SOCIO-ECONOMIC CORRELATES OF FERTILITY IN PENINSULAR MALAYSIA

ADZMEL MAHMUD

FACULTY OF ECONOMICS AND ADMINISTRATION
UNIVERSITY OF MALAYA
KUALA LUMPUR

APRIL 2009
UNIVERSITY MALAYA

ORIGINAL LITERARY WORK DECLARATION

Name of Candidate: Adzmel Bin Mahmud
Registration / Matric No: EGE070012
Name of Degree: Master of Applied Statistics
Title of Research Paper: Socio-economic Correlates of Fertility in Peninsular Malaysia
Field of Study: Demography

I do solemnly and sincerely declare that:

(1) I am the sole author / write of this Work;
(2) This work is original;
(3) Any use of any work in which copyright exists was done by way of fair dealing and for permitted purposes and any excerpt or extract from, or reference to or reproduction of any copyright work has been disclosed expressly and sufficiently and the title of the Work and its authorship have been acknowledge in this Work;
(4) I do not have any actual knowledge nor do I ought reasonably to know that the making of this Work constitutes an infringement of any copyright work;
(5) I hereby assign all and every rights in the copyright to this Work to the University of Malaya (“UM”), who henceforth shall be owner of the copyright in this Work and any reproduction or use in any form or by any means whatsoever is prohibited without the consent of UM having been the first had and obtained;
(6) I am fully aware that if in the course of making this Work I have infringed any copyright whether intentionally or otherwise, I may be subject to legal action or any other action as may be determined by UM.

Candidate's Signature

Date 24/7/2009

Subscribed and solemnly declared before,

Witness's Signature

Name: Tey Nai Peng
Designation: Associate Professor

Date 24/7/2009
ABSTRACT

The main aim of this paper is to examine the fertility trends and differentials among Peninsular Malaysia women based on the 2004 Malaysian Population and Family Survey (MPFS-4) according to selected socio-economic variables which were found to have significant effect on number of children ever born. Findings from the study reveal that mean number of children ever born has dropped from 4.2 children in 1974 to 3.6 children in 1984, 3.4 children in 1994 and continued to decline to 3.1 in 2004. Fertility level is highest among Malays, who resides in rural areas, eastern region, lower educational level, women who had never worked, women whose husbands worked in agricultural sector and family income less than RM1000 a month.

Socio-economic variables can only affect the fertility level through the intermediate variables such as postponement of marriage and use of contraception. There is an upward trend in age at first marriage from 17.6 years in 1974 to 22.0 years in 2004. Marriage postponement is more pronounced among highly educated Chinese women, followed by the Indians and the Malays. The contraceptive prevalence rate was highest among Chinese, followed by the Indians and the Malays.

Ethnic differentials in number of children ever born are rather pronounced. In the multivariate context, after adjusting for age and age at first marriage, the differential in the mean number of children ever born among ethnic groups remain discernible. The socio-economic variables have different effects on the fertility level of each ethnic group. ‘Region’ emerges as the most important predictor of Malay fertility, while ‘work pattern’ and ‘family income’ is the most important predictor of Chinese and Indian fertility respectively.

Based on the present trend, it is highly likely that the fertility will reach replacement level by 2020, and the 70 million population target is unlikely to be achieved through natural increase. There is a need for the government to give some attention to the trend in delayed and non-marriage as this will determine to a large extent the future course of population growth in Malaysia.
ABSTRAK


Perbezaan bilangan anak adalah sangat ketara mengikut etnik. Dari konteks analisis multivariat, walaupun selepas mengawal umur semasa dan umur perkawinan pertama, perbezaan bilangan anak mengikut etnik masih wujud. Faktor-faktor sosio-ekonomi memberi kesan kepada kesuburan wanita mengikut etnik. Di kalangan wanita Melayu, 'kawasan' merupakan faktor utama yang mempengaruhi kesuburan mereka, manakala 'corak pekerjaan' dan 'pendapatan keluarga' merupakan faktor utama yang mempengaruhi kesuburan wanita Cina dan India.

Berasaskan corak terkini hasil kajian, kecenderungan Malaysia untuk mencecah paras penggantian pada tahun 2020 adalah tinggi dan matlamat penduduk 70 juta tidak mungkin dicapai jika hanya bergantung kepada pertumbuhan semulajadi penduduk. Oleh itu, pihak kerajaan perlu memberikan perhatian kepada senario penduduk yang semakin melewatkan perkahwinan dan seterusnya tidak berkahwin kerana hal ini adalah amat berkaitrapat dengan pertumbuhan penduduk di Malaysia pada masa hadapan.
ACKNOWLEDGEMENT

My deepest gratitude goes to my supervisor, Associate Professor Tey Nai Peng, for his kind assistance, excellent guidance, valuable comments and suggestions as well as his generous support towards the completion of this research paper. I am very grateful to benefit from his deep experience and precious comments.

I thank the National Population and Family Development Board, Kuala Lumpur, particularly Pn. Rohani Ab. Razak, Head of Population Division, for giving me the permission to use and analyze the 2004 Malaysian Population and Family Survey (MPFS-4) data. To all my colleagues at the Population Division, National Population and Family Development Board, thank you for your great support and assistance.

My appreciation goes to National Population and Family Development Board for allowing two-year study leave and Public Service Department for the scholarship of my Master programme.

My special thanks go to my parents and parents in-law, family and friends for their constant encouragement and support.

Last but not least, my deepest appreciation to my wife Mariatul Aznida for unrelenting morale support, love and most importantly of being able to understand, sacrifice and compromise of my work that took a lot of our quality time. To the gem of my life and the light of my inspiration, Adam Hariz, 4 years, who seems to understand my bustle even at a very young age.
CONTENTS

ABSTRACT iii
ABSTRAK iv
ACKNOWLEDGEMENT v
CONTENTS vi
LIST OF TABLES viii
LIST OF FIGURES xi

CHAPTER 1
BACKGROUND TO THE STUDY 1

1.0  Introduction 1
1.1  Objectives of the study 5
1.2  Theoretical background: Review of fertility framework analysis 6
1.3  Review of literature on fertility 7
   1.3.1  Ethnicity and fertility 8
   1.3.2  Place of residence and fertility 10
   1.3.3  Education and fertility 10
   1.3.4  Women's employment and fertility 13
   1.3.5  Husband's occupation and income and fertility 13

CHAPTER 2
METHODOLOGY 15

2.0  Introduction 15
2.1  Sampling design 15
2.2  Questionnaire design and pretesting 17
2.3  Field work and quality control 18
2.4  Characteristics of main respondents 19
2.5  Sample weights 20
2.6  Analytical framework 21
2.7  Statistical techniques and data analysis 23
CHAPTER 3
FERTILITY TRENDS AND DIFFERENTIALS PENINSULAR MALAYSIA 27

3.0 Introduction 27
3.1 Fertility levels and trends 27
3.2 Differentials in the mean number of children ever born 30
3.3 Differentials in parity 36
3.4 Recent marital fertility 45

CHAPTER 4
PROXIMATE DETERMINANTS OF FERTILITY 50

4.0 Introduction 50
4.1 Marriage trends and patterns 51
4.2 Trends and patterns of contraceptive use 58
   4.2.1 Ever use of contraception 58
   4.2.2 Current use of contraception 62
   4.2.3 Contraceptive method mix 67

CHAPTER 5
DETERMINANTS OF FERTILITY 70

5.0 Introduction 70
5.1 Multiple Classification Analysis (MCA) on mean number of children ever born 70
5.2 Logistic regressions on childlessness and large family size 85

CHAPTER 6
SUMMARY AND CONCLUSION 90

BIBLIOGRAPHY 96
CHAPTER 1
BACKGROUND TO THE STUDY

1.0 Introduction

Malaysia has experienced rapid social and economic changes since Independence in 1957. There have been spectacular gains in per capita income, education and life expectancy. The employment patterns have shifted from agriculture to the urban industrial and service sectors (Malaysia, 2006). In 2005, the total population of Malaysia stood at 26.75 million, up from 23.49 million in 2000, with a rate of growth of 2.6 percent per annum. Of the total population in 2005, about 24.36 million (91.1 percent) were Malaysian citizens. The Bumiputera (Malays and Other Bumiputera) comprised 65.9 percent, Chinese 25.3 percent and Indians 7.5 percent. In terms of spatial distribution, the proportion of population living in urban areas had increased from only 25.0 percent in 1957 to 63.0 percent in 2005. Primary education is now nearly universal, and educational level has improved substantially over the years. Enrollment in institutions of higher learning had increased from 574,421 in 2000 to 731,698 in 2005. Consequent upon the educational improvement, more and more women are now entering the modern labor market. The labor force is projected to increase to 12.4 million or with a participation rate of 67.3 percent in 2010, and this range between 87.4 percent for the males and 46.3 percent for the females (Malaysia, 2006).

Socio-economic development during the past 52 years has led to a substantial and sustained fertility decline. Indeed, similar changes elsewhere in East and Southeast Asia can also be seen notably in South Korea, Hong Kong, Thailand, Taiwan and Singapore where fertility level has plunged below replacement level. The transition from high fertility to below replacement level in Singapore appears to foreshadow a similar
movement in Malaysia (Leete, 1987). The total fertility rate (TFR) in Peninsular Malaysia had fallen from 6.8 children per woman in 1957 to 3.0 in 2000, a reduction of about 56 percent. The TFR began falling in late 1950s but not uniformly for the three main ethnic groups. Of the three main ethnic groups, Malays had the lowest TFR in 1957. In the early 1960s the Chinese-Malay differential reversed and higher Malays fertility has been maintained since then. A similar shift in the relative positions of the Malays and Indians fertility took place in the late 1960s (Tey, 2006). While the TFR for Chinese and Indians has been declining steadily, the Malays TFR leveled off around the mid 1970s. In mid 1980s, the Malays TFR was twice as high as the Chinese and 63 percent higher than that of the Indians (Saw, 1990). As a result, the Malay proportion of the total population in Peninsular Malaysia has increased from 50.8 percent in 1957 to 62.4 percent in 2000. In contrast, the share of Chinese and Indian population has declined from 37 and 11 percent in 1957 to 28.0 and 9.6 percent respectively in 2000. With rapid socio economic changes, further fertility reductions seem inevitable (Leete, 1989).

Fertility decline has occurred for all the age groups among the three main ethnic groups in Peninsular Malaysia. The fertility decline has been most pronounced among the youngest and oldest age group - the youngest due to rising age at marriage, and the oldest due to earlier termination of childbearing (Tey, 2006). The fertility level for all Malaysian women aged 15-19 and 45-49 has fallen to a very low level. Decline in fertility rate among young women of all ethnic groups has been sustained since the 1950s, owing to rising age at marriage. For the Malays, the rise in TFR between 1980 and 1985 was largely brought about by increased childbearing among women in the prime reproductive age group 25-39. As for the Chinese, there has been a slight increase in births in the 1990s among those aged 29-34. The rise in age specific fertility rate (ASFR) among women in the prime reproductive age group could be attributed to later births resulting from delayed marriage. The rate of fertility decline among the Indians decelerated since the mid 1980s, and
stalling of fertility decline was observed for those in the 30-39 age groups. Since the mid 1970s, the ASFR of the Malays have been considerably higher than those of the Chinese and Indians (Table 1.1).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TFR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>6045</td>
<td>5665</td>
<td>5065</td>
<td>4645</td>
<td>4455</td>
<td>4820</td>
<td>4115</td>
<td>3971</td>
<td>3524</td>
</tr>
<tr>
<td>20-24</td>
<td>163</td>
<td>97</td>
<td>71</td>
<td>60</td>
<td>40</td>
<td>32</td>
<td>23</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>25-29</td>
<td>342</td>
<td>266</td>
<td>243</td>
<td>212</td>
<td>187</td>
<td>152</td>
<td>14</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>30-34</td>
<td>279</td>
<td>266</td>
<td>257</td>
<td>242</td>
<td>248</td>
<td>269</td>
<td>231</td>
<td>234</td>
<td>222</td>
</tr>
<tr>
<td>35-39</td>
<td>208</td>
<td>251</td>
<td>222</td>
<td>200</td>
<td>207</td>
<td>235</td>
<td>201</td>
<td>197</td>
<td>185</td>
</tr>
<tr>
<td>40-44</td>
<td>146</td>
<td>158</td>
<td>148</td>
<td>149</td>
<td>143</td>
<td>169</td>
<td>147</td>
<td>136</td>
<td>125</td>
</tr>
<tr>
<td>45-49</td>
<td>55</td>
<td>75</td>
<td>57</td>
<td>57</td>
<td>59</td>
<td>67</td>
<td>66</td>
<td>57</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>0</td>
<td>15</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Chinese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFR</td>
<td>7335</td>
<td>4780</td>
<td>4615</td>
<td>3525</td>
<td>3110</td>
<td>2670</td>
<td>2255</td>
<td>2510</td>
<td>2458</td>
</tr>
<tr>
<td>15-19</td>
<td>38</td>
<td>20</td>
<td>25</td>
<td>24</td>
<td>22</td>
<td>12</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20-24</td>
<td>280</td>
<td>193</td>
<td>190</td>
<td>141</td>
<td>148</td>
<td>107</td>
<td>75</td>
<td>80</td>
<td>72</td>
</tr>
<tr>
<td>25-29</td>
<td>412</td>
<td>261</td>
<td>280</td>
<td>231</td>
<td>217</td>
<td>198</td>
<td>164</td>
<td>193</td>
<td>173</td>
</tr>
<tr>
<td>30-34</td>
<td>355</td>
<td>241</td>
<td>222</td>
<td>170</td>
<td>151</td>
<td>145</td>
<td>135</td>
<td>149</td>
<td>156</td>
</tr>
<tr>
<td>35-39</td>
<td>239</td>
<td>152</td>
<td>136</td>
<td>97</td>
<td>63</td>
<td>60</td>
<td>58</td>
<td>59</td>
<td>68</td>
</tr>
<tr>
<td>40-44</td>
<td>117</td>
<td>71</td>
<td>59</td>
<td>37</td>
<td>19</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>45-49</td>
<td>26</td>
<td>18</td>
<td>11</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TFR</td>
<td>.7955</td>
<td>.5360</td>
<td>.4785</td>
<td>.3860</td>
<td>.3345</td>
<td>.2890</td>
<td>.2550</td>
<td>.2650</td>
<td>.2425</td>
</tr>
<tr>
<td>15-19</td>
<td>209</td>
<td>113</td>
<td>68</td>
<td>52</td>
<td>43</td>
<td>30</td>
<td>23</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>20-24</td>
<td>42</td>
<td>259</td>
<td>270</td>
<td>212</td>
<td>193</td>
<td>151</td>
<td>126</td>
<td>124</td>
<td>100</td>
</tr>
<tr>
<td>25-29</td>
<td>441</td>
<td>320</td>
<td>254</td>
<td>248</td>
<td>225</td>
<td>200</td>
<td>178</td>
<td>189</td>
<td>166</td>
</tr>
<tr>
<td>30-34</td>
<td>283</td>
<td>231</td>
<td>198</td>
<td>145</td>
<td>140</td>
<td>133</td>
<td>121</td>
<td>127</td>
<td>127</td>
</tr>
<tr>
<td>35-39</td>
<td>159</td>
<td>112</td>
<td>115</td>
<td>84</td>
<td>52</td>
<td>55</td>
<td>51</td>
<td>56</td>
<td>61</td>
</tr>
<tr>
<td>40-44</td>
<td>60</td>
<td>23</td>
<td>44</td>
<td>27</td>
<td>14</td>
<td>8</td>
<td>11</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>45-49</td>
<td>10</td>
<td>14</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Toy (2006)

In Malaysia, marriage marks the beginning of the family formation process. With the expansion of education and increased employment opportunities in industrial and services occupations, age at marriage will increase further. The age at which women marry plays an important role in fertility reduction and population growth. Age at first marriage marks the beginning of regular exposure to the risks of pregnancy and childbearing and it also
determines the length of exposure to childbearing. Early marriage is generally accompanied by high fertility. Age at first marriage for Malaysian women has increased from 16.6 years in 1947 to 21.4 years in 1974 (Jones, 1981). Malaysians regardless of ethnic descent have been marrying at ever later age. The singulate mean age at marriage among men has increased from 28.2 years in 1991 to 28.6 years in 2000, while that for women has increased from 24.7 years to 25.1 years over the same period. The proportion of never-married men aged 20-34 has increased from 43.2 percent in 1991 to 48.1 percent in 2000. Among women aged 20-24, 68.5 percent were single in 2000, up from 60.2 percent in 1991 (Department of Statistics, 2003).

Numerous factors have been found to influence the timing of marriage. Rapid economic development, rising level of education, increased opportunities for wage employment, and an increasing preference for independent spouse selection are among the likely reasons for this very significant shift in timing of marriage (Hirschman, 1985). Women who were married later did not ‘make up’ by having more closely spaced births. Hence, age at marriage resulted in decline in age specific fertility rate especially among young women. Teenage marriage has become rare among all the three major ethnic groups. Saw (1966) attributed the decline in age specific fertility rate largely to the rise in the age at first marriage. Tan et al. (1988) found that among women aged 30-34 years in 1980, more than half of the Malays and 46 percent of the Indians were married by age 19, compared to only 15 percent for the Chinese. Among those aged 20-24 years in 1980, only 32 percent of Malay women and 26 percent of Indian women were married by age 19, compared to only 19 percent for the Chinese. These figures clearly show a trend towards delayed marriage.