

Explaining the current fertility differentials in three ASEAN countries

Introduction

The Southeast Asian (or ASEAN – Association of Southeast Asian Nations) countries are at different stages of demographic transition. Since the 1960s when most countries started to launch the family planning programs, the fertility level has been declining. Three of the ASEAN countries have already attained below replacement fertility level, and a few are approaching the replacement level. Within each country, fertility level varies widely across the socio-economic groups, resulting from differentials in age at marriage and contraceptive use, and to some extent abortion as well. In this paper, we attempt to explain factors influencing the fertility trends and differentials in three ASEAN countries, namely Cambodia, Indonesia and the Philippines.

Theoretical Focus and Objectives

The fertility level of a country is closely linked with the level of development and policy intervention. At the household/individual level, number of children affects the wellbeing of the family and reproductive health of women. The paper begins by tracing the changes in total fertility rate in relation to socio-economic indicators. Past studies have found negative correlation between fertility and socio-economic development indicators such as urbanization, education, modern sector employment and wealth status. Most of the socio-economic variables are inter-correlated with confounding effects on fertility. Hence, multivariate techniques are used to analyze the independent and combined effects of socio-economic variables on fertility in three countries with different socio-cultural, religious and economic settings.

Data and Research Methods

The data for this paper come from the 2010 Cambodia Demographic and Health Survey (DHS), the 2007 Indonesia DHS and the 2008 Philippines DHS. All these surveys were based on nationally representative samples. At the country level, the total fertility rate is the dependent variable, to be explained by socio-economic indicators such as human development index, GDP per capita, percent with secondary education, age at marriage,

strength of family planning program, and contraceptive prevalence rate in each of the three countries under study. At the individual level, the main dependent variable is the number of children ever born (CEB) among currently married women aged 15 to 49 years. The socio-economic determinants selected for this study include place of residence, respondent's educational level, respondent's employment sector and wealth index. Multiple Classification Analysis (MCA) is used to determine both independent and combined effects of these factors on CEB, controlling for age and age at first marriage.

Findings

The high fertility level of more than 5 children per woman in the 1960s in all three countries had declined to 2.8, 2.2 and 3.3 respectively in Cambodia, Indonesia and the Philippines in 2005-2010. The near replacement fertility level achieved in Indonesia and rapid fertility transition in Cambodia were mainly attributed to the successful implementation of national family planning program in these two countries, with a contraceptive prevalence rate (CPR) of 40 percent in Cambodia and over 57 percent in Indonesia in 2005. Although Philippines has achieved about 50 percent of contraceptive use in 2005, the pace of fertility reduction has been relatively slow, probably due to the heavier reliance on traditional methods (or less effective methods). The singulate mean age at marriage (SMAM) is about 23 years in all three countries around 2005. While rising age at marriage is an important proximate determinant of fertility in each of these countries, it is probably less important in explaining the different level of fertility across the three countries.

Urban, wealthier and higher educated women generally had fewer children than their rural, poorer and lesser educated counterparts, and this is true in all the three countries. Women employed in the agriculture sector tended to have greater number of children, followed by non-working women and those working in the non-agriculture sector, except for Indonesian women.

Multivariate analysis shows that the fertility differentials found in bivariate analysis remained largely unchanged, in all three countries. The models with four background/socio-economic variables could only explain 7.9 percent, 8 percent and 14 percent of the variations in CEB respectively in Cambodia, Indonesia and the Philippines.

Controlling for age in M2 increases the predictive power to 40 percent, and further controlling for age at first marriage in M3 increases the predictive power to 50 percent in all three countries. The effects of urbanization and education on CEB were mediated mainly through age and age at first marriage. This indicates that higher educated urban women tended to be younger and marry later, and thus had shorter duration of exposure to the risk of pregnancy. It is interesting to note that non-working women have more children than the women employed in the agriculture sector, a reversal of the finding in the bivariate analysis. Fertility differentials across wealth index categories were less significant as compared to other variables in all three countries.

Table 1: Multiple Classification Analysis (MCA) of mean number of children ever born (CEB) by selected variables

Cambodia						Indonesia					Philippines				
		Adjusted mean						Adjusted mean					Adjusted mean		
Variables	n	Unadjusted mean	M1	M2	M3	n	Unadjusted mean	M1	M2	M3	n	Unadjusted mean	M1	M2	M3
<u>Place of residence</u>															
Urban	3339	2.54	2.97	2.89	2.96	12230	2.35	2.59	2.55	2.59	3838	2.75	3.09	3.11	3.14
Rural	8189	3.14	2.97	3.00	2.97	18591	2.73	2.57	2.60	2.57	4726	3.38	3.10	3.09	3.06
<u>Women's educational level</u>															
Primary or no schooling	8479	3.28	3.23	3.04	2.99	15285	3.08	3.03	2.76	2.55	2374	4.29	4.04	3.63	3.28
Secondary	2846	2.13	2.29	2.78	2.88	13265	2.13	2.18	2.47	2.60	3722	2.89	2.90	3.10	3.03
Higher	203	1.42	1.70	2.45	3.06	2271	1.85	1.89	2.06	2.68	2468	2.27	2.49	2.58	3.02
<u>Women's work status</u>															
Not working	1782	2.73	2.79	3.13	3.15	12709	2.42	2.45	2.66	2.68	3376	2.90	2.83	3.13	3.19
Non-agriculture sector	4197	2.52	2.74	2.84	2.87	10520	2.40	2.54	2.46	2.49	4067	2.91	3.14	3.01	3.00
Agriculture sector	5549	3.38	3.20	3.01	2.98	7592	3.11	2.85	2.61	2.54	1121	4.34	3.72	3.29	3.16
<u>Wealth index</u>															
Poorest	2210	3.44	3.09	3.46	3.49	7822	2.95	2.64	2.96	2.99	1972	3.95	3.41	3.76	3.74
Poorer	2113	3.27	2.98	3.20	3.20	6170	2.71	2.58	2.68	2.66	1856	3.40	3.28	3.41	3.37
Middle	2029	3.13	2.97	3.05	3.03	5611	2.51	2.53	2.50	2.48	1728	2.96	3.02	2.92	2.92
Richer	2221	2.81	2.91	2.81	2.78	5580	2.32	2.49	2.34	2.33	1609	2.58	2.90	2.73	2.76
Richest	2955	2.41	2.90	2.49	2.51	5638	2.25	2.64	2.26	2.26	1399	2.24	2.72	2.39	2.44
R²		0.079	0.480	0.586				0.080	0.370	0.450			0.140	0.389	0.506

Notes: (i) M 1 (Model 1) = socio-economic variables without covariates
(ii) M2 (Model 2) = socio-economic variables and age as covariate
(iii) M3 (Model 3) = socio-economic variables and age and age at first marriage as covariates

Conclusion

Fertility level differs significantly across these 3 ASEAN countries, and pronounced socio-economic differentials in fertility exist within each country. Strong family planning programs have resulted in low fertility in Cambodia and Indonesia, but the relatively low level of use of modern contraception probably explains the slower fertility decline in the Philippines. Nevertheless, these three countries had undergone substantial socio-economic changes in the last 50 years which brought about the fertility transition. More information, education and motivational efforts are required to introduce family planning to the disadvantaged groups in order for them to plan childbearing based on their financial capability. Improving women's education is crucial in reducing the high fertility level among some groups of the population, in order to achieve greater economic progress and equity.