

Labor division in household in China: change of trends between 1989 and 2006

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Abstract:

With the rapid social and economic changes, gender roles, as seen inside and outside of households, have been changing in China. Traditionally, wives are responsible for the whole domestic activities inside households or unpaid work and husbands are responsible for the economic activities outside household or paid work. These earning and caring activities have undergone change in terms of their division in families. After considering the basis of social and economic change in families, this paper analyzes paid and unpaid work of women and men, based on the China Health and Nutrition Survey (CHNS) of 1989 and 2006. The focus is on gender as well as marital, parental and employment status over the life course. We also identify five models of the division of work: complementary-traditional, complementary-gender reversed, women's double burden, men's double burden, and collaborative (or shared roles). We will examine the change of each model with time and discuss the impact of the changes in broader society on this change inside households, such as equal opportunities and changing gender roles in the broader society. Finally, a multilevel model is used to examine the contributions of factors such as education and labor force participation to this change.

Introduction

China entered a period of significant social and economic reforms in 1978. In the following 30 years, the Chinese economy has increased rapidly with an average rate of 9.7% per year. The per capita GDP by the end of 2006 is more than \$2000, which is over twenty times that of in 1978. With the rapid economic change, China also has witnessed far-reaching social changes, such as institutional change and societal transformation with changing social norms and structures (Nee and Matthews 1996). Relevant changes have been happening in regard to education, employment, income, and associated family issues. Among them, the change of gender roles in both household and society has been an important social phenomenon, and consequently a significant research concern in the past decade, in terms of gender inequality in education, gender gap in income and labor market, gender inequality in health, and gender differentials in family context (Bian, Logan, and Shu 2000; Chen 2005; Chow, Zhang, and Wang 2004; Spitze and Ward 1995). In particular, the division of household labor between husbands and wives has been a fast growing research area in the past decade, since the household labor division between husbands and wives is not only an indicator of gender roles inside families, but also a sign of gender ideology at the social level.

The labor division inside household has been explored through several different theoretical perspectives: (1) Becker's efficiency model; (2) time constraint theory; (3) relative power/resources theory; and (4) gender ideology/gender role theory (Beaujot 2000; Becker 1976; Becker 1981; Becker 1991; Chen 2005; South and Spitze 1994; Spitze and Ward 1995). According to Becker, efficient households should "have a pronounced division of labor among members (Becker 1991)." That is, a household is most productive when one spouse specialized in marketable skills and paid work; the other, in household work and unpaid work. The most common division of labor is that the wife specializes in domestic work, while the husband specializes in labor market activities (Thomas and Sawhill 2005). To some extent, the efficiency model is quite successful in explaining the income differences among men with different marital status (married men's salaries are higher than those not married) after controlling for work experience and education (Thomas and Sawhill 2005). However, this model is incapable of explaining variations in female labor force participation and the distribution of housework between husbands and wives even after controlling for time in paid work and earnings (Iversen and Rosenbluth 2006).

Time constraint theory considers whether husbands and wives have time available to do household chores and the differentials of time availability results in the household labor division between spouses. Both husbands and wives have different competing time commitments including working time and schedule, number of children and ages of children, and so on (Chen 2005). If one person spends more time on work, then s/he has no or less time for household work and this negative association between unpaid work time and paid work time for one spouse has been confirmed consistently in this research area. However, this theory is not completely applicable to the comparison between spouses' paid and unpaid work time. For instance, it cannot answer why mostly women and sometimes men have double burdens, spending more time on both paid and unpaid work than their spouse.

The relative resources theory refers to the effect of spouses' status or power in households on housework division. It argues that the status or power of a spouse inside households may be associated with his/her power in family decision-making, and such, affect the division of household work. So the division of household labor reflects husbands and wives' differences in the power or status inside families (South and Spitze 1994). Spouse with higher family power or status, which is commonly associated with educational achievement, earning power, occupational prestige or position, family background and so on does less housework. Otherwise, s/he does more. Spouses can achieve and maintain their household status or power by increasing their earning power and social status. Research finds that the labor market opportunities for women affect women's bargaining power within the family and as result, can explain much of the variation in the gender division of labor (Iversen and Rosenbluth 2006). Women's employment, for example, is an important factor to reduce wives' share in housework because of the associated economic independence and a sense of fulfillment (Chen 2005; Davis and Robinson 1991). Chen (2005) finds that when husband or wife switch from agricultural to non-agricultural job, s/he will reduce her/his share in housework.

The gender ideology/gender role theory talks about the influence of the social norms about the status of men and women in households and society on spouses' status or power inside families. Therefore, people with more egalitarian attitudes which relates to education level (Chen 2005). In societies where men receive higher social values, for instance, people would take for granted that wives do more housework and husbands do less or no housework. The gender ideology at the societal level may have large influence on individual gender ideology through socialization processes or. On the other hand, individual gender ideology may be affected by other factors, like personal experiences in households and society, educational achievement and so on (Chen 2005; Cunningham 2001; Shu 2004). For example, better-educated individuals hold more egalitarian attitudes and they are more likely to share an equal labor division in housework (Chen 2005; Shu 2004). Of course, gender roles both inside and outside the household are interrelated.

However, none of these theories can give us a good explanation of labour division within family which means these theories are complementary rather than competing ones (Chen 2005). To take advantages of each piece, in this research, we will use both status theory and time constraint theory to explain the differentials in housework between spouses in China. The status theory will explain whether husbands or wives have to do housework because of their relative household status or power and the time constraint theory predicts how time availability can explain the extent to which they do housework. We want to investigate whether the household labor division in reality is a compromise or balance between household status and time availability. The main research questions are (1) to determine how the household labor or unpaid work is divided between husbands and wives, and (2) how this division is influenced by factors like spouse's employment status or paid work, educational achievement, number of household members, age of respondents (cohort effect). This paper starts with a historical review of the change of gender ideology in China. Then we lay out the data and methodology used for analysis, which is followed by results and conclusion.

Social Context in Current China

Historically, China is a country with strong Confucian ideology initiated between 770-221 B.C. For a period of nearly twenty-five hundred years, this ideology dominated and characterized Chinese social institutions (Queen, Haberstein, and Adams 1961). One of the Confucian beliefs is that man is always superior to women in all regards. In all stages of life, women were subordinate to men ---- obeying fathers before being married, husband when married, and adult sons when widowed. This pattern of male domination extended well into the first half of the 20th century. Since the establishment of Communist China in 1949, the traditional Chinese family has been changed dramatically. Women's status both in family and society has been improved through protective laws and policies in labor market, as well as through increased opportunities in education and employment. China is a country that has communist political system, central planning and control of economic activities, and emphasizes on interpersonal harmony and family values. Work and family roles have become two prominent social roles for almost every adult. Before the economic reform in 1978, all work organization in China like factories, schools, and hospitals, were restructured into state and collective sectors so as to facilitate the central control of resources and the coordination of production activities. Job security is guaranteed for a lifetime. Job transfers were very difficult and rare if not possible because of the long complicated bureaucratic procedure. The gap in men's and women's role experience was diminished because of the active participation of women in labor force (Lai 1995; Zhang and Farley 1995; Zuo and Bian 2001). Chinese government tried to promote gender equality in both the work and family realms. Woman started to share the decision-making power and men started to share the burden of household work. In the mid-1970s, China appeared indeed to be a relatively egalitarian society (Walder 1989). However, the government focused only on the gender equality in labor force participation and no such reference in housework. Therefore, despite significant improvement in women's status in the labor market between 1949 and 1978, Chinese women were found to experience almost the same household burden (Walder 1989; Zuo and Bian 2001). Therefore, women encounter double burden of their performance of work and family roles: They are the primary caretakers of the family and spend much time on housework; and they are expected to be productive workers (Lai 1995).

Since the economic reforms of transforming the planned economy to a market-oriented economy, there are two competing trends affect the household labor division between husband and wife in China. One trend favors the traditional labor division inside households: husbands work outside and wives are the queens of household sector. Several factors reinforce this trend. Firstly, the public business and manufactures owned by state, provincial, and other local governments are replaced gradually by private ones with the social reforms. The central government diminished their roles in providing job security and welfare benefits. At the same time, the tenured positions in these organizations are replaced by contracted ones. All employees except those working in the public sectors face the risk of losing jobs and the majority of work force has the experience of being laid off. With no protection from the government, women are more likely to be laid off to cut costs for the work units or whenever there is a surplus labor force, comparing to men because of two reasons (Lu 1988). One is that women are less desirable worker because they may go on maternity leave and be the ones who are more likely to take time off to tend to children and family needs(Lee 2002). The other is the traditional belief that women are inferior compared to men in intelligence and productivity. Therefore, wives are more

likely to be laid off and less chance to be hired when they are competing jobs positions with men in the free labor market. Secondly, China's new economic model appeared to sanction greater inequalities in favor of men instead of women. With the end of collective agriculture, and the gradual expansion of the private sector in urban areas, China had entered a new era of increasing income inequality. In the rural areas, starting in the 1980s, male members of the household have monopolized income opportunities outside of villages. They "floated" in the urban or coastal areas to work for a much better salary than being a villager and females, on the other hand, have to stay in villages working on the farm and taking care of elderly and kids, resulting in an over representation of women in agricultural work, so called "feminization of agriculture" (Chen 2004). In the urban areas, there is also evidence of increasing dualism in the labor force, men working in the sector with higher salary and women working in the one with lower salary (Walder 1989). In addition, despite rapid social and economic changes the traditional gender ideology that is still predominant and to some extent has been revitalized by the new economic model in China (Bu and McKeen 2000; Lee 2002; Walder 1989; Zuo and Bian 2001). Based on a survey in Beijing in 1998, Zuo and Bian (2001) find that more women than men in their survey felt that men's role was primarily outside the home and women's inside and most wives did not expect husbands to share chores and some thought of it as under ambitious and "unmanly." Therefore, even though working wives have had more domestic responsibility than husbands, they have not expressed dissatisfaction. They are willing to sacrifice their own career for their husband's. Based on information of 20 professional women in Hong Kong, Lee (2002) find that many of the women felt as though no matter how successful they were in their careers that they had to have their priorities with the family to the point that they would leave their careers if it was felt that their participation in the workforce was in anyway infringing upon their responsibilities at home. In sum, gender inequality has been found to intensify with the economic reforms and the status of women will suffer further as a result of the economic reforms.

On the other hand, economic reforms offer Chinese more freedom and opportunities in both social and economic domains. For example, comparing to the period before the reforms, Chinese have more freedom to choose their own jobs in the labor market; they can move much more easily, for instance, from rural to urban areas, from small towns to large cities, from the inlands to the coastal areas. Therefore, women have much more chances to work outside households. Secondly, the rapid economic changes and incoming western culture with the open policy challenge the traditional values in China. The rapid rising of divorce rate in China actually signals the changes happening in conjugal area. Moreover, the increase of overall educational achievement with the economic change gives women more power to be independent economically and the capability to bargain in the household labor division with their counterparts on the one hand, and promote the gender equality ideology both inside and outside households on the other. Furthermore, the educated men have less traditional values and are more likely to share household chores and child care (Lu, Maume, and Bellas 2000). Finally, the decline in men's breadwinner status because of the increasing rates of unemployment and underemployment and the eroded foundations of the male dominance structure tends to promote egalitarian ideology among men (Zuo and Tang 2000). Therefore, from this point of view, both genders are moving in the direction of egalitarianism with the economic development (Ding 1992; Ma 1991).

Data and Methodology

The data used for the research are the China Health and Nutrition Survey (CHNS), an ongoing international collaborative project between the Carolina Population Center at the University of North Carolina at Chapel Hill, the National Institute of Nutrition and Food Safety, and the Chinese Center for Disease Control and Prevention. Started in 1989, CHNS current has seven panels in 1989, 1991, 1993, 1997, 2000, 2004, and 2006 respectively. The survey currently covers 9 provinces (Guangxi, Guizhou, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Liaoning, and Shandong) that vary substantially in geography, economic development, public resources, and health indicators. A multistage, random cluster process was used to draw the sample surveyed in each of the provinces. This research is using 1989 and 2006 CHNS which includes 3,795 and 4,468 households respectively. As the purpose of this research is to compare couple's time on household chores, we only use married couples with husbands aged 60 or younger and wives aged 55 or younger, considering the retirement age in China is 60 for men and 55 for women. The related sample size is 2883 in 1989 and 2409 in 2006 respectively.

In general, household chores are determined by basic housing facilities such as kitchen and running water, and limited availability of household service station and electrical household appliances. In the previous research on household labor division, the dependent variables are not exceptionally the absolute time spending on housework either by husband, wife, or the difference between them (Chen 2005; South and Spitze 1994; Spitze and Ward 1995). One big shortcoming of these measures is that they are mainly determined by some usually unobserved factor, so called "unobserved heterogeneity," such as the size and structure of the house, couple's preferences to the house's cleanness and tidiness, amount of furniture, the equipments of the kitchen, and so on, instead of by the demographic, social, and economic characteristics of respondents. These factors determine the amount of housework that the couples need to be done. In this research, we use the proportion (P) of husband's time on housework out of the summation of husband and wife's time on housework. So the dependent variable is the amount of housework done by the husband relative to his wife. By doing this, we can somehow control or standardize the total amount of housework that needs to be done in a specific household. To make sure the dependent variable is normally distributed, we apply logit transformation to it. So the final dependent variable in the model is $\log(P/(1-P))$. In it, P refers to the proportion of husband's time on housework. When P equals to 0, we set it to 0.000001; and when it is 1, we set it to 0.999999. Housework includes buying food, cooking, laundry, child care, and house maintenance. The covariates includes gender of household head, age of husband and age difference between husband and wife, education level (measured in total number of years of schooling) of husband and education difference between husband and wife, husband's work status, wife's work status, number of household members, residence type (rural/urban), husband's time on paid work and the time difference between husband and wife on paid work, the presence of children (especially children of preschool age, which tends to increase such demands). In the following section, we will display social changes from 1989 to 2006 in descriptive analysis, and then run a multilevel model with the Logit transformation of the husband's share of housework time as the dependent variable.

Results

1. Descriptive analysis

With the rapid economic development, 1.3 billion Chinese witnessed a dramatic social change in China. First, the family planning policy since the end of the 1970s rapidly reduced population growth in China. From table 1, we can see that the average household size declined from 4.2 in 1989 to 3.4 in 2006, which is almost a 20 percent decrease in 17 years. The reasons for the reduction of household size in China is, firstly, the family planning policy downsizes the family size by lowering the fertility rate which is indicated by the reduced proportion of household with 4 or more family members. The second reason is the increases of one- and two-person families, which indicate the delayed both marriage and childbearing. The proportion of one-person family increased more than 4 times, and that of two-person family increased 3 times during 1989 and 2006. The other explanation is that the young generation is more likely to live in a residence different from their parents with the changing social norms and lifestyle in China. One reason is that the young generation is far more likely to work in the newly established industries like IT or IT related companies which may be far away from those traditional industries where their parents used to work in. The other reason is that the young generation wants to have more freedom and individual privacy, particularly after marriage. Therefore, the traditional multigenerational families in China have gradually lost its favored position in current China. At the same time, the proportion of 3-person family is quite stable during the same period, accounting for a little more than one quarter of the total households. This must be caused by the “one couple, one child” policy in China: father, mother, and one son or daughter, the most typical family in China.

Gender differentials are changing with time in China (see table 2). Firstly, the incomes of both husbands and wives, measured in monthly salary, increased 12 times on average between 1989 and 2006 which is both an indicator and result of rapid economic development in China. However, the gender differences in income are quite constant with the income of husband being more than twice of that of wives', 2.5 times in 1989 and 2.3 times in 2006. No sign of shrinking income gender gap in China. Secondly, education level also increased for both husbands and wives in the past decades in China. On average, both husbands' and wives' education levels increased 0.7 years in an absolute value or more than 10% in a relative measure. However, the gender gap in education level is quite consistent with husbands' education achievement being two years higher than that of wives'. Thirdly, the employment rates of both husbands and wives are decreasing with economic reform in China because of the diminishing role of government in the security of job in the process of transforming the planned economy to the free-market one. Moreover, the gender gap in employment is increasing with time. This indicates the gender equality will not be realized by the free-market economy itself. The initial gender gaps in education and labor market may keep its own way or even be expanded if there are no interferences from other areas like social consciousness and socialization about gender roles in family and society. Income, education achievement, and employment status are three factors related to peoples' earning power and social economic status, which in turn, determine peoples' status in household. Through the above analysis, we can say that husbands have a better position than their counterparts in all these three aspects, and such, they may have a better position inside households. Fourthly, more than 90% of the household heads are male and this number increased slightly from 89.7 in 1989 to 91.8% in 2006. The household head usually has the highest position in the household. So the gender of household head suggests the relative status of husbands and wives inside families. If the gender of household head is male, it means husband has a higher

position or more power than his wife, and vice versa. Moreover, the gender of household head is an indicator of gender roles at the societal level. In the traditional society, for instance, husbands are more likely to become household head and vice versa. Therefore, male's dominant role in household head position tells us males still have higher status in most of the families, and China is becoming more traditional ideologically, though it is definitely more modernized economically.

Table 3 is a summary of couples' paid and unpaid time. Firstly, both husbands' and wives' paid and unpaid times are declining from 1989 to 2006, indicating people are spend less time on both career and house chores. One explanation is the rapid increase of service-oriented economy in China such as hourly-workers, food-delivery, and numerous breakfast services (Marshall 2006). For example, a lot of families do not cook breakfast, because it is cheap and very convenient to get from the nearby market. At the same time, the usage of electronic kitchen and laundry equipment with the rising of living standard helps reduce peoples' time on food cooking and clothes-washing. Moreover, attitudes toward housework standard and priorities in social life are also changing with economic reforms. It is possible that people spend more time on traveling and exercising instead of housework. Secondly, husbands do more paid work and less unpaid work. In terms of paid time, the gender gaps increased from 0.7 hour in 1997 to 0.8 hour in 2006. The gender gap in unpaid time shrank from 2.7 1997 to 2.2 in 2006. In terms of the proportions of husbands did in paid and unpaid work, during the past two decades, husband did a little more than half paid time (53%) but much less unpaid work comparing to their wives (18.7%). The share of husbands in paid work is quite stable and that in unpaid work has been increasing slowly from 17.7% in 1989 to 19.8% in 2006.

We divide the proportions of husband did in paid and unpaid work in three categories: less paid or unpaid work if the proportion is less than 40%; same paid or unpaid work if the proportion is between 40 and 60 percent; more paid or unpaid work if the proportion is more than 60%. The table 4 is the distribution of this new categorization in 1989 and 2006 surveys. We can see that husbands are more likely to be in the same paid category which means couples are more likely to share the paid work with time, i.e., the gender gap in paid work is somehow shrinking by using this measure. At the same time, more than three quarter husbands are doing less unpaid work and the bright sign is that this group is declining slowly with time. Moreover, the number of husbands in the more unpaid category is also shrinking from 8.2% in 1989 to 7.2% in 2006. So the only category with increasing numbers is the same unpaid one. The conclusion we can get is that husbands are trying to do the same amount of unpaid work as their wives, but not more. Combining with wives' increasing involvement in paid work, this situation suggests that women are more likely to have double burdens, more paid and unpaid work at the same time.

Based on the model used in Rod, Ravanera, and Liu (2008), we divide couples into five categories: **Complementary-traditional:** wife is doing more unpaid work and husband more paid work; **Complementary-gender-reversed:** husband is doing more unpaid work and wife more paid work; **Women's double burden:** wife is doing the same amount of, or more, paid work, and more unpaid work; **Men's double burden:** husband is doing the same amount of, or more, paid work, and more unpaid work; **Shared roles:** wife and husband doing the same amount of unpaid work. Table 5 is the distribution of the model type in 1989 and 2006. We can see that the traditional families (wives do more unpaid and less paid work) accounted for more

than one-fifth out of the total in 1989 and its share reduced to 17% in 2006. The gender-reversed and men's double burden are declining with time from 1.3% and 6.9% in 1989 to 1% and 6.3% in 2006 respectively. On the contrary, the women's double burden and shared roles categories are increasing from 58% and 12% in 1989 to 59% and 16% respectively. We may conclude that the general trend in China is that Chinese families are driven away from the traditional form and husbands are involved more in unpaid work with the social and economic changes. At the same time, however, women are more likely to have double burdens.

2. Multilevel analysis

In the proposed multilevel model, households are the level-one units and villages or districts are the level-2 units. To test the status and time constraint theories, all the covariates have been divided into three groups. The first group is the variables related to the status of husband and wife in family including gender of household head, residence of household, ages and husband and wife, income and education of husband and wife. Like I mentioned earlier, the household head usually has more power or higher status than its partner. The residence of household, rural or urban, suggests possible gender ideology at societal level. The rural areas are more likely to hold traditional gender ideology. Age is a trick factor. On the one hand, the older spouse is more likely to be respected from other family members, and such, more powerful in the household. On the other hand, however, the older the household head is, the more responsible he or she should be, and such, he or she may work more both inside and outside household. Income and education achievement are commonly used as measures of social-economic status both inside and outside family, as these factors suggest not only the spouses' current economic contributions to the household (income), but the potential contributions in the future as well (education level).

The second group of covariates is those variables that may limit spouses' available time for housework. The variable used in this research is the work status of husband and wife. We divide households into nine groups according to spouses' working status: both husband and wife working in public sectors, including government department, state service/institute, state-owned enterprise, and small and large collective enterprise; husband working in public sectors and wife working in the private sectors, including farming, private, individual enterprise, and three-capital enterprise; husband working in the private sectors and wife working in the public sector; both husband and wife working in the private sector; husband working the public sector and wife not working; husband working in the private sector and wife not working; husband not working and wife working in the public sector; husband not working and wife working in the private sector; both husband and wife not working, which is the reference group. The private sector mainly refers to farming which is the main job for those living in the rural areas. Regulations in public and private sectors are quite different and people in these sectors have different time flexibility and such, have different available time for housework.

The third group is the control variables, including survey years, number of household members, and whether household has children under six. The social and economic situations are changing rapidly in China and to include survey years in the model is to make sure the timing issue or the macro conditions are under control, i.e., the comparisons are made among households surveyed in the same year. The number of household members is highly correlated to the amount of possible housework on the one hand, and possible personnel working on household chores on the other. The presence of children under six years old at home will definitely increase the amount of house chores. Even though the child care is traditionally the duty of mothers', comparing to

those having no young kids at home, the presence of children under six will increase husbands' involvement in household chores too.

The results of multilevel model are shown in table 6 which includes three different models. In model 1, we only include those covariates related to the status of spouses'. From model 1, we can conclude, firstly, husbands are sharing more house chores if they are the household head. This is contrary to our prediction based on status theory. It seems, being household head, husband has more responsibilities and involves more in household chores. Secondly, the older the husbands, the more they are likely to take household chores, even though the age differences between spouses do not matter. This can also be explained by the increasing responsibility of husbands as they are aging. Thirdly, husbands living in the rural areas are sharing less household work comparing to their counterparts in the urban areas. This suggests that the traditional gender ideology is stronger in the rural areas compared to that in the urban areas. People living in the urban areas are more likely to access and accept western beliefs like gender equality through normal communication like TV programs and videos which are more accessible in the urban areas than those in the rural areas. Fourthly, husbands do less housework as their income increases no matter how large the income differences between them and their wives are. This can be understood as a balance between paid and unpaid work. That is, when husbands contribute more economically, they may have the excuses to do less housework. If a higher income is associated with more time on paid work, we can also find an answer from the time constraint theory, i.e., if husbands spend more time on paid work, they will have less time available for unpaid work. Fifthly, the more husbands are educated, the more they involve in unpaid work which contradicts to the status theory. The only explanation is that more-educated husbands have learned a stronger gender equality consciousness in the education process and such that, they are more willingly to share household chores with their wives. However, with the increase of educational differentials between husband and wife, husbands are doing less household chores. This should be explained by the time constraint theory. That is, the gap in education achievement between husband and wife may result in their differentials in economic contributions correspondingly.

The model 2 is to test the effects of covariates that may limit the spouses' time available for household chores. The comparisons are between husbands in groups listing in the model 2 column of table 6 and those in households both couples are not working. We can see that if both husband and wife working in the public sectors or mainly non-agricultural industries, husbands are doing more household chores comparing to those in the reference group. If husband works in the public sector and wife works in the private sector, husbands are doing less household chores. If the situation is opposite, i.e., husband works in the private sector and wife works in the public sector, husbands are doing more household chores. This suggests that jobs in the public sectors having somehow strict 9/5 schedules might be less flexible compared to jobs in the private sectors which are mainly agricultural works. In the current privately owned farming system in China, peasants work for themselves and have the control of working schedules. So when one partner works in the public sector and has limited time for household chores, the other has to do more unpaid work. If both husband and wife work in the private sectors, husbands are doing less household chores. This tells us when both husband and wife are available for housework, it is wife instead of husband who is more likely to take the responsibility. When wife has no job at all, no matter husband works in either the public sector or the private one, he will do less

household chores (both status and time constraint theories work here). According to Becker, that is the most efficient way of dividing labor inside family (Becker 1991). However, when the husband has no job and the wife is working, husband does not increase his share in household chores. Moreover, when wife works in the private sector, husband even does less housework compared to the reference group. It suggests that the time constraint theory may be only applicable in the urban area, but definitely not in the rural area where the traditional gender ideology is normally stronger. Furthermore, household chores traditionally are sort of “unmanly” work. Husband with no job refuses to do them in order to show other family members that he still has a high status in family. And that may be the only way to indicate his status.

In the final model, model 3, all covariates including control variables are tested. The effects of those status- and time constraint -related covariates do not change much, which suggest they are making independent contributions in explaining the variance of dependent variable --- the proportion of husband did in household chores. The only exception is that the difference between households where both husband and wife work in the private sectors and the reference group becomes non-significant. The possible reason is that in the final model the household residence status (rural or urban) has been included and it must have explained part of the variance that has been explained by the working status dummy variable in model 2. The effect of survey timing variable indicates that husbands in 2006 are doing less household chores compared to those in 1989 with all other covariates being controlled. This suggests that the gender gap in domestic work is increasing with time. There are several explanations in the previous research. One is that the renovation affected the structure of employment and occupational segregation by gender. More women than men have been laid off from state-sector jobs, and they have moved back into the informal sector and home-based work for their livelihood (Werner and Bélanger 2001). Men have gravitated towards waged work, which is more highly valued. Moreover, women work under more precarious conditions than men, and poverty is greater in households headed by women. This research indicates the employment rates for both men and women declined from 83% in 1989 to around 50% in 2006 (see table 2). And it is much more difficult for those being laid-off women than men to find a new job in the competitive labor market. The gender gap in labor market is also increasing with time (see table 2). So the time constraint theory is one explanation for husbands’ reducing share in the domestic labor. furthermore, with the privatization process in social and economic reforms, particularly in rural area, the households repositioned to its role of basic economic unit, which indicates that the economic success of a family relies on the cooperation and proper labor division within the family (Liu 2004; Werner 2001). Since men have better opportunities in the labor market than women, the labor division of husband working outside and wife working inside household is a natural and reasonable choice according to Becker (Becker 1991). In rural areas, the effects of industrialization and economic development have led to so-called “refeminization of agriculture” (Chen 2004; Werner 2001: 36). More and more rural men migrate to cities for higher salary jobs; women are left behind to work in the fields. Thus in both urban and rural areas, “women earn less income, hold fewer jobs, have fewer skill levels, and probably have fewer job opportunities than men” (Werner and Bélanger 2001). In addition, the reduced influence of Communism has permitted a return to more traditional and paternalistic attitudes toward women (Allen 1990; Werner 2001). The reassertion of patriarchal kinship ties in economic and political networks further reduces women’s political participation. Thus, the public sphere that provided women with jobs, public benefits, and political influence before renovation has shrunk.

With the increase of household members, husbands are doing less housework. Considering the strict family planning policy in China, the increase of household member mainly refers to the co-residence of parents which means an extended family, a quite common and traditional Chinese family and kinship organization, particularly in the rural area (Queen, Haberstein, and Adams 1961). Parents when they are living under the same roof can always give a hand in household chores and child care in particular. This research indicates that as the help from parents is available, it is always husbands who withdraw from household chores first. However, with the social and economic reforms in China, the conjugal tie has gradually replaced the parent-son relationship as the central axis of family relations in most households (Whyte 1992). The patriarchal extended family no longer holds true in current China (Yan 1997), not only because young generation prefers to live in a segregate place, but the mobile living style makes the co-residence of several generations impossible. Further, this research finds that the family size is shrinking with time (see table 1). Therefore, husbands' share in housework cannot be further reduced by this factor. The presence of children under six at home definitely increases husband's involvement in household chores because a large amount of work associated with young kids and wives may be not able to handle it alone.

Discussion and conclusion

This research is trying to understand the change of domestic labor division between spouses in China in the past two decades. For a long history, household chores have remained time-consuming and energy-demanding activities for the Chinese and wives have the primary responsibility for them. With the rapid social and economic changes in China since 1978, household chores have been reduced (see table 3) because of improved living standards such as the widely use of washing machine, efficient cooking facilities, increasing service industry, and so on. However, the gender difference in domestic labor continues to persist. This research tries to explain the gender gap in household chores by both status- and time constraint -related theory. The status-related theory states that the gender gap in domestic labor division is caused by the spouses' different statuses or power in family and society. This research proves that spouses' income and education level really matters in the labor division inside household.

The time constraint theory concerns the time available for household chores. This research finds that the working status and the flexibility of the job are important factors that affect the time for domestic labor. When both husband and wife are working, they are more likely to share the domestic labor as both of them have limited time for it. When one partner is working on a fixed schedule, the other with flexible working schedule or without job takes larger proportion of domestic labor. Because of the expanded gender gap in the labor market with the establishment of free-market in China, women suffered much more than men in job finding and one direct result of this situation is that women have to do more domestic labor instead. Based on this theory and currently social reality in China, we may conclude that the gender gap in labor division inside household may increase with time.

In sum, the achievement of status equality between men and women in the family is still in a transitional stage despite China's social and economic reforms (Xu 2005). Many women's lives are still influenced by the norms of a male-dominated culture to some degree. This research also indicates that both social and economic changes are all quite crucial to the change of gender roles

inside and outside of households. Economic changes may change cultural norms in a long run. But when the economy changes too fast, like the current situation in China, it takes a longer time for the cultural forms to adapt to the newer social reality, i.e., individual attitudes and behaviours may be left much behind of the economic development. At societal level, Whyte (1992) finds two dominant trends in the Chinese family. One is the stereotype of “Tradition-restoring”, which refers to “the re-emergence of the family as a production unit creates new incentives to delay family division and thus leads to larger and more complex households” and the other is “modernizing”, referring to “nonagricultural employment opportunities created by the reforms and these new opportunities lead to a continual shift away from the traditional family structure and values.” The first trend mainly refers to the family changes in the rural area where the family is becoming more traditional, and the second one in the urban area where it is more modernized. This explains why the labor divisions in household work are quite different in rural and urban areas.

It is also interesting to note that the role of women in the West has undergone a similar transition and in so doing has experienced many of the same problems as China. Women in the United States for example began joining the paid work force after WWII. Much in the same way as China, the role of women changed outside the home but there was very little change about the expectations within the home. In both countries this has led to what is often referred to as the “double burden” or the “double work day” (Shelton and John 1996). This means that women are expected to work full time outside the home performing paid labor and are also expected to work full time in the home performing the bulk, if not all of the domestic duties. Some studies (Lee 2002; Haw 1982) show that these expectations can leave women fatigued, frustrated, emotionally distressed, with a sense of guilt and in some cases can lead to health problems. A comparative research between United States and China by Zhang and Farley (1995) suggests that the division of household labor along gender lines is very similar in both countries and that they both tend to rely on traditional gender roles.

The combination of status and time constraint theory works very well in the current research project. However, the covariates included in the multivariate model all together only explain a small proportion of the variance of the labor division inside household. Future research needs to incorporate more theoretical perspectives on the one hand, and add more macro level covariates on the other, such as economic development levels, social structure, and local labor market situations. This is because, accompanying the rapid economic growth in China, there are increasing social differentiation and widening regional gaps. China is becoming a much more heterogeneous society, with individuals now displaying widely divergent patterns of incomes, attitudes, values, and behavior.

Table 1. The average household size in 1989 and 2006 in China

HH size	1989	2006
1	1.6	6.6
2	8.0	24.4
3	25.3	26.8
4	28.7	21.9
5	18.7	11.4
6	10.3	5.0
7	7.5	4.0
Average HH size	4.2	3.4
Number of cases	3793	4468

Table 2. Demographic characteristics of husbands and wives used in 1989 and 2006 in China

	1989	2006
Income of husband (M)	127	1461
Income of wife	51	622
Income difference	76	839
Education level of husband	6.8	7.5
Education level of wife	4.8	5.5
Education difference	2.0	2.0
Employment rate of husband	86.5	54.3
Employment rate of wife	83.4	49.9
Employment difference	3.1	4.4
Gender of head		
Male	89.7%	91.8%
Female	10.3%	8.2%
Number of cases	3422	3232

Table 3. Husband's and wife's paid and unpaid time in 1989 and 2006 in China

	1989	2006
Husband's paid time	6.6	4.2
Wife's paid time	5.9	3.4
Paid time difference	0.7	0.8
Husband's unpaid time	0.5	0.5
Wife's unpaid time	2.7	2.2
Unpaid time difference	-2.2	-1.7
Prop of H's paid time	53.5	53.2
Prop of H's unpaid time	17.7	19.8
Number of cases	3422	3232

Table 4. The proportions of paid and unpaid work did by husband in 1989 and 2006 in China

Husbands did	1989	2006
Less paid	14.1	13.6
Same paid	61.3	65.1
More paid	24.6	21.3
Less unpaid	79.6	76.4
Same unpaid	12.2	16.4
More unpaid	8.2	7.2
Number of cases	3422	3232

Table 5. Model type in 1989 and 2006 in China

Model type	1989	2006
Traditional	21.6	17.1
Gender-reversed	1.3	1.0
Men's double burden	6.9	6.3
Women's double burden	58.0	59.3
Shared roles	12.2	16.4
Number of cases	3422	3232

Table 6. Determinants of men's proportion of housework in 1989 and 2006, China

Level-1 variables	Models 1	Model 2	Model 3
Intercept	-12.88***	-12.03***	-12.71***
Status variables			
Gender of HH head	0.732**		0.700*
Age of husband	0.006***		0.022*
Age difference b/w couples	-0.018		-0.004
Husband's income (in 1,000 ¥)	-0.103**		-0.107**
Income difference (in 1,000 ¥)	0.019		0.026
Education of H (in years)	0.103***		0.092***
Educational difference (in years)	-0.037		-0.018
Time constraint variables			
Both work in the public sectors		0.628*	0.433
Husband works in the public and wife works in the private		-0.672*	-0.671*
Husband works in the private and wife works in the public		1.445*	1.330*
Both husband and wife working in the private sectors		-0.387	-0.444
Husband working in public and wife not working		-0.668*	-0.767*
Husband working in private and wife not working		-0.532	-0.577
Husband not working and wife working in public		0.244	0.230
Husband nor working and wife working in private		-0.935*	-0.925*
Control variables			
Number of HH members			-0.122**
Presence of children under 6 (no=0)			2.084***
Level-2 variables			
Residence (rural=0)	1.578***	1.363***	1.363***
Survey time (1989=0)			
2006	-0.693**	-0.569*	-0.689*
Education level at commune level	0.116***	0.123***	0.082**
Variance components			
Level-1(explained R-square)	32.42 (3.8%)	32.42 (3.6%)	32.08 (5.1%)
Level-2 (explained R-square)	4.95 (16.3%)	5.01 (15.7%)	4.76 (18.9%)
Deviance	51743	51704	51639

Notes: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$.

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