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Moving Upward from the Bottom: Headship, Gender and Household Poverty in a Western Province of Thailand

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Abstract

This paper seeks to explain the effect of the gender of household heads on the ability to escape from economic poverty. It utilizes panel data from the Kanchanaburi Demographic Surveillance System (KDSS) in Thailand, which had been collected every year from 2000 to 2004. A sample of 1,373 households with the same heads who were at the lowest quintile (poorest) in 2000 was followed throughout the study period. To measure poverty levels, the household poverty index was constructed by using asset based metric via a technique of Multiple Principle Component Analysis (MPCA). Logistic regression with random effect analysis was then employed.

The results reveal that households with married heads are more likely to economically move upward than those of non-married heads and there is no significant difference between households with married male and female heads. However, households with non-married female heads are better off when compared with their male counterparts. Other variables, namely, age and education of head, access to credit from formal sources and geographical area of residence also help in explaining economic mobility.

These findings suggest that programs aimed at reducing household poverty should target not only single female-headed households but also those with single male heads.

Key words: household headship, gender, household poverty

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Introduction

The belief that the proportion of females living in poverty was higher than that of males led many researchers in the late 1970s to focus on the discourse on feminization of poverty (Pearce, 1978). Generally, household poverty has been associated with gender of the household head; that is, households with female heads are more likely to be in poverty than those with male heads (Bianchi, 1999; Chant, 2006). Nevertheless, some studies indicate that this may not necessary be the case. Female-headed households in some settings are similar to male-headed households in terms of economic status (Loi, 1996; Waite, 2000). In some social and cultural contexts, at least, household poverty is not necessarily associated with the gender of the family head.

It remains unclear whether the concept of feminization of poverty, as suggested by some writers (Medeiros & Costa, 2008; Quisumbing, Haddad, & Peña, 1995), is relevant, and if it is, how common this phenomenon is. Poverty may vary with social and cultural contexts. Such an argument is grounded in the fact that gender is a social and cultural construction, while social and cultural systems tend to vary from one society to another (Gentry, Commuri, & Jun, 2003). In a social and cultural setting where male and female economic roles are not greatly different, one could expect little or no significant difference with regard to their roles and status as heads of households. But it is important to analyze if the 'feminization of poverty' holds in a setting such as Thai society, where females have a relatively high status. Also, as the proportion of households with female heads in Thailand is increasing, it is important to investigate if the increasing number of female-headed households results in greater vulnerability to poverty or not.

This study aims to examine the relative ability of female-headed households to exit from the lowest economic status. The panel data is appropriate for this analysis as they enable us to see a clearer causal linkage of process than do cross-sectional data, which generally provide figures only at a point in time (Rose, 2000).

Level and Trends of Female-Headed Households

An increase in the proportion of female-headed households has been observed in several parts of the world. For instance, in the United State, the proportion of female-headed households rose from 21 percent in 1970 to 30 percent in 2000. In Brazil, the proportion increased from 10.7 percent in 1960 to 22.6 percent in 1991 (Arias & Palloni, 2006). In Bangladesh, where the patriarchal system is strong, the percentage of households headed by females increased from 11.9 percent in 1974 to 15.2 percent in 1996 (Joshi, 2004).

In Thailand, the census data during the past three decades (1970-2000) show that the proportion of female-headed households has increased from 16 to 26 percent (Social Statistics Division, 2002). A similar increase is also observed in the data from a series of Household Socioeconomic Surveys (SES), which show an increasing proportion from slightly more than one-fifth of all households in 1988 to almost one-third in 2004. Similar trends are also observed in the data of the Kanchanaburi Demographic Surveillance System (KDSS), where female- headed households increased from 28 to 33 percent during the five-year period from 2000 to 2004. Studies have documented that the main reason for the increase in the proportion of female-headed households has to do with increased marital dissolution while mortality, migration of husbands and increased female autonomy also contribute to this phenomenon (Chant, 2003; Varley, 1996).

Female-Headed Household and Poverty

Scholars have paid considerable attention to levels and trends in female-headed households, not only because they are important indicators of changes in household situation and vulnerability (Lampietti & Stalker, 2004), but because they are also indicators of well-being of a society. During the past decades a large number of studies have focused on household leadership and poverty. These studies have resulted in two conflicting arguments. One argument sees female-headed households, or some categories of them, as relatively worse off when compared to male-headed households. Another sees no evidence supporting lower economic status of female-headed households. In effect, the latter argument holds that female-headed households are not worse off than those households with male heads (Buvinic & Gupta, 1997; Synder & McLaughlin, 2004).

The main reason supporting the first argument (that female-headed households are worse off) is that households with female heads, especially those who are single parents, lack adult male bread-winners (Fuwa, 2000; Posel, 2001). Some studies have found that a higher proportion of female-headed households have more dependents when compared with households headed by a married couple (Chant, 2003). In addition, the female heads bear the double burden of father and mother; they take on several tasks, ranging from income earning to housekeeping and childcare. In many settings the multiplicity of tasks they take results in their inability to engage in formal and secure employment, which generally provides higher wages. As such, a number of female heads engage in non-formal economic activities such as part time or home-based employment, which in turn yields unstable and lower wages.

Social attitudes are also believed to be responsible for the relative disadvantage of female-headed households. In societies where the patriarchal system is strong and where couple-based parenting is the norm, single-parents, especially those who are divorced, are deemed as marital failures. Such attitudes make it difficult for female household heads to be well integrated into their communities. Connection with and access to sources of income and social support are made even more difficult. This often results in a reduction in well-being of all household members (Arias & Palloni, 2006; Joshi, 2004).

On the other hand, those who support the second argument (that female-headed households are not worse off comparing to male-headed households) do so on the grounds that household poverty is not as much associated with leadership as with other economic and structural factors. First, one has to admit that not all households headed by females are poor. The reverse is true for male-headed households, since not all of them are above poverty line. Second, when considering household poverty, one has to take into account definitions of headship, measurement of poverty, as well as the social context within which one carries out the analysis (Buvinic & Gupta, 1997; Chant, 2006; Fuwa, 2000).

First, female headship can be defined either as "permanent" or "temporary". When a single, widowed, or divorced woman heads a household, she is a permanent head; but if a woman heads a household while her spouse is away from home as a migrant for an extended period of time, she is a temporary head (Fuwa, 2000; Morada, Llaneta, Pangan, & Pomentil, 2001). The number of such temporary female heads seems to be increasing at present due to increases in the levels of migration. Under such circumstances, one can at least expect some difference in terms of economic and social status of households with female and male heads. Some temporary female heads may have support from their migrant spouses through remittances, hence doing better economically than permanent female heads – other things being equal (Kossoudji & Mueller, 1983). Therefore, any analysis of female-headed households and poverty should take this into consideration.

Second, poverty measurement can also make a difference. Generally, indicators of income, expenditure and consumption are constructed for measurement household poverty. These measures are sensitive to household size. Where all other things are equal, a small household (with fewer members) may be better off when compared to a larger household (Chant, 2006).

Third, regardless of gender of the household head, structural factors, such as employment opportunities, wage rate and availability of economic infrastructure (loan services, transport, telecommunications and energy), can also contribute to household's poverty. A study of female-headed household and poverty in 10 developing countries found no significant difference between female- and male-headed households in eight countries. The difference was found in only two countries. The authors explained the findings in terms of cultural and structural norms (Quisumbing, et al., 1995).

The Study Variables

The analysis in this paper focuses on the link between household poverty and three sets of factors. These factors are:

(a) *Characteristics of household heads:* Included in the present analysis are sex, marital status, age, education and employment status. Among these characteristics, age is considered to be an attribute that corresponds to a particular stage in a person's life. Generally, household asset accumulation is seen to be associated with life cycle of the head. Many previous studies have shown that the relationship between age of head and level of household asset accumulation takes an "inverted U shape". Accumulation is lower at a younger age and rises to a higher level during middle age before dropping down again at older age, especially after retirement (Blau, 2008). Based on this observation, one could expect households with heads of both younger and older ages to be relatively poorer compared to those with heads of middle age.

Education and employment are generally considered as human capital, especially education, which is viewed as the most important determinant of wages (Heckman, 2000; Kosempel, 2004). Previous studies clearly revealed the influence of education and employment on poverty reduction. Educated people are more likely to have higher opportunities to get high-paying job than uneducated people (Oxaal, 1997; Terajima, 2004).

(b) *Household characteristics and demographic events over the study period*: These include household size, proportion of non-workers and workers, child births, deaths and migration of household members. These factors reflect the household dynamics which effects household production and consumption demand (Sweet, 1977). Previous studies reveal that the greater the household size is, the lower is the ability of households to attain a higher standard of living (Lanjouw & Ravallion, 1995; Waite, 2000). Births increase the number of dependent household members and may have effect on savings and overall economic status. Death affects the household economy both directly and indirectly. In addition to direct expenditure on funerals, death (especially that of the working-age members) can affects economic production and income also (Russell, 2003).

Apart from births and deaths, migration of household members may have a significant impact on the economic status of households because it can improve household socioeconomic well-being through remittances. Remittances can be used to meet the basic needs of household as well as to improve household welfare and reduce the level of poverty (Adams, 2006). However, previous studies reveal that remittances from migrants have both negative and positive impacts on household wealth. Short term and short distance migration are more likely to have negative impact on gaining wealth while the longer the time and distance involved in migration, the more likely is the positive impact on wealth accumulation (Entwisle & Tong, 2005; Ford, Jampaklay, & Chamratrithirong, 2007).

(c) Access to credit from institutional sources and geographical areas of residence: Female-and male-headed households that differ in these key variables will perform differently in their economic mobility. Sources of credit contribute to economic status of households because it provides borrowing opportunities for households. Previous studies have found that credit opportunities can help alleviate households poverty (Khandker, 2003; United Nations Population Fund, 2007). Credit from both institutional and non-institutional sources can contribute to household production investment and well-being (McKernan, Pitt, & Moskowitz, 2005; Pitt, Khandker, & Cartwright, 2003).

Place of residence reflects the level of economic development also (Leyshon & Thrift, 1995). An earlier study found that place of residence is an important determinant of asset poverty. Those living in areas with lower levels of development (e.g. rural and highland areas) are more likely to be poor in terms of assets than those living in areas with higher levels of development (e.g. urban and lowland areas) (Fisher & Weber, 2004).

Data, Measurement and Analysis

The analysis in this paper is based on the panel data collected from 2000 to 2004 on an annual basis in a western province of Thailand under the Kanchanaburi Demographic Surveillance System (KDSS), supported by the Wellcome Trust, United Kingdom. The main purpose of KDSS was to monitor population change in the field site which consisted of 100 villages/communities. These villages/communities were selected to represent diversity in ecological, socio-economic and population features in the province using a stratified systematic sampling technique. Data were collected at the village, household and individual (aged 15 and above) levels (Punpuing, 2007).

In this analysis, household data were used to compare asset holding of the households with male and female heads in two time periods only, 2000 and 2004. To control the effect of change in the head's marital status on the analysis, only those households whose heads are not changed and remain in the same marital status from the beginning of the study period (2000) to the end (2004). The procedure of selecting eligible households to be included in the analysis is described below.

Out of more than 12,000 households in the entire KDSS sample (the number varies from year to year due to expansion of some villages), 8,126 households could be followed from the beginning (2000) to the end (2004) of the study period. In classifying these households into economic quintiles, 2,056 households (25 percent) appear in the first (poorest) quintile in the initial year (2000). Households in this quintile are the target of this analysis. But since only the households whose heads remain in the same marital status from the beginning to the end (2000 to 2004) are included, those that fall outside this criterion are excluded from analysis. In following these households through from 2000 to 2004, 1,373 households (67 percent) still have the same heads whose marital statuses remain unchanged. These households are included in the present analysis.

Data management procedures described above may cause problems due to selectivity which may have some effect on results of the analysis. In order to address this issue, the differences between the included and the excluded households are examined by means of Chi-square test and logistic regression with random effect. Although the chi-square test shows some difference in characteristics of the head and those of the households, these differences are not systematic, nor are they statistically significant (statistics not shown here). The test leads to a conclusion that effect of selection bias appears to be minimal and acceptable.

There are different ways to measure household economic status but none of them are without shortcomings. For instance, conventional measurements based on survey data on income and consumption expenditure are useful provided that the information used is accurate. However, survey information on household income and expenditure often suffers from underreporting. These problems are confounded by changes in interest rates and inflation rates. To minimize this impact in the present study, an asset-based metric was used to construct a household wealth index. This strategy gives some advantages; important among these is the fact that data on assets are relatively easy to collect and their reports are more accurate comparing to data on income and expenditure. Moreover, the data do not tend to suffer from the problem of currency inflation and deflation (Sahn & Stifel, 2000).

To calculate a household wealth index based on its asset the Multiple Principle Component Analysis (MPCA) method is used here (Filmer & Pritchett, 2001). This method takes into consideration not only ownership of a particular item of an asset but also the number of it that is owned by a household. In this analysis, the assets of all sample households in 2000 and 2004 were pooled together for constructing the asset index, using the same weight in order to observe changes in asset quintile during the study period. Scores of the asset index enable categorization of households into quintiles with those in the lowest (first) quintile as the poorest.

Household assets included in the index construction consist of tools and equipment for daily use and economic production. These include television sets, VCR players, satellite discs, stereo players, mobile phones, land phones, computers, air conditioners, sewing machines, washing machines, microwave ovens, refrigerators, bicycles, motorcycles, local-made farming machines, cars, pickups and trucks. Housing characteristics were measured and ranked in terms of the quality of materials for roof, wall and other parts of the house (such as wood, concrete, brick, stone, tile and zinc).

The focus of this analysis is differential economic mobility of the female- and male-headed households in 2000 and 2004. Economic mobility is defined here as moving up from the lowest (first) economic quintile to any quintile above it (2^{nd}, 3^{rd}, 4^{th} or 5^{th} quintile). The analysis examines if a household moves upward from the lowest (first or poorest) quintile in 2000 to any of the higher levels in the last wave of observation in 2004. If so, the analysis considers whether there is any difference between female- and male-headed households.

Measurements and variables described above are summarized in Table 1 below:

Table 1: Measurement of dependent and independent variables

Variable	Measurement
Dependent variable	
Moving upward from lowest quintile (poorest)	0 = No, 1 = Yes
Independent variables	
Year of observation	0 = 2000, 1 = 2004
Characteristics of household head	
Gender	0 = Female, 1 = Male
Age	Years
Marital status	0 = Spouse not present 1 = Spouse present
Education	0 = No formal education, 1 = Had formal education
Employment status	0 = unemployed, 1 = employed
Household characteristics	
Household size	Number of household members
Proportion of non-workers to workers	Number of non-workers divided by number of workers
Having newborn	0 = No, 1 = Yes
Occurrence of death	0 = No, 1 = Yes
Having migrants	0 = No, 1 = Yes
Access to credit	
Access to formal credit	0 = No, 1 = Yes
Geographical area	0 = Upland , 1 = Lowland

For analysis, it can be hypothesized that in the context where there is no strong differentiation in economic roles of females and males such as the case of Thailand, gender of head is unlikely to make significant difference in household economic mobility.

To examine if this hypothesis holds, this study employed logistic regression with random effects to estimate the effect of gender of household head on relative ability of the household to move upwards from the lowest quintile. The random effect was used for this study because it is based upon the average model and it allows inclusion of both time-varying and time-invarying variables into models. It also corrects the standard errors of estimates for repeated observations across time for households and also provides consistent and efficient estimated coefficients. To make sure that the random effect used is acceptable, the Hausman test was applied (Wooldridge, 2002) on the data. The results showed no significant difference between fixed and random effects.

Two logit models are employed: the first model examines the main effect of gender by controlling for other variables, whilst the second model includes interaction between gender and marital status in order to demonstrate combined effect of gender and marital status of household head on economic mobility.

Results

Table 2 shows summary statistics of the sample. It is observed that male-headed households account for four-fifths of total households in the sample. To begin with characteristics of household head, the analysis reveals that a greater proportion of heads without a spouse are found among the female heads than among male (the terms "head without spouse", "non-married couple households" and "single-headed households" are interchangeable in this study). Almost half of the female heads had no formal education compared to only one-third of the male heads. On average, male heads are younger than female heads but this varies by age-group. The average age of male heads was 44.5 years at the enrollment in the study while the average age for female heads was 52.4 year. Male heads have a higher rate of employment than female heads.

With regard to household characteristics, the average household size of male-headed households is slightly greater than that of female-headed households but the proportion of non-workers to workers is higher among households with female heads. This seems to imply that the economic burden of female-headed households is greater when compared with the male-headed households.

There were slightly more birth to male-headed households during the study period than to the households with female heads but death in female-headed households is slightly more. Out-migration was also found to be more in households whose heads were female. About half of the poorest households have access to credit from institutional sources with female-headed households benefitting less from this source of credit.

Table 2: Characteristics of sample

Variables	2000				2004			
	FHH	MHH	Total		FHH	MHH	Total	
	Percent	Percent	Number	Percent	Percent	Percent	Number	Percent
Total Sample households	20.3	79.8	1,373	100.0	20.3	79.8	1,373	100.0
Marital status								
Not currently married	72.7	4.8	254	18.5	72.7	4.8	254	18.5
Currently married	27.3	95.3	1,119	81.5	27.3	95.3	1,119	81.5
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**
Education								
No formal education	42.5	31.6	464	33.8	42.5	31.6	464	33.8
Had formal education	57.6	68.4	909	66.2	57.6	68.4	909	66.2
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**
Age (Average)	52.4	44.5		46.1	56.4	48.5		50.1
(S.D.)	(15.5)	(13.8)		(14.5)	(15.5)	(13.8)		(14.5)
Less than 30 years	7.6	13.2	165	12.0	4.0	4.4	59	4.3
30-39 years	16.2	28.5	357	26.0	12.1	87.9	313	22.8
40-49 years	18.4	25.9	335	24.4	18.4	29.0	369	26.9
50-59 years	19.4	15.5	224	16.3	17.6	19.8	266	19.4
60 years and above	38.5	16.9	292	21.3	35.3	64.8	366	26.7
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**
Employment status								
Unemployed	34.9	6.5	168	12.2	53.0	47.0	200	14.6
Employed	65.1	93.5	1,205	87.8	61.9	91.4	1,173	85.4
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**
Household size (Average)	3.0	3.9		3.7	4.2	4.9		4.8
(S.D)	(1.9)	(1.6)		(1.7)	(2.7)	(2.2)		(2.3)
1-2	47.8	17.5	325	23.7	29.1	10.0	190	13.8
3-4	35.6	51.7	665	48.4	36.7	39.9	539	39.3
5-6	11.5	25.0	306	22.3	17.6	30.8	386	28.1
>= 7	5.0	5.8	77	5.6	16.6	19.4	258	18.8
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**

Table 2 cont.

Variables	2000				2004			
	FHH	MHH	Total		FHH	MHH	Total	
	Percent	Percent	Number	Percent	Percent	Percent	Number	Percent
Proportion of non-workers to workers	0.3	0.3		0.3	0.2	0.1		0.1
(S.D)	(0.5)	(0.5)		(0.5)	(0.4)	(0.3)		(0.3)
Non workers >= workers	20.9	16.6	240	17.5	12.6	4.8	87	6.3
Non workers < workers	79.1	83.4	1,133	82.5	87.4	95.3	1,286	93.7
Total	**100.0**	**100.0**	**1,373**	**100.0**	**100.0**	**100.0**	**1,373**	**100.0**
Demographic events								
Occurrence of death								
No	95.3	97.8	1,336	97.3	97.8	98.8	1,354	98.6
Yes	4.7	2.2	37	2.7	2.2	1.2	19	1.4
Having newborn								
No	95.0	89.5	1,244	90.6	95.3	94.6	1,301	94.8
Yes	5.0	10.5	129	9.4	4.7	5.4	72	5.2
Total	**100**	**100**	**1,373**	**100**	**100**	**100**	**1,373**	**100**
Having migrants								
No	100	100	1,373	100	36.7	45.3	598	43.6
Yes	0	0	0	0	63.3	54.7	775	56.4
Total	**100**	**100**	**1,373**	**100**	**100**	**100**	**1,373**	**100**
Access to formal credit								
No	56.1	49.0	692	50.4	50.7	47.5	661	48.1
Yes	43.9	51.0	681	49.6	49.3	52.5	712	51.9
Total	**100**	**100**	**1,373**	**100**	**100**	**100**	**1,373**	**100**
Geographical area								
Lowland	62.2	40.9	621	45.2	62.2	40.9	621	45.2
Upland	37.8	59.1	752	54.8	37.8	59.1	752	54.8
Total	**100**	**100**	**1,373**	**100**	**100**	**100**	**1,373**	**100**

Note: FHH = female-headed households
MHH = male-headed households

Table 3 shows patterns of household economic mobility by gender and marital status of the heads during 2000 and 2004. From this Table, a few points are worth observing. First, comparing households with married heads and those with non-married heads it was found that households with married heads were much better off regardless of gender of the head. As will be observed, greater proportion of the households with married female and male heads could move up to higher quintiles when compared to those in non-married categories. Second, within the same marital status, namely "married", household with married female heads did better than those with married male heads in moving up to the higher quintile (63.1 compared to 50.2 percent). Similarly, among households with non-married heads, it is those with non-married female heads that could do better since substantially greater proportion of them moved up to a higher level (42.5 comparing to 30.8 percent). Results in Table 3 suggest that households with female heads seems to do better than those with male heads regardless of the head's marital status.

Table 3: Patterns of household economic mobility based on household asset, by gender and marital status of the heads

Gender and marital status of household heads	Economic status in 2004		N
	Remained at the bottom quintile	Moved to higher quintile (2^{nd}-5^{th})	
Married male heads	49.8	50.2	**1,043**
Married female heads	36.8	63.1	**76**
Non-married male heads	69.2	30.8	**52**
Non-married female heads	57.4	42.5	**202**
Total	**50.9**	**49.1**	**1,373**

Table 4 presents bivariate data analysis in terms of average relationship between economic mobility and independent variables. Its purpose is to demonstrate association of each independent variable with the dependent variable, without controlling for other factors. This analysis reveals that a number of household head's characteristics are significantly related to economic mobility. These characteristics include marital status, education and age of household heads. In addition, household characteristics are also associated with economic mobility, namely household size, proportion of non-workers to workers, having new borns, migration of a household member, access to formal credit and residential area.

Married heads, heads with formal education and heads at middle age are more likely to be economically mobile. Increasing household size, decreasing proportion of non-worker to workers (number of worker greater than the number of non-workers), not having a newborn and having out-migrants increases the opportunity for economic mobility. In addition, accessing to formal credit and living in a lowland area also plays a role in economic mobility.

Results from Tables 3 and 4 need to be verified by multivariate analysis which allows controlling for the effects of other variables.

Table 4: Percent distribution of economic mobility by selected characteristics of head and household characteristics, KDSS 2000 and 2004

Variables	Economic mobility		Total	N	χ^2
	No	Yes			
Gender					0.074
Female	75.9	24.1	100	556	
Male	75.3	24.7	100	2,190	
Marital status					6.713**
Not currently married	74.4	25.6	100	508	
Currently married	75.5	24.5	100	2,238	
Education					66.177***
No formal education	70.7	29.3	100	928	
Had formal education	75.5	24.5	100	1,818	
Age (Average)					21.840***
Less than 30 years	88.0	12.0	100	224	
30-39 years	73.9	26.1	100	670	
40-49 years	73.3	26.7	100	704	
50-59 years	74.5	25.5	100	490	
60 years and above	75.8	24.2	100	658	
Employment status					0.909
Unemployed	77.5	22.5	100	368	
Employed	75.2	24.8	100	2,378	
Household size					36.505***
1-2	84.7	15.3	100	515	
3-4	75.6	24.4	100	1,204	
5-6	71.2	28.8	100	692	
>= 7	69.6	30.4	100	335	
Proportion of non-workers to workers					33.478***
Non-workers >= workers	88.38	11.62	100	327	
Non-worker < worker	73.71	26.29	100	2,419	

Table 4 cont.

Variables	Economic mobility		Total	N	χ^2
	No	Yes			
Demographic events					
Occurrence of death					0.300
No	75.4	24.6	100	2,690	
Yes	78.6	21.4	100	56	
Having newborn					10.836**
No	74.7	25.3	100	2,545	
Yes	85.1	14.9	100	201	
Having migrants					266.758***
No	83.9	16.19	100	1,971	
Yes	54.1	45.9	100	775	
Access to formal credit					90.221***
No	83.4	16.6	100	1,353	
Yes	67.8	32.2	100	1,393	
Geographical area					99.841***
Lowland	66.4	33.6	100	1,242	
Upland	82.9	17.1	100	1,504	

*$p<.10$, **$p<.05$, ***$p<.001$

Table 5 presents the two models of the study which take economic mobility (whether the household moved up to a higher quintile) as the dependent variable. Panel data analysis us random effect logistic regression was employed to estimate the effects of gender of household heads on economic mobility. The first model estimates the effect of gender of household heads on economic mobility by controlling for all other factors. The second model adds the combined effect of gender and marital status of household heads on household economic mobility to examine gender differences in economic mobility among the households with married heads and those with non-married heads.

The findings in Model I showed that gender of the head per se does not make a statistical difference in household economic mobility. Rather, it is the head's marital status that seems to be more important ($p < .10$). This means that households with currently married head are more likely to move upward economically comparing to those with currently unmarried (including divorced and widowed) heads. However, when interaction between gender and marital status was taken into consideration as in Model II, gender was found to be statistically significant only among households with single heads ($\beta = -2.424$). This finding suggests that households with single male heads are less likely to move upward when compared to those with single female heads.

Apart from gender and marital status, other variables also contribute to explaining household's economic mobility. The results from these two models illustrate that time has the greatest significant effect (β = 16.341 and 16.375) in the models, followed by residential area (β = -4.568 and - 4.564), access to formal credit (β = 2.978-2.983), education (β = 1.126 and 1.193) and age of household heads (β = -0.573).

Results show that time is more likely to improve the opportunity of the households to move upward economically. When time passes, and with everything else being equal, many households have the greater chance of moving up from the bottom quintile. Comparing with households located in highland areas, lowland dwellers have higher probability of moving upward. Accessing to credit from formal institution also plays a role in economic mobility. Education is another factor that is positively related to the probability of household economic mobility. Lastly, age of household heads show a strong relationship with economic mobility. However, at a certain age the probability declines. As shown in bivariate analysis, the probability of economic opportunity increased to middle age and then reduced.

Table 5: Random effect logistic regression estimates of moving out of the bottom quintile

Variables	Model 1		Model 2	
	β	SE	β	SE
Year (2000®)				
2004	16.341***	2.250	16.375***	2.253
Characteristics of heads				
Gender (female®)	-0.763	0.688	-2.424**	1.201
Marital status (Spouse not present®)	1.335*	0.766	0.190	0.987
Interaction between gender and marital status				
Male head with spouse not present (female head with spouse not present®)			-2.424**	1.201
Male head with spouse present (female head with spouse present®)			0.118	0.841
Age	-0.573***	0.089	-0.563***	0.088
Age squared	0.005***	0.001	0.005***	0.001
Education (No informal education ®)	1.126**	0.461	1.193**	0.463
Employment status (Employed®)	-0.743	0.741	-0.704	0.743
Household composition				
Household size	-0.103	0.281	-0.111	0.281
Household size squared	0.005	0.020	0.006	0.020
Proportion of non-workers to workers	-0.361	0.608	-0.342	0.606

Table 5 cont.

Variables	Model 1		Model 2	
	β	SE	β	SE
Demographic events				
Having births (no®)	-1.232	0.879	-1.181	0.870
Having deaths (no®)	1.679	1.534	1.573	1.536
Having migrants (no®)	0.712	0.467	0.733	0.466
Access to formal credit				
Yes (no®)	2.983***	0.521	2.978***	0.521
Geographical areas				
Low land (Upland ®)	-4.568***	0.659	-4.564***	0.663
Log likelihood	-840.878		-839.260	
Model Chi-Square	63.830***		63.830***	
Number of observations	2,746		2,746	
Number of cases	1,373		1,373	
Rho	0.884		0.884	

* *p<.10,* ** *p<.05,* *** *p<.001*

Conclusion

Using panel data from two time periods (2000 and 2004), this study examined the relative ability of households headed by males and females to escape from the bottom quintile (1st quintile). The findings lead to three conclusions. First, married couple households are more likely to economically move upward than single-headed households. Second, there is no difference in economic mobility between married couple households headed by males and females. Third, female single-headed households are relatively more likely to move up from the bottom quintile than their male counterparts.

It can be concluded that in the setting such as that under this study, gender of head does not seem to make so much difference in economic mobility of the household; but when gender is considered in conjunction with marital status, some difference emerges. Thus, female-headed households are not necessarily worse off when compared with those headed by male.

This analysis revealed that single female-headed households were more likely to economically move upward than those with single male heads. Based on this finding, the discourse on feminization of poverty is less likely to be relevant in the setting under this study. Results in this analysis seem to be unique, yet they remain to be explained. Unfortunately, data at our disposal do not allow us to sufficiently do more than speculating based on our knowledge on gender role

in Thailand. It has been argued by some scholars that in Thailand men and women roles are not markedly different (Eterik, 2000). Evidence often cited for this is that throughout the history Thai women played an important role in economic activities of the household. They worked side by side with men in the fields and managed markets as well contributed to decision making within the household. Women also take responsibility for the well-being of the household members. In addition, women also take substantial control of the household resources. This may be a possible factor that explains the findings in this analysis. Nevertheless, more accurate explanation requires in-depth study of the issue.

The findings from the present study suggest that programs to alleviate household poverty should not target only single female-headed households but also those with single male heads. In addition, households whose heads are less educated, of older age, lack of opportunity to access to credit and are living in highland areas should also be given special program attention. Although the finding here suggests some important policy implications, further research is needed to confirm this. Studies that address this issue should be longitudinal and take a larger national sample while focusing on more accurate measurement of the household economic status.

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