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**The Economic Crisis and Desires for Children and Marriage
in Thailand**

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The Economic Crisis and Desires for Children and Marriage in Thailand

Noriko O. Tsuya and Napaporn Chayovan

The Asian economic crisis began in Thailand in June 1997 with the near collapse of its financial market (Bhaopichitr 1997; Facts On Life News Services 1998). After almost 5 years, Thai economy and society are still not yet out of the devastating effects of the crisis. It is important to study the demographic consequences of this crisis because, as the crisis is not only long-lasting in Thailand but also occurred in other parts of Asia, the lasting impacts of the crisis will continue to shape the demographic landscape of the region as a whole for some years to come.

Using data drawn from the 2001 national survey on the economic crisis, demographic dynamics, and family (called the ECODDF hereafter), this study examines the relationships between experiences of economic difficulties due to the economic crisis and desires for children and marriage among young women and men in Thailand. Specifically, we first explain the data and measurements employed by this study. We next look at the degrees and patterns of experiences of economic hardships due to the economic crisis for women and men separately. We then examine the patterns of our two dependent variables--fertility desires among currently married women and men aged 25-39 and marriage desires among never-married women and men aged 20-34. Turning to the multivariate analyses of desires for children and marriage, we first look at the results of the logistic regression analysis of the effects on women's and men's fertility desires of experiences of economic hardships related to the economic crisis. We then examine the results of the logistic regression analysis of the effects of economic hardships on desires for marriage among young single women and men. The paper concludes with summary of findings and discussion of their implications.

Relatively little has been done in terms of comprehensive studies of the socio-demographic impacts of Asia's economic crisis, with notable exceptions of the RAND-UCLA-Demographic Institute of the University of Indonesia collaborated project on Indonesia (e.g., Frankenberg, Thomas and Beegle 1999) and a case study on Thailand's economic crisis and reproductive health conducted by the College of Population Studies at Chulalongkorn University (Chayovan, Peracca and Ruffolo 2000). Admittedly, unlike the Indonesia Family Life Survey, the ECODDF is not a longitudinal survey covering the period prior to the economic crisis. Nonetheless, the ECODDF provides a unique opportunity to examine the multi-dimensional effects and consequences of the economic crisis on people and families in Thailand. Through this study, we seek to shed light on the paths through which the macro economic crisis influences individuals' attitudes and perceptions about marriage and family.

DATA AND MEASUREMENTS

Data

Data for this study are drawn mainly from the National Survey on the Economic Crisis, Demographic Dynamics, and Family (ECODDF) in Thailand. The ECODDF is the first national family survey covering both women and men of all marital statuses at reproductive ages in the country. The survey was intended to collect nationally representative data on a variety of issues pertaining to economic conditions, demographic situations, and family life in Thailand, including experiences and attitudes related to the economic crisis, fertility and other life histories, reproductive health and family planning, family activities and related attitudes toward marriage and family, as well as demographic and socioeconomic backgrounds of respondents, their spouse, and other family members. The ECODDF is also intended to parallel to the 2000 National Survey on Family and Economic Conditions in Japan. Conducted in March-June and October 2001 by the College of Population Studies (CPS) at Chulalongkorn University in Bangkok, the survey was designed by a research team from Keio University in Tokyo and the CPS. Funding was given by the COE Project on Asian Financial Crisis and Its Macroeconomic Responses at Keio University, and also by the Grand-in-Aid for Specially Promoted Research by Japan Ministry of Education, Culture, Sports, Science, and Technology; and logistic support was provided by the COE Project office and the CPS.

The ECODDF is based on a national, stratified multistage probability sampling of the Thai population, in which 6,100 urban and 6,000 rural households were randomly selected using the 2000 population census as the sampling frame. Stratifying Thailand into 5 major strata/region--North, Northeast, Central (excluding Bangkok), South, and Bangkok Metropolis, 21 provinces were randomly selected by probability proportion to population size, except for Bangkok that was self-representative. Then, dividing the sample provinces into two substrata--municipal (urban) and non-municipal (rural) areas, a total urban sample of 6,100 households (2,100 households in the provincial cities/towns and 4,000 households in Bangkok) and a total rural sample of 6,000 households were chosen, based on multi-stage systematic/simple random sampling methods. From these sample households, 9,102 'eligible' persons--6,068 women and 3,034 men of all marital statuses age 15-49--were selected, with women being sampled at a double rate of men (i.e., women are double-sampled). Out of these sampled individuals, face-to-face interviews were successfully conducted with 5,065 women and 2,923 men, a response rate of approximately 88 percent.

This study has two dependent variables--desired fertility and desires to marry--and the study therefore uses two sub-samples of the ECODDF. Our analysis of desired fertility focuses on currently married women and men aged 25-39 who have been married for at least four years. We restrict our analysis to those whose marital duration is 4 years or more because our independent variable--experiences of economic hardships due to the economic crisis in July 1997--is addressed not only to respondents themselves but also ask those respondents to report on behalf of other people they knew. Since our analysis includes economic hardships of not only respondents themselves but also their spouse's (as reported by respondents), we need to restrict the analysis to couples who had already been married at the time of the economic crisis. This limit to couples whose marital duration being 4 or more years led us to impose age 25 (instead of age 20) as the lower age limit so that we can

minimize a possible bias due to the inclusion of outliers who married at very young ages.

On the other hand, the upper age limit of age 39 is imposed mainly to minimize the bias that would be introduced by including women (and, to a lesser extent, men) who are not at the risk of childbearing. Women's physiological ability to bear children drops precipitously in their 40s due to the onset of menopause, and to those older women (and men whose wives are also likely to be at similar ages) a question of desired fertility would often be irrelevant.¹ In our data, there are 1,935 currently married women and 920 currently married men aged 25-39 who have been married for 4 or more years.

Our analysis of marriage desires focuses on never-married women and men aged 20-34. The lower age limit (age 20) is again imposed because the question on experiences of economic hardships due to the economic crisis pertains to the 4-year period prior to the 2001 survey. If we are to include those in their upper teens at the time of the survey, this could bias the results because of the inclusion of a small minority who started working in their lower teens (and therefore have a low level of education). The upper age limit (age 34) for the analysis of marriage desires is chosen because an inclusion of another type of outliers--unmarried persons at older ages--would distort the results. In our survey data, the proportion never-married is 16.0 percent for women age 25-29 and 8.7 percent for women age 30-34; the corresponding proportions for men aged 25-29 and 30-34 are 36.0 percent and 12.4 percent, respectively.² There are 468 single women and 481 single men aged 20-34 in the ECODDF.

Dependent Variables

This study examines two dependent variables: desired fertility and desires to marry. Desired fertility is measured by a variable indicating whether or not a married woman/man wants to have more children. The ECODDF asked "do you want to have more children," with three pre-coded responses--yes, uncertain, and no. As we will see later, only a small percentage of the respondents gave an indefinite response. Thus, in our measure of desired fertility, responses are scored 1 for a positive answer, and 0 for a negative answer.

Marriage desires are measured by a variable indicating whether or not a never-married woman/man desire to get married someday.³ The

¹ It was possible to set (and we thought about imposing) different/higher upper age limits for men, or to use their wife's age instead of men's own age. However, we decided against it primarily because such different age limits between the sexes confuses and complicates the analysis unduly.

² Alternatively, we could have used different upper age limit to women and men, namely age 29 for women and 34 for men. We decided against this in part because the results were not notably different, and also in part because we wanted to keep our results as simple and straightforward as possible.

³ The ECODDF also asked all those who did not indicate that they definitely did not want to marry someday when (in how many years) they would like to get married. Using this variable, we also constructed variables indicating whether or not respondents wanted to marry within 3 years or 5 years, respectively. However, these additional analyses did not yield significantly different results. Further, a considerable proportion (around 24 percent of both women and men) indicated that they were not sure as to when they

ECODDF survey asks whether a respondent "want to get married someday," with five pre-coded responses-- definitely yes, yes, uncertain, probably not, and definitely not. As we will see later, only a small proportion gave a negative answer (probably or definitely not). Our measure of marriage desires is therefore coded 1 if a respondent chose "definitely yes" or "yes"; 0 if otherwise.

Independent Variables

In the multivariate analyses of desires for children and marriage, the likelihood of wanting to have more children or wanting to marry are both estimated by logistic regression with experiences of economic hardships due to the economic crisis by respondents themselves and their family members as the independent variables. Specifically, to measure such experiences, the ECODDF asked "since the economic crisis, do you and other people you know experience any such economic problems as: unable to find a job; losing a job or laid off; demotion, cut in work hours, or salary/wage cut; forced transfer of position or office; forced early retirement; failure or deterioration of own business; drop in the prices of products/produce; or abrupt increases in costs of living/necessary capital investments." The "other people [respondents] know" include respondents' spouse, brothers, sisters, father, mother, other male/female relatives, male/female friends, and male/female co-workers. To each of these categories of people whom respondents know, the above question is asked, with two pre-coded responses--yes or no.⁴ Responses are scored 1 for yes; and 0 for no.

In our analysis of desired fertility of currently married women and men aged 25-39 who have been married for at least four years, we use two dichotomous variables as the independent variables: having experienced or not the economic crisis-related hardships by respondents themselves and their spouse. In the analysis of marriage desires of single women and men, the independent variables are three dichotomous variables indicating whether or not respondents themselves, their father, and their mother experienced at least one of the above-mentioned economic hardships due to the economic crisis. Thus, our measures of experiences of hardships related to the economic crisis of spouse/parents are based on proxy reports from respondents whereas experiences of economic hardships of respondents themselves are, of course, self reports.

Control Variables

Our analysis of desired fertility has four groups of control variables: (1) basic demographic characteristics including age, region, urban/rural residence, and number of living children; (2) characteristics of marriage as measured by age difference between spouses and current marriage is remarriage or not; (3) basic socioeconomic characteristics including own and spouse's education and couple's income; and (4)

would like to get married; and even among those who indicated a specific time frame, 16 percent of women and 34 percent of men answered as 10 years or more, that were too many years in the future to be realistic. Consequently, we decided not to use this variable as our dependent variable.

⁴ For the categories of people other than themselves, a response category of 'not applicable' was also provided so that we could identify respondents did not have a spouse, parent, sibling, other relative, friend, or co-worker.

household structure measured by coresidence with own and spouse's parents.

Our multivariate analysis controls for the number of living children that respondents have because desired fertility (wanting to have more children or not) is very much a function of couples' existing family size. As we will show later, because the relationship between the number of living children and desired fertility is in general linear, we specify this covariate as a continuous variable. Respondents' age is included in the model because, even after controlling for family size, desired fertility is, to an extent, a function of age. Because our preliminary analysis indicated that the effects of age on desired fertility is not always linear, we specified age as a categorical variable consisting of three 5-year age groups.

Although Thai population is relatively homogeneous, there are clear demographic, socioeconomic, and cultural differentials by region (Knodel, Chamrathirong and Debavalya 1987). Evidence also suggests that the impacts of the economic crisis have varied across region with the Northeast being affected most seriously (National Statistical Office 1997, 2000a, 2000b). Our model therefore includes a categorical variable that accounts for the five major regions of Thailand--North, Northeast, Central, South, and Bangkok Metropolis. The model also controls for possible urban/rural differences in desired fertility by including a dichotomous variable indicating whether a respondent resides in an urban (municipal) area or not.

Characteristics of marriage are also taken into consideration in our analysis of desired fertility. Marriage characteristics include age differences between husband and wife and current marriage is first marriage or remarriage.⁵ Age difference between spouses reflects norms and also the status relationship between husband and wife. Previous studies indicate that in contemporary Thailand average age difference between spouses is relatively small (3 to 4 years) with women being likely to marry older men although a non-insubstantial proportion of women marry younger men (Limanonda 1994; Visid et al. 1972). Given a possible curvilinearity of the effect of age difference between spouses, our model specifies this variable as a categorical variable, consisting of 5 categories--husband is younger; same age; husband is older by 1-2 years; husband is older by 3-5 years; and husband is older by 6 or more years.

Marital separation, dissolution, and remarriage are not unusual among Thais (Knodel, Chamrathirong and Debavalya 1987: 76; Limanonda 1994). To control for a possible effects of number of times married, our model also includes a dichotomous variable indicating whether current marriage is remarriage or not (i.e., first marriage). Around 7 percent of married women and men included in the analysis of desired fertility report that they have been married more than once.

Basic socioeconomic characteristics of spouses are also controlled in our model by including years of education of wife and husband and

⁵ Age at marriage (or duration of marriage) is not included in the model primarily because marriage duration/age at marriage has a fairly strong multicollinearity with number of children.

also couple's income. Because our preliminary analysis did not clearly indicate curvilinearity nor threshold in the effects of wife's/husband's education on desired fertility, we introduce these covariates as continuous variables. Mean years of education is 7.8 years for married women included in the analysis and 8.7 years for their husband whereas it is 9.2 years for married men and 8.1 years for their wife.

As an indicator of the economic status of couples and households, the model also includes couple's average monthly income for the period from April 2000 to the time of the interview.⁶ Because there is a considerable number of missing cases for couple's income (23 percent of women and 29 percent of men), the model also include a dichotomous variable indicating whether couple's income information is missing or not so that we do not have to risk a possible estimation bias resulting from exclusion of a large number of cases from the analysis.

Our model for the analysis of desired fertility also controls for household structure by accounting for coresidence with own and spouse's parents. Coresidence with parents or parents-in-law is measured by four dichotomous variables: coresidence with own father, own mother, spouse's father (father-in-law), and spouse's mother (mother-in-law). Although considerable urban/rural and regional differences exist, living with wife's parents after marriage (postnuptial matrilineal coresidence) has traditionally been more prevalent in Thailand, compared to patrilineal coresidence (Limanonda 1994; Phodhisita 1994). As expected, matrilineal coresidence is more prevalent among both wives and husbands in our study: 23 percent of women indicated that they lived with their own parents whereas only 9 percent of women said that they lived with their spouse's parents. On the other hand, 21 percent of men indicated that they lived with their wife's parents while the proportion of men who reported that they lived with their own parents was 13 percent. There were few individuals (only 4 women and no men) who reported that they lived with both sets of parents.

Our analysis of marriage desires also has four groups of control variables: (1) basic demographic traits including age, region, and urban/rural residence; (2) basic socioeconomic characteristics including years of education and own income; (3) household economic status as measured by parents' home ownership; and (4) household structure measured by coresidence with parents.

Our multivariate model for the analysis of marriage desires also controls for respondents' basic demographic traits such as age, region, and urban/rural residence. A desire to marry is a function of age. Because our preliminary analysis indicated that the relationship between age and marriage desire was not necessarily linear, age is specified as a categorical variable, consisting of three 5-year age groups. Region and urban/rural residence are both specified in the same ways as in the analysis of desired fertility of married women and men. Region consists of 5

⁶ We also attempted to use respondent's own income and spouse's income, rather than couple's income. We decided not to use them primarily because a considerable proportion of married women and men who are included in the analysis of desired fertility are self-employed or in agriculture. For those wives and husbands, it would be difficult to assess their income separately. We also tried using such indicators of household living standards as housing quality and ownership of durable consumer goods. We decided against using these indicators primarily because they are influenced by region, urban/rural residence, and occupation/industry of couples. We also attempted to include respondents' and spouses' occupations in the model. However, we decided not to use them in part because a considerable proportion of respondents and their spouse held more than one occupation, or their occupation changed or temporary, and also because occupation was found to be multicollinear with couples' income.

major regions of Thailand--North, Northeast, Central, South, and Bangkok. Urban/rural residence is a dichotomy indicating whether respondents reside in an urban area or not.

Similar to the analysis of desired fertility, two basic socioeconomic characteristics--years of education and income--are accounted for in the model. Years of education are measured by a continuous variable. Interestingly, in our data, the mean years of education is higher for never-married women aged 20-34 (14.9 years) than for never-married men in the same age group (12.8 years). This suggests that as their age goes up, single women become increasingly more selective in the sense that highly educated women are more likely to stay single than are their less educated counterparts. Respondents' own income is also measured by a continuous variable that indicates the average monthly income for the period from April 2000 to the month of the survey.⁷

Household economic status, independent of their own economic situations, of young never-married women and men is measured by parents' home ownership, primarily because the ECODDF did not collect information on parents' income (nor income of coresiding siblings). Although information on household income is available, we found that respondents' income and their household income are associated because household income includes respondents' income. This was especially the case for single men whose household income was low. We also considered using some other indicators of household living standards such as ownership of durable consumer goods. But we decided not to employ this variable because such ownership is correlated to a considerable extent with respondents' own income. This was due probably to that some durable household goods such as TV, mobile phone, automobile, motorcycle, and computer were purchased by respondents themselves. Approximately 52 percent of parents of our respondent single women aged 20-34 own the home in which they reside while the corresponding proportion for our respondent single men in the same age group is 55 percent. Parental home ownership is also associated strongly with their ownership of the land on which the residential home is located: roughly 85 percent of parents of young single women and men own the land as well as the home.

Our model for the analysis of marriage desires also includes coresidence with own parents. This covariate is specified as a categorical variable, consisting of 4 categories: living with both parents, living with father only, living with mother only, and not living with parents. This specification was introduced in part because, as mentioned earlier, marital separation and dissolution are not unusual in Thailand (Knodel, Chamrathirong and Debavalya 1987: 76; Limanonda 1994), and also because marriage desires of the young unmarried may be different according to whether they live with both parents or with a single parent. Among unmarried women and men aged 20-34, approximately 45 percent live with both parents whereas the proportions living with father only or mother only were around 4 percent and 15 percent, respectively.

EXPERIENCES OF HARDSHIPS DUE TO THE ECONOMIC CRISIS

⁷ We also tried to include respondents' occupations in the model. However, we decided not to include them primarily because respondents' occupation was strongly correlated with their income. A non-insubstantial proportion of respondents also held more than one occupation, or their occupation was changed/temporary.

Before turning to the results of our multivariate analyses, we first look at the extents and patterns of experiences of economic hardships due to the economic crisis, as reported by respondent women and men. As shown in Table 1, around one half of married women and 58 percent of married men report that they themselves experienced one or more of economic hardships due to the economic crisis. Fifty-two percent of married women in our study also reported that their husband had such economic difficulties and 43 percent of married men indicated that their wife experienced such economic hardships. As for never-married women and men aged 20-34, 31 percent of women and 43 percent of men reported that they themselves experienced hardships due to the economic crisis. Thus, regardless of respondents' gender or marital status, a higher proportion of men than women are found to have experienced economic hardships since the onset of the economic crisis.

It is also true that a considerably higher proportion of married men and women (age 25-39) reported to have experienced such economic hardships, compared to unmarried men and women aged 20-34. This is probably due in part to the fact that our currently married sub-sample has been in the labor force longer than their never-married counterparts (and therefore exposed to the risk of experiencing the economic crisis-related hardships), and also to that marriage frequently makes men and women to shoulder major economic and social responsibilities.

There are also notable age patterns in experiences of economic hardships due to the economic crisis (see Table 1). For both females and males, the proportion of respondents (and their spouse) experiencing such economic difficulties tends to increase as their age goes up, except for married men aged 25-39 in which the relationship between age and experiences of the crisis-related hardships is U-shaped. On the other hand, regardless of respondents' sex, the proportion of parents (both father and mother) reported to have experienced such economic difficulties tends to decrease as age of respondents (therefore their parents) goes up

From Table 1, we can also see large regional differentials in the proportion experiencing economic hardships since the economic crisis, with notably higher proportions of women and men in the Northeast and South reporting to have experienced such difficulties. Residents in rural areas also tend to have a higher proportion reporting to have experienced economic hardships due to the economic crisis. This finding is contrary to evidence given by earlier studies/reports that were published shortly after the economic crisis in Thailand, according to which urban areas had suffered higher unemployment and other economic downturn than rural areas (Daorueng 1998; Sugisaki 1999). Urban areas may have been hit harder initially by the economic crisis because in Thailand the crisis started with the meltdown of financial sectors, resulting in the collapse of scores of financial houses and closure of factories that were concentrated in urban areas. Our finding suggests that economic hardships have since spread to rural areas, resulting in a higher level of labor uncertainty and restlessness there. This higher level of economic difficulties in rural areas may also have been due in part to the fact that labor and social welfare offices of the Thai government had earlier supported the return of unemployed workers to their hometowns and villages to ease urban joblessness (Daorueng 1998).

In a multivariate context, the Northeast and the South remain to have higher levels of experiences of economic hardships since the economic crisis (data not shown). Urban areas also remain to have significantly lower levels of experiences of economic difficulties related to

the crisis, compared to rural areas. A multivariate analysis also indicates that men and women in primary industries and women in service industries have significantly higher likelihood of experiencing such economic hardships. This suggests not only that persons in primary and service industries were more vulnerable to the economic stress, but also that people who had been engaged earlier in other occupations (such as professional, technical, white-collar, and blue-collar jobs) moved to agriculture and service industries because of restructuring due to the economic crisis. On the other hand, men and women with higher levels of education are found to be more likely to avoid economic hardships due to the economic crisis than their less educated counterparts.

LEVELS AND PATTERNS OF DESIRES FOR CHILDREN AND MARRIAGE

We next look at the levels and patterns of our two dependent variables--desires for children and marriage. Table 2 presents the percentage distribution of desired fertility among currently married women and men aged 25-39 who have been married for at least four years by number of living children in Thailand in 2001. We first notice from the table that the level of desired fertility is unexpectedly low as far as women (and men) with no or one child are concerned.⁸ Among women who are childless or have only one child, the proportions not wanting any (more) children are 18 percent and 42 percent, respectively. As for men, the corresponding proportions are 17 percent and 30 percent, respectively. Nonetheless, as expected, the proportion of women and men who want to have more children decreases dramatically (and the proportion who do not want to have any more children clearly increases) as their family size increases. On the other hand, the proportion of women and men who are uncertain about wanting more children is very small and shows no clear age pattern, with merely 2 percent of women and 4 percent of men giving an indefinite answer.⁹

We can also see that the level of fertility wanted by women is clearly lower than the level of men, and that this gender difference increases as family size increases. A previous study on Japan and South Korea in the mid-1990s also found similar gender differences in desired fertility (Tsuya and Choe forthcoming). This result is as expected because, although financial costs and time pressures related to childbearing and child-rearing are no doubt felt by both parents, it is the mother who not only gives birth to children but also shoulder most of responsibilities in caring for children on the day-to-day basis.

Turning to the levels and patterns of marriage desires, we can see from Table3 that while a large majority of single women and men aged 20-34 indicate that they want to marry some day, the proportion wanting or definitely wanting to marry is clearly lower among women than

⁸ For example, the percentages wanting more children among wives under age 45 who have zero or one child were 13 percent and 17 percent, respectively, in Japan in 1994. The corresponding proportions for Korean wives under age 45 in 1994 were 7 percent and 34 percent. For details, see Tsuya and Choe (forthcoming).

⁹ The level of ambivalence is much higher among currently married women and men under age 45 in Japan and South Korea in 1994: the percentages of wives giving an indefinite answer are 19 percent and 9 percent, respectively; the corresponding percentages for men are 24 percent and 9 percent.

among men (60 percent vs. 78 percent). The degree of uncertainty is also higher among women than among men (28 percent vs. 18 percent), suggesting that the feeling of ambivalence regarding marriage is stronger among young women than their male counterparts. Further, although the proportions indicating that they definitely or probably do not want to marry constitute a small minority, the total proportion for those who do not want to marry is much higher among women than among men (12 percent vs. 3 percent). The proportion expressing a definitively negative answer ("definitely do not want to marry") is especially high among women aged 30-34, implying a possible selectivity of highly educated women who are less marriage/family oriented (and more career aspired) in this age group. Altogether, although a large majority of young unmarried Thai women and men desire to marry someday, the degree of enthusiasm for marriage is clearly lower among women than among men. Women are also more uncertain and ambivalent toward marriage than their male counterparts.

RESULTS OF THE MULTIVARIATE ANALYSIS OF DESIRED FERTILITY

In this section we examine in a multivariate context the effects of experiences of economic hardships since the economic crisis on desired fertility among currently married women and men aged 25-39 who are married for at least four years in Thailand in 2001. Table 4 presents the means of the covariates used in the logistic regression analysis of wanting to have more children among these currently married women and men. Table 5 presents the estimated odds ratios of the effects of these covariates for women and men, separately.

We can see from Table 5 that their husband's experiences of economic hardships due to the economic crisis significantly lowers women's fertility desires whereas their own experiences of such hardships do not have statistically significant effects. We interpret this finding to imply that married women's desires for children are dampened by their husband's (but not by their own) economic difficulties probably because their perceptions of the financial prospect of the family hinges upon how well their husband has done in providing for their family. Their husband's job loss, pay cut, or other employment setbacks related to the economic crisis may have lead women to feel more insecure about having more children as such hardships of the husband, who are likely to be the main breadwinner of the family, signal the future uncertainty of financial basis to raise a larger family. The similar patterns in the relationship between economic hardships and desired fertility are also seen for men, but the effects of their own and their wife's experiences of economic hardships on men's fertility desires are all statistically insignificant. This suggests that men's desires for children is largely unaffected by their own and their wife's experiences of economic setbacks since the economic crisis.

Turning to the effects of the control variables, we can see that desires for children declines significantly and almost linearly as women and men age. And the degree of decline by age is stronger and clearer for women than men. This suggests that, net of the other covariates of the model, women's desires for children decline more sharply than men's as they age, resulting in a wider gender gap in desired fertility at older ages (age 30-39).

As expected, for both women and men, desired fertility drops dramatically as the number of living children increases. Holding the other

factors of the model constant, one additional child reduces the proportion of women and men wanting to have more children by 20 and 25 percent, respectively.

We also see significant regional differences in desired fertility of Thai women and men. Relative to those living in the Central, women and men living in the Northeast are more likely to want more children. Being the poorest and least developed region of the country, the Northeast is also the most traditional region in terms of marriage and family-building patterns (Limanonda 1994; Knodel, Chamrathirong, and Debavalya 1987; Podhisita 1994). Our finding suggests that the Northeast is also the region with the highest level of desired fertility for both women and men. On the other hand, net of the other factors in the model, there is no significant urban-rural difference in desired fertility for both women and men.

Among the covariates of our model, the most influential factors are characteristics of marriage as measured by age differences between spouses and number of times married. For women, the relationship between age difference and fertility desires is reverse U-shaped. Specifically, relative to women who are younger than their husband by 1-2 years, women who are older than or at same age as their husband have significantly lower level of wanted fertility. Compared to women who are younger than their husband by 1-2 years, women whose husband is at least 3 years older than them are also likely to have significantly lower desires for children. And as the older the husband is, the lower the level of women's wanted fertility. Altogether, these findings suggest that, given the normative orientations in Thailand regarding difference in age at marriage being the husband older than the wife by a few years (Limanonda 1994), having a younger husband, a husband at same age as themselves, or a much older husband all seems to reduce women's fertility desires. As for men's desired fertility, age difference between spouses does not have a statistically significant effect, except for men whose wife is older. When men have an older wife, their desires for children are significantly lower, compared to men who are older than their wife by 1-2 years.

Compared to those who are in their first marriage, women and men who are in their remarriage are much more likely to want more children. This tendency is especially strong among men: remarried men are about 3 times more likely to want more children than first married men. Persons (especially men) who are in their remarriage tend to have a strong desire to have children with their new wife possibly because they view children as a means to solidify the marital bond.

With regard to socioeconomic characteristics of women and men, net of the other factors of the model, education of both spouses does not affect their fertility desires. Although not significant at the conventional level of 5-percent, couple's income somewhat increases women's (but not men's) desires for children. This suggests that the more the financial resources are available for herself and her husband, women are more likely to want more children. This again implies the importance of financial resources and security for women's fertility desires.

Finally, coresidence with parents also affects women's desired fertility. Relative to women who do not live with their parents or parents-in-law, women who live with their own father have a significantly lower level of fertility desires. This result is puzzling because coresidence

with their own mother or their husband's parents does not affect women's desires for children. Coresidence with parents or parents-in-law does not have statistically significant effects on men's desires for children.

RESULTS OF THE MULTIVARIATE ANALYSIS OF MARRIAGE DESIRES

We now turn to the results of the logistic regression analysis of desires to marry someday among young never-married women and men aged 20-34 in Thailand in 2001. Table 6 presents the means of the covariates used in the analysis, and Table 7 presents the estimated odds ratios of these covariates.

From Table 7, we can see that their mother's experiences of economic hardships due to the economic crisis significantly reduces young unmarried women's desires for marriage while experiences of such economic difficulties by themselves or by their father do not affect their desires for marriage. With regard to young unmarried men, their own and parents' experiences of economic hardships since the economic crisis do not significantly influence their marriage desires. As to why their mother's experiences of economic hardships lower young women's desire to marry, we speculate that because daughters tend to be emotionally closer to parents than sons (Keyes 1976; Podhisita 1994), and also because children are usually closer to their mother than to their father (Limanonda 1994), the strong emotional bonds between young women and their mother may have made them less inclined to marry when their mother had economic difficulties.

Women's desires for marriage tend to decrease almost linearly as they become older. On the other hand, the relationship between men's age and their marriage desires is curvilinear in the sense that the level of marriage desires is the lowest for men at age 25-29. There also exist significant regional differences in marriage desires of young unmarried women and men. Relative to women living in the Central, women in the South are more likely to want to marry someday. Compared to men in the Central, men residing in the Northeast are much more likely to want to marry. However, there are no significant urban-rural differences in the level of marriage desires.

Socioeconomic traits of single men significantly influence their desires to marry. Education strongly affects young men's desires for marriage: one-year increase in education raises the proportion of single men who want to marry someday by 11 percent. On the other hand, though not significant at the conventional level of 5 percent, men's income tends to reduce their marriage desires. By contrast, education and income do not significantly affect women's desire for marriage. The economic status of their parents as measured by parents' ownership of the home also does not affect women's and men's marriage desires.

Coresidence with parents influences women's desire to marry in the sense that relative to women who do not live with their parents, women who live with both parents are significantly less likely to be wanting to marry. Interestingly, women living with their father but not with their mother are also less likely to want to marry. In clear contrast, men who live with their father but not with their mother tend to have much

stronger marriage desires, compared to men who do not live with their parents. These results are not statistically significant because the proportions of women and men living only with their father are very small (around 4 percent). Nonetheless, women living only with their father are less likely to want to marry probably because they are likely to play the role of homemaker instead of their mother in the home, taking care of their father and other family members. On the other hand, young men living only with their father have very strong desires for marriage probably because they feel acutely the inconveniences and discomfort caused by the absence of the mother at home who would shoulder household tasks and provide care for the father and other family members.

SUMMARY AND DISCUSSIONS

This study reveals that the impacts of the economic crisis as measured by experiences of various economic hardships among Thai women and men in their 20s and 30s are pervasive with more than one half of married women and men having such experiences. Even among the young unmarried, the impacts of the economic crisis are not small as nearly half of single men and 30 percent of single women aged 20-34 reporting to have experienced such economic hardships since the economic crisis. There also exist gender, regional, and urban-rural differences in the impacts of the economic crisis. A higher percentage of men reports to have experienced economic hardships due to the economic crisis, compared to women. The percentages of women and men who experienced the crisis-related economic difficulties are notably higher in the Northeast and the South. For both sexes, the proportion experiencing such economic difficulties is clearly higher among residents in rural areas than those living in urban areas.

Judging from relatively high proportions not wanting to have more children among married women and men aged 25-39 who have no or only one child, the level of desired fertility in Thailand today is not high. Nonetheless, for both men and women, the level of wanted fertility decreases drastically as the number of children increases. Women's desired fertility is also lower than men's, and the gender difference in desired fertility is larger at older ages. It is mostly the woman (the mother of children) who shoulders major responsibilities for raising children, and the costs and pressures associated with childrearing tend to increase as family size becomes larger. This in turn results in increasing gender gap in desires for children among women and men with larger family size. Although a large majority of young unmarried women and men expresses desires to marry someday, gender differences in desires for marriage are also large in Thailand today. Moreover, the level of ambivalence toward marriage is also higher among women than among men.

Our multivariate analysis of desired fertility suggests that the economic crisis negatively affects women's fertility desires through their husband's economic difficulties such as job loss, pay cut, and other employment-related setbacks. This in turn implies that the husband's employment is a major factor determining women's perception about the financial feasibility of future family formation, and that the prolonged impacts of the economic crisis can lead to lower marital fertility.

In addition, not only such demographic factors as age, number of living children, and region, characteristics of marriage as measured by age difference between spouses and number of times married also have strong effects on marriage desires of both sexes. Although couples' socioeconomic characteristics do not exert strong effects on desired fertility, couples' income tends to increase women's (but not men's) desires for children. This again seems to indicate the enhancing effect of couple's financial security on women's desired fertility.

The economic crisis may also dampen marriage desires of young unmarried women through experiences of economic hardships of their mother. Our multivariate analysis shows that having the mother who experienced economic hardships due to the economic crisis significantly reduces marriage desires of young unmarried women. Though we are not certain as to why their mother's economic setbacks negatively affects women's desires for marriage, the widely documented close emotional ties between the mother and the daughter in Thailand may have played a role.

Altogether, our study suggests that the paths through which the economic crisis affects desires for children and marriage are diverse and indirect. By implication, to fully account for the socio-demographic impacts of the economic crisis on family formation and family planning/reproductive health, it is necessary to take into consideration the economic and demographic situations of not only individual women and men but also their family members including their husband (if married) and their parents. Clearly, more studies are needed to explain the magnitude and the mechanisms of the demographic impacts of the economic crisis in Thailand and elsewhere in Asia.

REFERENCES

- Bhaopichitr, Kirida. 1997. "Thailand's Road to Economic Crisis." *The Nation* (Bangkok), December (<http://www.hartford-hwp.com/archives/54/113.html>).
- Chayovan, Napaporn, Sara Peracca and Vipan Prachuabmoh Ruffolo. 2000. *Thailand's Economic Crisis and Reproductive Health: A Case Study of Bangkok, Any Tong and Sri Saket*. Bangkok: College of Population Studies, Chulalongkorn University.
- Daorueng, Prangtrip. 1998. "Crisis Promises More Pain for Workers." *InterPress Third World News Agency (IPS)*, December 26 (<http://www/hartford-hwp.com/archives/50/050html>).
- Facts On Life News Services. 1998. "Issues and Controversies: Asia's Economic Crisis." March 20 (<http://www.facts.com/icof/i00063.html>).
- Frankenberg, Elizabeth, Duncan Thomas and Kathleen Beegle. 1999. "The Real Costs of Indonesia's Economic Crisis: Preliminary Findings from the Indonesian Family Life Surveys." *Labor and Population Program Working Paper Series 99-04*. Santa Monica, CA: RAND.
- Keyes, Charles F. 1976. "In Search of Land: Village Formation in the Central Chi River Valley, Northeast Thailand." *Contributions to Asian Studies* 9: 45-63.
- Knodel, John, Apichat Chamrathirong, and Nibhon Debavalya. 1987. *Thailand's Reproductive Revolution: Rapid Fertility Decline in a Third World Setting*. Madison: University of Wisconsin Press.
- Limanonda, Bhassorn. 1994. "Family Formation in Rural Thailand: Evidence from the 1989-90 Family and Household Survey." Pp. 383-400 in Lee-Jay Cho and Moto Yada (eds.), *Tradition and Change in the Asian Family*. Honolulu: East-West Center.
- National Statistical Office. 1997. *The Report of the Labor Force Survey: Round 2-May 1997*. Bangkok: National Statistical Office, Office of Prime Minister.
- . 2000a. *The Report of the Labor Force Survey: Round 2-May 2000*. Bangkok: National Statistics Office, Office of Prime Minister.
- . 2000b. *The Report of the Labor Force Survey: Round 3-August 2000*. Bangkok: National Statistics Office, Office of Prime Minister.

Podhisita, Chai. 1994. "Coresidence and the Transition to Adulthood in the Rural Thai Family." Pp. 363-381 in Lee-Jay Cho and Moto Yada (eds.), *Tradition and Change in the Asian Family*. Honolulu: East-West Center.

Sugisaki, Shigemitsu. 1999. "Economic Crisis and Recovery in Asia and Its Implications for the International Financial System." Paper presented at the Meeting on Development Cooperation: Responding to the Asia Crisis, Sydney, March 5.

Tsuya, Noriko O. and Minja Kim Choe. forthcoming. "Investments in Children's Education, Desired Fertility, and Women's Employment." Chapter 5 in Noriko O. Tsuya and Larry L. Bumpass (eds.), *Marriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, and the United States*. Honolulu: University of Hawaii Press.

Visid, Prachuabmoh, John Knodel, Suchart Prasitrathsin and Nibhon Debavalya. 1972. "The Rural and Urban Population of Thailand: Comparative Profiles." *Institute of Population Studies, Chulalongkorn University Research Report No. 8*. Bangkok: Thai Watana Panich Press.

Table 1. Percentages Experienced Economic Difficulties Due to the Economic Crisis among Respondents Themselves and Their Family Members by Selected Traits: Currently Married Women and Men Aged 25-39 and Never-married Women and Men Aged 20-34, Thailand 2001

	Married Women		Married Men		Single Women			Single Men		
	Self	Spouse	Self	Spouse	Self	Father	Mother	Self	Father	Mother
Total	51.1	51.8	57.6	43.3	30.5	22.2	24.5	43.5	20.6	21.8
Own age										
20-24	--	--	--	--	25.6	29.5	30.2	40.3	25.3	24.1
25-29	52.4	56.6	59.9	46.2	33.0	17.9	19.2	46.0	16.8	20.0
30-34	51.5	52.6	53.7	37.3	39.3	10.3	17.8	51.1	10.0	16.2
35-39	49.7	47.5	59.7	46.6	--	--	--	--	--	--
Region										
North	40.3	40.4	48.5	37.6	21.6	16.9	16.9	41.8	25.0	27.4
Northeast	64.2	62.6	67.2	51.8	44.3	22.6	22.1	56.2	21.0	23.4
Central	38.9	44.0	49.6	35.7	21.6	20.8	25.9	31.7	12.2	12.3
South	54.9	57.4	65.8	50.6	34.2	33.1	38.1	50.7	27.6	34.6
Bangkok	41.6	40.1	46.9	28.9	35.4	20.9	21.7	35.6	21.2	17.1
Place of residence										
Urban	39.5	36.2	43.2	30.1	28.4	22.8	24.5	33.6	14.7	13.4
Rural	55.4	57.6	62.3	47.5	34.1	21.0	24.5	51.9	25.8	29.1
(Number of cases)	(1924)	(1923)	(912)	(909)	(467)	(459)	(466)	(479)	(475)	(475)

NOTES: Percentages shown above are weighted, but the numbers of cases are un-weighted. Currently married men and women are limited to those who have been married for 4 or more years.

Table 2. Percentage Distribution of Desired Fertility by the Number of Living Children: Currently Married Women and Men Aged 25-39 Who Have Been Married for Four or More Years in Thailand, 2001

	Number of living children:					Total
	Zero	One	Two	Three	Four+	
Women						
Yes	80.1	54.2	17.4	7.2	2.1	28.0
No	17.8	41.6	81.0	92.6	97.9	70.0
Uncertain	2.1	4.3	1.6	0.2	0.0	2.0
(Number of cases)	(102)	(530)	(931)	(299)	(70)	(1932)
Men						
Yes	76.5	67.1	25.3	23.7	5.4	40.6
No	17.4	29.7	70.6	72.3	92.8	55.5
Uncertain	6.1	3.2	4.1	4.0	1.8	3.8
(Number of cases)	(58)	(307)	(418)	(103)	(31)	(917)

NOTES: Percentages shown above are weighted, but the numbers of cases are un-weighted.

Table 3. Percentage Distributions of Marriage Desires by Age: Never-married Women and Men Aged 20-34, Thailand 2001

20-34	Women				Men		
	20-24	25-29	30-34	20-34	20-24	25-29	30-34
Definitely yes	30.1	18.0	21.0	24.7	39.7	35.4	30.1
37.2							
Yes	37.1	39.4	24.7	35.3	44.2	34.6	39.8
40.7							
Uncertain	25.8	32.4	26.8	27.9	15.0	26.0	23.9
19.5							
Probably not	4.4	4.6	6.4	4.9	0.2	2.0	0.0
0.8							
Definitely not	2.6	5.6	21.1	7.2	1.0	1.9	6.1
1.8							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100.0							
(Number of cases)	(242)	(137)	(89)	(468)	(260)	(153)	(68)
(481)							

NOTES: The distributions above are based on responses to the question "do you want to marry someday?" The percentages are weighted and the numbers of cases are un-weighted.

Table 4. Means of the Covariates Used in the Analysis of Wanting to Have More Children: Currently Married Women and Men Age 25-39 Who Are Married for At Least 4 Years, Thailand 2001

Variables	Women	Men
Experienced economic hardships		
Self	0.493	0.569
Spouse	0.503	0.424
Own age (ref: 25-29)		
30-34	0.372	0.352
35-39	0.373	0.476
Number of living children	1.856	1.723
Region (ref: central)		
North	0.208	0.196
Northeast	0.260	0.220
South	0.204	0.239
Bangkok	0.148	0.145
Living in an urban area	0.316	0.300
Age difference between spouses (ref: Husband is older by 1-2 yrs)		
Husband is younger	0.099	0.130
Same age	0.078	0.110
Husband is older by 3-5 yrs	0.315	0.301
Husband is older by 6+ yrs	0.307	0.162
Remarriage	0.067	0.067
Years of education		
Own education	7.814	9.250
Spouse's education	8.667	8.063
Couple's average monthly income ¹	9.158	8.811
Couple's income missing	0.230	0.290
Coresidence with parents		
Own father	0.125	0.074
Own mother	0.184	0.120
Spouse's father	0.050	0.112
Spouse's mother	0.080	0.164

NOTES: 1--Average income of a couple per month in 1,000 bahts for the

period from April 2000 to the month of interview.

Table 5. Estimated Odds Ratios from the Logistic Regression Analysis of Wanting to Have More Children: Currently Married Women and Men Age 25-39 Who Have Been Married for At Least 4 Years, Thailand 2001

	Women	Men
Experienced economic hardships		
Self	1.132	1.292
Spouse	0.725*	0.781
Own age		
25-29	1.000	1.000
30-34	0.707*	0.738
35-39	0.343**	0.515**
Number of living children	0.203**	0.250**
Region		
North	0.811	0.939
Northeast	1.490*	1.920*
Central	1.000	1.000
South	1.136	1.379
Bangkok	0.780	1.159
Living in an urban area	0.941	1.106
Age difference between spouses		
Husband is younger	0.648*	0.561*
Same age	0.564*	1.063
Husband is older by 1-2 yrs	1.000	1.000
Husband is older by 3-5 yrs	0.643**	1.133
Husband is older by 6+ yrs	0.457**	1.093
Remarriage	1.940*	3.052**
Years of education		
Own	0.984	0.987
Spouse	1.003	1.014
Couple's average monthly income ¹	1.006#	1.007
Couple's income missing	1.082	1.037
Coresidence with parents		
Own father	0.613*	0.868
Own mother	1.023	0.867
Spouse's father	1.037	1.027
Spouse's mother	1.016	0.855
Log-likelihood	-848.61	-481.23

LR chi2 (23)	524.60	227.18
Prob > chi2	0.000	0.000
Number of observations	1884	877

**Significant at .01 level *Significant at .05 level

#Significant at .10 level

NOTES: 1--Average income of a couple per month in 1,000 bahts for the period from April 2000 to the month of interview.

Table 6. Means of the Covariates Used in the Analysis of Wanting to Marry:

Never-married Women and Men Age 20-34, Thailand 2001

Variables	Women	Men
Experienced economic hardships		
Self	0.321	0.430
Father	0.224	0.221
Mother	0.247	0.232
Own age (ref: 20-24)		
25-29	0.293	0.318
30-34	0.190	0.141
Region (ref: central)		
North	0.130	0.168
Northeast	0.109	0.170
South	0.175	0.208
Bangkok	0.389	0.306
Living in an urban area	0.654	0.526
Years of education	14.874	12.796
Own average monthly income ¹	6.440	6.637
Parents' home ownership	0.521	0.552
Coresidence with parents (ref: Neither)		
Both parents	0.453	0.447
Father only	0.035	0.036
Mother only	0.139	0.160

NOTES: 1--Average income of a couple per month in 1,000 bahts for the period from April 2000 to the month of interview.

Table 7. Estimated Odds Ratios from the Logistic Regression Analysis of
 Wanting to Marry: Never-married Women and Men Age 20-34,
 Thailand 2001

	Women	Men
Experienced economic hardships		
Self	1.225	1.109
Father	1.296	1.191
Mother	0.497*	1.238
Own age		
20-24	1.000	1.000
25-29	0.532*	0.589*
30-34	0.357**	0.798
Region		
North	0.830	0.738
Northeast	1.509	5.618**
Central	1.000	1.000
South	1.973*	1.347
Bangkok	1.124	1.083
Living in an urban area	0.853	0.864
Years of education	1.024	1.111**
Own average monthly income ¹	1.025	0.980#
Parents' owning the home	1.372	0.623
Coresidence with:		
Both parents	0.515*	0.734
Father only	0.395	5.198
Mother only	0.560	0.733
Neither	1.000	1.000
Log-likelihood	-285.43	-223.887
LR chi2 (23)	30.65	55.22
Prob > chi2	0.015	0.000
Number of observations	453	463

**Significant at .01 level *Significant at .05 level #Significant at .10 level

NOTES: 1--Average income of a couple per month in 1,000 bahts for the period from April 2000 to the month of interview.