health, less education and poorer occupations than other individuals, while those who report birthdates on the 31st have extraordinarily better outcomes. One explanation is that people who do not accurately know their birthdate tend to report their birthdate with a rounding digit of zero or five, and ‘not knowing birthdates accurately’ reflects ‘being born in a low educated family with less parental attention’.

JEL classification: J13, J12, I25.

Keywords: Birthdate; Health; Education; Unintended Childbearing; Children.

* Mekong Development Research Institute, Hoang Hoa Tham, Hanoi, Vietnam; and National Economics University, Hanoi Vietnam.

** Mekong Development Research Institute, Hoang Hoa Tham, Hanoi, Vietnam

1. Introduction

Many people are interested in fortune telling. There is a large number of ways to predict someone's future. One popular way is to use birthdates. Fortune tellers argue that the time when a person was born can affect her/his life. Throughout the world, many people have believed in astrology and horoscope.

Although fortune telling does not rely on scientific theories, there are numerous studies that find an association between an individual's month of birth and their life outcomes. Most empirical studies find that people born in the winter are more likely to have less education and lower wages than those born in other seasons (Buckles and Hungerman, 2013). There are some explanations for why the month of a child's birth matters to their future outcomes. The gestation period plays a key role in individuals' future health and productivity (Victora, 2008), and in-utero exposure to weather, illness or nutrition-related events such as Ramadan for Muslims can affect a child's health and education later in life (Almond, 2006; Almond and Mazumder, 2011). Individuals born early in the year can legally drop out earlier than others when they reach the compulsory schooling age at 16 (Angrist and Krueger, 1991). Recently, Buckles and Hungerman (2013) have shown that younger, less educated and unmarried women are more likely to give birth in the winter. Selection of a good year to conceive reflects well-planned childbearing (Do and Phung, 2010).

In this paper, we look at not the month but the date of birth. Using the 2002 Vietnam National Health Survey, we find a strong correlation between reported birthdays and the later outcomes of individuals. Individuals who report birthdays on the 10th and 20th of a month have lower education and worse employment than others, while individuals with reported birthdays on the 31st have the best performance. The arising question is, why is

there a correlation given that parents can select months, but can hardly chose specific dates for delivery? In the following sections, we discuss the correlation between the date of birth and life outcomes and reasons for it.

2. Data set

We use the 2002 Vietnam National Health Survey (henceforth VNHS) in this study. A reason for using the VNHS is that it contains data on not only health and education but also on the birthdates of individuals. The survey was conducted by the General Statistics Office of Vietnam and covered a representative sample of the population consisting of 36,000 households with 158,019 individuals.

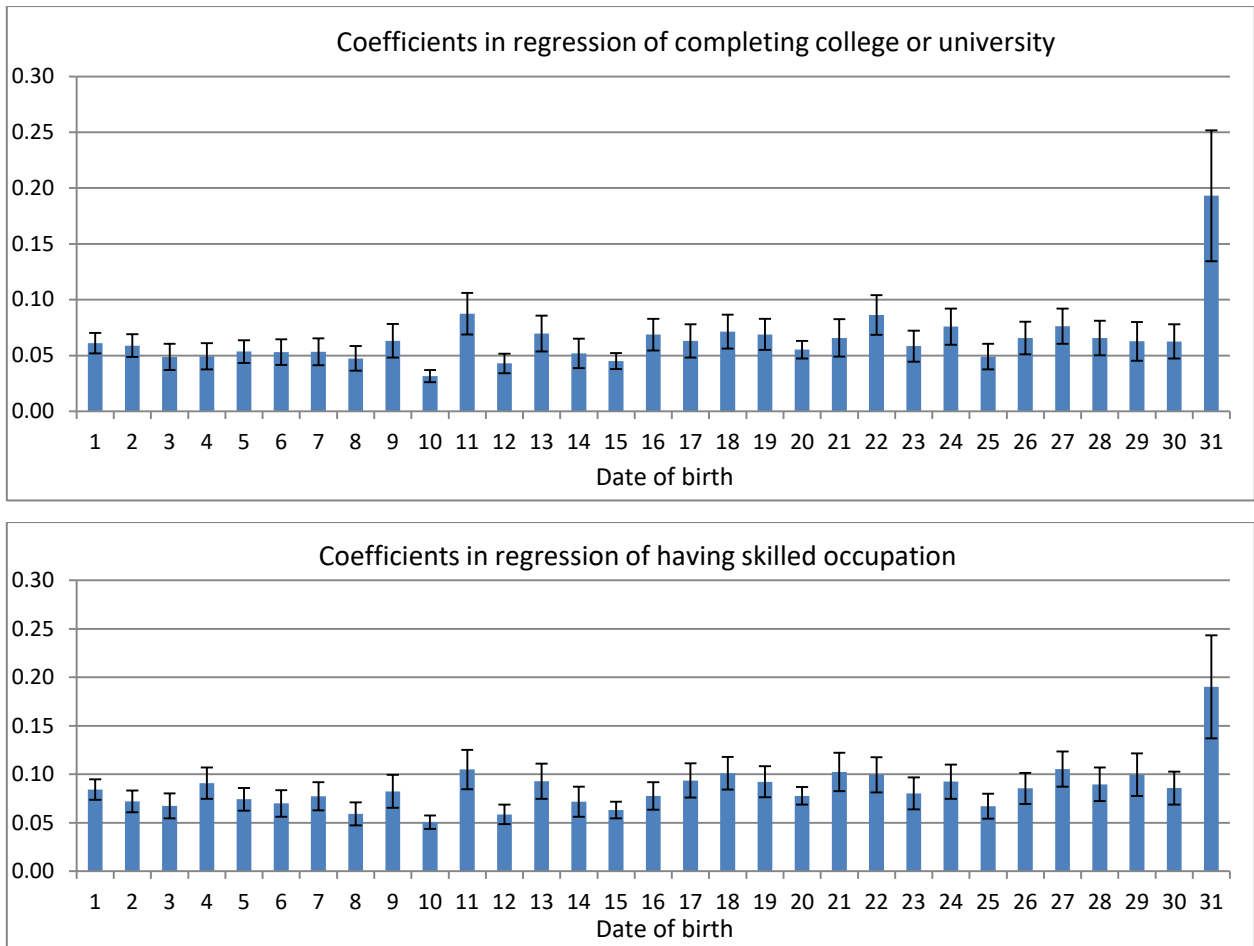
3. Empirical results

3.1. Birthdates and outcomes

In VNHS, respondents are asked about their date of birth. 24.1 percent of respondents do not know their date of birth in VNHS. We regress outcomes of individuals including education, employment and health on birthdays in a month (from one to 31) using ordinary least squares (OLS).¹ Control variables include age, sex, ethnicity, and urban dummy. Figure 1 presents coefficients and the 95% confidence interval of the birthdate in month in regressions of education degree and occupation. The reference group is individuals who do not know their date of birth. The fact that all the coefficients are positive and significant reflects that individuals not knowing their birthdate are less likely to have college/university degrees or skilled occupation than other individuals. The most interesting is that people who report being born on the 10th of a month have significantly lower education and lower involvement in skilled occupations than others, while people who report being born on the 31st of a month outperform others.

¹ For binary outcomes, we tried probit models, which return very similar marginal effects as the linear probability models.

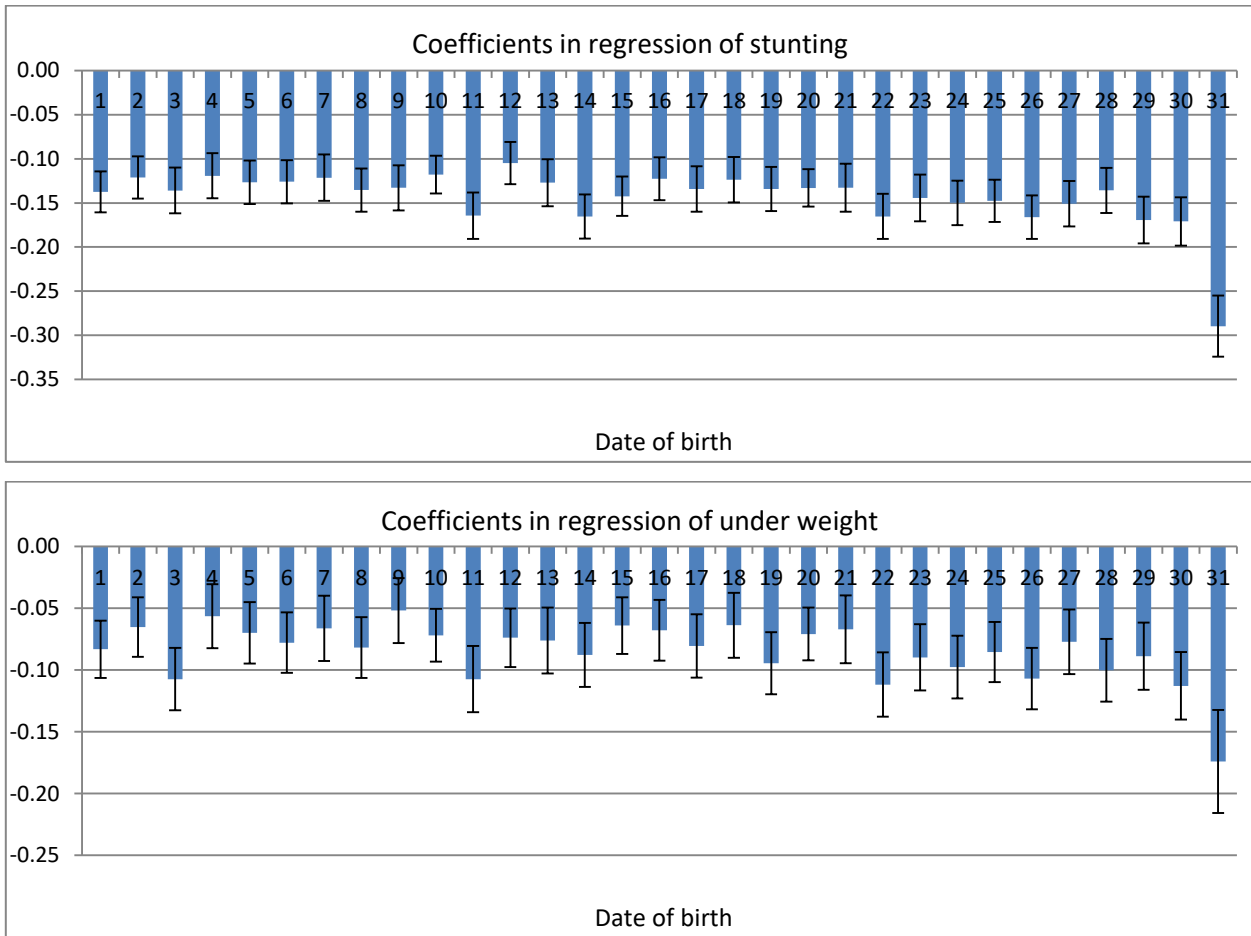
Figure 1. Estimated coefficients of birthdate in regression of education and occupation



Note: The sample includes people aged 22 and older. The reference group is people who report missing date of birth.

In Figure 2, the outcomes are health status of children, which are measured by the z-scores for height-for-age and weight-for-age. Data are only available for children below 17. Children with a z-score below -2 for height-for-age are considered stunted, and those with z-score below -2 for weight-for-age are considered underweight (WHO, 2007). Again, children not knowing their birthdates are more likely to be stunted and underweight, while children reporting born on the 31st of a month are less likely to be stunted and underweight.

Figure 2. Estimated coefficients of birthdate in regression of children's health

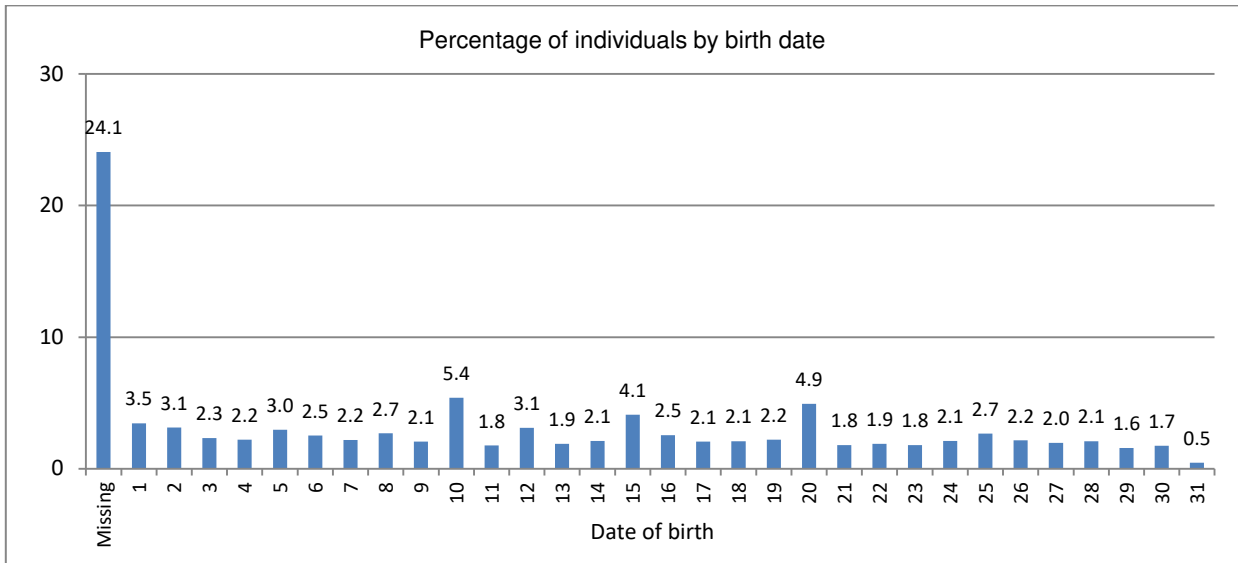


Note: The sample includes people below 17. The reference group is people who report missing date of birth.

3.2. Discussions

The correlation between birthdates and outcomes that we found in the previous section is indicative of parents' attention and characteristics. The fact that a person does not remember birthdate implies that she/he is more likely to have been born with less attention. Some individuals who do not know their birthdates accurately tend to report their birthdates with a rounding digit. Figure 3 shows that the proportion of people who report having birthdates on the 10th and the 20th of month is considerably higher than the proportion of people born on other birthdates.

Figure 3. The percentage of individuals by birthdates



Note: Missing means ‘do not know or remember birthdates’

We compute the Whipple's index, which is to measure the tendency for individuals to inaccurately report their date of birth or age. This index can be computed for any digit, and an index value above 175 indicates that people over report their birthdates at the digit. For the VNHS, the Whipple's index for heaping on birthdates ending in zero and five in a month are 361 and 229, respectively. It implies that many people who report their birthdates on the 5th, 10th, 15th, 20th, 25th, or 30th actually do not know their birthdates. As a result, individuals that report being “born on these days” are more likely to be born in families that paid less attention to them. On the other hand, people who report birthdates on the 31st of a month tend to know their birthdates the most accurately. Table 1 shows that older individuals and those from rural and low-educated families are more likely to report ‘not knowing birthdates’ or a birthdate ending in zero or five. Younger respondents and those with urban and high-educated families are more likely to report having a birthdate on the 31st of a month.

Table 1. OLS regression of the birth date

Explanatory variables	Not knowing birth date (don't know=1, know=0)	Excluding people not knowing birth date		
		Being born in the 5 th , 15 th , 25 th of the month	Being born in the 10 th , 20 th , 30 th of the month	Being born in the 31 st of the month
Age	0.0101*** (0.000)	0.0012*** (0.000)	0.0016*** (0.000)	-0.0001*** (0.000)
Male (male=1, female=0)	-0.0196*** (0.002)	0.0024 (0.002)	-0.0019 (0.002)	-0.0004 (0.001)
Kinh (Kinh=1, ethnic minorities=0)	-0.0495*** (0.012)	-0.0028 (0.003)	0.0248*** (0.003)	-0.0010 (0.001)
Urban (urban=1, rural=0)	-0.1053*** (0.010)	-0.0153*** (0.003)	-0.0253*** (0.003)	0.0043*** (0.001)
Head without education degree	Reference			
Head with primary degree	-0.0922*** (0.006)	-0.0100*** (0.003)	-0.0067* (0.004)	0.0007 (0.001)
Head with lower-secondary degree	-0.1628*** (0.008)	-0.0133*** (0.003)	-0.0103*** (0.004)	0.0022*** (0.001)
Head with upper-secondary degree	-0.1807*** (0.009)	-0.0132*** (0.005)	-0.0229*** (0.006)	0.0032*** (0.001)
Head with professional school degree	-0.2020*** (0.009)	-0.0084* (0.005)	-0.0279*** (0.005)	0.0054*** (0.001)
Head with college, university	-0.2289*** (0.010)	-0.0140** (0.007)	-0.0245*** (0.006)	0.0083*** (0.002)
Constant	0.1446*** (0.011)	0.1166*** (0.003)	0.1220*** (0.004)	0.0066*** (0.001)
Observations	158,019	116,071	116,071	116,071
R-squared	0.252	0.003	0.008	0.002

Heteroscedasticity robust standard errors (corrected for sampling weights and cluster correlation) in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table 2 presents regressions on groups of different birthdates. The models without family fixed-effects show that individuals who don't know their birthdates have the lowest outcomes, followed by individuals with birthdates ending in five, and then those with birthdates ending in zero. Individuals reporting a birthdate of the 31st in a month have the highest outcomes. When family fixed-effects are controlled for, the effects of reported birthdates still have the same sign, and are significant in regressions of high school. It

implies both unintended childbearing and parental characteristics are the main reason why individuals with different reported birthdates have different latter outcomes.

Table 2. Regression of individuals' outcome on birthdate

Explanatory variables	Completing upper-secondary school (yes=1, no=0)	Completing college, university (yes=1, no=0)	Having skilled occupation (yes=1, no=0)	Being stunting (yes=1, no=0)	Being under weight (yes=1, no=0)
<i>Models without family fixed-effects</i>					
Born in the 5 th , 15 th , 25 th of month	-0.0221*** (0.006)	-0.0084** (0.004)	-0.0107** (0.005)	-0.0094 (0.007)	0.0039 (0.007)
Born in the 10 th , 20 th , 30 th of month	-0.0415*** (0.005)	-0.0114*** (0.003)	-0.0121** (0.005)	-0.0059 (0.007)	-0.0038 (0.007)
Born in the 31 st of month	0.2123*** (0.037)	0.1101*** (0.037)	0.1198*** (0.037)	-0.1136*** (0.020)	-0.0613*** (0.024)
Do not know birthdate	-0.1462*** (0.005)	-0.0413*** (0.002)	-0.0710*** (0.004)	0.0509*** (0.012)	0.0314*** (0.011)
Born in other dates of month	<i>Reference</i>				
<i>Models with family fixed-effects</i>					
Born in the 5 th , 15 th , 25 th of month	-0.0158** (0.008)	-0.0069 (0.005)	-0.0063 (0.008)	-0.0020 (0.012)	0.0040 (0.013)
Born in the 10 th , 20 th , 30 th of month	-0.0195*** (0.007)	-0.0069 (0.004)	-0.0059 (0.007)	-0.0155 (0.012)	-0.0038 (0.012)
Born in the 31 st of month	0.0916** (0.042)	0.0380 (0.041)	0.0500 (0.058)	-0.0754* (0.041)	-0.0335 (0.049)
Do not know birthdate	-0.0681*** (0.006)	-0.0124*** (0.003)	-0.0203*** (0.006)	0.0059 (0.025)	-0.0175 (0.024)
Born in other dates of month	<i>Reference</i>				
Observations	86,941	86,941	86,941	52,233	52,233
Control variables include age, sex, ethnicity and urban dummies. In addition, family fixed-effects are controlled for in regressions presented in the lower panel of this table.					
Heteroscedasticity robust standard errors (corrected for sampling weights and cluster correlation) in parentheses.					
*** p<0.01, ** p<0.05, * p<0.1.					

4. Conclusions

This study shows that the more accurately people remember their birthdate, the better outcomes they have. It implies that people who do not know their birthdate tend to live in less education families where they receive less attention from their parents. This paper provides findings supporting an influential hypothesis that unintended childbearing has adverse consequences on children's development (e.g., Donohue and Levitt, 2001 among others). Early childhood investments result in short-term effects but also long-terms effects on the education and employment of individuals.

References

- Almond, D. (2006), "Is the 1918 Influenza Pandemic Over? Long-Term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population", *Journal of Political Economy* 114, 672–712.
- Almond, D. and Mazumder, B. (2011), "Health capital and the prenatal environment: The effect of Ramadan observance during pregnancy", *American Economic Journal: Applied Economics*, 3(4), 56-85.
- Angrist, J., and Krueger, A. (1991), "Does Compulsory School Attendance Affect Schooling and Earnings?", *Quarterly Journal of Economics*, 106, 979-1014.
- Buckles, K., and Hungerman, D. (2013), "Season of Birth and Later Outcomes: Old Questions, New Answers," *The Review of Economics and Statistics*, 95(3), 711-724.
- Do, T. and Phung, T., (2010), "The Importance of Being Wanted," *American Economic Journal: Applied Economics*, 2(4), 236-253.
- Donohue, J. J. and S. D. Levitt, (2001), "The impact of legalized abortion on crime," *The Quarterly Journal of Economics*, 116(2), 379-420.
- Victora CG, Adair L, Fall C, Hallal PC, Martorell R, Richter L, et al. (2008), "Maternal and child undernutrition: consequences for adult health and human capital", *The Lancet*. 371(9609), 340-57.
- WHO (2007), Growth reference data for 5-19 years, World Health Organization.