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Working Paper No. 418

Asset Ownership along Gender Lines:
Evidence from Thailand

by

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ABSTRACT

Gender differences have long been documented in earnings, employment opportunities, and time spent within the unpaid care economy. This paper joins the recent efforts in the economics literature on gender differences in asset ownership. Specifically, it investigates whether a gender-specific composition in asset ownership between heads of households and spouses can be detected among low-income, urban households in Bangkok, Thailand. The present case study explores this issue empirically, using a sample of 134 couples from a 2002 survey that collected data at the level of the individual respondent on accumulated physical and financial assets. Both husband and wife were interviewed separately and the data gathered from the interviews include pertinent household and individual information on employment, credit and household decision-making issues. The findings suggest that asset composition varies by gender, indicating that further investigation is warranted on this topic. Tobit and Probit tests are used to examine the factors that may affect this gendered pattern.

JEL Classifications: D31, J16, O17, R29

Keywords: asset distribution, gender, Thailand

I. INTRODUCTION

Much of the existing research on disparities in asset ownership is carried out at the level of the household and while this unit of analysis is in many instances practical and appropriate, it cannot capture potential asymmetries between men and women within households. Research has shown that gender differences in head of household—alongside race, class, ethnicity, nationality and age—are indeed associated with asset ownership gaps (Caner and Wolff 2004, Wolff 2001a). But less is known about *intra-household* differences. This limitation is partly due to the present methods of wealth data collection, which, by focusing on “household” level questions adhere, perhaps unintentionally, to the validity of unitary household models.^{1,2}

This paper seeks to make a contribution by empirically investigating gender differences in asset ownership *within* households in urban, low-income communities in Bangkok. The building of assets among low-income and poor households as a means of poverty alleviation and self-empowerment is at the heart of community based development efforts, microfinance schemes and of new thinking among development researchers and international organizations. Part of the debate revolves around the issue of whether or not the poor save. Sherraden (2001) has demonstrated that, in fact, the poor do save when provided with the opportunity and appropriate conditions that address their concerns, such as reasonable subsidies.³ Zimmerman and Carter (2003) argue that poor peasant households in Africa do save, but as they accumulate under higher risk and subsistence constraints than wealthier ones, they end up with portfolio allocations that yield lower rates of return.

Research has also shown that women in rural areas own a miniscule proportion of land and technology (Rebecca Pearl 2003) which adversely affects their future asset building potential. But when it comes to *urban* low income and poor households, we have less documentation. To date, assets among urban, informal sector workers in low-income communities have yet to be examined. The growth of the informal economy and the persistence of poverty in urban areas raise the need to better understand gender patterns in asset ownership

1. There is a growing literature that critiques this unrealistic “unitary household” view. See for example, Kabeer 1997, Agarwal 1997, Carter and Katz 1997, Sen 1990, to name a few. The unitary household model, expounded originally by Gary Becker in the 1960’s, conceives the household as a collection of individuals who have a single set of interests, thereby, precluding conflict or inequality within the household.

2. A notable exception is the Indonesia Family Life Survey (IFLS) which gathers data on both heads of households and spouses, cited in Frankenberg et al 2003, p.286.

3. Cited in Wolff (2001b).

as they affect credit access, the level of micro-enterprise earnings, and consumption smoothing abilities of households.

Our study investigates the existence (or absence) of differences in the composition and distribution of owned assets between heads of households and spouses, among low income and poor households in the Bangkok metropolitan area. It is based on a 2002 sample survey, from which we utilize a sub-sample of 134 households, situated in three urban squatter communities.⁴ In what follows, we address the following questions: (1) what types of assets do these low income households tend to accumulate; (2) do men and women own similar kinds of assets or is there a distinct gendered-pattern of asset ownership; and (3) what factors influence the gender-specific composition of asset ownership?

Below, in section II, we discuss the significance of making visible gender differences in asset ownership for developing countries. Section III contextualizes the sample we used in this paper. Our empirical findings on real tangible assets and financial assets owned by women and men are presented in sections IV and V. The last part summarizes. Throughout, we identify several caveats that caution the reader in interpreting the empirical results.

II. GENDER DIFFERENCES OF ASSET OWNERSHIP IN LDC'S.

Accumulated assets serve many functions, among them enjoying a higher standard of living, allowing for bequests and providing a buffer during times of economic hardship. In addition to examining these issues, documentation of gender disparities in financial and non-financial asset ownership, within the context of LDC's, has been of significance in at least four research areas.

The first one pertains to the link between gender-based inequalities over productive assets such as land, capital and education and their detrimental impact on women's ability to partake in the opportunities afforded by economic development (Dollar and Gatti 1999). Decreasing gender gaps, the argument goes, promotes not only equity but also efficiency, thereby enhancing the pace of economic development.⁵ The need arises then to document and explain such disparities. Studies show that gender imbalances in assets can persist across generations in some cases and diminish in others. Quisumbing and Maluccio (1999) find that in

4. Lack of gender disaggregated official statistics on this area is often circumvented by data collection efforts.

5. "Engendering Development: through gender equality in rights, resources and voice" (2001) A World Bank Policy Research Report; Oxford University Press.

Bangladesh, Ethiopia, South Africa and Indonesia women bring fewer assets to marriage and that these inequalities persist throughout their life cycle. In other cases, such as in Sub-Saharan Africa, entitlements to land are found to be held by men and rights to land are given to women only through marriage, but even these rights are nullified upon the death of the husband or upon divorce (Gray and Kevane 1996). Thomas, Contreras, and Frankenberg (1997) identify situations where women in Indonesia bring substantial asset holdings to marriage, and where they can claim these assets upon divorce.

A second strand of research investigates the implications of intra-household allocation and decision-making process. If allocation and access to resource is not gender neutral it may impact on intra-household decisions regarding human capital formation, production, and consumption (Johnson 2004). Research has shown that in India (Duraismy 1992) and in rural Philippines (Quisumbing 1994 and Quisumbing and Maluccio 1999), children receive higher expenditure allocation in clothing, medical attention and are more likely to attend school if the mother has more assets. In examining the differences in the bargaining power of husband and wife and its effect on consumption expenditures in rural Bangladesh, Quisumbing and de la Briere (2000) found that on average, wives' total wealth represents approximately 10 percent of the household's wealth, with land the most unequally distributed asset (less than 5 percent of the household's land in all sites).

A third area explores differences in savings and borrowing behavior between men and women based on perceived interests. It asks whether cultural and social norms result in distinct gender-specific motives, which in turn influence the savings and asset building behavior of men and women. The need to raise funds for a dowry, for example, may lead Indian women to save more than men in same age cohort as demonstrated by the study of Deolalikar and Rao (1998). Factory women in Indonesia in the 1980's saved on average 30 percent of their income for the purpose of giving it to their families in times of distress. In Korea, where young women are the primary source of labor in export industries, Kim (1997) found that among their highest priorities in asset building is to save for a dowry and to finance the education of their siblings. These studies suggest that gender-based norms influence patterns of saving.

The fourth research area focuses on the idea that allocation decisions in financial asset ownership are gendered. Part of the explanation is ascribed to risk aversion differences (Bajtelsmit and Bernasek 1996), to financial market fragmentation and to the varying degrees of control specific assets afford their owners (Johnson 2004). These characteristics lie at the heart

of informal forms of savings such as the rotating credit and savings associations (ROSCAs), occupational savings groups, etc. which are prevalent in many rural and urban areas in developing countries. Studies have demonstrated that the specific type of asset individuals choose to save in is influenced by intra-household gender dynamics. For example, Bangladeshi women restrain from having assets in the form of large sums of cash since this is likely to attract the attention of male household members who then take control of those assets. In Ghana, access to an informal savings program enables women to save money without other household members knowing the amount. Other studies on ROSCAs and savings clubs in Gambia and Indonesia indicate that many of these groups are all-female to prevent men from monopolizing the funds (Adams and Fitchett 1992). The findings of the Gugerty (1999) study on informal savings in rural Kenya reveal that women have a greater preference than men for participation in ROSCAs.⁶

III. THE CONTEXT OF THE BANGKOK HOUSEHOLD SAMPLE

This section contextualizes the empirical investigation to be carried out in sections IV and V. We first provide a brief discussion of the socio-economic conditions faced by urban, poor and low-income households in our sample. Then, we describe the sampling method used and the survey data collection method.

Socio-economic developments in Thailand especially since the 1997 financial crisis have set up conditions for a significant expansion of the informal economy. Unfortunately, there are no reliable longitudinal data on informal sector employment in Thailand as with many developing countries. But, according to the first 1999 National Statistic Office Homework Survey (NSOHS), more than 20 million are in the informal economy (National Statistics Office 2000, Pichetpongsa 2004). Informal sector activities are diverse, ranging from self-employed activities such as dressmaking, street vending and variety store enterprises to drivers, temporary wage workers in the construction sector, domestic service workers and home-based, piece rate work.

6. For example, in examining the prevalence of specific forms of assets such as informal accounts in rotating savings and credit associations (ROSCAs) in Kenyan households, Anderson and Baland (2001) argue that the predominance of women as ROSCAs members is not accidental. They found that saving in this form is a strategy a wife employs to protect her savings against claims by her husband for immediate consumption.

The NSOHS has documented that approximately three hundred thousand workers are home-based, among which 55,000 live in the metropolitan Bangkok area. The majority among them are women workers, paid on a piece rate basis in insecure jobs and contractual work arrangements that carry no benefits, retirement plans or access to worker rights protection. Typical tasks they perform include shoe-stitching and assembling, jewelry cutting, ready to wear clothes making, needlework, artificial flower making and food processing. Many of the poor, low-income neighborhoods in urban centers like Bangkok have become quintessential “informal sector” communities.

Our study uses information drawn from multi-visit interviews of 268 heads and spouses during the period of June to September, 2002,⁷ in three squatter Bangkok communities. The survey data was collected as part of a four-country research project investigating issues related to informal employment and home-based productive activities. Accordingly, three districts were randomly selected: Udomsuk in the northern part of Bangkok, Nomklao in the center and Namawin located in the east. For our purposes, we utilize a sub-sample of 134 couples’ households.⁸ It is worth noting that during the interview process care was taken to hold separate interviews for household heads and their spouses on savings, credit and household decision-making.

The majority of the households in our sample fall in the lowest income quintile within Bangkok, placing them below the 60% of the average household income in this metropolitan area⁹ (Nguanbanchong 2004). An indication that also points to their low-income status is that all three districts are registered with the Community Development Office of Bangkok. In addition, all interviewed households live on illegally occupied lands.¹⁰

Using the most recent census data available, the households that comprise our sample were selected randomly. The recall method was employed in asking assets questions as members were asked to provide information for the beginning and the end of a six month

7. The data used in our analysis were collected by American University researchers in cooperation with HomeNet, Thailand, a network of women’s and community development organizations.

8. For this study, we excluded households that are single-adult headed as our focus is on differences between men and women within the same household, rather than differences between male and female headed households.

9. For the country as a whole these households stand at or above the average national household income roughly at 15,553 Thai Baht (\$353). Are these households “poor”? In light of the capabilities approach, metric concepts of absolute poverty have come under scrutiny, but discussion of this complex issue is beyond the scope of our paper.

10. With regard to their dwellings, 22 households (16.5%) declared they “owned” the dwelling built on the illegally occupied land, 72 (54%) paid rent to whomever originally had built the dwelling and 39 (29.3%) did not pay any rent.

period. Interviews were conducted in every seventh household of the roster, as long as at least one household member (household head or spouse) was engaged in home-based work or other self-employed in the informal sector.

Savings, asset ownership, asset pawning and asset sale questions were posed to household heads and spouses separately to maintain confidentiality and to allow the respondent to share information that s/he may not necessarily want to share with other household members. To check their reliability, asset questions were rephrased and then asked in a different part of the survey module. The net stock of tangible assets as of the time of the interview are based on the responses given to questions regarding what assets they owned in the past six months and deducting those that they claimed to have been either sold, pawned, given away or lost. The information on the stock of financial assets utilized in this study are based on the responses to the following question: “How much saving do you have in [type of financial institution] now?” Hence it is based on what each individual reports as their savings in a particular financial instrument, in this case, deposits in banks (formal financial institutions) and in different informal savings groups. Note that careful attention was given to including all existing types of informal saving groups and formal financial institutions.

IV. REAL AND FINANCIAL ASSETS AMONG URBAN POOR HOUSEHOLDS IN THAILAND

Assets held by households differ by the function they serve as well as by degree of liquidity. Savings and financial assets are the most common ones used for precautionary purposes as they can easily be converted into cash to deal with idiosyncratic shocks or meet expenses during times of hardship. But many households in our sample save in the form of tangible or real assets, predominantly jewelry and household durable goods. They serve not only as store of value but also are used as collateral in asset pawn market or are sold when cash is short. These assets also provide immediate use value—whether for consumption or productive/business purposes—to its owner. The importance of real or tangible assets particularly to low-income households defies the traditional notion of savings as non-consumption. Hence running them down carries implications that directly affect consumption or the generation of future incomes in the case of business assets such as sewing machines.

A. Composition and Ownership Pattern of Real Assets

The predominant forms of real assets owned jointly or individually by heads of households and spouses in our sample are a) jewelry and gold, b) household appliances, c) shop (business-related) assets and d) transport vehicles as assets that they owned. There were only ten households (7.4%) with members that reported ownership of rural land and none of urban land.¹¹ About 8 % or eleven of the households reported their dwellings as “owned”.¹² The low proportion of households in the sample with land and house assets indicates that they are not an important part of the asset composition in these urban poor households.

Table 1
Proportion of All Households with Assets by Asset Type(N=268)

Type of Owned Asset						
	Land	Private Dwellings	Jewelry	Means of Transport	Business/ Shop	Appliances
Percent of Households	7%	8%	25 %	25 %	10 %	99 %

The above results suggest that low-income and poor households are not homogeneous but rather, they experience different levels of asset poverty. As Table 1 shows some household appliances (e.g. television, small tabletop stove, refrigerator, etc.) were present in all but the poorest households - the bottom one percent of the sample. Business or shop assets were pertinent to only ten percent, and jewelry and means of transport were found present in twenty five percent of the households interviewed.¹³

Assets may be jointly owned or individually held by the head of the household and the spouse.¹⁴ Household appliances, and in some cases, transport vehicles tend to be joint assets.

11. As mentioned earlier, the households in the sample are all illegal occupants of the land in which they dwell.

12. In a separate part of the questionnaire it was revealed that those owner occupied households have been recipients of remittances. Roughly fifty percent said they were paying rent and the remaining were living rent free.

13. The issue of whether these households are “poor,” the depth of poverty they experience and its implications for men and women is of immense interest. In this sample, the average value of total real assets ranges from around 7,000 baht at the bottom tenth percentile to around 200,000 at the ninetieth.

Although beyond the scope of this paper, the authors are currently investigating this matter in a comparative study between Thailand and Ecuador.

14. In some cases, the issue of whether ownership of an asset was “jointly held” presented some difficulty as the value of the asset reported by spouse and head differed. We use the assumption that if the husband reports the same asset (with a reported value within a 15% upper and lower bound) as that of the wife, then it is considered joint. The description of the asset was detailed enough, for example a vehicle, or a stove, to make this a reasonable assumption.

(see Table 2). For the most part, real assets declared by the respondents as individually owned included tools, sewing machines, freezers and different means of transport such as vender carts, bicycles, motorcycles and trucks.

Table 2
Ownership Rate and Mean Value of Real Assets by Type of Asset (in Baht)

Type of Owned Real Asset	WOMEN'S ASSETS		MEN'S ASSETS		JOINT ASSETS	
	Ownership Rate^a (Number in parenthesis)	Mean Value ^b	Ownership Rate^a (Number in parenthesis)	Mean Value ^b	Ownership Rate^a (Number in parenthesis)	Mean Value ^b
1. Jewelry	41% (55)	5,130	18% (24)	1,672	0	0
2. Transport/ Vehicle(s)	27% (36)	20,438	42% (56)	25,036	5% (7)	5,649
3. Appliance(s)	0	0	0	0	95% (127)	14,600
4. Business	19% (26)	2,641	4% (6)	202	0.7% (1)	1,000
Total	98% (131)	43,473	98% (131)	46,713	95% (127)	20,256

Notes: a. Proportion of the husbands or wives sample who currently own asset for individual assets. Proportion of household sample for jointly owned assets.
b. Mean value for all respondents in husbands' and wives' subsamples. In the case of joint assets, it refers to the reported mean value for all household sample.

Table 2 gives the mean values of real assets (excluding land and housing) that are individually owned by men and women in our household sample. It shows that more men than women own vehicles while women dominate in business shop assets and jewelry. Appliances primarily, but also some transport vehicles and business assets were reported as jointly owned. The mean value of total real assets is slightly higher for men than for women and over all joint assets comprise a smaller part of the assets women and men hold.

The observed pattern of asset ownership may be partly explained by the nature of employment or income earning activities that these respondents are engaged in. While a very small proportion of women (1%) in our sample are not currently employed, the majority of them (87.3%) work in the informal sector; in some cases as subcontracted homeworkers but most reported as self-employed (64.5%). Self-employed workers typically have small, mobile shops or microenterprises that require investment assets such as a sewing machine, tools, food vending cart, etc. In contrast, 41% of men respondents are employed in the formal sector,

mostly as wage or salaried employees compared to 12.7% of women. Women, on the other hand, tend to own more jewelry assets than men, a practice not uncommon in many developing countries such as India, Pakistan and the Philippines. On the other hand, men tend to own more transport assets than women.

B. Composition and Ownership Pattern of Financial Asset

We examine next the level of financial assets owned by men and women in urban, low-income households. Their financial assets consist of two types: a) formal financial assets, mainly bank checking and saving deposits, and b) informal savings deposits in a variety of informal savings groups such as rotating credit and savings associations (ROSCAs), community-based or local saving groups (called “Kloom Omsap” or “Kloom Sajja”), occupational savings groups (called “Kloom Archeep”) as well as semi-formal institutions such as saving cooperatives (Nguanbanchong 2004). Household savings were pooled in some cases (38% of household sample) and non-pooled in others (62%). For our present study, we concentrate only on individually held accounts.

Table 3
Participation Rates and Mean Value of Financial Assets by Type of Saving Asset
(Mean Value in Thai Baht, Standard Deviation in Parenthesis)

Type of Owned Financial Asset	WOMEN'S ASSETS ^a		MEN'S ASSETS ^a	
	Participation Rate ^b (Number in parenthesis)	Mean Value ^c (Standard Deviation)	Participation Rate ^b (Number in parenthesis)	Mean Value ^c (Standard Deviation)
A. Formal Assets^d				
1. Bank deposits	30.6% (41)	4,791.04 (10,465.9)	32.8% (44)	5,216.42 (13,678)
B. Informal Assets^d				
1. ROSCAS savings	27.6% (37)	2,612.69 (6,318.58)	16.4% (22)	1,505.97 (4,063.2)
2. Group Savings	13.3% (18)	922.76 (3,719.47)	5.2% (7)	403.73 (2,268.07)
3. Cooperatives Savings	25.4% (34)	2,031.35 (8,097.74)	17.9% (24.0)	1,288.78 (4,700.67)
4. Occupational Group Savings	14.1% (19)	206.418 (862.11)	3.7% (5)	117.16 (771.73)
5. Other Informal Savings Associations	14.9% (20)	962.91 (6,610.04)	12.7% (17)	2,744.63 (18,358.3)
Subtotal	57.4% (77)	6,736.13 (14,898.9)	43.2% (58)	6,060.27 (20,248.8)
Total Financial Assets	65.7% (88)	10,527.17 (20,755.0)	53.7% (72)	11,276.75 (27,266.2)

Notes:

a. Reported value of current financial assets of husband and wife as separate savings.

b. Women's (and men's) participation rates refer to proportion of wives' (and husbands) sample who reported separate savings. For joint assets, participation rate refers to the proportion of the household sample with both husbands and wives reporting savings in a particular financial institution.

c. Mean value for all respondents in husbands' and wives' subsamples. In the case of joint assets, it refers to the reported mean value for the household sample.

d. Formal financial assets include only savings and checking deposits in banks. Informal financial assets refer to the current savings stock in different informal savings associations in the community at the time of the survey. They are measured as the amount of cash deposits, which is obtained from the question: "How much total savings do you currently have in this form of savings account?"

Table 3 provides the participation rate and the mean value of the financial assets held by women and men in the sample households. It confirms that the majority of financial assets among poor households are held in informal savings. We also found that the bottom quintile does not have any bank account savings. Interestingly, women in the bottom half of the distribution tend to

have more financial assets than men do. The reverse is true, however, in the highest decile of the distribution: women in this case tend to have less financial assets than men.

V. EMPIRICAL ANALYSIS

This section explores what may exert influence on the value and form of assets held by women and men in our sample. We use a number of individual and household characteristics that represent differences in gender norms and ability to accumulate wealth, based on income. “Gendered” social norms influence a person’s own perception of interests, desires and obligations. From meeting consumption expenses such as food to the “feminine” and “masculine” characterization of acquired goods like jewelry and cars, being male or female matters as it affects our sense of duty and perception of accepted behavior.¹⁵ At the same time, differential access to education, gender-based patterns of employment and job segmentation in labor markets can lead to differences in incomes earned by women and men. In the case of our sample, women’s relative economic vulnerability—by virtue of the precarious or informalized nature of their employment—and their principal role in household maintenance and care work may cause women’s pattern of asset ownership to differ from that of men. In the empirical analysis that follows, we frame our discussion around these two main arguments.

More concretely, we specify the following reduced form equation for the asset composition decision by individual I as:

$$Asset_{ij}^* = X_{ij}\beta + Z_j\gamma + \varepsilon_{ij} \quad (1)$$

where:

$$Asset_{ij} = \begin{cases} Asset_{ij}^* & \text{if } Asset_{ij}^* > 0 \\ 0 & \text{otherwise.} \end{cases} \quad (2)$$

The observed dependent variable, $Asset_{ij}$, refers to the value of a specific form of asset held by individual i in household j . X_{ij} and Z_j are vectors of observable characteristics at the individual and household levels respectively, which influence the decisions involving asset

15. For an in depth examination of this issue see Kabeer (1999).

accumulation and allocation. Both β and γ are unknown parameters to be estimated. Since our data contain both husbands and wives, the error terms are not independent across individuals leading to biased standard errors for the coefficient estimates. Consequently, we obtain unbiased estimates of variance by calculating robust (Huber/White) standard errors.

It should be noted that the above Tobit model imposes the same economic structure on both the decision regarding the form an asset is held in and the amount allocated on it; hence it uses the same regressors and parameters. Thus, for estimation purposes, the equation that determines the value of specific types of assets individually owned by the respondent becomes a function of the same set of exogenous household and individual characteristics that determine whether or not to have their assets in that particular form.

We test whether women own different levels and forms of assets from that of men by focusing only on individually owned assets. That is, only the value of types of real and financial assets held separately by individual respondents are used as dependent variables. We also test whether the distribution of assets between real and financial forms as measured by asset share, is significantly different between men and women in our sample. We estimate a basic model to examine several individual and household-level factors that may influence the dependent variable, $Asset_{ij}$. If the individual decides to hold assets in a particular form, then $Asset_{ij}$ is positive; if he/she decides not to, then $Asset_{ij}$ is zero.

The individual-level, independent variables, X_{ij} , in the basic model are the following: a) gender (FEMALE), b) lifecycle stage, represented by the age of the individual (AGE) and (AGESQ), c) the type of employment of the respondent as represented by the self-employed dummy variable (SELFEMP) and the formal sector job dummy variable (FORMALJOB). In addition, we included individual-specific control variables such as: d) educational attainment represented by the years of schooling (SCHLYR) and e) social cohesion and urban living experience as proxied by years lived in Bangkok (CITYYR). The household-specific variables, Z_j include: a) total household earned income in the past month (WKINC) and b) household composition represented by school age (5-14) children (NUMKIDS). We also included two household decision making dummy variables to capture the issue of whose earnings are used for meeting basic expenses such as food. The latter are represented by the dummy (FOOD1) if the earnings of the respondent are exclusively used for food expenses and by the dummy (FOOD2)

if the earnings of both the respondent and his/her spouse are used for food expenses.¹⁶ To capture any community-level effects, we included community dummy variables, (SITE1) and (SITE2) for Namawin and Udomsuk communities respectively. These location effects are included to pick up community features that may influence the saving behavior and asset pattern of community residents such as prevalence of informal savings organization, degree of threat of eviction from land being illegally occupied and so forth.

The regression results for total real assets and total financial assets are given in Table 4. The gender variable in Model 1a implies that women would tend to own more real assets than men, holding all else equal, but this is not statistically significant. Having a job in the formal sector increases the value of individual real assets compared to those in the informal sector and the results are significant at 5% level. Those with higher household earnings tend to have more real assets and this is significant at 1% level.

With respect to the stock of total financial assets, the results in Model 1b show that women own less financial assets in individual accounts (more than 17,000 baht) than men and this is significant at the 1% level. Older respondents, those with higher education, those with jobs in the formal sector, and those whose earnings are mainly used to meet food expenses have more financial assets; all these Tobit results are significant at 1% level. We also find that respondents in higher income households have significantly more financial assets compared to those with lower household earnings. Those living in Namawin (site1) area tend to have less financial assets, while those in Udomsuk have more financial assets compared to both Nomklao (site2) and Namawin (base) communities.

16. The base, someone else's income other than the respondent, is used for food expenses.

Table 4
Coefficient Estimates from Tobit Estimation:
Value of Individual Real and Financial Assets in Urban, Low-Income Households.
 (standard errors in parenthesis)

	Model 1a Value of All Real Assets	Model 1b Value of All Financial Assets
Female	5630.007 (12843.766)	-17029.299*** (5143.475)
Age	-1137.433 (3763.297)	4482.109*** (1603.721)
Agesq	2.832 (41.953)	-42.734** (17.512)
Selfemployed dummy	-20451.643 (14040.816)	4778.177 (5583.551)
Formaljob	40725.793** (16921.532)	-12319.140* (6661.898)
Food1	-21364.034 (25028.445)	28635.488*** (9250.447)
Food2	-22122.125 (18874.460)	5473.343 (7001.615)
Household Earned Income	1.997*** (0.608)	0.662*** (0.232)
Years lived in city	36.386 (237.469)	-35.516 (94.604)
Years of schooling	-1886.274 (1748.521)	1989.080*** (673.315)
Number of kids in hhld	-134.083 (5389.742)	-1233.882 (2201.517)
Site1	24237.931* (13555.627)	-24015.013*** (5590.363)
Site2	24072.729* (13795.249)	9184.256* (5032.108)
Constant	-34811.860 (89379.265)	-103082.416*** (38396.158)
Observations	260	260

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Next, we examine the determinants of asset composition of individuals in our sample. Table 5 presents results of the Tobit model with the share of real assets to total assets as dependent variable. We find that the fact that women keep more of their individual assets in real (tangible) form is statistically significant at 5% level. This may be a reflection of the fact that certain assets, such as jewelry, is so prevalent among women since it gives them more control over asset use. Interestingly, those with formal sector jobs tend to have a greater portion of their

assets in real or tangible form and this is significant at the 10% level. The results of the community effects suggest that those living in Namawin (site1) and Udomsuk (site 2) community keep more of their assets in real form compared to those in Namklao community.

Table 5

**Coefficient Estimates from Tobit Estimation:
Ratio of Individual Real Assets to Total Individual Assets
(standard errors in parenthesis)**

	Model 2 Real Assets/Total Assets
Female	0.284** (0.115)
Age	-0.035 (0.036)
Agesq	0.000 (0.000)
Selfemp	0.054 (0.121)
Formaljob	0.250* (0.147)
Food1	-0.321 (0.208)
Food2	0.006 (0.156)
Household Earned Income	-0.000 (0.000)
Years lived in city	-0.003 (0.002)
Years of schooling	-0.017 (0.015)
Number of kids in hhld	0.015 (0.048)
Site1	0.904*** (0.129)
Site2	0.216* (0.111)
Constant	0.936 (0.849)
Observations	224

*** significant at 1% level, **significant at 5% level; *significant at 10% level

Given the relative importance of real assets to women in urban, low-income households, we now examine the level of significance of the gender-specific compositional patterns of real assets held by our sample respondents. Table 6 presents the regression results for the following main categories of real assets namely shop assets, transport assets and gold and jewelry. The gender variable performed robustly in all the estimations. Being female is significant and positively related to higher value of shop assets as well as that of jewelry. The opposite is true with respect to the value of transport. The coefficient suggests that men have higher value of transport assets (about 81,991 baht more) compared to women and this is also significant at 1% level.

Table 6
Coefficient Estimates from Tobit Estimation:
Value of Individual Shop, Transport and Jewelry Assets
(standard errors in parenthesis)

	Model IIIa	Model IIIb	Model IIIc
	Value of Shop Assets	Value of Transport Assets	Value of Jewelry
Female	30618.896*** (9928.722)	-81991.980*** (24867.444)	13838.252*** (3674.583)
Age	1123.570 (2312.302)	-5706.039 (7392.884)	1145.625 (1029.675)
Agesq	-6.637 (25.770)	24.505 (85.083)	-10.766 (11.386)
Selfemp	138.374 (7383.464)	-53034.948** (25565.033)	5431.208 (3892.463)
Formaljob	13424.914 (11238.817)	88231.471*** (31376.705)	-3450.113 (4722.616)
Food1	20938.182 (17234.789)	-61017.268 (47933.346)	-353.973 (6817.607)
Food2	9225.033 (11574.177)	-40605.336 (37057.784)	283.980 (4939.723)
Household Earned Income	-0.116 (0.350)	2.684** (1.101)	0.263 (0.163)
Years lived in city	-202.506 (186.396)	303.342 (415.929)	-14.874 (67.962)
Years of schooling	-389.740 (1125.698)	-924.648 (3186.370)	-760.968 (498.750)
No. of kids in hhld	-8046.074** (3632.060)	3500.194 (9677.025)	-541.199 (1481.009)
Site1	13403.764* (7904.081)	76234.955*** (26169.116)	-1369.493 (3783.013)
Site2	-844.893 (9047.780)	28535.267 (27106.385)	11756.698*** (3718.560)
Constant	-80724.525 (55704.522)	-100368.088 (170756.039)	-24848.615 (24715.304)
Observations	260	260	260

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The significant gender patterns observed on specific types of assets may be partly explained by the type of occupation generally held by women and men in our sample. Home-based work is prevalent among women in our sample as mentioned earlier so that they are less likely to need a transport vehicle while men tend to hold jobs that require mobility. There are more women in our sample, compared to men, who are either self-employed or subcontracted, piece rate homeworkers. This implies that women are likely to have business-related tools such as sewing machines, cutters, etc. The regression results on the value of transport asset may also be explained by the type of transport that men own such as trucks or vans, which are likely to be more expensive than vendor carts or makeshift cars with food stalls. Gender-based and cultural norms may also have some influence in the kind of assets held by men and women. For example, other studies show that jewelry traditionally serves as a buffer asset for consumption smoothing in Indonesia since they can be easily pawned or sold (see Frankenberg, et al 2003). Since Thai women are responsible for household maintenance and care of household members, they are likely to save in this form of asset as well. In addition, jewelry provides use value to women since they can wear these assets on special occasions. On the other hand, machines and vehicles tend to be associated as “men’s assets” in some societies.

The results of the Tobit model (3b) given in Table 6 show that those who are wage and salaried workers and employed in formal sector jobs are likely to have higher value of transport assets and this is significant at 1% level. Individuals in higher income households also tend to have higher value of transport assets and this is significant at 5% level. The impact of community dummy variables on the value of jewelry and shop assets are found to be significant at the 1% and 10% levels respectively. Those living in Nomklao (site1) have lower value of shop assets and this is significant at 10% level. Those living in Udomsuk (site 2) own a higher value of jewelry than those in other communities and this is significant at 1% level. This may be due to the fact that Nomklao have fewer self-employed workers compared to the Namawin area. The prevalence of pawnshops near the Udomsuk, on the other hand, may be a factor in the relative importance of jewelry assets to its residents.

Finally, we examine whether there is any gender variation in the level of informal and formal financial assets held as individual accounts. The results in Table 7 are striking in that they show the stock of informal financial assets (held in separate accounts) to be higher among women compared to men and this is shown to be statistically significant at 1% level. Women, on the other hand, have a lower stock of formal financial assets (in bank accounts) than men

with the results being statistically significant at 5 % level. Older as well as more educated respondents have more informal and formal financial assets. Those whose earnings are responsible in meeting food expenses also tend to have more informal and formal financial assets and the results are significant at 5% level.

Table 7

**Coefficient Estimates from Tobit Estimation:
Value of Informal and Formal Financial Assets
(standard errors in parenthesis)**

	Model IVa	Model IVb
	Value of Formal Financial Assets	Value of All Informal Financial Assets
Female	-13596.236*** (4678.753)	9881.424** (4667.061)
Age	2778.905** (1405.456)	3752.130** (1582.539)
Agesq	-26.569* (15.392)	-35.858** (17.262)
Selfemp	1077.047 (4933.044)	11676.953** (5571.369)
Formaljob	5136.083 (6025.347)	-17428.588** (6481.982)
Food1	21211.450** (8377.978)	16318.442** (8202.002)
Food2	4439.479 (6363.720)	4133.994 (6285.260)
Household Earned Income	0.454** (0.206)	0.440** (0.204)
Years lived in city	-54.962 (87.536)	4.408 (84.816)
Years of schooling	1332.385** (607.077)	1694.128*** (601.564)
Number of kids in hhld	-1238.935 (1993.121)	-374.175 (1995.404)
Site1	-17959.925*** (4987.347)	-20355.071*** (5406.804)
Site2	1176.199 (4508.991)	10687.849** (4426.928)
Constant	-70250.251** (33811.400)	-94500.328** (37613.336)
Observations	260	260

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

**significant at 5% level; *significant at 10% level

As expected, the household earnings effects on both formal and informal financial asset stocks are positive and significant at 5% level. We also find that those who are self-employed and who belong to higher income households have more formal financial assets and the results are statistically significant at 5% level. Respondents living in Namawin have lower informal financial assets compared to those living in Udomsuk and Nomklao. This is consistent with the findings of Nguanbanchong (2004) in her study of informal financial savings in Thailand. She points out that the savings ratio of Udomsuk residents was the highest rate among the three communities, followed by Nomklao (p. 137). The fact that these communities are older and that relations of trust and solidarity are strengthened by the relative high number of active community organizations, may explain the location or community dummy effects.

VII. CONCLUDING REMARKS

The preceding discussion provides a detailed account of the different types of assets these poor households own. It attempts to fill a gap in the literature regarding intra-household differences in ownership between men and women. Using a random sample of 268 men and women drawn from couple's households in three, low-income communities in Bangkok, we discerned several gendered patterns of asset ownership with respect to level and composition.

Since the majority in our household sample belong to the lowest income quintile of the Bangkok Metropolitan area and have at least one member engaged in home-based work, it is not surprising that there are only few households that own land and housing assets. Real assets such as jewelry, household appliances, shop (business-related) assets and transport vehicles as well as financial assets in the form of informal savings accounts are more common forms held by women and men respondents. An empirical analysis is conducted to explore whether assets held by women and men are different, both in value and in form.

The regression results using the Tobit model suggest that women own slightly more real assets than men although this is not statistically significant. We also examined whether there are any gender-specific patterns in the types of real and financial assets held by our sample respondents. The results show that being female is significantly and positively related to higher values of shop assets and jewelry. The opposite is true with respect to transport assets; men have higher value of transport assets compared to women and this is statistically significant as well. On the other hand, women own less financial assets in individual accounts and this is

statistically significant. With respect to financial assets, women save more in informal financial assets in ROSCAs, occupational groups and cooperatives but have lower formal financial assets, compared to men.

Our findings among households in these three low-income Bangkok communities join in with those efforts of previous studies that have identified gender differences in savings and asset ownership. Clearly, further research is needed to explore how generalizable these patterns are. To validate and conduct robust testing of these findings we need more data, preferably at the national level. It is our hope that gender asymmetries in asset ownership will become a greater part of the discourse in academia and policymaking circles alike.

REFERENCES

- Adams, Dale, and Delbert Fitchett, eds. 1992. *Informal Finance in Low-Income Countries*. Boulder, CO: Westview Press.
- Agarwal, Bina. 1994. *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge: Cambridge University Press.
- Agarwal, B. 1997. "Bargaining and Gender Relations: Within and Beyond the Household." *Feminist Economics*, spring: 1-25
- Anderson, Siwan and Jean-Marie Baland. 2001. "The Economics of Roscas and Intra-household Resource Allocation." Working Paper Presented at the 2000 NEUDC Conference. Ithaca, N.Y.: Cornell University.
- Bajtelsmit, Vickie and Alexandra Bernasek. 1996. "Why Do Women Invest Differently Than Men?" *Financial Counseling and Planning* 7.
- Brown, Larry, and Larry W. Beeferman. 2001. "From New Deal to New Opportunity." *The American Prospect* 12 (3), February 12.
- Caner, A., and E. Wolff. 2004. "Asset Poverty in the United States, 1984-1999. Evidence from the Panel Study of Income Dynamics." *Review of Income and Wealth* 50 (4): 493-518.
- Carter, M., and E. Katz. 1997. "Separate Spheres and the Conjugal Contract: Understanding the Impact of Gender-Biased Development." In *Intrahousehold Resource Allocation in Developing Countries: Methods, Models and Policy*, ed. L. Haddad, J. Hoddinott and H. Alderman: Johns Hopkins University Press for the International Food Policy Research Institute
- Cobb-Clark, Deborah, and Vincent Hildebrand. 2002. "The Wealth and Asset Holdings of U.S. Born and Foreign born Households: Evidence from SIPP data." Discussion Paper, No. 674, Institute for the Study of Labor,(IZA), Bonn, December.
- Deaton, Angus, and Christina Paxson. 1997. "Growth, Demographic Structure and National Saving in Taiwan." Working Paper for Princeton University, Research Program in Development Studies.
- Deere, Carmen Diana, and Magdalena Leon. 2001. *Empowering Women: Land, Property Rights in Latin America*. Pittsburgh, Penn.: University of Pittsburgh Press.
- Deolalikar, Anil, and Vijayendra Rao. 1998. "The Demand for Dowries and Bride Characteristics in Marriage: Empirical Estimates of Rural South-Central India." In R. Sudharshan, ed. *Gender, Population and Development*. New Delhi: Oxford University Press.
- Dollar, David, and Roberta Gatti. 1999. "Gender Inequality, Income, and Growth: Are Good Times Good for Women?" World Bank Policy Research Report

on Gender and Development Working Paper Series, No. 1.

- Doss, Cheryl. 1996. "Women's Bargaining Power in Household Economic Decisions: Evidence from Ghana." Department of Applied Economics Staff Paper P96-11, University of Minnesota, July.
- Duraisamy, P. 1992. "Gender, Intrafamily Allocation of Resources and Child Schooling in South India." Economic Growth Center Discussion Paper No 667, Yale University.
- Frankenberg, E., J. Smith, and D. Thomas. 2003. "Economic Shocks, Wealth and Welfare," *Journal of Human Resources* XXXVIII (2).
- Frankenberg, E., and D. Thomas. 1998. "Measuring Power." Paper presented at the Supplemental Studies Workshop, Strengthening Development Policy through Gender Analysis, International Food Policy Research Institute, September 17-18, Washington, D.C.
- Gray, L. and M. Kevane. 1996. "Land Tenure Status of African Women." Background Paper to the project on Gender and Property Rights in Africa. Washington, D.C.: World Bank.
- Gugerty, May Kay. 1999. "Preliminary Evidence on Rotating Savings and Credit Associations (ROSCAs) in Kenya: You Can't Save Alone." Mimeo, Harvard University.
- Haveman, Robert and Edward Wolff. 2001. "Who are the Asset Poor? Levels, Trends and Composition, 1983-1998." Working Paper, February.
- Horioka, Charles and Wako Watanabe. 1997. "Why do People Save? A Microanalysis of Motives for Household Saving in Japan." *Economic Journal* 107 (May): 537-552.
- Huggert, Mark. 1996. "Wealth Distribution in Life-Cycle Economies." *Journal of Monetary Economics* 38: 469-494.
- Hungerford, Thomas. 1999. "Saving For a Rainy Day: Does Pre-Retirement Access to Retirement Savings Increase Retirement Saving?" Mimeo, Social Security Administration.
- Jianakoplos, Nancy and Alexandra Bernasek. 1998. "Are Women More Risk Averse?" *Economic Inquiry* 36: 620-630.
- Johnson, Susan. 2004. "Gender Norms in Financial Markets: Evidence from Kenya." *World Development* 32 (8): 1355-1374.
- Kabeer, N. 1997. "Women, Wages and Intrahousehold Power Relations in Urban Bangladesh." *Development and Change* 28 (2): 261-302.
- Kabeer, N. 1999. "Resources, Agency, Achievements: Measurement of Women's Empowerment." *Development and Change* 30: 435-363.

- Kim, Seung-Kyung. 1997. *Class Struggle or Family Struggle?: The Lives of Women Factory Workers in South Korea*. Cambridge University Press, Cambridge, UK.
- King, M. A. and L-D L. Dicks_Mireaux. 1982. "Asset Holdings and the Life Cycle." *Economic Journal* 92: 247-267.
- McElroy, M.B. 1990. "The Empirical Content of Nash-Bargaining Household Behavior." *Journal of Human Resources* 25 (4): 559-583.
- National Statistics Office. 2000. "The First National Thai Homework Survey." Office of the Prime Minister, Bangkok.
- Nguanbanchong, Apitchaya. 2004. "Gender Effects on Savings: Evidence from Urban Poor Households in Thailand." Unpublished doctoral dissertation, American University, forthcoming.
- Office of the National Economic and Social Development Board (NESDB). 2002. *Thailand's Economic Situation in 2001 and Economic Outlook in 2002*, Bangkok.
- _____. 2003. "Poverty Indicator and the Analysis of Poor People." Bangkok.
- Pearl, Rebecca. 2003. "Common Ground: Women's Access to Natural Resources and the United Nations Millennium Development Goals." Women's Environment & Development Organization (WEDO).
- Pichetpongsa, Anant. 2004. "Work Intensity and Well-being: The Case of Women Homebased Workers in Thailand." Unpublished doctoral dissertation, American University, forthcoming.
- Quisumbing, A. R. 1994. "Intergenerational Transfers in Philippine Rice Villages: Gender Differences in Traditional Inheritance Customs." *Journal of Development Economics* 43: 167-195.
- Quisumbing, A. and B. de la Briere. 2000. "Women's Assets and Intrahousehold Allocation in Rural Bangladesh: Testing Measures of Bargaining Power." FCND Discussion Paper. No. 86, International Food Policy Research Institute, Washington DC.
- Quisumbing, A. and J. Maluccio. 1999. "Intrahousehold Allocation and Gender Relations: New Empirical Evidence." Background Paper prepared for Engendering Development, World Bank, Washington D.C. Available at www.worldbank.org/gender/prr/qm.pdf
- Sen, Amartya. 1990. "More Than 100 Million Women Are Missing." *New York Review of Books*, December 20.
- Sherraden, Michael. 2001. "Asset Building Policy and Programs for the Poor." In Thomas M. Shapiro and Edward N. Wolff, eds. *Assets for the Poor: The Benefits of Spreading Asset Ownership*. New York: Russell Sage

- Press.
- Straus, J. and D. Thomas. 1993. "Human Resources: Empirical Modelling of the Household and Family Decisions." In *Handbook of Development Economics*. Chenery, H. and T.N. Srinivaran, eds. Amsterdam: Holland.
- Thomas, D., D. Contreras, and E. Frankenberg. 1997. *Child Health and the Distribution of Household Resources at Marriage*. University of California at Los Angeles and the RAND Corporation, Santa Monica, California.
- Wolff, E. 2001a. "Racial Wealth Disparities: Is the Gap Closing?" Public Policy Brief No. 66. Annandale-on-Hudson, N.Y.: The Levy Economics Institute.
- Wolff, E. 2001b. "Recent Trends in Wealth Ownership: 1983-1998." In T. Shapiro and E. Wolff, eds. *Assets for the Poor: The Benefits of Spreading Asset Ownership*. Ford Foundation Series on Asset Building, Russell Sage Foundation.
- Zimmerman, F. and M. Carter. 2003. "Asset Smoothing, Consumption Smoothing and the Reproduction of Inequality Under Risk and Subsistence Constraints." *Journal of Development Economics* 71.