# Women's Status during Reform in Vietnam

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## INTRODUCTION

Vietnam has experienced dramatic economic changes in its recent history. After decades of separation between the North and the South, Vietnam was reunified under the Socialist Republic of Vietnam in 1976. A decade of economic difficulties followed, marked by low agricultural and industrial production, high inflation, and substantial food shortages. Responding to these challenge, Vietnam embarked on economic renovation policies ("Doi Moi"), shifting away from a centrally planned, collectivist economy towards a market-based system. The economic successes of these renovation policies are well documented: the gross domestic product grew by nearly 9 percent annually; inflation fell from 400 percent in 1988 to 17 percent in 1994; per capita GDP doubled from $206 in 1990 to $423 in 2004; poverty declined sharply from 58% in 1992-1993 to 37% in 1997-1998 and 15.9% in 2006 (Vietnam General Statistical Office); and Vietnam went from being a rice importer to the second largest rice exporting country in the world (Haughton, Haughton, & Phong, 2001; Pham & Pham, 2006; "Vietnam: Attacking poverty," 1999).

Vietnam recently celebrated the 20th anniversary of Doi Moi's implementation, and while economic successes are evident is it less clear whether economic growth was equally shared by all. Evidence from other transitional economies show mixed results on whether women and men benefitted equally from reform efforts. Empirical evidence from the Soviet Union and some Central Eastern European (CEE) countries indicate that economic transitions did improve women's status (Bystydzienski, 2005; DeLoach & Hoffman, 2002; Harcourt, 1994; Irwin & Bottero, 2000). However, while women's economic, educational, and occupational statuses improved, their gap relative to men was the same or even greater after the economic transition. In the Soviet Union and CEE, for instance, women were provided with more jobs but also faced the increasing risk of unemployment and increasing gender wage gap (DeLoach & Hoffman, 2002). Chinese women, on the other hand, appear to have benefited a little more from economic renovation than their counterparts in the Soviet Union or CEE, as evidenced by greater female participation in the labor

market than many other countries. However, Chinese women still face challenges to gender equality, including lower social status, increasing relative poverty, and unequal educational opportunities ("China Country Gender Review," 2002).

We focus on the case of Vietnam and examine whether women benefited equally as men from economic renovation and economic growth. We examine women's position in both absolute and relative terms. How women's status has been changing illustrates their absolute position (e.g., did their education level improve? Did their employment rates improve?) while their relative position illustrates how they are performing relative to men (e.g., the gender wage gap, the gender education gap). Mixed results on the impacts of economic reform on gender equality in other countries encourage us to explore women's position in both terms so as to verify the current view that while women's economic, educational, and occupational statuses did increase, their gap relative to men was the same or even greater after the economic transition. This analysis provides insights into whether benefits from economic achievements are equally shared and allocated between men and women and also provides suggestions for possible governmental interventions.

## BACKGROUND

### *Has Women's Status Improved or Deteriorated after Economic Transitions?*

Both theoretical and empirical results offer conflicting views on whether women will benefit from post-reform economic growth. While some view women as big winners, others argue that women suffer from this transition. On the optimistic side, modernization theory states that differences between men and women (for instance in employment and wages) derive primarily from human capital differentials (education, skills, and expected length of labor force participation/experience) that tend to fade with economic growth (Forsythe, Korzeniewicz, & Durrant, 2000). From this perspective, economic growth, through opportunities created by the market expansion, are expected to lessen gender inequalities. For example, some suggest that market

expansion offer women greater employment opportunities, and their increased economic contributions will be accompanied by a decrease in their sole responsibility for family housework (Irwin & Bottero, 2000). The assumption is that economic gains are accompanied by the eroding traditional gender stereotypes and facilitates the improvement of women's standing.

The transition to a market economy created new economic sectors, especially in the private sector, creating new jobs and more employment opportunities for women. Women's status, resulting from their increased employment, improves. Evidence from European transitioning economies indicates that women's status was promoted via their increased labor force participation and income compared to men (Giddings, 2002; Grajek, 2003; Jurajda & Terrell, 2003; Verhoeven, Jansen, & Dessens, 2005). Supporting this statement, Blau (2001) argues that under the new economic ordering, women increased their share of household income relative to men; thus improving their bargaining power in the family.

Unlike the Soviet Union and Central Eastern Europe, China implemented economic transitions while maintaining their socialist orientation. This may explain why women in China seem to gain more from the transition than those in Soviet Union and CEE countries (Croll, 1998; Hannum, 2005; Rosen, 1995; Shu & Bian, 2003). Positive changes in gender inequalities for women are found in China. Increasing marketization in urban China, for instance, "increased women's employment, narrowed the gender gap in contributions to household income, and increased household power for women" (Shu, 2005). The rapid social and economic development in China over the past two decades has created favorable conditions for women's development. The high economic growth provided financial support for women's programs, allowing a great number of women to take part. The higher economic growth rate has also provided the government with more money to invest in education and health, improving women's access to these services ("China Country Gender Review," 2002).

Unlike the optimistic argument of the modernization perspective, the women in development approach states that the gender gap will increase after economic transitions to a market-based economy (Boserup, 1996; Bradley & Khor, 1993). Because women have lower educational attainment, they are less competitive in the labor market, and are placed in lower paid industries. Additionally, discrimination towards women still operates in both the family and workplace. The new expectation from society for women's income generating role, however, conflicts with their persistent traditional role as the main house workers placing a double burden on their shoulders. From this perspective, economic achievements do not ensure a relative improvement in women's status. Given the fact that traditional gender ideology favoring men is changing at a slower pace than and not parallel with economic progress, women lack the necessary supports to catch up with men in various fields. Thus, the more the economy grows, the wider the gap between men and women due to their lower starting point.

A deterioration of women's status post- reform is more evident when examining their relative gains to men. Most research on transitional economies' impacts finds support for the decrease in women's standing compared to men. Although women's employment did increase, they face a greater threat than men of losing those jobs and being unemployed (Adamchik, Hyclak, & King, 2003). This could be explained by their lower education level and lack of training. Despite predictions based on human capital theory, education does not seem to be helping women's labor market chances in the new market economy. Across CEE for example, in spite of the increase in educational enrollment in all levels from 1995 to 1997 (from 76 to 82 percent in Slovenia and 68 to 75 percent in Hungary) (Kornai, 2006), women still disproportionately suffered employment loss (Mu¨nich, Svejnar, & Terrell, 2005). As a result, men earned more than women on average as well as in each sector (Giddings, 2002; Micklewright, 1999; Newell & Reilly, 2001).

Withdrawal of state support during economic transitions is also an important factor in

evaluating women's status and their potential gains. The dismantling of communist government supported child care centers, for example, severely hindered the employment opportunities for married women with children (Adamchik et al., 2003; Bystydzienski, 2005; DeLoach & Hoffman, 2002; Giddings, 2002). As a result, mothers were likely to work in flexible but low paying jobs (DeLoach & Hoffman, 2002): "With the increase in unpaid work burden resulting from the cutbacks in social services and withdrawal of state benefits", the 'double-burden' of women has become even heavier (Pollert, 2003). Also, women's absence at senior levels early in transition facilitated conservative policies that deteriorated women's social protection (Pollert, 2003). Thus, as Pollert (2003) concluded "women under communism enjoyed significant gender equality advantage in comparison with other industrialized countries and that capitalist transition not only failed to maximize the female human resource legacy left by the communist regimes, but damaged it".

Even countries that maintained its socialist structure do not offer women the same protection as prior to the transition. Socialist countries like China while implementing renovation have to suffer the "effect sides" of the economic transition observed in others as well. During the transition, women have had a harder time than men in obtaining and keeping jobs ("China Country Gender Review," 2002). The provision on retirement age at 60 for men and 55 for women also puts women at a disadvantage for promotion. Because women retire earlier than men, their total years of service is less than men and hence their pension benefits are lower (including some years absent from the labor force for bearing and raising children) ("China Country Gender Review," 2002). Thus, even when there are positive changes supporting gender equality, the widening gaps between men and women in various aspects (education, income, political participation and so on) are observed. This is considered to partly result from strong gender stereotypes in Chinese culture with the traditional dominant position of men (Moghadam & Senftova, 2005; Packard, 2006; Wells, 2005).

***The Case of Vietnam***

Vietnam has experienced centuries of foreign invasion, including more than 1,000 years of Chinese domination ending in the 10th century. The 19th century was characterized by French colonization and an independence movement, led by Ho Chi Minh, began in the 1920s. An important component of this communist independence movement was gender equality. Ho Chi Minh emphasized the important contributions women made to the country and the family and insisted on providing women with equal rights and equal benefits. The Vietnam Women's Union was established in 1930, and has been very active since its establishment.

In 1954, as part of the Genève Accords, Vietnam was temporarily separated into the North and the South. With the exit of Americans in 1975, Vietnam officially reunified and started the process of reconstruction and development. Although the country as a whole employed a socialist orientation and a centrally planned economy, the historical features during this period marked different impacts on the two regions. For example, the North had longer exposure to socialist policies which promoted female labor force participation, equal educational attainment and the discouragement of Confucian ideology related to gender bias. Meanwhile, the South had a greater access to information and Western ideologies (Jayakody & Huy, 2008; Teerawichitchainan, Knodel, Loi, & Huy, 2008). These differentials potentially affect women in Vietnam, thus resulting in different pictures of women's status. Empirical studies also found variations of the regions related to women and family (Goodkind, 1995; Belanger, 2000).

After reunification, the country was in economic crisis since the controlled planned method of operating the economy revealed limitations such as food and goods shortage, low quality and low productivity, high rate of inflation, and very low living standards. Addressing to these problems, the country initiated the renovation process in 1986 calling for a transition toward a market economy (Pham & Pham, 2006). The economic gains (as mentioned above) of Doi Moi are very apparent.

Related to social aspects and women's status in particular, several studies and reports have found evidence of both increase and decrease in female's standing during this transition.

Vietnam has gained somewhat more from the reform process than China due to the country's policies as well as cultural roots (Kerkvliet, Chan, & Unger, 1998). Being gradually freed from the effects of Confucian ideology and the wars in the past, women have benefited from the transition in various aspects. The number of females who can read and write has reached nearly even levels with males (National Education for All Action Plan 2003-2015. Hanoi: June 2003). Wells (2005) notes that Vietnam is considered a leader in Asia-Pacific region due to its achievements in delivering education and health services to women and men.

The expanded participation and development of the private sector in the economy has created more jobs for both men and women. Vietnam has been recognized as the most successful countries in the region in attaining a high percent of women participating in economic activities (Le, 1993; UNDP, 2002). The percentage of woman business owners is increasing at 22-35% as the government applied the open door policy ("Voices of Vietnamese Women Entrepreneurs," 2006). Since women are working outside the family and earning more, Vietnamese men seem to share the housework more than in the past (Huy & Carr, 2000). Women also have gained a rapidly growing voice in national affairs. The country now has the highest percentage of female parliamentarians in Asia. By the late 1990s, women made up 26 percent of the National Assembly (Wells, 2005).

Even though women's participation in the labor force has expanded, they are more likely to be engaged in self-employment while men are in salaried or waged work (Liu, 2006). Men seem to predominate in higher status, better paid jobs that entails greater scope for decision making while women are oversampled in poorer paid, less prestigious forms of work that leave little scope for skill development or promotion (Long, Hung, Truitt, Mai, & Anh, 2000; Shu, 2005; Wells, 2005). Within the family, higher education and income of women are not assumed to bring them an actually better

position in the family. For example, in northern rural households, income was found not to play a decisive role in improving women's status (Hirschman & Loi, 1996). Vu Tuan Huy and Carr (2000) also found that the correlation between education and less housework was not statistically significant.

Despite the increased rate of women with higher education and in the labor force, men's income in Vietnam is about 1.5 times that of women (Wells, 2005). Women in Vietnam still perform the majority of housework. Thus, the workload of women far exceeds those of men, with negative implications for their health and physical wellbeing (Coltrane, 2000). Women also experience considerable anxiety and stress stemming from their attempts to balance conflicting social expectations of their roles. They have limited time and energy left to participate in social activities, additional learning and local democracy (Kabeer & Anh, 2000). Politically speaking, although Vietnam has the highest percentage of women occupying parliament seats in the region, women are in the same situation as their counterparts in China in that they are positioned in less important and decisive places (Packard, 2006; Wells, 2005). The lower position of females relative to males derives partly from the well maintained Confucian gender ideology in these countries. Strong son preference in Vietnam is still found which leads to unexpected negative outputs for women economically and socially (Johansson et al., 1998; UNFPA, 2007).

In sum, finding from literature on women's status during economic transition so far reveals two competing descriptions of women's position. On the one hand, women are more likely to participate in the labor force, to earn more than in the past, and to gain a better decisional position both in the family and society. On the other hand, women have lost ground during the transition with various aspects, such as the "double burden" of performing market and household work, the wider gap in wages and income relative to men, and lower political positions. These two arguments are both supported by empirical findings in all transitional economies including China, the Soviet

Union, the Central Eastern Europe, and Vietnam (Adamchik et al., 2003; Bystydzienski, 2005; "China Country Gender Review," 2002; Coltrane, 2000; Croll, 1998; DeLoach & Hoffman, 2002; Giddings, 2002; Glewwe, 2004; Goodkind, 1995; Hannum, 2005; Jacobson, 1993). The whole picture tells us a story that during the transition process, women's absolute improvements have been gained at the same time that their relative position to men has deteriorated.

Most research on women's status in transitional economies lacks sufficient and reliable data prior to the transition that helps compare the situation of women before and after the process. In addition, most articles that document findings on women's status focus more on wages and income gaps in the societal domain which leave other aspects, such as education and decision making in the household, untested. There is also inconsistency in the perspectives applied. For example, the neoclassical theory focuses on economic status while women in development approach highlights continuing gender stereotypes (Forsythe et al., 2000). Since gender is multi- faceted, an integration of theories that examines women's status in different dimensions and across domains might be beneficial (Boserup, 1996; Bradley & Khor, 1993; Collins, Chafetz, Blumberg, Coltrane, & Turner, 1993; Coltrane, 2000; Harcourt, 1994; Inglehart & Norris, 2000).

Existing research on gender issues in Vietnam has certain limitations, as well. First, most of them were based on cross sectional data in one period of time and therefore it is not possible to explore changes over time. Also, many were convenient samples which do not allow the generalization to bigger population and make their representativeness questionable. Second, evident findings were often drawn from anecdotal accounts. Third, analytic techniques were mainly descriptive statistics, which limit the number of variables to be examined. Finally, studies usually focused on limited dimensions or domains of women's status.

Acknowledging the short comings of existing studies on women's status, this study attempts to examine 1) the current status of Vietnamese women in as many dimensions and domains as

possible during Doi Moi process; 2) whether their position has improved or deteriorated during reform process; and 3) how women's status relative to men during this period (or how much are the gender gaps in various dimensions and domains).

It is important from this point to have a definition of women's status. Discussions on women's status by Bradley and Khor (1993) serve as the basic constructs for this study. The authors argue that status is obviously a social and cultural concept which contains the notion of 'differentiation and evaluation'. In other words, examining women's status means identifying variations and assessments. The first relates to whether women differ from where they were, is there any difference between women and men. The latter involves whether these differences are good or bad and whether they denote improvements. In this sense, this study employs women's status as the main construct and uses status, position, and standing alternatively with the same meaning.

Women's status has been theoretically and empirically considered a complex concept. To capture a full picture of it, it is necessary to state its dimensions and domains. According to Bradley and Khor (1993), dimensions of the concept consist of economic, political, and social positions of women. There are two domains: public and private (or public and domestic) within each of which the dimensions are examined. For example, political status of women in public spheres is the number of managerial seats that women hold or in private domain is their decision making power in the household. Furthermore, each dimension comprises of various aspects. For instance, activities in education and mess media are both classified within social dimension.

Since women's status implies differentiation and evaluation, it is often explored in terms of absolute and relative assessment. Absolute status relates to the comparison among women only (their status increases or decreases/ improves or deteriorates after a period of time) while relative status of women needs to be based on the comparison between women and men (whether there is a difference between males and females, how this difference changes over time). The current study presents

discussions on women's status using these definitions of dimension, domain, and absolute and relative status.

Given the interest in women's position in Vietnam, this study tries to explore different dimensions such as education, employment, domestic chores and decision making power. The inclusion of these dimensions already consists of private and public domains. A list of dimensions and domains of women status examined in this study is provided in Table 1. To do this, the study uses different datasets from different surveys in Vietnam. These surveys (Census, Vietnam Living Standard Survey, and Vietnam Demographic and Health Survey) are considered rich and high quality sources of information. Pooling these repeated cross sectional data helps the assessment of change across time during Doi Moi. Specific foci are on differentials in urban/rural areas and Red River Delta and Mekong River Delta as representatives of the North and South given the different development speed by location and different characteristics by region. For some analysis, marital status is included in the models as suggested by research from both Western and non- Western cultures (Blau et al., 2005; Bolak, 1997; Sanchez, 1993).

**DATA**

There have been few large- scale longitudinal studies implemented in Vietnam that provide measures on issues of interest such as education and employment of women. In the late 1990s, the Vietnam Longitudinal Study, a very first longitudinal study was conducted covering many topics of marriage, family, education, and employment of females. The baseline dataset was collected in 1995 and following rounds were done from 1996 till 1998 annually (for more information, see Kim, 2004). Despite of the study's rich information, its limited time interval does not match with the current purpose of examining women's position after Doi Moi. Another longitudinal study by Save the Children organization has been recently initiated called 'Young Lives'. The focus is on children

and poverty and the results are not ready for examination of changes over time, thus it is not appropriate for the current study.

Due to the limited sources of longitudinal data on Vietnam, the only option is using large scale cross sectional data which are repeatedly implemented in a long period of time that provide indicators of women's status. Thus, data from the Census, the Vietnam Living Standard Survey, and the Vietnam Demography and Health Survey were selected because of three reasons. First, they are repeated cross sectional data right after Doi Moi's introduction. Second, they are nationally representative and of high quality. Third, the datasets provide rich information on women's status in multi-domains (public and household levels) and multi-dimensions (education, employment, labor division, and decision making power).

For the purpose of exploring change, different waves of each survey were pooled into one dataset. Specifically, dataset for the Census was created from Census 1989, Census 1999, and Population Change Survey 2006. Dataset for the Vietnam Living Standard Survey was pooled upon waves of 1992, 1998, and 2002. Dataset for the Demographic and Health Survey was combined from 1997 and 2002 waves.

***The Vietnam Population and Housing Census and Population Change Survey***

The Vietnam Population and Housing Census (Census) was first implemented in 1979 right after the country had been unified (in 1975) by the Vietnam General Statistics Office (GSO). Given the limited resources, it was simply a counting record of residents in Vietnam. The second Census was then conducted in 1989 and included all people usually living in Vietnam at the time of census. Data used for this study was the 5% sample of the population. The 1999 Census was again carried out after ten years. Data for this year was based on 3% sample of the population. To capture the change in a longer period of time, data from the 2006 Population Change Survey (PCS) was also used. The survey, conducted by GSO, collected brief information on education, employment, births,

and deaths. Although measures were simplified, the 2006 PCS was relevant to merge with the Census (hereafter as Census).

The Censuses applied stratified systematic sampling method. Sampling framework was created by a list of enumeration areas which were selected based on rural and urban areas nationwide. Five percent, 3%, and 3% of the enumerations were drawn randomly in 1989, 1999, and 2006 respectively. In each enumeration, about 80-100 households were chosen for collecting information of every member. Household representatives provided information for the household and each individual through face-to-face interviews.

For the purpose of this analysis, the 1989 and 1999 Censuses were used together with 2006 PCS in a merged dataset. In every single analysis, weights were used to generate estimates for the whole population. The Censuses provided information on two main dimensions of women's status: education and employment and served as the reference for the other two datasets.

***The Vietnam Living Standard Survey***

The Vietnam Living Standard Survey (VLSS) is a part of the Living Standard Measurement Study implemented in developing countries with supports from the World Bank. The survey in general includes important measures on living standard of the population. In Vietnam, the survey was implemented by the GSO. The earliest wave was done in 1992 and the latest one in 2006. Since 2002, the survey was to be conducted every two years with the new name: Vietnam Household Living Standard Survey (hereafter VLSS). Although the goal of each wave varied, they all included the core parts across years.

Basically, VLSS was nationally representative with increasing sample size. Sampling was implemented using stratified systematic procedure starting from provincial level and communal level. Each unit in every step of the sampling procedure was randomly selected. Households were chosen from the selected communes and information for all members of household was obtained.

The survey used face-to-face interview and a member from each household answered both household questionnaire and individual questionnaire.

VLSS dataset for this study was pooled from three waves in 1992, 1998, and 2002 since the most recent data available for access is 2002. This pooled dataset provided indicators on income and average hours doing housework.

***The Vietnam Demographic and Health Survey***

The Vietnam Demographic and Health Surveys (DHS) were organized by the National Committee for Population, Family, and Children early in 1988, then in 1997 and 2002. The survey was carried out by GSO. This is part of the DHS program funded by the United States Agency of International Development (USAID) in over 75 countries with foci on population, health, and nutrition.

The DHS in Vietnam was nationally representative recruiting ever-married women aged 15 to 49. The sample was stratified and selected in two stages. In each province, stratification was based on urban and rural areas. Then, sample selection was carried out independently within each province resulting in totally 205 selected enumeration areas (Vietnam Committee for Population, Family, and Children, 1997 and 2002). A subsample of enumeration areas was selected with 26 households in urban and 39 households in rural areas each.

Since measures of women's position in the household were not available in 1988 wave, only 1997 and 2002 data were merged into one DHS dataset and used for analyses. DHS dataset provided information on women's decision making in finance of the household, childcare, and their ideal number of children of each sex.

**PARTICIPANTS**

Except for the DHS, participants of Census and VLSS datasets were limited to those 16 to 60 years of age and not enrolled in school for two reasons. First, labor force age is from 16 to 60 in

Vietnam Labor Code. Second, comparison of educational attainment should be done among those who had finished study already.

Table 2 presents general statistics of three datasets. Weighted percentage of people in each subgroup was reported. Based on the Census, males comprised less than half of the whole sample but the ratio of males to females increased with time during 1989 to 2006 approximating 1. There were 23.25% of people living in urban areas in 1989, 25.94% in 1999 and 28.82% in 2006. Population in two main regions in Vietnam: Red River Delta and Mekong Delta each comprised about one fifth of the whole sample. Mean age of participants were 32.62 (*SD*=12.13), 33.62 (*SD*=11.27), and 36.33 (*SD*=11.51) in 1989, 1999, and 2006 respectively.

According to the VLSS, sex ratio was close to that in Census with more females than males. Also, percentage of males increased from 47% to 49% while that of females decreased from 53% to 51% during 1992- 2002. Urban people ranged from 22% to 25% in three waves. The rates of people living in Red River Delta and Mekong River Delta were consistent with Census data with around 20-22% in each region. Mean age was 32.37 (*SD*=12.15), 33.43 (*SD*=12.4), and 33.59 (*SD*=12.1) in 1992, 1998, and 2002 accordingly.

In DHS, which included only women aged 15-49, 18.87% lived in urban areas in 1997 and 19.08% in 2002. There were 22% of women residing in Red River Delta compared to 19.36% in Mekong River Delta. These rates were 24.06% and 18.64% respectively in 2002. Mean age of participants was 33.58 (*SD*=7.95) in 1997 and 34.95 (*SD*=7.98) in 2002.

**MEASURES**

Women's status was assessed through various measures due to its multi-dimensions and multi-domains. Two domains explored were social level and household level (public and domestic). Four dimensions examined included education, employment (working rate and income), domestic chores (housework and childcare), and decision making. The changes in these dimensions were

assessed given available waves of the datasets. For each dimension, absolute change implied the change of women as a group from one time point to the other and relative change denoted the change of females compared to that of males.

Each dataset provides unique measures. Education and employment variables were drawn from the Census. Measures regarding income and average hours for housework were from the VLSS. DHS was used for examining women's standing in the household such as decision making in finance and childcare and son preference. All three datasets included background variables such as location (urban/rural areas), region, and sex (except for DHS). In general, the study used measures for different domains and different dimensions of women's status as followed:

***Women's status in public domain***

Education. Education was measured by total schooling years one spent in school ranging from 0 to 18 (*M*=7.49, *SD*=3.31). Schooling distribution approximated normality (skewness=0.325, kurtosis= -.175). Educational attainment was also measured by the highest degree/ qualification that one completed. Response scale included 1= no education (.4%), 2=some primary (29.1%), 3=primary (42.2%), 4=lower secondary (15.4%), 5=upper secondary (8.8%), and 6=university and higher (4.0%).

Employment status. Information on employment status was obtained by a question asking whether the person had worked in the last 12 months prior to the survey. Status of working implied all kinds of work including agricultural and non-agricultural. The variable was coded as 1 for working (84.38%) and 2 for not working (15.62%).

Employment sector. The measure was to capture for whom the person was working for. Response items included individual (50.37%), collective (20.79%), private (2.14%), government (7.8%), foreign (0.79%), and other (12.22%).

Income was measured in thousand Vietnamese dongs (VND) as the sum of two main sources: salary and others (*N*=30685, *M*=5390, *SD*=6400). Salary was calculated as a sum payment from all kinds of job in the past 12 months. Other sources included rewards, pensions, subsidies and so on both in kind and in cash related to work. Income distribution revealed right skewness (3.8) and really high kurtosis (30). We wanted a value of skewness close to zero and kurtosis close to three for normality, thus logarithm transformation of income was used resulting a better approximate normal distribution (skewness= -1.4, kurtosis= 2.7). The new variable logincome had a mean of 7.8 (*SD*=1.6).

***Women's status in private domain***

Doing housework was measured by average hours one spent on housework in a day ranging from 0 to 15 hours (*N*=100165, *M*=1.64, *SD*=1.36). The distribution of hours doing housework was roughly normal with skewness of 1.19 and kurtosis of 3.43.

Child care. Preschool childcare was measured by the question "Who take care of children under 5?" while the mother was at work among 39.27% of those having children under five at the time of the survey.

Decision making in finance. Women's voice in decision making was measured using question "Who decide how to spend money?"

*Gender attitude*

Ideal number of sons and Ideal number of daughters. To examine Confucian ideology on son preference, respondents were asked about their ideal number of children of each sex. Response range was from 0 to 7 for both ideal number of sons (*M*=1.21, *SD*=1.04) and ideal number of daughters (*M*=1.13, *SD*=1.07). The difference between mean ideal number of boys and mean ideal number of girls were used as an assessment of son preference.

*Background variables*

Sex was coded as 1 for male and 2 for female. Location was coded to 1 for urban and 2 for rural areas. Year ranged from 1989 to 2006 depending on each dataset. Marital status was 1 for never married and 2 ever married. Region was coded as 1 for Red River Delta which included 10 provinces located in the region to the North of Vietnam and 2 for Mekong River Delta comprising of 12 provinces located in the region to the South of Vietnam (according to GSO in 2002). These two regions are considered the typical areas of the North and the South of Vietnam both geographically and culturally.

**MODELS**

***Change in Education***

To explore group mean difference in schooling, ANOVA model was used. Because the number of people in each group was not equal, we asked for Type II Sum of Square which adjusted for unequal sample size of the cells but also respected this as the characteristics of the population. First, a 3 (year: 1989, 1999, and 2006) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model was used with dependent variable: schooling and independent variables: location, region, and year. Interactions involving year were of interest which presented whether schooling of females changed across time. In addition, for significant interactions related to year, descriptive analyses were employed to further look at the changes in percentage of people in each level of education. We expected a decrease in lower levels and an increase in higher levels of education for females across time.

Second, the same ANOVA model with inclusion of sex was carried out. It was a 2 (sex: male and female) X 3 (year: 1989, 1999, and 2006) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model with dependent variable: schooling and independent variables: sex, location, region, and year. Since comparison between males and females

was important for relative difference in schooling, all interactions involving sex were included. Again, descriptive analysis was also done to compare the rate of men and women in different education levels. We expected the gender gap in education to decrease with time.

***Change in Working Rate and Working Probability***

Census was also employed to run two logistic regression models first for females and second for both sexes' employment status. The models were to explore whether being in working group was dependent on location, region, marital status, sex, or year. The first model included employment status of women as dependent variable and year, location, region, education, and marital status as predictors. The second model for both sexes included sex as added predictor to previous model and interaction of sex*year was taken into account. What was expected in finding was an increase in the rate of female workers across years and a narrower gap between working rates of men and women.

Descriptive analysis was also used to further examine the most popular sectors for male and female workers. We expected to see across time a steep decline of working rate in collective sectors and an increase in private or foreign sectors which had been observed in transition economies.

***Change in Income***

To examine the change in income of women, we ran ANOVA models using VLSS. The first model for females only was a 3 (year: 1992, 1998, and 2002) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model with logincome as dependent variable and year, location, and region as independent variables. Interactions related to year were explored. The second model for both sexes was the same as the first with sex included. Thus, it was 2 (sex: male, female) X 3 (year: 1992, 1998, and 2002) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model. Interactions involved sex were considered to identify gender differences in income across region, location, and time.

### *Change in Time spent on Housework*

Similar ANOVA models were used with dependent variable: average hours doing housework and a same set of independent variables from VLSS. Model for females and both sexes were run separately. The first model was 3 (year: 1992, 1998, and 2002) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model with focus of interactions involving year. The second was 2 (sex: male, female) X 3 (year: 1992, 1998, and 2002) X 2 (location: urban and rural areas) X 2 (region: Red River Delta and Mekong River Delta) ANOVA model with focus on interactions related to sex.

### *Childcare and Decision Making*

Using DHS, to further explore women's position in the household in their relationship with spouses, analyses on involvement in childcare and decision making were used. First, a descriptive analysis was employed to examine how childcare for small children was allocated among female respondents and their spouses, what other sources of care giving they had, and changes in the rate of childcare givers across years. Second, another descriptive analysis was used to explore respondents and their spouse's involvement in finance management and whether women had more say in that task with time.

### *Gender Attitude*

Based on DHS, several Paired –Samples T-tests were carried out to explore differences in ideal number of boys and ideal number of girls using location, region, and year as independent variables. It was expected that there was no difference between ideal number of sons and ideal number of daughters or son preference, if there was, declined with time.

## RESULTS

The current section presents the main findings regarding women's status in education and employment in public domain. In private domain, women's position in domestic labor division,

decision making are also illustrated. Finally, a brief finding in son preference provides evidence for gender attitude.

***Education***

Estimated marginal means of female schooling are presented in Table 3. Results of ANOVA model of schooling among female revealed an overall significant effect of year ($F$= 327562, $df$= 2, $p$ < .000) confirming the increase in schooling years of women across time ($M$=7.1, 7.6, 7.9 schooling years in 1989, 1999, and 2006) (adjusted R square=.872). Two way interactions of year*region and year*location were also significant ($F$=13741, $df$=2, $p$< .000 and $F$=13667, $df$=2, $p$<.000). In general, women in urban areas had higher years of schooling than their counterparts in rural areas. The gap between urban and rural areas declined from 2 to 1.7 during 15 years examined. With regards to region, females in Red River Delta had more schooling years than those in Mekong River Delta. The difference between two regions seemed to be wider across years. For example from 1989 to 2006, female mean schooling in the first region increased 1 year (from 8.4 to 9.4) while that in the latter increased only .6 year (from 5.8 to 6.4).

Given the positive change in female schooling, descriptive analysis found corresponding changes in the rate of people in each educational level as shown in Table 4. As expected, there was a huge decrease in 'some primary' level as the percentage halved from 1989 to 2006 (from 41.37 to 17.35%). In 'completed primary' category, the percentage increased from 36.87 to 39.18% in 1989-1999 period but then started to go down to 32.46% in the later 1999-2006 period. Together with a decline in lower levels, an increase was observed in higher levels of education. During 15 years, the rate of females with lower secondary education more than tripled (from 8.99 to 29.6%). There was 5% increase in upper secondary. In highest level of education (university and higher), the rate almost tripled (1.76 to 5.18%).

The second ANOVA model of schooling between two sexes revealed a significant gender difference in schooling ($F$=573513, $df$=1, $p$<.000) (adjusted R square=.870). In other words, male schooling was higher than females'. Mean table of schooling by sex, region, location, and year is provided in Table 5. While males had higher schooling than females in general, schooling gap was significantly larger in urban than in rural areas ($F$=1725031, $df$=2, $p$<.000) and the gap was also significantly larger in Mekong River Delta than in Red River Delta ($F$=5259176, $df$=2, $p$<.000). Across years, three way interactions sex*year*region and sex*year*location showed that gender difference in schooling tended to fade significantly both by location ($F$=7528, $df$=4, $p$<.000) and by region ($F$=6788, $df$=4, $p$<.000).

Figure 1 explains the difference in percentage of male and female across educational levels. There was not much difference in the rate of males and females in no education category. The percentage of male with less than primary was lower than female in three periods. From 1999, the rates of primary educated men started to be lower than rates of primary educated women. In any educational attainment categories higher than primary, there were higher rates of men than women. Thus, in general, men were more educated than women. However, during the three periods examined, the gap tended to decline. The line representing education gap actually got closer to zero from 1989 to 2006 meaning that gender gap in education is smaller and smaller. These findings were consistent with previous results of ANOVA models based on schooling.

***Employment***

The first logistic regression model for females showed an overall significant result ($\chi^2$=10302096, $df$=12, $p$<.000) meaning that the likelihood of working among women differed by location, region, marital status, and year (Nagelkerke R square=.45). Table 6 presents parameter estimates for all predictors. Main effect of year suggested that women tended to work less across time.

The odds of working in Red River Delta were significantly three times higher than that in Mekong River Delta ($p$<.000) meaning that women in the North tended to work more than those in the South in all three waves. These odds increased slightly with years. At the same time, urban women were less likely to work than their rural counterparts but the gap seemed to decrease with time. With regards to marital status, in 1989, married women tended to work more than single women. Since 1999, single women were more likely to work than married ones.

The second logistic regression model predicting working decision for both sexes based on location, region, sex, marital status, and year was significant ($\chi^2$=28467828, $df$= 24, $p$<.000) suggesting that working decision differed from one level of predictors to the others (Nagelkerke R square=.59). Table 7 provides parameter estimates for the model. Main effect of sex presented a big difference between odds ratio of working for males and females (27.04 compared with 2.08). Interactions involving sex also differ across region, location, marital status, and year. Specifically, in all three waves, both males and females in urban areas seemed to work less than those in rural areas. While males in Red River Delta worked more than males in Mekong River Delta, women in the first region were less likely to work than those in second region. With regards to marital status, being married increased the likelihood of working for males but the opposite for females.

Descriptive analysis of the change in percentage of women working in each economic sector illustrate more the impacts of Doi Moi through opening policy and privatizing economy strategy (see Table 8). The rates of people working in collective sector nearly halved from 46% to 25% during 1989-1999 and dropped quickly to 4.5% in 2006. Together with this decline, there was also tremendous increase in the rate of female workers in individual, private, and foreign sectors. For example, in 1989 there were no foreign companies and organizations in Vietnam but then in 2006, there were 2.37% women working in these fields. The biggest increase was in individual sector (including private interprise and self employed) from 21% to 78% after 15 years.

***Income***

The first ANOVA model for female income (adjusted R square=.985) using location, region, marital status, and year was significant ($F$=75511, $df$=12, $p$<.000). Females' income increased significantly from 1992 to 2002 ($F$=10765, $df$=2, $p$<.000) ($M$=3.5, 5.2, 8.2). We found a clearly higher income of female in urban areas than in rural areas (about 1 unit of logincome higher) in all three years ($F$=10.2, $df$=2, $p$<.000). The difference between these two locations was getting a little greater after years. We found that women in Red River Delta earned more than their counterparts in Mekong River Delta but the gap declined with year ($F$=73.4, $df$=2, $p$<.000). Main effect of marital status was not significant but its interaction with year was ($F$=5.5, $df$=2, $p$=.004).

Figure 2 presents overall estimated marginal means of log income in all groups across time. In general, female income did increase since 1992. Women in the North and urban areas had higher income than their counterparts in the South and in rural areas. Across time, regional variations seemed to decline. Single women started with higher income than married women in 1992 but the situation was inverted in other waves. In 2002, there was very little difference in income between single and married ones.

The second ANOVA model for both sexes' income was significant ($F$=39244, $df$=24, $p$<.000). Interaction of sex*year was significant ($F$=5583, $df$=4, $p$<.000) supporting higher income of males and the gap (male-female difference) in 2002 was slightly higher than in 1998 but much lower than in 1992, presenting an overall decrease in the long period. In both urban and rural areas, males had higher income than females and the gender gap was decreasing across time ($F$=6.4, $df$=4, $p$<.000). Specifically, gender gap in income was larger in rural areas. In terms of region, gender gap in income was significantly higher in Mekong River Delta and this gap decreased with year ($F$=37.1, $df$=4, $p$<.000). Finally, gender gap in income also varied with marital status and year ($F$=6.4, $df$=4,

*p*<.000) suggesting in general single males and females earned more than married ones. For single people, the gap tended to decline while among married people, it started to increase since 1998.

Figure 3 provides gender difference in income (using log income) in all groups. In general, the gender gap was very high in 1992, dropped quickly in 1998 and even negative for urban areas and among married people, but returned to be positive and a little bit higher in 2002. Taking the year of 2002 into account, gender gap was biggest among married people. Gender variations in income were present in all groups but higher in rural than urban areas, higher for married than single people, and the same between Red River Delta and Mekong River Delta. Since 1998, gender gap in income tended to get larger in all groups.

***Housework***

Using ANOVA model for female's average hours doing housework, there was significant difference of means in all groups examined ($F$=5401, $df$=12, $p$<.000) (adjusted R square=.742). Urban women seemed to spend more time on housework than rural women in all three years ($F$=7.8, $df$=2, $p$<.000). The difference between urban and rural areas was the biggest in 1998 and smaller in 1992 and 2002. There was a linear trend of decrease in hours doing housework in the North but a quadratic trend in the South which declined during 1992- 1998 and then increased during 1998-2002 ($F$=24, $df$=2, $p$<.000). On average, women in Mekong River Delta were more involved in the housework. The two way interactions of marital status*year was significant ($F$=593, $df$=2, $p$<.000). Hours doing housework of single women showed a steep decrease during 10 years. Married women did domestic chores in 1998 less than in 1992. Since 1998, the amount of time for housework among married women began to increase and reached at a higher level than in 1992.

Overall comparison of average hours doing domestic chores between groups is provided in Figure 4. There was a declining trend of time amount that women spent on housework. In general, northern women were less involved in housework than southern women. This pattern was present in

all three waves with narrower variation in most recent years. Urban females spent more time on housework than rural ones but the difference was not large. In contrary to overall trend, single women who had been used to work more in 1992 and 1998 no longer spent more time on these tasks in 2002. In 2002, married women spent about 1.5 times that of single ones for housework. This year also witnessed the highest amount of time for domestic chores of married women compared to other groups and compared to previous waves.

The ANOVA model for both sexes showed a significant differences in the mean of hours doing housework ($F$=3839, $df$=24, $p$<.000) (adjusted R square=.686). In all groups (region, location, and marital status), males spent less time on housework than females in all three waves. Gender gap in housework increased since 1998 as males tended to work less while females were likely to work more ($F$=488, $df$=4, $p$<.000). There was a similar trend of decline in hours doing housework for both men and women in Red River Delta while in Mekong River Delta, time for housework declined for men and increased for women. Across year, gender gap in both regions became significantly wider ($F$=14.4, $df$=4, $p$<.000). From 1992 to 2002, gender gap in housework became much bigger for married people than single ones ($F$=381.8, $df$=4, $p$<.000). The model revealed a parallel decline in domestic chores' involvement of both single males and females. However, married men were less likely to do housework while married women tended to work much more.

Figure 5 further illustrates gender gap in time spent on domestic chores. On average, males did housework less than females. Gender gap in this was stable in 1992 and 1998 but doubled in 2002 for all groups. Specifically, women in the North experienced less inequality in housework than women in the South. Gender gap was clearer in urban than in rural areas. Similar to what was found from women's pattern, gender gap in housework among married women in 2002 was the biggest across groups and over time.

### *Childcare and Decision Making*

In addition to housework, childcare is also an indicator of women's status in domestic spheres regarding how labor division within household was decided and performed. In 1997 and 2002, nearly half of ever married women in DHS relied on other household adult members for preschool childcare (children less than 5 years of age) when they worked as shown in Table 9. Fourteen percent of them were responsible for childcare while only 4% of their partners did this task. The gap stayed the same over 5 year period. There were two considerate changes in the sources of care giving for preschool children. One was in institutional care with a doubled percentage from 11.6% to 21% in 1997 and 2002. The other was in childcare given by older child which decreased from 25% to 11%. It is important to note that, within 25% and 11% women depending on other child as care giver, the rate of those had a girl taking care of smaller children usually doubled that having a boy do the task. In 1997, 0.41% women stayed at home since birth while in 2002, that number increased to 2.4%.

With regards to decision making, descriptive analysis examined whether women had a say in the family, specifically in financial issues. Table 10 represents findings from DHS. The rate of males and females had this decision making power both increased with higher rate for women. However, percentage of respondent had jointly decision declined from 61.77% to 47.82% for the period 1997-2002.

### *Son Preference*

Figure 6 provides results of paired samples T-tests related to son preference. Women's desire for number of sons was significant higher than for daughters in 1997 ($t$=2.65, $df$=2342.7, $p$=.008) and in 2002 ($t$=2.60, $df$=2417.7, $p$=.009) with a slightly decrease in mean difference of boys to girls. The tests for Red River Delta ($t$=1.68, $df$=2608.7, $p$=.09) and Mekong River Delta ($t$=3.57, $df$=2151.7, $p$=.00036) were significant with higher son preference in the second region. T-tests in

both urban ($t$=2.56, $df$=871.2, $p$=.0098) and rural areas ($t$=2.95, $df$=3889.2, $p$=.0032) revealed significant difference in ideal number of boys and girls with a bigger gap in urban areas.

## DISCUSSION

As laid out earlier, the main goal of this study was to examine women's status during Doi Moi. Four principle dimensions were covered: education, employment, domestic chores, and decision making of which the first two are in public domain and the latter are in domestic domain. Changes in women's status were assessed both absolutely among themselves as a group and relatively in comparison to men.

### *Women's Position in Public Spheres*

Over the period of seventeen years after Doi Moi (1989-2006), women attained higher educational level. They spent more time in school than ever before. The biggest change was the decline in primary education and increase in higher levels. Relatively speaking, females' achievement in education significantly attributed to a smaller gender gap in education. Differences between males and females in schooling and education became narrower in urban and rural areas, in the North and South across years. One possible explanation for this improvement should be the governmental emphasis on education programs considering education improvement as both the tool and goal of development. Another reason for this comes from more investment in education of each family and individual. The positive changes in education of women have been found to be considerably great in comparison with other countries at the same developmental level (Nguyen, 2002). In another study, Belanger and Liu (2004) found that parent's investment in daughter's education increased in spite of rising cost for education (Belanger & Liu, 2004). These evidences suggest a tendency of continuing increased education for women in the future.

In terms of employment, percentage of working women increased with time but there were variations by location, region, and marital status. Because employment status included all kinds of

work, interpretation of results should be made with cautions. Evidence of higher likelihood of working for rural women might be due to the fact that the majority of people in Vietnam were living in rural areas and the high working rate among women comprised a large proportion of agricultural jobs. We also found a higher likelihood to work for women in Red River Delta than in Mekong River Delta. When comparing males and females' employment status, findings became more sounding. Overall, men were more likely to work than women. The difference in probability of working between two sexes grew higher with year. Another important finding is that being married increased the likelihood of working for males but the opposite for females. Existing literature suggests that married women experienced the lack of support for childcare after transition thus many chose to stay home rather than to work (Goodkind, 1995).

Consistent with unequal employment status, men had higher income than women. However, the gap seemed to wither away with time. Using three waves of VLSS in 1992, 1998, and 2002, Pham et al. also found that gender pay gap was lessened among wage workers. Above all, research on the field so far suggest that educational attainment might lessen gender gap in employment and earnings gradually from the top to the bottom level of the wage structure (Liu, 2006; Pham & Reilly, 2006).

In sum, within public spheres, women's position improved absolutely and relatively in education, income but not in employment. In a separate analysis of waged workers only (result not shown), education was found to be a strong predictor of working likelihood. Thus, when the labor market is deeper transformed in Vietnam with larger proportion of people working in non-agricultural sectors, we expect to find a clearer picture of women's employment and smaller gap of working probability between males and females given the gained education. Finally, it is understandable that women in the North to some extent had better position than in the South provided their longer exposure to gender equality programs.

***Women's Position in Domestic Spheres***

Household domain is considered the setting where gender equality is pertained. Regardless of their educational attainment and higher income, women were still considered primary doers of housework. Increased time of females and decreased time of males for housework resulted in rising gap across time. As we observed from more time spent on housework among married women (in VLSS), analysis based on married women (DHS) further provided evidence for their heavier workload in the household. Childcare mainly came from female caregivers. It seems that the higher rate of women worked outside home accompanied the increased percentage of them doing the housework.

Given the great contribution of female to the household's economy, it is expected that they have a say in the family. Finding from DHS shows that women actually had decision making power in spending money. This finding is not new since Vietnamese women were traditionally the family purse holders (Keyes, 1995). Although we could not examine determinants of this power, some studies on this so far suggest that keeping and spending money are added burdens for women if the family is not well off and holding decision over spending money usually makes women more disadvantaged because they tend to allocate more for partner and children than for themselves (Tichenor, 2005).

In short, the picture of women's status in household domain is not optimistic as in public domain. Women were likely to spend more time on domestic chores even when they were working and earning more. Demands from new living style require women to work in the society equally to men and to do the housework similarly as the traditional women (Melissa & Pia, 1999).

***Gender Ideology***

The reason for inclusion of son preference analysis in this study is to roughly estimate the gender ideology as well as women's social status in the household (Bradley and Khor, 1993). Desire

for son is an essential indicator of gender bias in Vietnam. We could partly see this from the sources of child care that working women had. Older daughters were more likely to take care of younger child than older sons. Son preference was more obvious through the examination of ideal number of sons and ideal number of daughters. Married women reported higher number of sons. Son preference tended to decrease at very low pace during 1997 and 2002.

The finding is consistent with recent report on sex ratio at birth by the United Nations Population Fund in 2006. There was imbalanced sex ratio at birth (a ratio of 110) meaning that there were 110 boys per 100 girls born. It was also found that 39% of women with two daughters had their third birth. The results suggested that many married men and women were under pressure for having a son and that preference for sons was a persistent issue in Vietnam. The finding also revealed continuing gender stereotypes which could potentially have negative impacts on girls and women.

***Urban/rural and Regional Variations in Women's Position***

Through observations in all dimensions, it is clear that women in Red River Delta had a better position than those in Mekong River Delta both in domestic and public domains. Northern females had higher education, higher income, and did less housework. Accordingly, gender gap in almost dimensions was also larger in Mekong River Delta. This finding suggests that longer exposure to socialist policies together with governmental efforts early for gender equality could be explaining reasons.

Comparison between urban and rural areas provided a mixed picture. Gender gap in education was larger but that in income was smaller in urban areas. In domestic domain, urban women experienced larger gender gap than rural women. There was also higher son preference in urban areas than in rural areas. Part of this picture is consistent with what was found in China and other developing countries that more economically developed regions could potentially lead to

greater social inequality such as in urban areas if economic growth is not accompanied by social development (Bian & Logan, 1996; Croll, 1998).

***Limitations and Contributions***

There are some limitations in this study. First, there were not enough measures to fully examine the multiple dimensions and domains of women's status. For instance, the study lacked measures of political participation in public domain and domestic violence in household domain. Second, the analyses did not have different levels of determinants. These determinants are cultural, socio-economic features at macro level and spouse's education, household features, number of children at familial level. These factors potentially impact female position both in private and public domains (Micklewright, 1999; Sanchez, 1993; Wood, 2000; Woolley & Marshall, 1994). Third, the analyses were based on pooled cross sectional data which limit the findings to group means only and not allow the application of better statistical models in the study. The use of ANOVA models for unequal sample size of each group also increased Type I error due to the overlapped variance caused by nested design.

Despite the limitations, the current study attributes to the literature body of research on women's status with its attempt to examine various dimensions in different domains at the same time. It also explored the change in female position that previous studies on Vietnam left open. The use of significant tests together with descriptive statistics provided more reliable results compared to previous studies which mainly employed descriptive analyses. Lastly, comparison between regions found potential impacts of socialism programs on women's development. Theoretically, this study further supported the argument that women's position is a complex construct which requires the incorporation of different perspectives and multilevel analyses in different dimensions. Supporting evidences for both modernization and women in development perspectives were found.

***Implications for Policy Makers***

The country's policy of Doi Moi has brought about new historical and time effects in which gender relation is changed, formed and operated. Although economic growth and poverty reduction are good foundation for gender equality, there are more attempts and resources needed (Heyzer, 1997). The government's efforts in promoting economic growth as well as commitments to gender equality are very important. Lessons from other countries of similar conditions and orientations also prove that the role of government in the process of women development which balances the good and bad consequences of transition is essential (Kornai, 2006; McCormick, 1998). The current high rate of women in political participation in Vietnam is also a good premise for the implementation of gender equality programs. In addition to that, current activities of the government in setting up a legal gender equality background, for example the Gender Equality Law, further protect and encourage women in the course of Doi Moi.

In conclusion, the study using multiple datasets has found consistent findings of an increase in women's absolute status and a mixed picture of their relative position to men. While gender gap was narrower in public spheres, there was still a big gap in domestic domain in terms of labor division. Strong son preference is also an enduring issue. Women are attempting not only to develop but also to catch up with men both in private and public domains. Evidence of "double" or "triple burden" for women was found in Vietnam. In other words, Vietnamese women are facing challenges and gaining benefits from Doi Moi at the same time. Achievement in education is a great advantage from which they can promote changes. This study recommends future research using longitudinal study with more reliable measures and better statistical techniques in a longer period of time. That kind of study can better assess changes in women's status overtime. Such a study will also help test the theories on gender and provide guidelines for policy makers given the fact that gender equality and economic growth are intertwined in the process of country development.

## References


Adamchik, V., Hyclak, T., & King, A. (2003). The wage structure and wage distribution in Poland, 1994-2001 *International Journal of Manpower, 24*(8), 916.

Belanger, D., & Liu, J. (2004). Social policy reforms and daughter's schooling in Vietnam. *International Journal of Educational Development, 24*, 23-38.

Bian, Y., & Logan, J. R. (1996). Market transition and the persistence of power: The changing stratification system in urban China *American Sociological Review, 61*(5), 739-758.

Boserup, E. (1996). Development theory: An analytical framework and selected application. *Population and Development Review, 22*(3), 505-515.

Bradley, K., & Khor, D. (1993). Toward an integration of theory and research on the status of women. *Gender and Society, 7*(3), 347-378.

Bystydzienski, J. M. (2005). Negotiating the new market: women, families, women's organizations and the economic transition in Poland. *Journal of Family and Economic Issues, 26*(2).

China Country Gender Review. (2002). *World Bank*.

Collins, R., Chafetz, J. S., Blumberg, R. L., Coltrane, S., & Turner, J. H. (1993). Toward an integrated theory of gender stratification. *Sociological Perspectives, 36*(3), 185-216.

Coltrane, S. (2000). Research on household labor: Modeling and measuring the social embeddedness of routine family work. *Journal of Marriage and the Family, 62*, 1208-1233.

Croll, E. J. (1998). Gender and transition in China and Vietnam. *Swedish International Development Agency. Department for Policy and Corporate Development/ Economic and Social Analysis Division*.

DeLoach, S. D., & Hoffman, A. L. (2002). Russia's second shift: Is housework hurting women's wages? *Atlantic Economic Journal, 30*(4), 422.

Forsythe, N., Korzeniewicz, R. P., & Durrant, V. (2000). Gender inequalities and economic growth: A longitudinal evaluation. *Economic Development and Cultural Change, 48*(3), 573-617.

Giddings, L. A. (2002). Changes in gender earnings differentials in Bulgaria's transition to a mixed-market economy. *Eastern Economic Journal, 28*(4), 481.

Glewwe, P. (2004). An overview of economic growth and household welfare in Vietnam in the 1990s. In P. Glewwe & N. Agrawal & D. Dollar (Eds.), *Economic Growth, Poverty, and Household Welfare in Vietnam*. World Bank Publications.

Goodkind, D. (1995). Rising gender inequality in Vietnam since reunification. *Pacific Affairs, 68*(3), 342-359.

Grajek, M. (2003). Gender pay gap in Poland. *Economics of Planning 36*(1), 23.

Hannum, E. (2005). Market transition, education disparities, and family strategies in rural China: New evidence on gender stratification and development. *Demography, 42*(2), 275-299.

Harcourt, W. (1994). The globalisation of the economy: An international gender perspective. *Focus on Gender, 2*(3), 6-14.

Haughton, D., Haughton, J., & Phong, N. (2001). *Living standard during economic boom in Vietnam*. Hanoi: Statistical Publisher.

Heyzer, N. (1997). Gender, economic growth and poverty. *Development, 40*, 126-130.

Hirschman, C., & Loi, V. M. (1996). Family and household dtructure in Vietnam: Some glimpses from a recent survey. *Pacific Affairs, 69*(2), 229-249.

Huy, V. T., & Carr, D. S. (2000). Domestic labor division. *Vietnam Sociological Review, 4*, 43-52.

Inglehart, R., & Norris, P. (2000). The developmental theory of the gender gap: Women's and men's voting behavior in global perspectives. *International Political Science Review, 21*(4), 441-463.

Irwin, S., & Bottero, W. (2000). Market returns? Gender and theories of change in employment relations. *British Journal of Sociology 51*(2), 261-280.

Jacobson, R. (1993). Domestic violence as a development issue. *Gender and Development, 1*(2), 37-39.

Jayakody, R., & Huy, V. T. (2008). Social change and marriage in Vietnam: From socialist state to market reform. In R. Jayakody & A. Thornton & W. G. Axinn (Eds.), *International Family Change. Ideational Perspectives* (pp. 199-222). New York, London: Lawrence Erlbaum Associetes Publishers.

Jurajda, S., & Terrell, K. (2003). Job growth in early transition: Comparing two paths. *Economics of Transition, 11*(2), 291-320.

Kabeer, N., & Anh, T. T. V. (2000). *Living the rice fields but not the countryside: Gender, livelihoods diversification and pro-poor growth in rural Vietnam*. Geneva: United Nations Research Institute for Research and Development.

Kerkvliet, B., Chan, A., & Unger, J. (1998). Comparing the Chinese and Vietnamese reforms: An introduction. *The China Journal, 40*(Special Issue: Transforming Asian Socialism. China and Vietnam Compared), 1-7.

Kornai, J. (2006). The great transformation of Central Eastern Europe- success and disapppointment. *Economics of Transition, 14*(2), 207-244.

Le, T. (1993). *Job creation and income generation for women*. Hanoi: Social Science Publisher.

Liu, A. Y. C. (2006). Changing wage structure and education in Vietnam, 1992-1998. The role of demand. *Economics of Transition, 14*(4), 681-706.

Long, L. D., Hung, L. N., Truitt, A., Mai, L. T. P., & Anh, D. N. (2000). Changing gender relations in Vietnam's post Doi Moi era. *World Bank, Policy Research Report on Gender and Development, 14*.

McCormick, B. L. (1998). Political change in China and Vietnam: Coping with the consequences of economic reform. *The China Journal, 40*(Special Issue: Transforming Asian Socialism. China and Vietnam Compared), 121-143.

Melissa, A. M., & Pia, P. (1999). Playing all the roles: Gender and the work-family balancing act. *Journal of Marriage and the Family, 61*(2), 476-490.

Micklewright, J. (1999). Education, inequality and transition. *The Economics of Transition, 7*(2), 343-376.

Moghadam, V. M., & Senftova, L. (2005). Measuring women's empowerment: participation and rights in civil, political, social, economic, and cultural domains. *International Social Science Journal, 57*(184), 389-412.

Mu¨nich, D., Svejnar, J., & Terrell, K. (2005). Returns to human capital under the communist wage grid and during the transition to a market economy. *The Review of Economics and Statistics, 87*(1), 100-123.

Newell, A., & Reilly, B. (2001). The gender pay gap in the transition from communism: Some empirical evidence. *Economic Systems, 25*(4), 287-304.

Nguyen, N. N. (2002). Trends in the education sector from 1993-98: World Bank Policy Research Working Paper No. 2891. Development Research Group, World Bank, Washington D.C.

Packard, L. A. T. (2006). Gender dimensions of Vietnam's comprehensive macroeconomic and structural reform policies. *United Nations Research Institute for Social Development, Occasional Paper 14*.

Pham, M. H., & Pham, T. N. (2006). Public attitudes toward a market economy in Vietnam. In Dalton & Shin (Eds.), *Citizens, Democracy and Markets around the Pacific Rim*. Oxford: Oxford University Press.

Pham, T. H., & Reilly, B. (2006). The gender pay gap in Vietnam, 1993-2002: A quantile regression approach, *PRUS Working Paper No. 34*.

Pollert, A. (2003). Women, work, and equal opportunities in post-communist transition. *Work, Employment and Society, 17*(2), 331-357.

Rosen, S. (1995). Women and political participation in China. *Pacific Affairs, 68*(3), 315-341.

Sanchez, L. (1993). Women's power and the gendered division of domestic labor in the third world. *Gender and Society, 7*(3), 434-459.

Shu, X. (2005). Market transition and gender segregation in urban China. *Social Science Quarterly, 86*, 1299.

Shu, X., & Bian, Y. (2003). Market transition and gender gap in earnings in urban China. *Social Forces, 81*(4), 1107.

Teerawichitchainan, B., Knodel, J., Loi, V. M., & Huy, V. T. (2008). Gender division of household labor in Vietnam: Cohort trends and regional variations. *Population Studies Center Research Report, University of Michigan, 08*(658).

Tichenor, V. J. (2005). *Earning more and getting less. Why successful wives can't buy equality*. New Brunswich, New Jersey, and London: Rutgers Univeristy Press.

UNDP. (2002). Gender differences in the transitional economy of Vietnam. Key gender findings: second Vietnam Living Standards Survey 1997-98.

Verhoeven, W.-J., Jansen, W., & Dessens, J. (2005). Income attainment during transformation processes. A meta-analysis of the market transition theory. *European Sociological Review, 21*(3), 201-226.

Vietnam: Attacking poverty. (1999). *World Bank*.

Voices of Vietnamese Women Entrepreneurs. (2006). *A report by the International Finance Corporation's (IFC), Mekong Private Sector Development Facility (MPDF), and Gender Entrepreneurship Markets (GEM)*.

Wells, M. (2005). Vietnam Gender Situation Analysis 2005. *Asian Development Bank*.

Wood, M. F. a. A. (2000). Modeling the effects of trade on women, at work and at home. *World Development, 28*(7), 1173-1190.

Woolley, F. R., & Marshall, J. (1994). Measuring inequality within the household. *Review of Income and Wealth, 40*(4), 415-431.

# Appendix

Table 1

*Examined Dimensions and Domains of Women Status*

| Dimension | Public domain | Private domain |
|---|---|---|
| Social | Education | Son preference |
| Economic | Employment | Housework |
| | Income | Childcare |
| | Decision making in finance | Decision making in finance |
| Political | - | - |

*Notes*. – Unexamined areas

Table 2

*Descriptive Statistics of Datasets (%)*

| Dataset | Sex | | Location | | Region | | Sample size[3] |
|---|---|---|---|---|---|---|---|
| | Male | Female | Urban | Rural | RRD[1] | MRD[2] | |
| Census | | | | | | | |
| 1989 | 47.37 | 52.63 | 23.25 | 76.75 | 23.52 | 21.06 | 31,622,997 |
| 1999 | 48.55 | 51.45 | 25.94 | 74.06 | 20.51 | 21.83 | 39,933,191 |
| 2006 | 49.33 | 50.67 | 28.93 | 71.17 | 22.27 | 20.91 | 47,857,339 |
| VLSS | | | | | | | |
| 1992 | 47.09 | 52.91 | 22.56 | 77.44 | 20.66 | 22.33 | 12,626 |
| 1998 | 47.87 | 52.13 | 25.11 | 74.89 | 19.96 | 22.36 | 16,039 |
| 2002 | 49.13 | 50.87 | 25.29 | 74.71 | 22.63 | 22.12 | 78,090 |
| DHS | | | | | | | |
| 1997 | - | 100 | 18.87 | 81.13 | 22.01 | 19.36 | 5,664 |
| 2002 | - | 100 | 19.08 | 80.92 | 24.06 | 18.64 | 5,665 |

*Note.* [1]RRD= Red River Delta
[2]MRD= Mekong River Delta
[3]Sample size in person

Table 3

*Estimated Marginal Mean Schooling of Women by Location and Region across Years (years)*

| Location/ Region | 1989 | 1999 | 2006 |
|---|---|---|---|
| Urban | 8.1 | 8.6 | 8.8 |
| Rural | 6.1 | 6.5 | 7.1 |
| Red River Delta | 8.4 | 9.2 | 9.4 |
| Mekong River Delta | 5.8 | 6.0 | 6.4 |
| Total | 7.1 | 7.6 | 7.9 |
| Grand mean = 7.53 | | | |

Table 4

*Female Educational Level by Year (%)*

| | 1989 | 1999 | 2006 |
|---|---|---|---|
| No education | 0.08 | 0.05 | 0.04 |
| Some primary | 41.37 | 32.95 | 17.35 |
| Primary | 36.87 | 39.18 | 32.46 |
| Lower secondary | 8.99 | 13.33 | 29.60 |
| Upper secondary | 10.93 | 11.73 | 15.37 |
| University and higher | 1.76 | 2.76 | 5.18 |
| Total | 100.00 | 100.00 | 100.00 |

Table 5

*Mean Schooling of Males and Females by Location and Region across Years (years)*

| | 1989 | | | 1999 | | | 2006 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Diff.[3] | Male | Female | Diff.[3] | Male | Female | Diff.[3] |
| Urban | 8.85 | 8.12 | 0.73 | 9.30 | 8.63 | 0.67 | 9.39 | 8.78 | 0.61 |
| Rural | 6.85 | 6.09 | 0.76 | 7.15 | 6.54 | 0.61 | 7.63 | 7.06 | 0.57 |
| RRD[1] | 9.04 | 8.40 | 0.64 | 9.58 | 9.07 | 0.52 | 9.80 | 9.38 | 0.42 |
| MRD[2] | 6.66 | 5.81 | 0.85 | 6.86 | 6.10 | 0.76 | 7.22 | 6.46 | 0.76 |
| Total | 7.85 | 7.10 | 0.75 | 8.22 | 7.58 | 0.64 | 8.51 | 7.92 | 0.59 |

*Note*. [1]RRD= Red River Delta
[2]MRD= Mekong River Delta
[3]Diff = Male-female difference

Table 6

*Parameter Estimates of Logistic Regression Model Predicting Female Employment*

| | β | Std. Error | Odds ratio |
|---|---|---|---|
| [year=1989] | 1.13 | 0.0015 | 3.11*** |
| [year=1999] | 0.95 | 0.0013 | 2.59*** |
| [year=2006] | 0.73 | 0.0011 | 2.08*** |
| [region=1.00] * [year=1989] | 1.12 | 0.0021 | 3.06*** |
| [region=1.00] * [year=1999] | 1.15 | 0.0019 | 3.15*** |
| [region=1.00] * [year=2006] | 1.32 | 0.0016 | 3.74*** |
| [region=2.00] * [year=1989] | 0.00 | . | . |
| [region=2.00] * [year=1999] | 0.00 | . | . |
| [region=2.00] * [year=2006] | 0.00 | . | . |
| [location=1] * [year=1989] | -1.10 | 0.0023 | 0.33*** |
| [location=1] * [year=1999] | -0.99 | 0.0020 | 0.37*** |
| [location=1] * [year=2006] | -0.64 | 0.0017 | 0.53*** |
| [location=2] * [year=1989] | 0.00 | . | . |
| [location=2] * [year=1999] | 0.00 | . | . |
| [location=2] * [year=2006] | 0.00 | . | . |
| [marital=1] * [year=1989] | -0.14 | 0.0022 | 0.87*** |
| [marital=1] * [year=1999] | 0.39 | 0.0022 | 1.47*** |
| [marital=1] * [year=2006] | 0.28 | 0.0020 | 1.32*** |
| [marital=2] * [year=1989] | 0.00 | . | . |
| [marital=2] * [year=1999] | 0.00 | . | . |
| [marital=2] * [year=2006] | 0.00 | . | . |
| Nagelkerke R square | 0.45 | | |

*Note.* Region=1: Red River Delta, region=2: Mekong River Delta
Location=1: Urban areas, location=2: Rural areas
Marital=1: Never married, marital=2: Ever married
β=0 in all reference groups
***$p$<.000

Table 7

*Parameter Estimates of Logistic Regression Model Predicting Employment Status of Males and Females*

| | β | Std. Error | Odds ratio |
|---|---|---|---|
| [sex=1] | 3.30 | 0.0025 | 27.04*** |
| [sex=2] | 0.73 | 0.0011 | 2.08*** |
| [sex=1] * [year=1989] | -0.98 | 0.0033 | 0.38*** |
| [sex=1] * [year=1999] | 0.08 | 0.0037 | 1.08*** |
| [sex=1] * [year=2006] | 0.00 | . | . |
| [sex=2] * [year=1989] | 0.40 | 0.0019 | 1.49*** |
| [sex=2] * [year=1999] | 0.22 | 0.0017 | 1.25*** |
| [sex=2] * [year=2006] | 0.00 | . | . |
| [sex=1] * [year=1989] * [location=1] | -0.86 | 0.0026 | 0.42*** |
| [sex=1] * [year=1989] * [location=2] | 0.00 | . | . |
| [sex=1] * [year=1999] * [location=1] | -1.04 | 0.0027 | 0.35*** |
| [sex=1] * [year=1999] * [location=2] | 0.00 | . | . |
| [sex=1] * [year=2006] * [location=1] | -0.77 | 0.0026 | 0.46*** |
| [sex=1] * [year=2006] * [location=2] | 0.00 | . | . |
| [sex=2] * [year=1989] * [location=1] | -1.10 | 0.0023 | 0.33*** |
| [sex=2] * [year=1989] * [location=2] | 0.00 | . | . |
| [sex=2] * [year=1999] * [location=1] | -0.99 | 0.0020 | 0.37*** |
| [sex=2] * [year=1999] * [location=2] | 0.00 | . | . |
| [sex=2] * [year=2006] * [location=1] | -0.64 | 0.0017 | 0.53*** |
| [sex=2] * [year=2006] * [location=2] | 0.00 | . | . |
| [sex=1] * [year=1989] * [region=1.00] | -0.30 | 0.0023 | 0.74*** |
| [sex=1] * [year=1989] * [region=2.00] | 0.00 | . | . |

| | | | |
|---|---|---|---|
| [sex=1] * [year=1999] * [region=1.00] | -0.87 | 0.0028 | 0.42*** |
| [sex=1] * [year=1999] * [region=2.00] | 0.00 | . | . |
| [sex=1] * [year=2006] * [region=1.00] | -0.47 | 0.0025 | 0.62*** |
| [sex=1] * [year=2006] * [region=2.00] | 0.00 | . | . |
| [sex=2] * [year=1989] * [region=1.00] | 1.12 | 0.0021 | 3.06*** |
| [sex=2] * [year=1989] * [region=2.00] | 0.00 | . | . |
| [sex=2] * [year=1999] * [region=1.00] | 1.15 | 0.0019 | 3.15*** |
| [sex=2] * [year=1999] * [region=2.00] | 0.00 | . | . |
| [sex=2] * [year=2006] * [region=1.00] | 1.32 | 0.0016 | 3.74*** |
| [sex=2] * [year=2006] * [region=2.00] | 0.00 | . | . |
| [sex=1] * [year=1989] * [marital=1] | -0.83 | 0.0024 | 0.43*** |
| [sex=1] * [year=1989] * [marital=2] | 0.00 | . | . |
| [sex=1] * [year=1999] * [marital=1] | -0.74 | 0.0028 | 0.48*** |
| [sex=1] * [year=1999] * [marital=2] | 0.00 | . | . |
| [sex=1] * [year=2006] * [marital=1] | -0.97 | 0.0025 | 0.38*** |
| [sex=1] * [year=2006] * [marital=2] | 0.00 | . | . |
| [sex=2] * [year=1989] * [marital=1] | -0.14 | 0.0022 | 0.87*** |
| [sex=2] * [year=1989] * [marital=2] | 0.00 | . | . |
| [sex=2] * [year=1999] * [marital=1] | 0.39 | 0.0022 | 1.47*** |
| [sex=2] * [year=1999] * [marital=2] | 0.00 | . | . |
| [sex=2] * [year=2006] * [marital=1] | 0.28 | 0.0020 | 1.32*** |
| [sex=2] * [year=2006] * [marital=2] | 0.00 | . | . |

*Note.* Sex=1: Male; sex=2: Female
Region=1: Red River Delta, region=2: Mekong River Delta
Location=1: Urban areas, location=2: Rural areas
Marital=1: Never married, marital=2: Ever married
β=0 in all reference groups
***$p$<.000

Table 8

*Employment Sectors of Female Workers*

| Employment sector | 1989 | 1999 | 2006 |
|---|---|---|---|
| Individual | 21.04 | 43.95 | 77.72 |
| Collective | 45.74 | 24.73 | 4.54 |
| Private | 0.11 | 1.41 | 4.08 |
| Government | 14.17 | 0.00 | 11.05 |
| Foreign | 0.00 | 0.70 | 2.37 |
| Other | 18.94 | 29.20 | 0.23 |
| Total | 100 | 100 | 100 |

Table 9

*Sources of Preschool Childcare among Working Females*

| Care giver | 1997 | 2002 |
|---|---|---|
| Respondent | 13.73 | 13.68 |
| Husband/partner | 3.55 | 3.60 |
| Other relatives | 43.41 | 43.34 |
| Neighbors | 0.85 | 0.81 |
| Friends | 0.03 | 0.02 |
| Servants/hired help | 0.25 | 0.74 |
| Child is in school | 0.92 | 1.37 |
| Institutional care | 11.62 | 21.00 |
| Other female child | 16.61 | 8.85 |
| Other male child | 8.51 | 2.68 |
| Not worked since birth | 0.41 | 2.42 |
| Other | 0.11 | 0.52 |
| Total | 100.00 | 100.00 |

Table 10

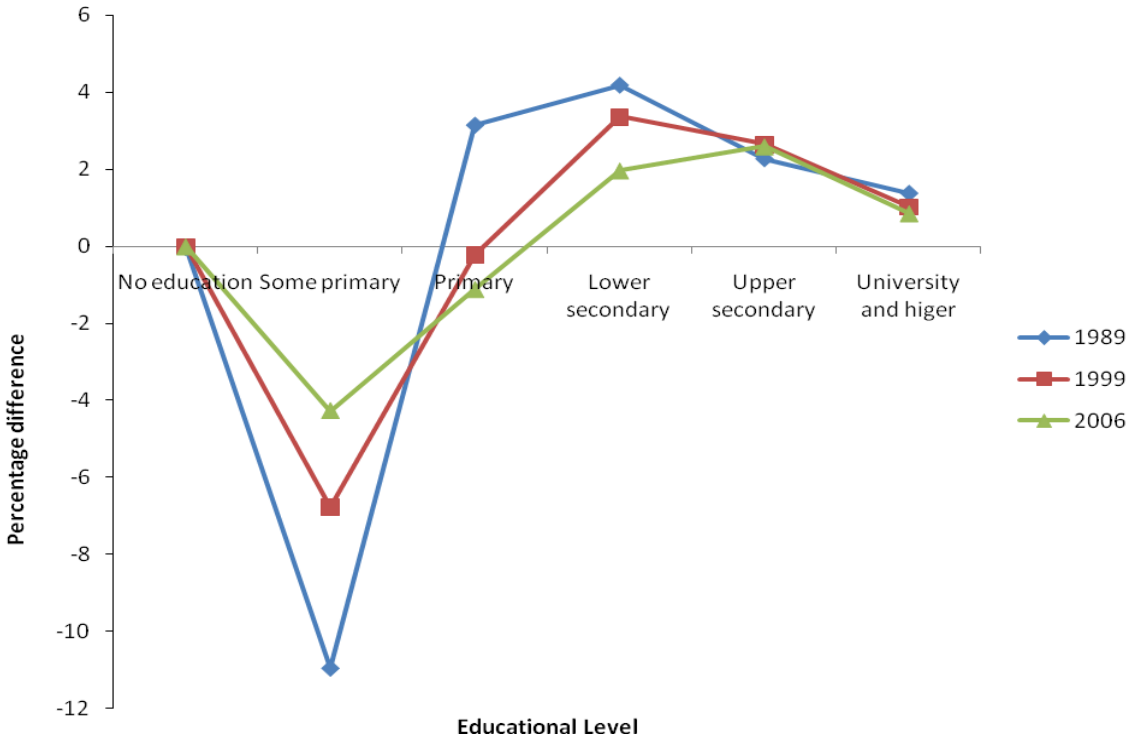
*Decision Making in Finance*

| Who decides how to spend money | 1997 | 2002 |
|---|---|---|
| Respondent | 24.46 | 30.66 |
| Partner | 9.19 | 16.65 |
| Jointly with partner | 61.77 | 47.82 |
| Someone else | 3.75 | 4.15 |
| Jointly with someone | 0.83 | 0.72 |
| Total | 100.00 | 100.00 |

*Note.* Data were from the DHS

Figure 1

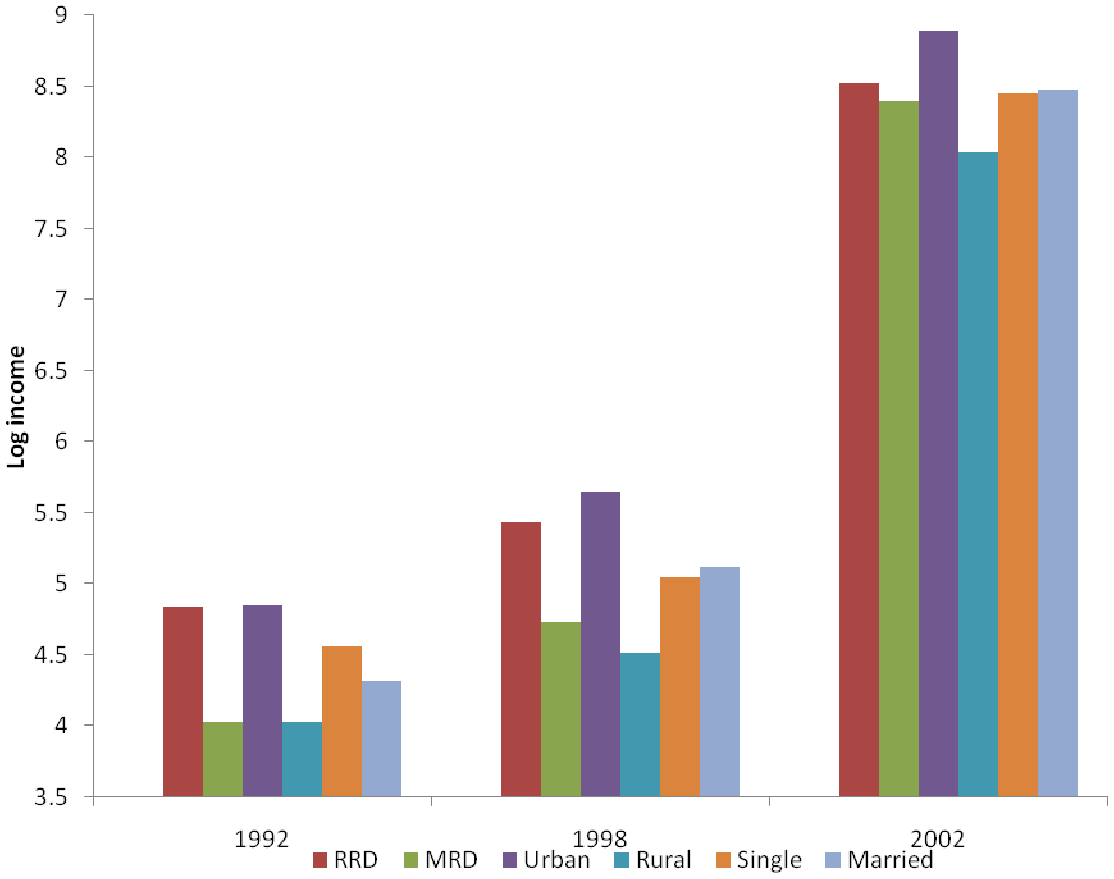
*Gender Gap in Education Level*




*Note.* The gap is the difference between percentage of males and females in a specific educational level. Calculation was based on Census.

Figure 2

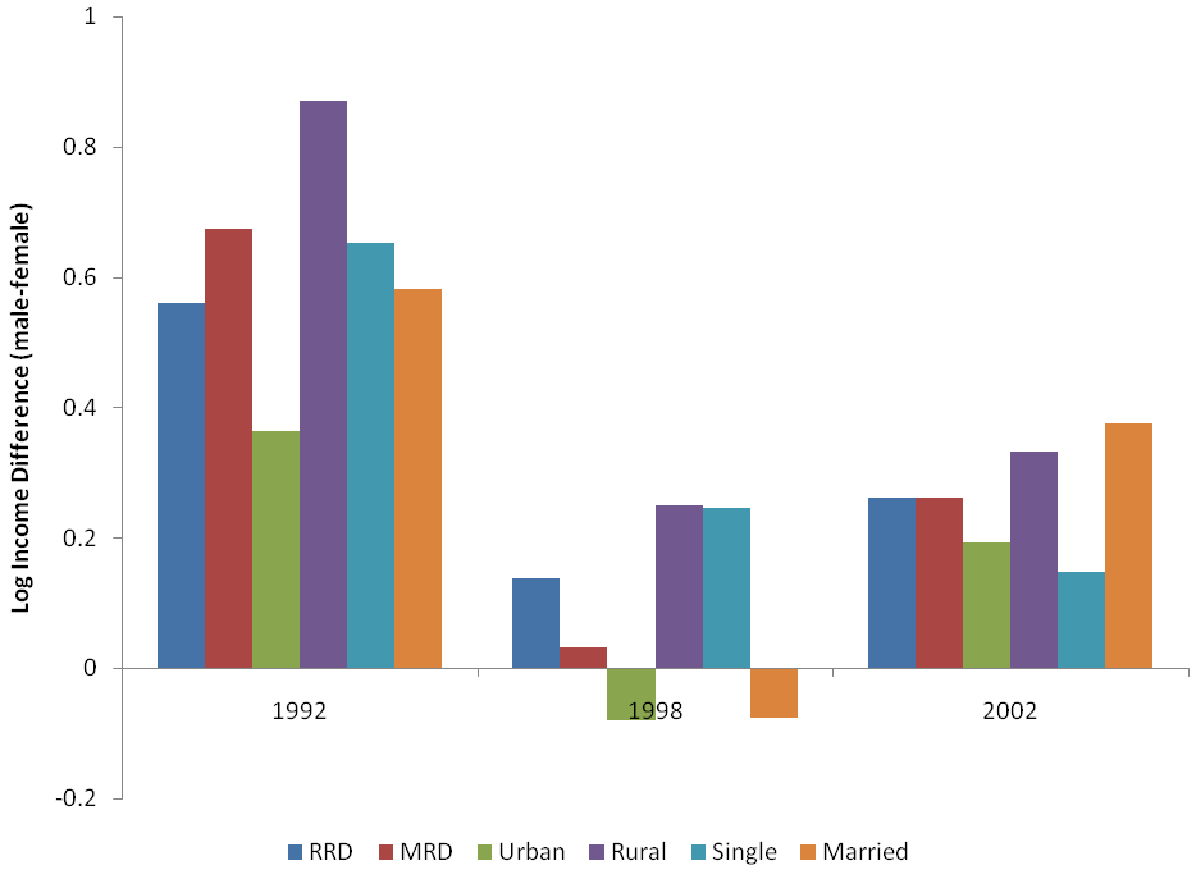
*Average Income of Women by Region, Location, and Marital Status*




*Note.* Calculation was based on estimated marginal means of log income from ANOVA model using VLSS
RRD= Red River Delta
MRD= Mekong River Delta

Figure 3

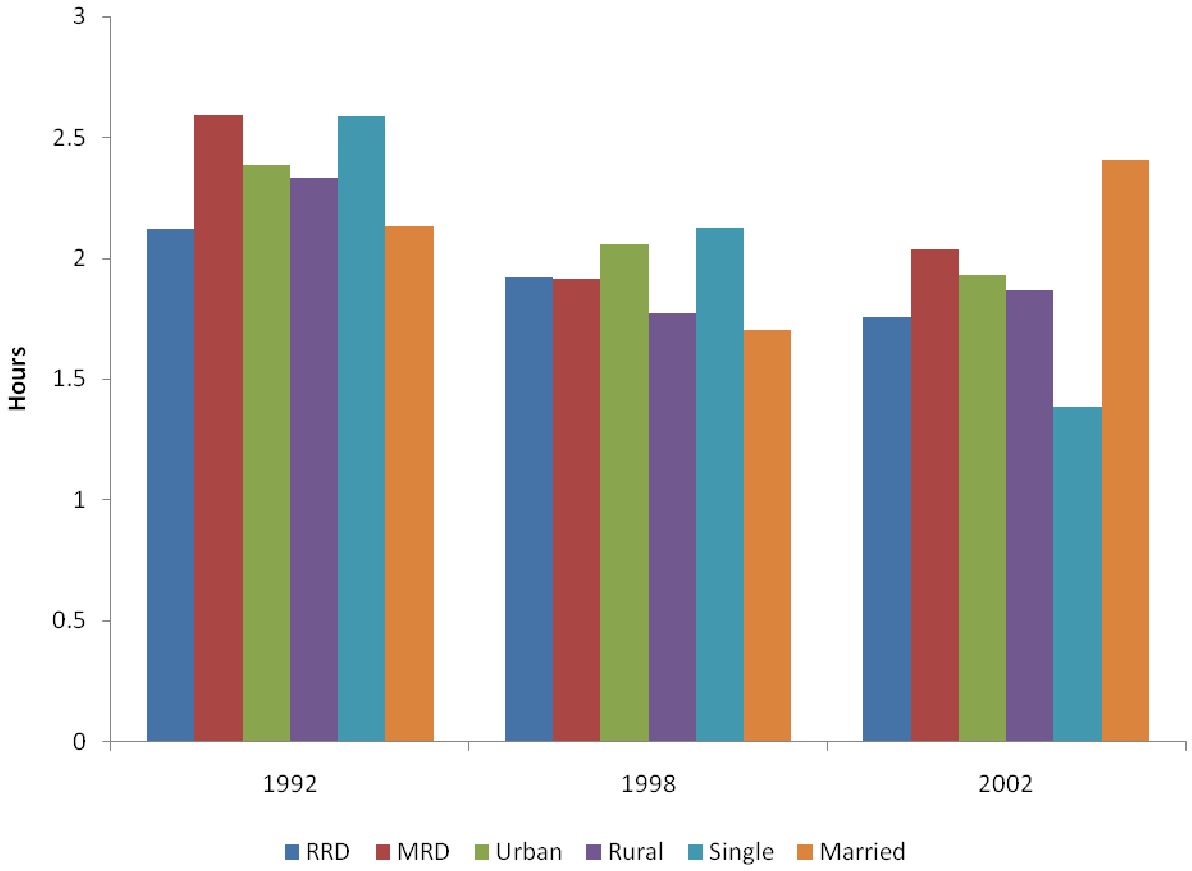
*Gender Difference in Income by Region, Location, and Marital Status*




*Note.* Difference=Male-Female
RRD= Red River Delta
MRD= Mekong River Delta
Calculation was based on estimated marginal means of log income from ANOVA model using VLSS

Figure 4

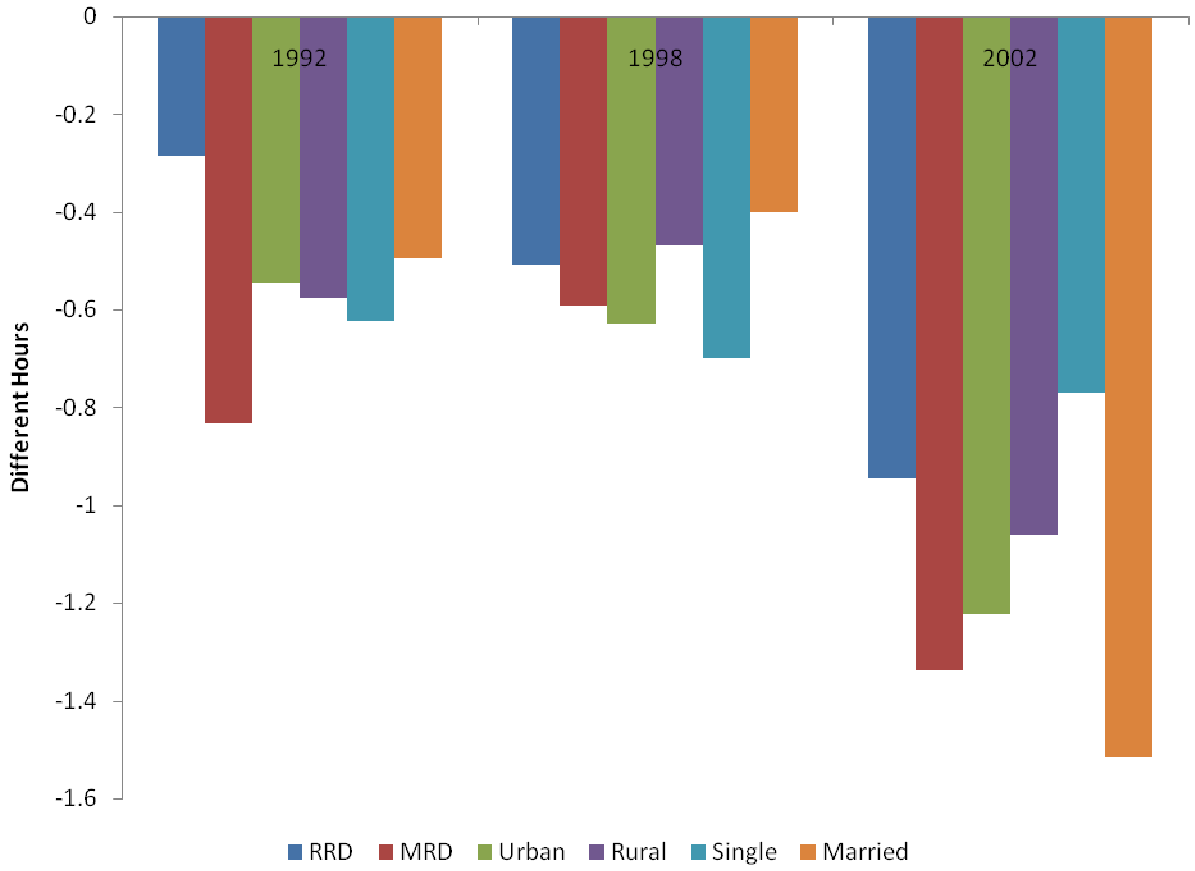
*Average Hours Doing Housework of Females by Region, Location, and Marital Status*




*Note.* Calculation was based on estimated marginal means of hours doing housework from ANOVA model using VLSS
RRD= Red River Delta
MRD= Mekong River Delta

Figure 5

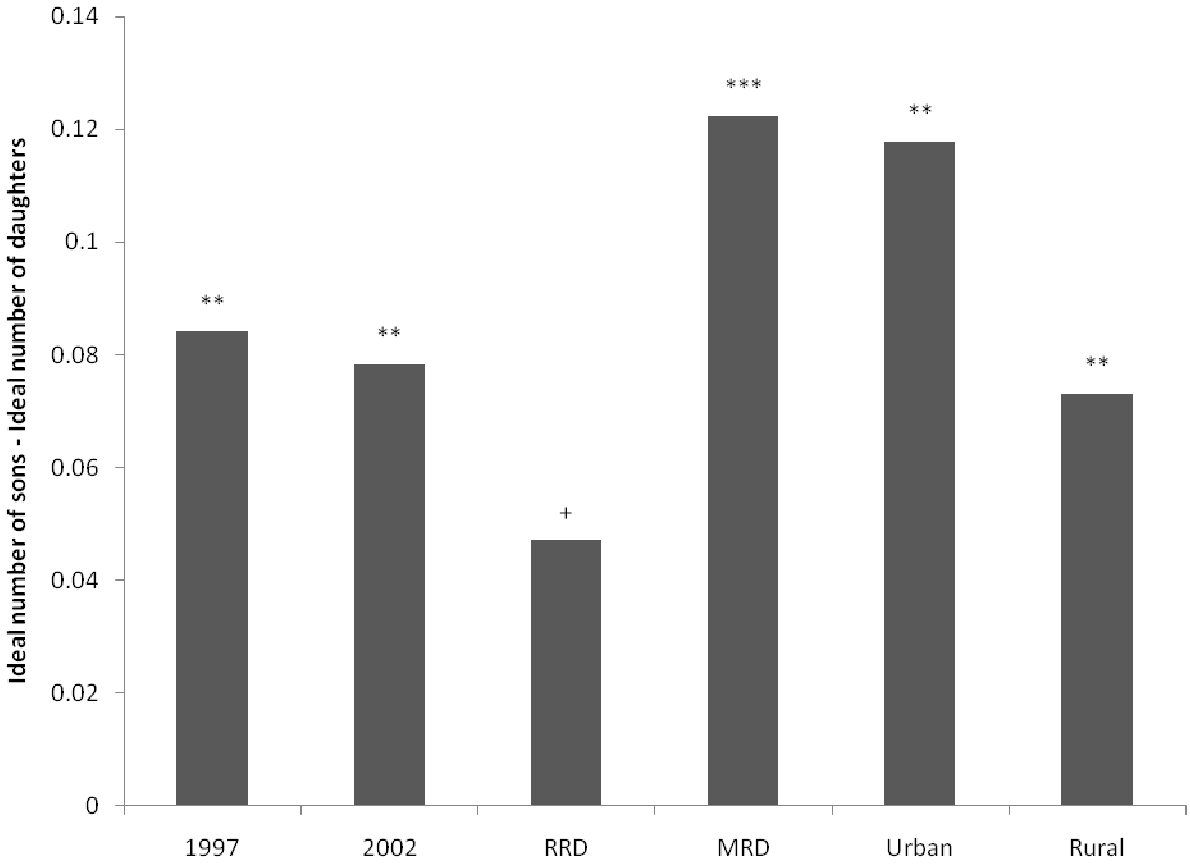
*Gender Gap in Hours Doing Housework by Region, Location, and Marital Status*




*Note.* Different hours=Male-Female
RRD= Red River Delta, MRD= Mekong River Delta
Calculation was based on estimated marginal means of hours doing housework from ANOVA model using VLSS.

Figure 6

*Son Preference by Year, Region, and Location*




*Note:* Son preference= Ideal number of sons- Ideal number of daughters. Calculation based on DHS
RRD= Red River Delta, MRD= Mekong River Delta
$^{+}p<.1$, $^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$