

Does Taiwan have a Gender Revolution? Assessment Based on Gender Role Attitude, Housework Division and Marriage Matching

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The second demographic transition theory believes that social values have undergone fundamental changes, less marriage and lower fertility have become the norm in postmodern society. However, from a family perspective, Taiwan does not have a "second demographic transition" (Yang et al. 2012). The traditional values of marriage and childbearing, two key factors of family formation, are still quite strong, echoing McDonald's (2000) Gender Equity theory. In addition, the "gender revolution" theory suggests that the past demographic transition is the first wave of the gender revolution, starting with women entering the male world (the job market). The future demographic transition will be the second wave of the gender revolution, with men gradually entering the world of women (housework). With the second wave of the gender revolution, marriage and fertility rates will gradually increase (Goldscheider et al. 2015). The purpose of this study is to explore whether Taiwan's marriage rate and fertility rate may rebound in the future as predicted by the gender revolution theory. Assessments based on gender role attitude, housework division, and marriage matching are employed. There are three main findings. First, the attitudes of gender roles are generally more egalitarian, but men's progress is slower than women's. Therefore, the egalitarian gap between men and women is greater than before. Second, among married couples, the husband puts more time into housework, but the wife still bears greater responsibility. Third, before the millennium, the proportion of men married to women with higher education levels than themselves increased, but with the expansion of higher education, the proportion of this marriage matching model gradually decreased. All of the above signs indicate that Taiwan has not yet embarked on the path of the second wave of gender revolution. The rebound in marriage and fertility rates in Taiwan is not optimistic.

Keywords: Gender role attitude, Housework division, Marriage matching, Second gender revolution.

Introduction

The past 30 years have brought great changes in the marriage and fertility behaviors of Taiwan. According to data from the Taiwan Ministry of the Interior, Dept. of Household Registration, from 1987 to 2017, the proportion of never married men in the 30-34 age cohort increased from 18.6% to 60.5% (Figure 1A); the proportion of never married women increased from 10.7% to 44.0% (Figure

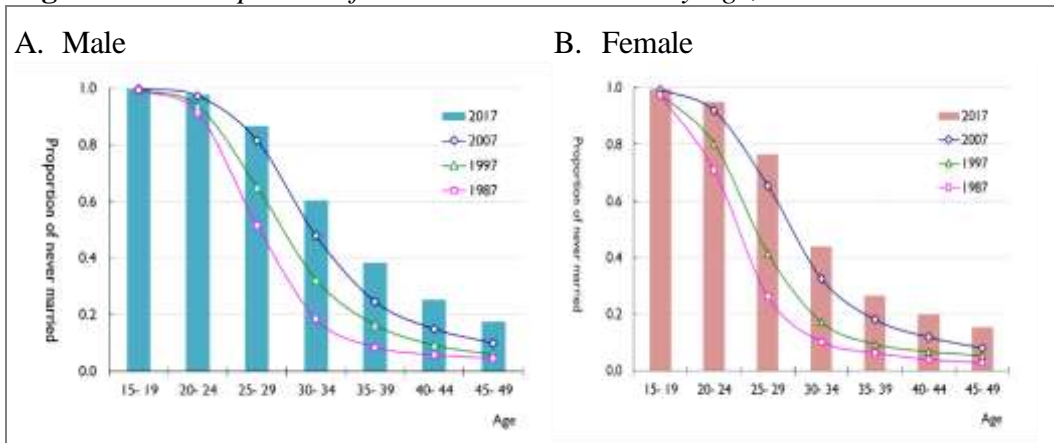
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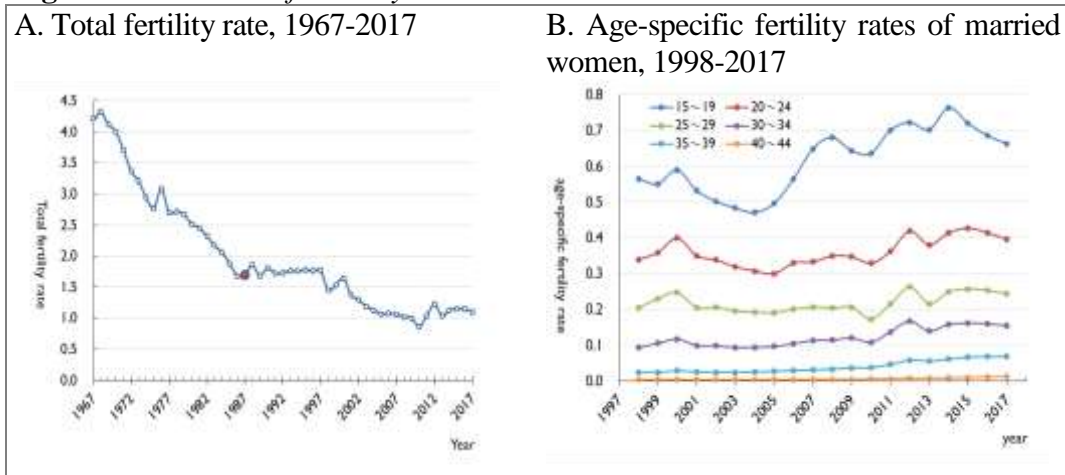
1B). In 2017, the average first marriage age for both genders is over 30 years old (males 34.5 years old, females 31.7 years old). As fertility is closely connected to marriage and non-marital births have never reached over 5%, there is a subsequent decrease in fertility rates. From 1987 to 2017, the total fertility rates decreased from 1.7 to 1.13 (Figure 2A); however, the fertility rates of married women showed no decrease (Figure 2B). Thus, the decrease in fertility rates is mainly due to the drop in marriage rates.

Figure 1. *The Proportion of Never Married Persons by Age, 1987-2017*



Source: Department of Household Registration, Ministry of Interior. <https://www.ris.gov.tw/app/portal/346>

Figure 2. *The Trend of Fertility Rates in Taiwan*



Note: Before 1998, the data of married women did not include foreign mothers, but the fertility rate included all birth regardless of mothers' nationality; thus the fertility rates of married women before 1998 is generally overestimated. The figure only lists the fertility rates of married women after 1998.
 Source: Department of Household Registration, Ministry of Interior. <https://www.ris.gov.tw/app/portal/346>

Why do marriage rates decline? Is it because youth have no intention of marrying, or because they cannot get married? Cheng and Hsu (2019) utilize the data from the 2013 Survey on Women's Marriage, Fertility, and Employment, and

point out that over 90% of single women under 30 years old have the intention of getting married at some point. When women reach 40-44 years-old, only 40% remains anticipative to marriage. Contrasting to common belief, the women with higher education level also have a higher intention to marry. However, why are they still not getting married? Regardless of age and education level, about 60% of women feel that "they have not met someone suitable." Other reasons may vary according to their age cohort: for the 25 to 39 year-olds, it is due to financial issues; 40 to 49 year-olds, age issue. In other words, women still yearn for marriage, but rather stay single than marry someone who is not suitable.

Individuals in Taiwan remained single, yet cohabitation and non-marital birth rates have not increased. In 2010, the proportion of cohabitation in the 20 to 34 years-old age cohort is merely 4.0% (Yang 2013). Non-marital births have never reached over 5% (Taiwan Ministry of the Interior Dept. of Household Registration, 2018), and there is no fundamental change to the family structures. The majority of the families remained "traditional," that is, living with spouses, children, or parents; the proportion of non-traditional family structures (including single parent, skipped-generation, extended family, and living alone) is less than 16% (Yang et al. 2012). However, premarital sex behaviors have become more common. A longitudinal study focusing on fifth grade junior college students (about 20 years old) shows that in 1988, the proportions of men and women who had sex experience are 25.6% and 4.5% respectively; in 2007, the proportions increased to 30.9% and 28.7% respectively (Yen et al. 2009). The survey conducted in 2014 targeting students in higher education (about 18-22 years old) also reveals the proportion of men and women who had sex experience to be 45.7% and 34.2% respectively (Yen 2016).

On the factors influencing the decline of marriage rates and fertility, Family Economics (Becker 1973, 1974) suggest that with the rise of females' education level, participation in the workforce, and income, the gender roles are no longer definite; marriage may no longer maximize the persons' well-being and efficiency, which thus leads to the decline of marriage rates and fertility. Near the end of the 1980s, Europe not only experienced the decline of marriage rates, but also the transformation in family structure formation (through marriage, cohabitation, and birth) and dissolution (through divorce, separation, children leaving home, and death) mechanisms. Hence, the diversity of family structures has been highlighted.

Lesthaeghe (1991) and Van de Kaa (1987) propose the Second Demographic Transition (SDT) to emphasize the transition in familial values. SDT suggests that the familial value held in the past is the bourgeois family model, with the majority of people maintaining the traditional core value of family which emphasizes couple relationships and parenthood; the family model valued now is the individualistic family model which encourages people to look for individual lifestyle and personal identity, leading to more cohabitation, delayed childbearing, higher birthrate outside of marriage, and union disruption.

Although family economics stresses the transition of roles in marriage's exchange gain and SDT emphasizes the transition of belief in familial values, both theories predict similar futures: decreased marriage, decreased fertility, and unstable relationships. The prediction received support from numerous studies

(Lesthaeghe 2010); yet, Esping-Andersen and Billari (2015) state that many signs indicate there is little change in the familial values, but a gap exists between the ideal and reality. If the society can help spouse (or partners) maintain a balance between family and work, marriage (cohabitation) rates and fertility would increase. In other words, the transition of marriage and fertility rates comprises multiple equilibrium dynamics and is not necessarily a unidirectional and irrevocable decrement. Besides, Goldscheider et al. (2015) propose the theory of Gender Revolution, with the first wave of gender revolution being females entering the male world (workforce), the second wave of gender revolution being males entering the female world (the housework field). With the commencement of the second wave of the gender revolution, marriage rates and fertility will gradually increase; countries in Northern Europe can be seen as examples of the second wave of gender revolution. The trend may have also spread to other developed countries.

Taiwan seems to fit well with the scene depicted by SDT. However, no substantial increase in cohabitation or non-marital birth is observed after the drop in the marriage rate. There is no fundamental change to the family structures. Therefore, looking from the angle of families, Taiwan does not experience SDT; in terms of the two key factors of family, marriage and fertility, Taiwan seems to retain a firm traditional value. The current situation in Taiwan corresponds more to McDonald's (2000) Gender Equity Theory, which refers to the conflict in the pace of development between gender equity in individual-oriented social institutions and family-oriented social institutions.²

If Taiwan's marriage and fertility rates dropped rapidly because the development of gender equity in family-oriented social institutions lagged behind the development of gender equity in individual-oriented social institutions, what can be done to allow the development in family-oriented social institutions to catch up? The balance between work and family has always been the focal issue of policy response in countries attempting to cease the constant decrease in fertility. But the problem with the balance has always been set on females. The second wave of gender revolution theory provides the perspective of males entering the family, underscoring social policies that loosen the traditional gender roles and hierarchy. This study will introduce the theories of gender equity and gender revolution and discuss the potential and limitation of the second wave of gender revolution in Taiwan through the change in Taiwan's spousal housework division and trend in males marrying females with higher socio-economic status.

Literature Review

The second wave of gender revolution can be seen as the extension of McDonald's (2000) Gender Equity Theory; the following subsections will

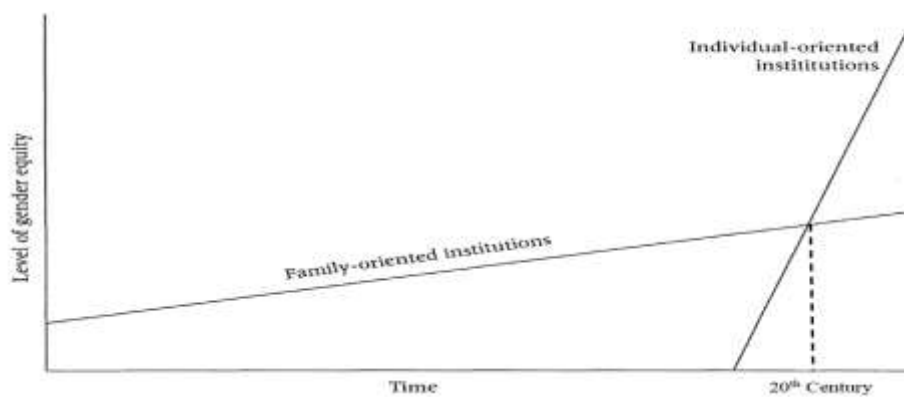
²Although McDonald (2000) mainly discussed the mechanism behind very low fertility, the theory is also appropriate for the discussion of the decline of marriage rates, as Taiwan has very low rates of non-marital birth, and the new decrease of fertility after 1997 is due to the decrease in the proportion of married couples.

elucidate the Gender Equity Theory and the Second Gender Revolution in detail.

Gender Equity Theory

McDonald (2000) divided gender equity into gender equity in individual-oriented institutions (e.g. access to vote, education, job market) and gender equity in family-oriented institutions (e.g. inheritance, fertility decisions, housework divisions). Figure 3 shows the transition trend of gender equity in individual-oriented institutions and in family-oriented institutions. Although gender equity in family-oriented institutions initiated earlier, it showed slow progress while gender equity in individual-oriented institutions started later but developed rapidly. The women's rights movement originated in the 18th century; however, only until the 20th century did the movement focus on women's suffrage, civil rights, and social rights. Though the women's rights movement has reached some success in education and employment in the earlier stages, women were still seen as the subordinates. After World War II, the gender gap rapidly narrowed in political, economic, and social aspects. On the other hand, gender equity in family-oriented institutions initiated earlier (e.g. monogamy and inheritance), but its development speed and effect are gradual. The invention of birth control pills in the 1960s is an important milestone which allows females to have autonomous fertility control. Yet, the effect of fertility control mainly facilitated the progress of females in employment and education, which enhances women's financial autonomy; fertility control did not emancipate women from traditional gender roles in the family (Brines 1993, Marini and Shelton 1993, Ishii-Kuntz 1994, Lee et al. 2000, Tsai 2004, Tang 2005, Lu and Yi 2005, Hsiao 2005, Chang and Li 2007, Chien and Yi 2012). Until today, most women are still the main caregiver of housework and childbearing (Altintas and Sullivan 2016).

Figure 3. Representation of the Progress of Gender Equity over Time



Source: Adapted from McDonald 2000: 435.

McDonald (2000) suggests that when the gap between the development of gender equity in individual-oriented institutions and in family-oriented institutions widens, there will be a greater drop in marriage rates and fertility. As women's development in individual-oriented institutions catches up to men, the imbalance

in the reward from employment and from home enlarges if there is only limited progress in the gender equity in family-oriented institutions and no adjustment in social institutions according to females' shift of roles. The imbalance brings a negative impact on marriage and fertility. To overturn the very low fertility rates, children's social value and the social responsibility to childbearing should be recognized. The public sector should promote measures such as equal pay for equal work, wages for housework, paternity leave to enhance the development of gender equity in family-oriented institutions. In other words, social policies can allow gender equity in family-oriented institutions to progress faster and be in balance with gender equity in individual-oriented institutions, which may cease the further decrement of fertility.

Ono's (2003) study focuses on Japan, the U.S., and Sweden, which represents high, mid, and low degrees of gender role differentiation. The findings show that women's higher levels of income encourage first marriage formation in the U.S. and Sweden, but discourage first marriage formation in Japan. The findings suggest that when society assumes the belief that men should engage in full-time labor market work and women should devote their time to housework, there will be more conflict between females' family and employment after they join the labor market. Japanese women may not have higher financial gain than American or Swedish women in employment, but face more loss in marriage because they will be expected to bear more family responsibilities. In addition, societies with high degrees of gender role differentiation mostly find non-marital births unacceptable, and thus fertility drops with the decrement of marriage rates.

A recent study shows that the socio-economic status (education level and income) of Japanese women demonstrate a positive correlation with marriage behavior (Fukuda 2013); since the 21st Century, Taiwan experiences the similar trend that women with higher education level demonstrate higher marriage behavior. However, this phenomenon is not because of the rise of marriage rates but echoes Korea (Park and Smits 2005) in the faster decline of marriage rates among females with lower socio-economic status (Cheng 2014).

Gender Revolution

McDonald (2000) stresses that the Gender Equity Theory is applied in cross-national comparison in below-replacement fertility countries, yet there may be data in the same timeframe with higher gender equity in family-oriented institutions but still low fertility. Hofferth and Goldscheider (2010) indicate that recent individual data in developed countries have shown rises in the marriage and childbearing rates of females with better socio-economic status; the stability of marriage is also enhanced (lower divorce rates). The phenomenon implies that gender equity in family-oriented institutions has started to catch up. Goldscheider et al. (2015) mentioned that the key to the development is the participation of men in housework and propose the theory of Gender Revolution, with the first wave of the revolution being women entering the world of men (labor market) and the second wave being men entering the world of women (housework).

In the first wave of the gender revolution, females (including mothers of young children) extensively entered the labor market, which was originally the male world. The women's entry into the labor market reduced the attractiveness of families; women were expected to bear more responsibilities in providing for the family but only received little emancipation from housework. For women, family and employment seems to be on two ends of the balance and can only pursue the success of one end. Also, family life faces more challenges after women enter the labor market and the potential for conflicts increased. For instance, should women leave the labor market after childbearing? Or should women return to the labor market after their children go to school? If the women leave the labor market, the family will have to deal with reduced financial resources; if the women return to the labor market, they will need to burn the candle at both ends to handle both work and family; if the women do not return to the labor market, they will need to cope with empty nest syndrome after their children leave home. These challenges or problems lead to conflicts and increase the probability of divorce. With the problem of extramarital affairs, men and women became more reluctant to the concept of marriage which implies a lifelong vow. Never married individuals, cohabitation, and nonmarital births have become common and formed the phenomenon described in SDT. However, was the transition elicited by the change in values (e.g. placing emphasis on individual recreation and consumption rather than parenting)? Or did women's entry into the labor market evoke the structural movement in gender relationships and both genders have not found a solution to satisfy the expectations of one and others?

The second wave of gender revolution refers to men entering the world of women (housework). Data have shown that there has been a constant increase in the frequency and time of males participating in housework, including childrearing and other ubiquitous housework, especially among youth with higher education levels (Aassve et al. 2015, Sullivan et al. 2014). However, the trend is only very recent. Why did the females' participation in the labor market rise rapidly in the 1960s, but males' participation in housework not increase until recently? Goldscheider et al. (2015) propose three possible reasons: (1) Traditionally, housework was more "unmanly" than employment was "unwomanly;" (2) Although the education for women was unintended for preparing them for employment, women's education initiated 100 years preceding their participation in employment. Women were more prepared to enter the labor market than men to enter the domestic world until the system of paid parental leave; (3) with the change in industry structures and labor market, the two incomes from both spouse have become an important strategy to maintain family finance; when women's employment and income is necessary for the family, women have more token to persuade men into sharing housework. With the two-income families becoming a norm, it is not odd for men to participate in housework.

Therefore, the Gender Revolution differs from SDT in that it suggests low marriage rates, low fertility, high union dissolution, and diversified family are not results from the transition of perceptions and values. They are changes elicited from the structural power shift of gender relationship changes. Firstly,

married women enter the public realm of the economy and become co-breadwinners; ultimately, men enter the private realm of the family to be co-nurturers. When the gender revolution enters the second phase, the turnabout of fertility and marriage stability is expected. The recent attitude on gender roles and the shift of males' participation in the housework are key components of the positive expectation. Research has shown that men with higher education levels tend to possess more awareness of gender equity, and devote more time in childrearing (Esping-Andersen 2009, García-Manglano et al. 2015); mothers with higher education level can cultivate mature daughters with higher gender equity awareness (Thornton and Young-DeMarco 2001) and sons can learn the concept of shared housework through the demonstration of their parents. In addition, when wives spend more time working, husbands spend more time on housework (Gershuny et al. 2005). The time men spend on childrearing is not influenced by the amount of time they spend working, but by their attitude on gender roles (McGill 2014). However, housework still mainly remained the responsibility of wives (Altintas and Sullivan 2016).

Summary

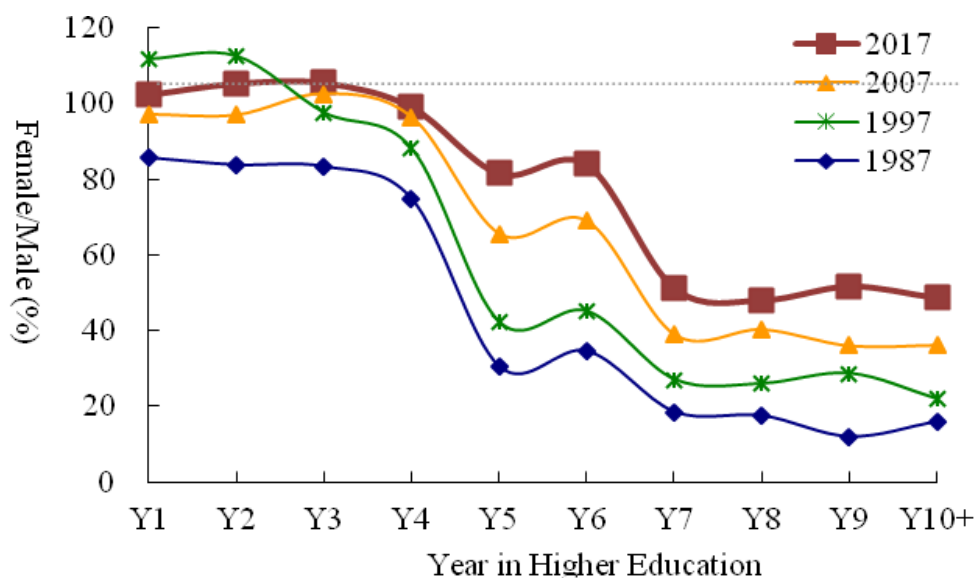
If unmarried individuals aspire to get married and bear children, the marriage rate and fertility rate can rebound. It is thus crucial to reduce the cost of marriage and childbearing. Males' participation in housework is one possible solution in reducing direct cost and opportunity cost. Once men participate in housework, there can be a more even division of housework, which reduces the stress of women in finding the balance between family and employment. When housework is for everyone and not only for women, it will be easier to enforce social policies that reduce the direct cost of childbearing and childrearing. The second wave of gender revolution addresses the possibility of men entering the family; in addition to the rebound of marriage rates and fertility rates, the theory implies the possibility of women becoming the sole breadwinner and men becoming the caregiver in the family. Housework is to be divided through specialization instead of gender division, which emancipates traditional gender roles and hierarchies. In other words, men can also have diversified life and career development like women in developed countries (Hakim 2003).

Taiwan's Development of the Second Gender Revolution: Opportunities and Limits

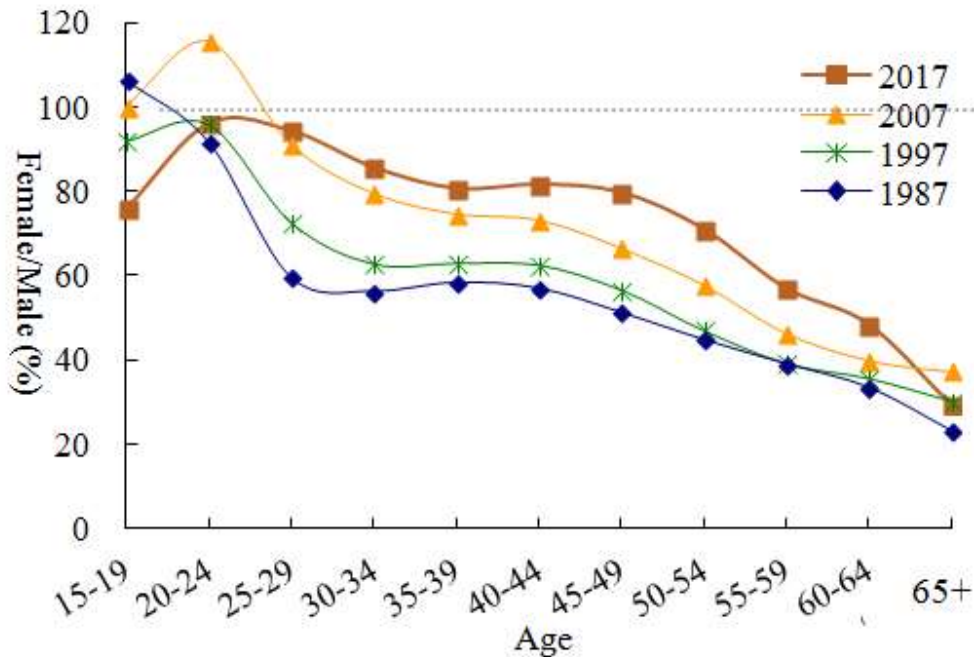
Taiwan's gender differences in the education level and the proportion of participation in the labor market in the past three decades are portrayed in Figure 4 and Figure 5. The vertical axis in Figure 4 is the ratio of the number of women in specific year of higher education divided by the number of men in the same year of higher education. The horizontal axis labels First year in university or college as Y1; Second year as Y2, and so on. Fifth-year in university and First year in Master's degree is combined as Y5; the Second year in Masters

as Y6. Third-year in Masters and First year in Ph.D. is combined as Y7. Those who studied more than four years in Ph.D. is labeled as Y10+. The figures reveal that Taiwan is still undergoing the first wave of gender revolution. The number of males and females in university or college has little differentiation; though there is still a gap between genders in graduate institutes, the numbers are steadily getting closer. The vertical axis in Figure 5 is the ratio of the age-specific labor force participation rate of women divided by the corresponding rate of men in the same age. The horizontal axis shows the age cohort by 5 years. As there is no differentiation in the access to university between genders, the previous phenomenon of higher labor participation rate of young women than that of men has diminished. In 2017, the age-specific labor participation rate of women under 50 years old has reached over 80% of the labor participation rate of men of the same age. The development trend can be seen as the prerequisite condition for cultivating the second wave of gender revolution. However, past research has shown that Taiwan does not demonstrate the phenomenon of SDT from the perspective of families. Therefore, to predict the development of Taiwan's second wave of the gender revolution, the perspective of family values is also fundamental.

Figure 4. *The Sex Ratio of Higher Education Students in Taiwan*



Source: Department of Statistics, Taiwan Ministry of Education. <https://depart.moe.edu.tw/ED4500/cp.aspx?n=1B58E0B736635285&>

Figure 5. The Sex Ratio of Age-Specific Labor Participation Rate in Taiwan

Source: National Statistics, Directorate-General of Budget, Accounting, and Statistics, Executive Yuan, Taiwan. <https://www.stat.gov.tw/ct.asp?xItem=32985&CtNode=4944&mp=4>

This study observes Taiwan's family value and potential of the second gender revolution from three aspects which reflects attitude, practice, and social support:

1. Gender differences in the attitude shift on gender roles: The society as a whole is expected to have a more tolerating attitude towards gender roles, but if males lag behind females on the shift of attitude, the gap between genders widens and can discourage family formation and persistence. If the gap diminishes gradually, it may spur the second wave of gender revolution.
2. The change in time and content of housework division: It is expected that there will be more men spending more time in housework, yet the proportion of men becoming the main caregiver of housework should rise to reverse the traditional gender roles in housework division.
3. The potential of men "marrying-up": In Taiwan, marriage is about two families and not only two individuals. The female's family of orientation with higher socioeconomic status may still prefer the marriage model of homogamy or female hypergamy. The resistance for women marrying men with lower socioeconomic status implies hindrances to gender equity. If the marriage model of men marrying-up increases, there may be more opportunities to spark the second wave of gender revolution.

Gender Role Attitude

Lu (2011) elucidates the changes in Taiwan's attitude toward gender roles comprehensively. Lu's study employs two items from the *Taiwan Social Change*

Survey as indicators: "When women have a full-time job, it always undermines their family life" (Female employment impacts on family), and "It is the responsibility of the husband to be the breadwinner, and the wife to be the caregiver" (Gender role segregation). Although Lu's study only discussed the change within the decade of 1991-2001, many findings still worth highlighting:

1. In the decade, there is a significant increase in egalitarian attitudes toward gender roles but only about half of the shift resulted from the change in attitude from individuals in the same cohort. Much of the transition resulted from the alternation of generations, which implies **the change in attitude towards traditional gender roles is only gradual.**
2. Men demonstrated more shift towards egalitarian attitude regarding the impact of women's employment on the family. In 2001, men even became more supportive of married women's employment than women. However, on the attitude towards gender role segregation, women's shift towards non-traditional attitudes doubled that of men. **The proportion of men shifting to non-traditional attitude towards gender role segregation in 2001 is lower than the proportion of women in 1991.**
3. Women with higher education, higher social status, or employment tend to possess unconventional attitude. Women with Christianity religious beliefs tend to be more traditional. This shows that women's gender role attitude is more in concord with group value, such as social status, employment, and religion. The formation of women's gender role attitude is the result of the subtle influence through organizations' or society's social norm and group values (symbolic interactive theory). The most predictive indicators of men's gender role attitude are the employment status of their spouse and number of children, which reflects that **men's attitude is shaped more by their life situations (exchange theory) and thus is less related to social collective ideology.**

In order to gain more understanding on the gender differentiation in Taiwan's changes on gender role attitudes, this study also employed similar items from the 2000 and 2012 *Taiwan Social Change Surveys*³ for discussion: "When women have a full-time job, it always undermines their family life" (Female Employment Impacts), and "Husbands as the breadwinners and wives as the caregivers enhance harmony in the family" (Family Harmony). Other than the differentiation in time cohorts, this study also examines the trend of change through the generations. With the history and social change of Taiwan, this study divides the population into four generations by birth cohort: 1927-1955, 1956-1967, 1968-1980, and 1980-1992.⁴

³The *Taiwan Social Change Survey* is a national survey adopting Probability Proportional to Size (PPS) Sampling. The 2002 survey collected 1,983 complete responses, with a corrected response rate of 62%. The 2012 survey collected 2,072 complete responses, with a corrected response rate of 60%. This study analyzed data of married individuals in the age range of 20-65 years old. The data comprised of a total of 2,113 responses; the 2002 survey data included 1,107 responses and 2012 data consisted of 1,006 responses.

⁴When these four generations reach the age of 18, the years are 1945-73, 1974-85, 1986-97, 1998-2010 respectively. The first generation experienced Taiwan after the war and grew up in a more distressed environment. The second generation had the 9 year compulsory education and entered the workforce during Taiwan's top economy growth. The third generation faced

Table 1. Change of Gender Role Attitude (by Period and Birth Cohort)

Period/Cohort Role	Period			Birth Cohort			
	1991	2002	2012	1927~55	1956~67	1968~80	1980~92
Gender Attitude							
Female Employment Impacts							
Male	2.60	3.46	3.53	2.89	2.96	3.48	3.69
Female	2.61	3.58	3.62	2.89	3.08	3.58	3.85
Gender Differentiation	0.01	0.12	0.09	0.00	0.12	0.10	0.16
Family Harmony							
Male	2.59	2.77	3.07	2.45	2.83	3.07	3.36
Female	2.79	3.08	3.36	2.53	3.16	3.46	3.78
Gender Differentiation	0.20	0.31	0.29	0.08	0.33	0.39	0.42

Source: Taiwan Social Change Surveys (1991, 2002, and 2012)

Notes: Each item is rated with a five-point ordinal variable, the lower the value means more tending towards the traditional value on gender roles.

Table 1 shows that both genders have become more egalitarian towards the view on "Female Employment Impacts." A more drastic increase can be seen in the third generation (1968~80); recently, the scores are above 3.5 regardless of gender (total score = 5, the higher the score means more egalitarian attitude towards gender role attitudes). The majority feel female employment does not bring discord to family life. But gender differentiation seems to have become greater. On the item of "Family Harmony" with the question "Husbands as the breadwinners and wives as the caregivers enhance harmony in the family," although the scores demonstrate the trend of becoming more egalitarian, the average scores are lower than the "Female Employment Impacts" item among the generations or genders. The trend in the score implies that the support for female employment is due to the needs in reality and not because of the change in values. What's more, it is observed that the younger the generation, a greater the gender differentiation on the attitude of "Family Harmony." As union formation is usually from individuals of the same generation, further exploration of the potential gap and conflict on the perception of gender equity between different genders is important.

Housework Division

In Taiwan, although husbands have increased their participation in housework with the increase of wives' employment (Lai and Huang 1996, Xu and Lai 2002, Hsiao 2005) and the traditional concept of gender role is no longer the mainstream belief (Lee et al. 2000, Tang 2003, Lu and Yi 2005, Lu 2003), there still exists

the shift and challenges of Taiwan's politics and society in their youth. When the fourth generation entered the labor market, they experienced the recession of Taiwan's economy.

a gap between men's belief and action (Mo and Wang 1996, Mo 1997, Wang 1996). Also, men's participation in housework is highly selective; they tend to choose more pleasing caring activities, such as playing with children (Wang 1996), or occasional "men's housework," such as easy house maintenance (Chang and Li 2007, Chien and Yi 2012)

Considering the time spent in housework, Tsuya and Bumpass (1998) examine husbands' share of housework by "dividing husband's average hour spent on housework per week by total hours of housework done by both spouses." Tsuya and Bumpass' study finds that Japanese husbands share about 7% of the housework, and American husbands 21%. Under the same evaluation method, Taiwan's data in 1996 show that Taiwanese husbands share about 20% of total housework (Tsai 2004). The percentage of husbands who share no housework was 10%, 43%, 25% in the U.S., Japan, and Taiwan respectively.⁵ Wives with full-time employment have significantly heavier burden; for instance, a wife with full-time employment has about 2.2 times total workload (sum of hours spent on housework and on employment) than a wife with no employment.

Comparing the differences in Taiwan's housework division of first-wed couples in the 1970s and 1990s, Lu and Yi (2005) observed four types of housework division: husband in charge, wife in charge, both spouses in charge, and others in charge. Lu and Yi's study shows that husbands in 1990s demonstrated a significant increase in their participation in housework than husbands in 1970s. Husbands' proportions of engaging in grocery shopping and cooking meals increased from 6.4% to 15.8%; doing dishes increased from 8.9% to 19.7%; household cleaning increased from 15.9% to 30.7%; buying daily commodities increased from 19.7% to 36%. But in both periods, housework is still mainly done by wives.

Analyzing the data from the 2002 and 2012 *Taiwan Social Change Survey*, with the focus on the change between "Husband in Charge" and "Both Spouses in Charge," Table 2 shows that although the proportion of "Husband in Charge" increased exponentially, the absolute value remained low. Until 2012, the proportion of husbands in charge of housework is merely close to 10%. If the division "Both Spouses in Charge" is added, there is more significant growth. However, with the division added, till 2012, only the housework of the more recreational "Buying Daily Commodities" has over half the proportion of husband or both spouses in charge; wives still take responsibility in more than 60% of other housework, such as grocery shopping, doing laundry, and household cleaning.

⁵The data for Japan is from 1994, the U.S. from 1988, Taiwan from 1996.

Table 2. Proportion Change in Housework Division between "Husband in Charge" and "Both Spouses in Charge"

Housework / Year	Husband in Charge			Husband or Both Spouses in Charge		
	1991	2002	2012	1991	2002	2012
Buying Groceries and Cooking Meals	3.1	5.1	7.9	12.9	19.0	17.6
Doing the Laundry	2.8	7.1	10.2	12.0	22.9	25.8
Buying Daily Commodities	5.5	7.4	10.6	27.9	44.3	53.9
Childrearing	1.8	n.a.	n.a.	29.8	n.a.	n.a.
Household Cleaning	n.a.	6.2	9.5	n.a.	34.2	37.3

Source: Taiwan Social Change Surveys (1991, 2002, and 2012)

Notes: (1) n. a.: item unavailable in the year's survey; (2) Unit: %

Marriage Model of Men Marrying-Up

Homogamy and female hypergamy is the main marriage model in Taiwan (Tsai 1994, Tsay 1996). Yet, with the diminished differentiation of the education level or income between different genders, the space for the marriage model of female hypergamy is reduced. Therefore, three responses of assertive mating may arise: the increase of individuals never married, the increase in the proportion of homogamy, and the increase of exogamy of men marrying-up. The increase in individuals remaining single follows the previously stated trend. The recent changes in assortative marriage model are explored through three socioeconomic indicators: education level, age, and income. This study identifies the year (and not age) of women's first marriage, and divides the married women population into four groups of marriage cohort: 1970-1979, 1980-1989, 1990-2000, and 2000-2015. The data source is the *Survey on Women's Marriage, Fertility and Employment*⁶ from 1990, 1993, 2000, 2003, 2006, 2010, 2013, and 2016. The sample size analyzed included 75,819 couples.

The education level is categorized into 7 levels: "illiterate," "self-taught or elementary," "junior high school," "high school," "junior college," "university," and "graduate school." Each level is given the score 1 to 7 respectively. Men's education scores then subtracted women's scores. If the scores difference is 0, the marriage structure is seen as educational homogamy. As for the difference in age, this study directly subtracts wives' first marriage from husbands' first marriage age. The age differences are divided into 7 groups: "-10 years or more," "-9 to -5 years," "-4 to -1 year," "0 to 4 years," "5 to 9 years," "10 to 14 years," and "over 15 years." If the age difference is "0 to 4 years," the marriage structure is seen as age homogamy. For the variable of income, we categorized the "monthly income" of those who are "currently employed" into 7 categories: "less than \$6,000," "\$6,000 to \$9,000," "\$10,000 to \$19,999" "\$20,000 to

⁶The sample population of the *Survey on Women's Marriage, Fertility and Employment* included all households in Taiwan. The survey adopted Probability Proportional to Size (PPS) Sampling. Females over 15 years old in the household are the target participants. The sample size of each survey is about 20,000 households.

\$29,999," "\$30,000 to \$39,999," "\$40,000 to \$49,999," and "over \$50,000." The categories were given the score 2 to 8 respectively. At the same time, the score for women who are "currently unemployed" is 0; "unpaid homemakers" as 1. There are 9 income categories in total. The men's income scores then subtracted women's scores. If the scores difference is 0, the marriage structure is seen as income homogamy.

Table 3 categorizes the proportion of each indicators in the composition of the "men marrying-up" model. There is a significant increase in the marriage model of men marrying-up since the 1970s in any of the three indicators (education, age, or income). The increase is mainly due to the rise in the proportion of men marrying-up in terms of education levels, which has more than doubled since the 1970s. The proportion of men marrying-up in terms of age has shown some increase, but not as much as that of education levels. The proportion of men marrying-up in respect of income remained quite static. If two indicators were to be examined simultaneously, since the 1970s, the proportion of men marrying-up with any two indicators has increased from 1.47% to 4.77%. The marriage model with men marrying-up pertaining to two indicators is rare and has little possibility of breakthroughs. The proportion of men marrying-up with all three indicators is less than 0.1%, and is extremely rare. In sum, the marriage model of men marrying-up is not commonly accepted in the society, especially in terms of income, which shows stagnation in assortative mating.

Table 3. *Composition of the "Men Marrying-Up" Model at the Time of First Marriage*

Indicators (of Which Women Had Higher Level)/ Time of First Marriage	1970-1979	1980-1989	1990-1999	2000-2015
Single Indicator	16.35	20.93	23.25	25.10
Education Level	8.34	14.04	15.92	17.66
Age	6.61	6.60	7.86	9.25
Income	2.86	2.79	2.88	2.95
Dual Indicators	1.47	2.52	3.45	4.77
Education/Age	0.74	1.41	1.88	2.87
Education/Income	0.49	0.81	1.19	1.36
Income/Age	0.23	0.31	0.38	0.55
All Indicators	0.01	0.02	0.04	0.01

Source: *Survey on Women's Marriage, Fertility and Employment* (1990, 1993, 2000, 2003, 2006, 2010, 2013, and 2016). Notes: Unit: %

Conclusions

This study discusses the potential and limitations of Taiwan's onset on the second gender revolution through the shift in "gender role attitude," "housework

division," and "marriage model of men marrying-up." The preliminary results show: (1) The society's gender role attitude has become more egalitarian in general, but men advance slower than women; there exists an increase in the gap of gender role attitudes between different genders, which implies possible family conflicts. (2) The time men spend on housework has gradually increased; yet, the absolute value of men becoming the one in the family who is in charge of the housework is still low, reaching 10% at the most. There is no sign of reversing traditional gender roles. (3) The model of downward marriage pertaining to women or "men marrying up" only exists in the aspect of education level; downward marriage pertaining to women in terms of income is an insurmountable barrier. In addition, after the millennium, downward marriage pertaining to women in the aspect of education level also decreased. In other words, though Taiwan's gender equity has developed to be more egalitarian, the phenomena of the support for women's employment, men's participation in housework, and the acceptance for downward marriage pertaining to women all seem to fit the description of multiple equilibria dynamics. Taiwan still has not embarked on the path towards the second wave of gender revolution.

Similar trends can be found in East Asian countries. Raymo et al. (2015) review the trend of family and marriage transition in Japan, Korea, Taiwan, and China. They suggest that although East Asian countries demonstrate similar socio-economic transition to Western countries, there has been little change in the essence and value of marriage and family, including: the strong bond between marriage and fertility (forbid extramarital birth and encourage birth as early as possible after marriage), the imbalance of gender roles after marriage, the demand on mothers' highly intensified time devotion, the firmness in status of homogamy and female hypergamy, and the tradition and support of multigenerational households. The anticipation of marrying and building families has also remained substantial; it is rare for unmarried individuals to decline marriage or fertility and most would wish for marriage and a family with two children (Atoh 2001, Retherford and Ogawa 2006, Yang and Rosenblatt 2007, Chang and Lee 2001). However, the direct cost (especially the cost of education) and opportunity cost (women's career development) of childrearing may be too high for the individuals to meet their expectation.

Though Taiwan has not commenced on the path predicted by the second wave of the gender revolution, the development implied by the Gender Revolution Theory is still a goal that is worthy of pursuing. In 2008, Taiwan's new Population Policy White Paper stated the expectation that "the total fertility rate will rebound back to 1.6 in 2015." However, there is no sign of a rebound in fertility rates, and the proportion of never married persons continues to increase. The contents of the white paper have dynamically adjusted until 2013 (Taiwan Ministry of the Interior 2013). The new practices for establishing childbirth-friendly environments included: providing financial support for childrearing families, enhancing childcare service systems, improving maternity leave and childrearing leave without pay, enhancing childbirth health systems, increasing chances of marriage, and promoting the value of children as public goods. Yet, there are limited policy or practices on encouraging men to enter the household (e.g. paternal leave).

Till now, though women are more suppressed than men, society provides more support for women to develop their own stage in their career. While encouraging and accepting women's gradual enhancement and development in individual-oriented institutions, social recognition and expectation placed on men still remained in the success of their career. The traditional expectation neglects men's potential of entering the family and becoming excellent caregivers and is discouraging to the development of gender equity in family-oriented institutions. Besides, on the aspect of diversified life development, men are relatively in the minority. Thus, Hakim's (2003) concept of women's lifestyle patterns may become a reference to encourage and accept men's development of diversified life goals.

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