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Female Labour Force Participation in Korea: Past Trends and Main Determinants

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Chapter 1

Introduction

1 Introduction

Korea has seen women's participation in economic activities continuously increase in the process of industrialization. Yet, it still lags far behind northern European and Anglo-American countries.[1] With regard to employment rate of women aged between 15 and 64, Korea marked 53.1% in 2011, trailing behind the OECD average of 56.7%, let alone northern European states such as Sweden (71.9%), Norway (73.4%) and Denmark (70.4%) as well as the United Kingdom (65.3%) and the United States (62.0%). Given that women have outpaced men in terms of college entrance rate amid the rapid progress in high education,[2] such a relatively low economic involvement is considered odd.

This is mainly attributable to the nature of labour in an industrial society combined with the characteristics of Confucian culture: specifically, prejudiced social and cultural perception that housekeeping and child-raising are a woman's job, family-unfriendly corporate culture and long working hours, lack of high quality jobs for women, visible and invisible discriminations, to mention a few.[3]

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1) In 1963 when the statistics were first compiled, the employment rate for women stood only at 34.3%. Since then, it continued to rise and reached as high as 40.6% in 1973. As of 2011, it records 48.1%(www.kosis.kr).

2) In 2011, female college enrollment rate marked 75%, outpacing male's 70.2% with a difference of 4.8 percentage point (2012, Ministry of Employment and Labor).

The two recent gender-related publications have highlighted some implications in this respect. In 2013, in the Gender Gap report released by the World Economy Forum (WEF), Korea came in at 111th among a total of 136 countries surveyed in the area of gender equity[4]. In the report, gender gap was measured in 4 sub-categories: women's participation in labour force, education level, health, and political power. Particularly, Korea was observed to exhibit the largest gender gap in the segment of economic involvement with 118th ranking. Another survey was conducted by Women/Culture Network in collaboration with the Ministry of Gender Equality and Family to examine the 'misery index of working moms,' and it was found that, of all respondents, 73.1% replied 'feeling painful.'[5] Additionally, the index scored 3.33, 0.29 points higher than the previous year's 3.04. This indicates that despite various political and social efforts exerted over the past 10 years to promote the balance of

3) Moreover, intense competition over child education has caused opportunity cost and reservation wage for women to soar. A study into women's participation in economic activities by age reveals significantly low economic involvement by pregnant and child-rearing women in particular, testifying to the fact that the reasons mentioned here serve as hindrance for female workers to join workforce. The labour supply model under the theory of neoclassical economics states that women's obligation of housekeeping and care-giving has led to a surge in reservation wage, thereby undermining their labour force. In fact, a number of studies have pointed out the negative relationship between household related responsibilities and female employment (Goodpaster, 2010; Cipollone, Patacchini & Vallanti, 2012 re-quoted).

4) It is true that WEF report (2013) is being criticized for focusing more on the discrepancy with men than the absolute level of women's social status and position while overlooking cultural aspects.

5) "Working moms feel more pain this year than the last year." (Hankyoreh Daily; dated on Oct. 28 2013)

work and family as well as create more jobs for female workers, women are still faced with tough obstacles and barriers to engaging in economic activities.

In recognition of these problems, this study is designed to establish political direction and measures to encourage more women to participate in economic activities by identifying the current state of economic involvement by women and analyzing what drives them behind. For starters, Chapter 2 examines domestic and overseas publications regarding the current status of economic participation by women and its determining factors, thus defining analysis data and methods to be used for this study. Chapter 3 discusses the trends and status of labour force participation by female workers using 'Economically-Active Population Survey' data provided by the National Statistical Office (NSO), whereas Chapter 4 looks into what influences women's labour force participation using raw data of the Korea Welfare Panel data released by the Korea Institute for Health and Social Affairs(KIHASA). Finally, Chapter 5 presents policy recommendations to promote women's labour force participation.

Chapter 2

Literature Review and Research Methods

2 Literature Review and Research Methods

1. Literature Review

Empirical studies that examined the determining factors of women's economic activities can be primarily divided into household analysis based on microeconomic data and cross-country analysis on the back of macroeconomic data. Researchers who conducted analysis on households to identify key drivers behind women joining the workforce emphasize how the characteristics of each individual person or nature of a particular family or spouse affect women's economic involvement. In contrast, the latter mainly deals with how differing labour market policy, childcare system and social welfare regime impact the level of economic involvement and patterns. Recently, more than a few surveys have been carried out to identify the nature of individual person/family by employing micro household data gathered from a number of countries.

The studies performed to define a range of factors affecting women's economic participation according to the neoclassical labour supply model (Leigh, 2010; Munasinghe, Reif and Henriques, 2008; Gustafsson and Kenjoh, 2008) claim that women's role to take care of household and family has pushed

their reservation wage upward, weakening their motivation to work. If an hour of housework costs more than an hourly rate of female workers in labour market, they are inevitably bound to leave the labour market (Cipollone, Patacchini and Vallanti, 2012). The empirical studies show that a bigger family-related responsibility would entail a fall in economic participation among women. Meanwhile, it is verified that high education contributes to shoring up potential market wage for female workers, thus having a positive implication on labour supply.

Against this backdrop, Shin-Wook Kang (2009) conducted analysis to determine why female spouses aged between 25 and 60 continue working. Upon review, women who only finished middle school are found working more than those with a college degree. Females with elementary or high school diploma lag behind compared to those who graduated from college. Also, from the perspective of family composition, the likelihood of both couple working for a living tends to decrease if they have more kids below 3 years old and in between 3 and 6, which is consistent with what the neoclassical labour supply model has claimed. Seon-Young Choi and Kyung-Sub Jang (2012) examined what implications the labour instability in middle-aged dads has on women's participation in economic activities. A close look at the Korea aging study panel data reveals that if any change in husband's job position brings instability into household economy, the sex-based separation of

duties established during the early marriage according to social conventions is no longer valid, prompting spouse to look for a job. This study is considered meaningful as it demonstrates that the recent rise in economic participation by women in their 50s is driven not only by voluntary re-entry factors such as the easing of childcare and education burden, but also by involuntary factors including financial instability triggered by job insecurity among male breadwinners.

According to the study assessing the effectiveness of public childcare service as part of institutional and structural mechanisms offered, the countries supporting moms through childcare facility rather than allowance appear to perform better in terms of female labour supply and birth rate (Apps and Rees, 2004; Lundin, Mőrk and Őckert, 2008). With regard to the impact of labour market policies on female hiring, Genre et al., 2005 and 2010 stressed weaker participation by women amid stronger solidarity around labour union, more secure job protection, and more generous jobless benefits. Balleer et al. 2009 meanwhile argued that although various institutional factors such as earned income tax, cohesion around labour union, unemployment benefit, and average number of children affect women's presence in the workforce, such effect however may vary depending on age group and family.

Jaumotte (2003) took a more comprehensive and multi-national approach to examine these variables. He conducted a

multi-level analysis for 17 OECD nations based on the panel data from 1985 to 1999. The study, targeted for women in the age of 25 to 54, encompassed all determining factors involving not only institutional policies such as flexible labour hour system, tax on secondary income (relative to single income earner), family support (childcare subsidy, childcare allowance, paid parental/maternal leave), but also individual and household features such as educational background of women, ratio of married women, number of kids, etc. Upon analysis, it is concluded that tax incentive for double incomes, childcare support, and paid maternal leave have caused a positive effect on women's labour force participation. Education, general labour market conditions, and cultural perceptions are also found having a meaningful impact on active economic involvement by women. On the other hand, childcare allowance seems to work against women's economic engagement due to income effect.

Of the latest studies, the one led by Cipollon (Cipollone, Patacchini and Vallanti, 2012) provides the most comprehensive view of factors driving women's economic participation. They added annual micro data from the European Community Household Panel (ECHP) and the European Union Statistics on Income and Living Conditions (EU-SILC) together while generating unique data sets specific to the characteristics of each individual and household thus allowing cross comparison in terms of country and period. An analysis of the patterns identi-

fied in women's economic involvement in EU states during the period of 1994 to 2009 presents the following features. Firstly, the gender gap in employment rate gradually declined over the past 20 years, which appeared prominent especially in the low-educated women aged between 25 and 54. This is mainly derived from the potential use of 'informal' jobs and the rise in more flexible types of employment. In other words, it resulted from the sacrifice of job quality between genders. Secondly, regression analysis pointed to an increase in the economic involvement and employment of women with pre-school kids during the same period. Such effect was apparent in social democratic countries and less obvious in southern European nations. No meaningful outcome was detected in the UK. Meanwhile, the negative implications of informal care-giving for the elderly on the female hiring and economic activity are believed to be gaining ground over time.

2. Data and Methods

This study utilized the original data of 'Economically-Active Population Survey' released by the NSO to define the current status of economic participation by women while adopting the Korea Welfare Panel data to look into various factors affecting their economic involvement.

The Korea Welfare Panel Survey (KoWeps) was jointly con-

ducted by the KIHASA and the Social Welfare Institute of Seoul National University. This panel concerns a longitudinal survey targeted for the entire Korea including Jeju Island. As it goes so far as to include agricultural and fishery households even in small villages, it provides a highly representative sample. The size of sampling surveyed during the first phase was 7,072 households with the over-sampling of low income families in an attempt to effectively identify welfare needs. Specifically, 3,500 low-income households below 60% of the median income were selected while another 3,500 general families with the median income of 60% or above were extracted. The final results were adjusted with appropriate weights added in order to ensure the nation-wide representation. In the study herein, we utilized the results from Wave 7 in 2012, in which a total of 5,731 households and 11,599 individuals (family members who are other than middle or high schoolers of 15 or older) were fully surveyed.

We employed the merge data combining individual survey data with household variable. As we limit our analysis to the women aged between 25 and 54, the number of subjects used for final analysis was 2,775. Logit analysis was executed to identify individual and household characteristics impacting women's participation in economic activities. The dependent variable was whether or not you were economically active in 2011. Individual-specific variables such as age, education level,

type of hiring with your first employer, and latest (or current) employment type were included for independent variables. Age represents a continuous variable while academic background is segmented into 5 ordinal variables, namely 'Graduated middle school or below', 'High school or below', '2-year college or below', '4-year university or below', and 'Graduate school or above'. As for the type of employment at first job and the most recent (or present) workplace, each relevant variable was merged and used depending on the entry age of Korea Welfare Panel Wave 1~7. It consists of 'full-time, regular job', 'temporary job', 'employer and self-employed', 'unpaid family business', and 'others (including N/A)'. Other independent variables available are: care-giving required (Y/N) which comprises of sub-categories such as 'with 0~2 year old kids', '3~5 year old kids', '6~9 year old kids', 'seniors aged 65 or older', and 'any family members with physical disability', employment and industry type of spouse, spouse status including occupation type, ordinary income of one's family members excluding one's own earnings, and one's income squared.

We conducted analysis by categorizing targets as 'single', 'married', 'aged between 25 and 39', 'aged between 40 and 54' under the assumption that major contributors to women's workforce participation may differ based on the specific conditions of each individual or household.

Chapter 3

Trends and Characteristics of Women's Economic Activities in Korea

3 Trends and Characteristics of Women's Economic Activities in Korea

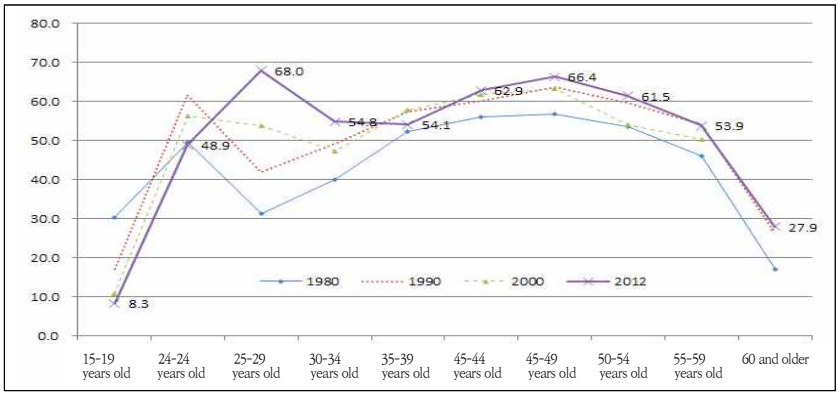
Since the 1960s, women's presence in workplace has been on the rise whereas men's has been showing signs of declining. According to the historical economic participation ratios for the period from 1963 to 2012, male workers have been down 5.4%p from 78.4% to 73.0% while female workers have jumped from 37.0% to 49.7% with 12.7%p growth. Yet, women's economic involvement (for the entire age group of 15 year old or older) still remains stagnant, failing to surpass 50%.

[Figure 1] Economic Activity Participation Rate by Sex (1963~2012), All Aged 15 or Older

Source: Economic activity census (1 week of job-seeking period)

When we take a look at economic participation by age, women maintain an M-shaped curve with an upward slope. Particularly, the most noticeable change is that the first peak has moved toward the late 20s since 2005 with the increasing number of singles and late marriages and resultant delay in childbirth. Consequently, 'Below 25 years old' dropped 9.8 percentage point from 40.7% in 1990 to 30.9% in 2012 while '25~34 years old' soared 17.4%p from 46.0% to 63.4% during the same period.

[Figure 2] Women's Economic Activity Participation Rate by age (1980~2012)

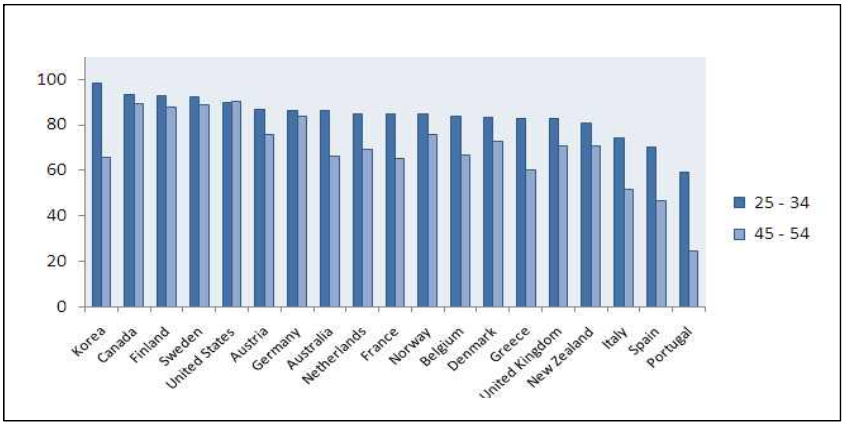


Source: www.kosis.kr (Date downloaded: 2013/06/12)

A study which segmented sex-based employment rate by academic background and employment status (Jae-Ho Keum and Ja-Young Yun, 2011) highlights a variance between the two age groups hitting the first and second peaks. Those reaching

the first peak are composed of women with higher education mainly with a college degree while the entry by those with high school diploma or below is deemed difficult. On the other hand, the second peak is comprised of low-educated women with those with high education choosing not to re-enter the job market. Besides, as the level of education of women in their 20s and 30s rises, returning back to work appears challenging once they exit out of labour market. As you can see in the table below, Korea stands out compared to other OECD countries in terms of the ratio of women aged between 25 and 34 with higher education (2-year, 4-year college).

[Figure 3] Ratio of Women with Higher Education (2-Year College or Above) in Major OECD Countries



Source: OECD Family Database, Chart CO3.1: A percentage of population that has attained at least an upper secondary education, by gender and age group, 2010

Compared to OECD countries, which age group do you think displays the lowest participation rate in Korea? There exist no internationally standardized statistics for 'labour Force Participation Rate' in association with age group, and they vary from country to country. Resultant values may differ based on the age group of economically active population and total population, number of armed forces, survey cycle, etc. OECD primarily embraces two participation rates, that is, economically-active population against the total population, and people aged between 15 and 64 against the total economically-active population.

The below table and figures below represent the economic participation rates for men and women in Korea and the OECD average, especially in terms of age group. In general, female participation rate in Korea refers to that of female workers of 15 years old or older,[6] which hovers around 49.9%, lower than the OECD average of 51.5% by just 1.6%p. However, if age criteria is limited to 15~64, Korea stays at 55.2%, 7.1% lower than the OECD average of 62.3%. When you go further and apply

6) OECD labour statistics include total population by age, no. of economically active population, and participation rate, but it doesn't separately offer the ratio of economically active population aged 15 or older. 'Total labour Force Participation Rate' provided by Korea to the OECD represents the ratio of economically-active people aged 15 or above (including 65 or older) against total population of 15~64 years old, thus potentially causing an error. For instance, Korea's participation rate by 15-year-old or-older women was 49.9% in 2012, but if it is re-calculated by factoring in 15~64 year old age limit, it yields 55.2%. 'Total Labour Force Participation Rate' for OECD women stands at 59.7%.

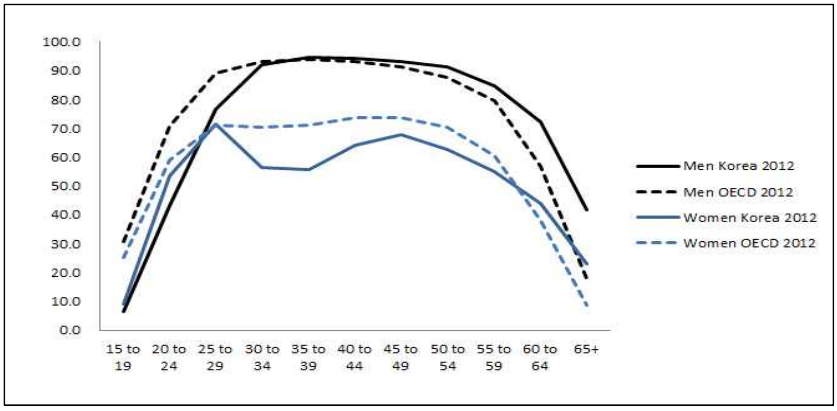
age limit to the prime age of 25~54, it marks 62.8%, falling 8.9% behind compared to the OECD average of 71.7%. This implies that the generally-accepted economically active population of 15 year old or older includes senior population, and if it is restricted to prime working age, the labour force participation rate for Korean women is considerably lowered relative to other OECD nations.

〈Table 1〉 Age-based Economic Activity Participation Rates of Korea Compared to OECD Average

		15 ~ 19	20 ~ 24	25 ~ 29	30 ~ 34	35 ~ 39	40 ~ 44	45 ~ 49	50 ~ 54	55 ~ 59	60 ~ 64	65 or older	25 ~ 54	15 ~ 64	15 or older
Female	Korea (A)	9.1	53.5	**71.6**	56.4	55.5	64.3	67.7	62.5	54.8	**43.9**	**23.0**	62.8	55.2	49.9
	OECD (B)	**25.3**	**59.1**	71.0	**70.3**	**71.1**	**73.6**	**73.8**	**70.3**	**60.6**	38.0	8.8	**71.7**	**62.3**	**51.5**
	Difference (B-A)	**-16.2**	**-5.6**	0.6	**-13.9**	**-15.6**	**-9.3**	**-6.1**	**-7.8**	**-5.8**	5.9	14.2	**-8.9**	**-7.1**	**-1.6**
Male	Korea (A)	6.3	43.4	76.5	92.1	**94.4**	**94.3**	**93.0**	**91.4**	**84.7**	**72.3**	**41.6**	90.7	77.6	**73.3**
	OECD (B)	**30.8**	**70.7**	**89.1**	**93.3**	94.0	93.3	91.4	87.6	79.7	56.7	17.9	**91.5**	**79.7**	69.5
	Difference (B-A)	**-24.5**	**-27.3**	**-12.6**	**-1.2**	0.4	1	1.6	3.8	5	15.6	23.7	**-0.8**	**-2.1**	3.8

Source: OECD Labour Force Statistics by Sex and Age, http://stats.oecd.org/

[Figure 4] Age-based Economic Participation Rates of Korea Compared to OECD Average ('12)



Source : OECD Labour Force Statistics by Sex and Age, http://stats.oecd.org/

By age, it is obvious that the M-shaped curve definitely contributes to lowering Korea's ratio especially in prime age. Specifically, our economic activity participation rate in the 10s and early 20s hovers below OECD level before hitting above shortly during the late 20s. Koreans in their 30s however watch the gap widening further with 56.4% participation rate in the age segment of 30~34. This is 13.9%p lower than the OECD's 70.3%. In the age group of 35~39, Korea came in with 55.5%, lagging behind by 15.6%p compared to the OECD average of 71.7%. Such gap is gradually narrowing down when the age goes over 40. However, Korea still fails to meet OECD average though it manages to exceed the OECD average in the case of 60 year old or older.

In the meantime, 73.3% was obtained for total economic

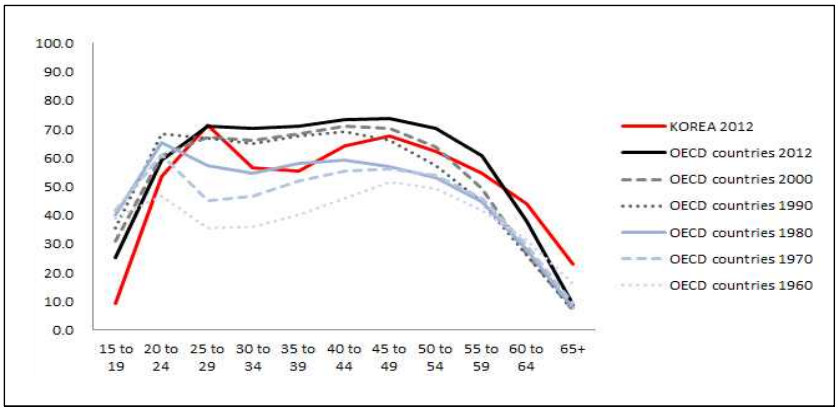
participation rate for men aged 15 or older, floating above the OECD average of 69.5%. However, the adoption of working age limit would bring the number down, even lower than the OECD average. By age group, Korean men aged between 15 and early 30's remain below the OECD average, yet the ratio goes up and hovers around OECD level starting from the late 30s. The older the people, the bigger the gap. In other words, Korean men usually enter and exit labour market later than other OECD nations, causing an inverted U-shape curve to be relatively leaning toward the right.

An insight on OECD averages, however, shows that a relatively clear M-shape curve was taking hold until 1980s before changing to an inverted U-shape pattern in the '90s. Average female participation rate curve for OECD in the 1980s bears some resemblance to that of Korea in 2012.

To sum up, Korea's economic engagement by men and women is characterized by late entry and exit relative to OECD members. Overall, male workers maintain an inverted U-shape curve with the participation rate faring not so badly compared to OECD countries. However, it appears that women suffer a big setback in their 30s as they have and raise children before rebounding in their late 40s, forming an M-shaped pattern. We believe this serves as a major force behind Korea's weak performance in the economic activity participation rates. Such M-shape curve is uniquely observed in Korea and is hardly

found in other OECD countries since the 1990s.

[Figure 5] Age-based Economic Activity Participation Rates of Korea (2012) Compared to OECD Average ('60s~2012)



Source: OECD Labour Force Statistics by Sex and Age, http://stats.oecd.org/

Chapter 4

Determinants of Female Labour Force Participation in Korea

4 Determinants of Female Labour Force Participation in Korea

1. Basic Analysis Results: Characteristics of Individual and Household (Women Aged between 25 and 54)

As discussed earlier, Korea is set apart from other OECD countries in terms of entry and exit of job market within primary age groups. This chapter elabourates on what drives women ranging from 25 years old to 54 years old to join the workforce.

Barriers and obstacles hindering women's economic activities are not just limited to internal household factors. To be specific, social and cultural constraints putting a strain on women's social and economic progress as well as explicit and implicit barriers put up by consumers (that is, companies) are well-recognized. However, the study herein aims to perform analysis by putting less focus on strong yet unquantifiable, invisible factors or external factors such as structural constraints on supplier's side than on the features of each individual or household concerned. Our main emphasis will be placed on how the nature of human capital of a female worker, her role as a primary care-giver, marital status and spouse social status, and family income excluding her own earnings are affecting women's economic participation over the cycle of life. In a bid

to draw an implication from multiple aspects, female groups are segmented by age, marital status, and income bracket to shed light on the group-specific variances in terms of determining factors behind women's economic participation.

The table below outlines the characteristics of women aged between 25 and 54 from the standpoint of demography and household. First of all, the average size of household to which a woman from a particular age group belongs has 3.6 family members, with 41.1% representing a 4-person family and 26.6% forming a 3-person family. A married woman has an average of 3.8 members in her family, about 0.8 more than a single woman. As for the average size of family, both economically active and inactive women identically yield 3.8 persons.

Nearly one in every 10 women was the head of household, mostly without spouse. Of married women, a mere 1.1% replied being a breadwinner. The head of household was found more in the age bracket of 40~54 years old with 14.9%, compared to 7.5% in 25~39 year old age group. It is mainly because this age group likely experiences more divorce and death of spouse. The average age of women was 39.6 year old, and it is found that single women average at 35 years old, lower than the average age of married woman (41.2 year old). Also the economically inactive women are on average 40 years old, 2.1 years younger than those engaging in economic activities. The underlying cause may be low participation by women in their mid and late

30s as they decide to leave work to take care of their kids, as seen in the preceding chapter.

About 50% of women graduated from high school or below in terms of academic background. Particularly, low-education looks more prominent in married women than singles in relative term. Amid the rapid advancement in education among women since 1990, it is believed that the earlier analysis regarding married women having higher average age than singles has some relevance to this outcome. This is also underpinned by the fact that only 30.6% of women in 25~39 age group have high school diploma or below whereas it is a whopping 71.8% in those aged between 40 and 54. Yet, it appears that no actual difference exists in the level of education between active and inactive participants among married women. However, it is noteworthy that, of those involved in economic activities, women with master's degree or above (4.3%) are relatively high.

〈Table 2〉 Characteristics of Target Women (Aged between 25 and 54)

(Unit: %, 10K Won/Year)

Classification	Total	Married?(Y/N)		If married		Age	
		No	Yes	Inactive	Active	25~39	40~54
Family size							
1 person	4.3	16.9	0.1	0.1	0.1	5.2	3.4
2 persons	12.1	17.9	10.2	10.1	10.2	11.7	12.5
3 persons	26.6	30.5	25.3	23.0	27.0	23.7	29.5
4 persons	41.1	23.4	47.0	50.0	44.9	41.0	41.3
5 persons	12.0	8.5	13.2	13.6	12.9	13.5	10.5
6 or more	3.9	2.9	4.2	3.2	4.9	4.9	2.8
Average family size	3.6	3.0	3.8	3.8	3.8	3.6	3.5

Classification	Total	Married?(Y/N)		If married		Age	
		No	Yes	Inactive	Active	25~39	40~54
Head of household?							
No	88.8	58.4	98.9	99.2	98.7	92.5	85.1
Yes	11.2	41.6	1.1	0.8	1.3	7.5	14.9
Age segmentation							
25~39	50.0	68.4	43.9	53.3	37.0	100.0	0.0
40~54	50.0	31.6	56.2	46.7	63.0	0.0	100.0
Average age	39.6	35.0	41.2	40.0	42.1	32.4	46.9
Educational background							
Middle school or below	10.5	10.7	10.4	8.9	11.5	1.2	19.7
High school or below	40.8	27.0	45.4	44.6	46.0	29.4	52.1
2-year college	17.4	22.0	15.9	18.1	14.3	27.3	7.5
4-year college	27.5	33.9	25.4	27.3	24.0	37.0	18.0
Graduate school or above	3.9	6.5	3.0	1.2	4.3	5.1	2.6
Economic activity status							
Non-economic	35.4	15.4	42.0	100.0	0.0	37.6	33.1
Full-time, regular job	25.5	41.5	20.2	0.0	34.9	33.4	17.7
Temporary job	19.8	26.8	17.5	0.0	30.2	17.6	22.1
Daily (self-support) job	6.5	7.2	6.3	0.0	10.8	3.8	9.2
Employer and self-employed	7.0	6.2	7.2	0.0	12.5	4.0	9.9
Unpaid family business	4.8	0.3	6.3	0.0	10.9	2.2	7.4
Unemployed	1.0	2.6	0.5	0.0	0.8	1.3	0.6
Industry type							
Primary industry	2.3	0.8	3.0		3.0	0.3	4.1
Secondary industry	13.9	12.7	14.5		14.5	13.7	14.1
Tertiary industry	83.8	86.6	82.5		82.5	86.0	81.8
Occupation type							
Administrative and professional work	27.5	31.1	25.9		25.9	36.4	19.4
Office work	21.6	31.4	17.0		17.0	34.2	10.0
Service and sales	27.5	21.6	30.3		30.3	17.9	36.3
Technical and functional	6.4	3.1	8.0		8.0	3.3	9.3
Physical labour	17.0	12.8	18.9		18.9	8.2	25.0
Marital status							
Single	25.0					34.2	15.8
Married	75.0					65.8	84.2
Total	100.0	100.0	100.0		100.0	100.0	100.0
Income							
Ordinary income for the entire family	5,901	4,839	6,255	5,869	6,535	5,827	5,974

Classification	Total	Married?(Y/N)		If married		Age	
		No	Yes	Inactive	Active	25~39	40~54
Disposable income for the entire family	5,356	4,453	5,657	5,276	5,933	5,291	5,420
Self income	1,258	1,781	1,084	112	1,788	1,294	1,222
Type of basic security benefits received							
N/A	96.1	90.3	98.0	97.3	98.5	97.2	95.0
General	2.9	6.9	1.5	*2.4*	*0.9*	1.8	3.9
Conditional	1.1	2.8	0.5	*0.3*	*0.6*	1.0	1.1

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

As opposed to only 15.4% of single women who are found not engaging in any economic activities as of 2011, the ratio rises as high as 42% for married women. Also, only 34.9% of economically-active married women hold a full-time, permanent job whereas 41.5% singles are working as regular employees. Married women show a relatively dominant presence in the sub-category of temporary/daily job, self-employed, and unpaid family business. By industry, the economic participation in agricultural and fishery business is considered high with a majority presumed to be working as self-employed or unpaid family business worker. In terms of occupation type, the ratio of serving in service & sales area and doing physical labour is very high in married women relative to singles. Overall, it is believed that married women hold poor quality jobs compared to their unmarried counterparts. Such analysis is indicative of potential implications of career discontinuation triggered by marriage and childcare, in particular on female workers' position in labour market. This also agrees with Polacheck's argument

(1991) that the role of women in family, especially being a mom, forces them to stay in the labour market for shorter and intermittent period relative to men, resulting in the disproportionate concentration of female workers in low-paying jobs (Young-Ok Kim and others, 2006, re-quoted).

The ordinary income of family associated with study target women amounts to 59.01 million won a year with an annual disposable income of 53.56 million won. The amount of income earned by target women averages 12.58 million won annually, with a monthly wage of 1.05 million won. The average monthly salary earned by single women stands at 1.48 million, which is considerably higher than 900,000 won earned by married women for each month. As 9.7% of spouse-less families turn out to be living on welfare as either general or conditional recipients, they are financially in bad shape relative to the married peers. Merely 2% of women with spouse are collecting benefits. Of married women, the ratio of those living on welfare is further down to 1.5% for the families with economically active moms. In contrast, the ratio soars relatively high at 2.7% if the women are economically inactive. Overall, it can be concluded that single families are outperformed by married ones, of which double-income families fare financially better than single-income ones. Yet, it should be noted that the analysis results were captured without controlling the number of family members or income distribution within a group. The table be-

low illustrates the characteristics of each income bracket and income level for the households where our study target women belong. With other variables remaining uncontrolled, we examined women's economic involvement by income bracket and found out that the participation rate in low-income families is significantly high with 80.7%, compared to that of middle and high income brackets with 64.4% and 52% each.

〈Table 3〉 Characteristics by Family Income Bracket

(Unit: %, 10K Won/ Year)

Classification		Low-income	Middle-income	High-income	Total
Economic involvement status	Non-economic	19.3	35.6	48.0	35.4
	Full-time, regular	29.1	24.9	24.2	25.5
	Temporary	26.3	20.6	12.5	19.8
	Daily (Self-support)	11.5	6.7	1.8	6.5
	Employer and self-employed	10.1	6.1	6.6	7.0
	Unpaid family business	2.3	5.2	6.1	4.8
	Unemployed	1.5	0.9	0.8	1.0
	Total	100.0	100.0	100.0	100.0
Family income	Ordinary income for family	2,722	5,196	10,319	5,901
	Disposable income for family	2,537	4,771	9,173	5,356
	Self income earned	1,701	1,154	1,151	1,258
	Self income earned (Non-economic not included)	2,045	1,729	2,135	1,879
Care-giving required	Kids of 0~2 years old	5.8	12.2	9.4	10.8
	Kids of 3~5 years old	11.2	22.5	15.3	19.5
	Kids of 6~9 years old	19.9	28.3	22.5	25.9
	Seniors of 65 or older	8.5	8.4	6.0	7.7
	The disabled	22.9	10.6	8.2	11.1

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

Nevertheless, it is observed that more females in high-income bracket hold regular jobs than low-income ones. If we translate working women into 100, high-income women filling regular jobs account for 46.5% as opposed to 36.1% in low-in-

come segment. As the ratio of economically inactive women varies significantly based on income bracket, the highest average self income appears to be earned by women from low-income families. Yet, if those not engaging in economic activities are excluded, women in high-income bracket bring in the most earnings with 21.35 million won, followed by those from low-and middle-income families with W20.45 million and W17.29 million each.

Women's economic participation has been shown to contribute considerably to change in income bracket. If female worker's income is taken out of equation, nearly 19.2% families end up being placed in the low-income bracket (below 50% of median income). However, the inclusion of female worker's income helps bring the number down by 6.5 percentage point to 12.7%. Middle-income class (50~150% of median income) would increase from 57.8% to 66.4% while high-income bracket (150% or higher of median income) would suffer a modest fall from 23.0% to 21.0%. As you can see, women's economic involvement appears to make a considerable contribution to reinforcing middle-income families.

More specifically, when we calculate the ordinary income for household with the gains earned by its female member included, nearly 44% families that would otherwise have been placed in the low-income bracket if not included would move up to join the middle class or above. Among those classified as

middle class, if female income isn't counted in, 3.8% would be downgraded to low-income segment while 8% would be revised upward high-income bracket. On the contrary, about 30% of families previously defined as high-income would be revised down to middle class. That said, it is analyzed that female contribution plays a big role in boosting the earning and income bracket of low-income families in particular.

〈Table 4〉 Change of Social Class after Women's Economic Participation

(Unit: %)

Classification		Ratio	If female income is not included			
			Low-income	Middle	High-income	Total
			19.2	57.8	23.0	100.0
If female income is included	Low-income	12.7	54.9	3.8	0.0	12.7
	Middle	66.4	***44.0***	88.3	29.9	66.4
	High-income	21.0	1.1	***8.0***	70.1	21.0
	Total	100.0	100.0	100.0	100.0	100.0

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

As stated earlier, married women are far less likely to engage in economic activities compared to singles. However, it is estimated that this may change based on the characteristics of each individual, especially in terms of human capital. To go further into analysis, we examined the characteristics of women with spouse in terms of educational background as described below.

〈Table 5〉 Characteristics of Married Women based on Academic Background

(Unit: %, 10K Won/Year)

Classification		Middle school or below	High school or below	2-year college	4-year college	Graduate school or above	Total
Economic activity status	Non-economic	35.8	41.3	47.8	45.1	16.8	42.0
	Full-time, regular job	8.1	14.5	23.7	28.9	57.2	20.2
	Temporary job	17.3	19.4	19.1	13.6	14.4	17.5
	Daily (self-support) job	12.9	9.6	1.3	1.3	1.0	6.3
	Employer and self-employed	10.2	6.9	4.9	8.4	4.2	7.2
	Unpaid family business	15.7	7.7	3.3	2.4	2.9	6.3
	Unemployed	0.0	0.6	0.0	0.3	3.6	0.5
Industry type	Primary industry	18.1	1.9	0.4	0.0	0.0	3.0
	Secondary industry	19.0	20.3	9.1	5.5	9.7	14.5
	Tertiary industry	62.9	77.9	90.5	94.5	90.3	82.5
Occupation type	Administrative and professional work	2.5	7.3	35.1	58.2	77.7	25.9
	Office work	0.7	12.9	26.6	26.9	15.9	17.0
	Service and sales	33.2	42.1	26.5	12.7	6.4	30.3
	Technical and functional	27.9	9.5	2.2	0.3	0.0	8.0
	Physical labour	35.7	28.3	9.6	2.0	0.0	18.9
Income	Ordinary income for family	4,722	5,778	5,878	7,647	9,020	6,255
	Disposable income for family	4,402	5,279	5,311	6,805	7,853	5,657
	Self income	686	878	960	1,485	2,851	1,083
	Self income (non-economic excluded)	997	1,403	1,727	2,657	3,379	1,787

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

Of married women, those with no economic participation displayed a mild inverted U-relationship with educational background. Overall, higher level of education leads to a high ratio of non-economic involvement. However, women with master's degree or above are an exception as the non-economic ratio in this segment is relatively low[7]with only 16.8% found

7) However, it must be noted that as the finding is drawn from the descriptive analysis in which other variables are left uncontrolled, it differs from the

not conducting any economic activities. The rationale behind such high economic engagement in this group is as follows: 1) they wish to recover high investment made for their education; 2) highly-educated women have a strong desire to accomplish and succeed with high self-esteem; and finally 3) they are capable of finding stable and high-paying jobs. In fact, 57.2% of married women with graduate school background work regular jobs, which is 2~7 times higher than other groups segmented by educational level. Furthermore, it is found that 77.7% are involved in administrative or professional work.

Also, their average income amounts to about 34 million won, nearly double what 2-year college graduates usually earn. Meanwhile, the level of education for women not only determines their occupation type and income level but also clearly contributes to the varying degrees of family income, suggestive of homogamy, that is, a marriage between people from similar socioeconomic, cultural, and educational background.

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outcome of logic analysis stipulated below.

2. Determining Factors behind Women's Economic Participation

A. Determinants of Economic Participation for the Entire Women (25~54 Years Old)

The table below discusses our findings after conducting logit analysis on the major determinants of economic involvement by women aged between 25 and 54. Given that unpaid family business workers and the unemployed have more control and flexibility over their own time relative to other economic activity participants, our analysis proceeded with and without them included.

Under the model which includes those working in family business without getting paid and remaining out of work, characteristic variables specific to each individual such as age, educational background, marital status, and type of employment at the most recent job appear to carry statistical significance. It is reviewed that the likelihood of joining economic workforce is increasing for the women who fall into the age category of 40~54 year olds, have high level of education, and are recently or currently working as a sole proprietor or family business worker for free, compared to those aged between 25 and 39, and with low level of education. Meanwhile, the odds diminish if they are married and their recent occupation is defined as 'Regular job' or 'Others' (mainly non-economic).

The need of care-giving is generally considered very

meaningful. However, a close look shows that though having young kids or handicapped family members hinders women's potential economic participation, the likelihood of women having a job increases if there are any seniors in the family. This indicates that elderly family members are taking over or sharing mom's responsibilities to raise children and do housekeeping.[8)]

The square of income is all deemed meaningful, yet it represents a quadratic function with positive numbers for quadratic term and negative ones for linear term, forming 'U'. As shown in the previous statistics, this outcome agrees with the high participation rate observed among low-educated, low-income women as well as highly-educated, professional women. Both groups boast relatively high labour force participation rate because the women in the low-income bracket have no choice but to work to bring money into family whereas those in high-income segment find it relatively easy to secure a stable and fulfilling job.

8) However, some also pointed out that establishing a cause-and-effect relationship between the existence of the elderly within family and women's economic participation presents some risks. They stress more on the reverse causal relationship, that is, women's economic involvement giving rise to living with their old parents. Irrespective of which comes first or whether it is accidental or artificial, 'Cohabiting with the elderly' itself indisputably has a positive impact on women's economic participation

〈Table 6〉 Determinants of Economic Activity Participation by Women Aged between 25 and 54 (Based on Logit Analysis)

Classification	(If unpaid family business workers and the unemployed are included)			(If unpaid family business workers and the unemployed are not included)		
	Individual specific characteristics	Care-giving required	Total	Individual specific characteristics	Family member requiring care-giving	Total
Age (25~39 years old=0)						
40~54 years old	0.455***		0.04	0.485***		0.12
	(3.72)		(0.27)	(4.02)		(0.84)
Educational level (Middle school or below=0)						
High school or below	0.398*		0.349*	0.510**		0.463**
	(2.31)		(2.02)	(2.99)		(2.77)
2-year college or below	0.573*		0.530*	0.826***		0.787***
	(2.51)		(2.33)	(3.89)		(3.76)
4-year college or below	0.842***		0.828***	1.089***		1.071***
	(4.11)		(4.00)	(5.49)		(5.39)
Graduate school or above	2.108***		2.172***	1.973***		2.022***
	(5.00)		(5.18)	(5.26)		(5.42)
Married? (Single=0)						
Married	-1.363***		-0.969***	-1.278***		-0.933***
	(-8.36)		(-5.65)	(-8.45)		(-5.86)
Type of employment at first job (Irregular=0)						
Full-time, regular	0.28		0.25	0.18		0.14
	(1.95)		(1.67)	(1.30)		(1.01)
Employer & self-employed	(0.74)		(0.59)	(0.56)		(0.43)
	(-1.68)		(-1.32)	(-1.32)		(-1.00)
Unpaid family business	0.20		0.14	0.33		0.28
	(0.64)		(0.46)	(1.09)		(0.92)
Others (N/A)	1.98		2.011*	1.57		1.52
	(1.95)		(1.98)	(1.48)		(1.50)
Type of employment at the most recent job (Irregular=0)						
Full-time, regular	-0.473***		-0.454**	-0.361**		-0.337*
	(-3.42)		(-3.22)	(-2.68)		(-2.46)
Employer & self-employed	0.471*		0.39	0.20		0.13
	(2.03)		(1.69)	(0.94)		(0.60)
Unpaid family business	0.731*		0.694*	-1.037***		-1.088***
	(2.39)		(2.22)	(-4.45)		(-4.68)
Others (N/A)	-2.427*		-2.611*	(2.03)		-2.128*
	(-2.37)		(-2.55)	(-1.90)		(-2.08)
Care-giving required?						
Kids of 0~2 years old		-0.816***	-0.722***		-0.640***	-0.629**

Classification	(If unpaid family business workers and the unemployed are included)			(If unpaid family business workers and the unemployed are not included)		
	Individual specific characteristics	Care-giving required	Total	Individual specific characteristics	Family member requiring care-giving	Total
		(-4.32)	(-3.51)		(-3.39)	(-3.09)
Kids of 3~5 years old		-0.513***	-0.452**		-0.404**	-0.382*
		(-3.51)	(-2.88)		(-2.78)	(-2.40)
Kids of 6~9 years old		-0.764***	-0.564***		-0.668***	-0.561***
		(-6.24)	(-4.06)		(-5.54)	(-4.07)
Seniors		0.549**	0.494*		0.498**	0.436*
		(3.13)	(2.55)		(3.08)	(2.42)
The handicapped		-0.636***	-0.623***		-0.668***	-0.596***
		(-4.20)	(-3.75)		(-4.48)	(-3.69)
Ordinary income (excluding self income)	-0.000164***	-0.000201***	-0.000174***	-0.000191***	-0.000216***	-0.000200***
	(-5.11)	(-6.13)	(-5.28)	(-6.24)	(-6.74)	(-6.43)
Income squared	4.04e-09**	5.41e-09**	4.17e-09**	5.07e-09***	5.99e-09***	5.20e-09***
	(2.70)	(3.03)	(2.72)	(3.66)	(3.36)	(3.68)
Constant term	1.583***	1.738***	1.882***	1.289***	1.471***	1.578***
	(6.55)	(14.36)	(7.62)	(5.74)	(12.71)	(6.77)
N	2,775	2,775	2,775	2,775	2,775	2,775
pseudo R-sq	0.10	0.08	0.12	0.11	0.07	0.12

Source : Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

The age variable, which was considered very meaningful under the individual characteristic model, no longer has significance in the full model. This suggests that the age effect is mainly driven by the existence of young children requiring care. We believe that the effect of age variable is absorbed by the need of care-giving.

The table below illustrates the odds ratios derived from major variables. With other conditions being equal (average), females with a high school diploma are 1.42 times more likely to en-

gage in economic activities than those with a middle school diploma or less. The odds are further expanding for 4-year college graduates and postgraduates with 2.29 and 8.78 times, respectively. As stated earlier, those who finished grad school exhibit high level of economic participation even if they fit into high-income bracket without their earnings taken into account. This analysis outcome is consistent with some previous studies which examined main drivers behind women's economic participation in the direction of neoclassical labour supply model (Leigh, 2010; Munasinghe, Reif and Henriques, 2008; and Gustafsson and Kenjoh, 2008).

〈Table 7〉 Odds Ratios for Main Variables (Overall Model Including Unpaid Family Business Workers and the Unemployed)

40~54 years old	High school or below	2-year college or below	4-year college or below	Grad school or above	
1.04	1.42	1.70	2.29	8.78	
Married	0~2 year old kids	3~5 year old kids	6~9 year old kids	Seniors	The handicapped
0.38	0.49	0.64	0.57	1.64	0.54

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

In contrast to educational background, the odds of married women participating in economic activities remain merely 0.38 times compared to singles. This indicates that regardless of having kids or not, marriage itself is a major hindrance to women's economic participation. The existence of children or handicapped person in the family is also found to cut the rate

in half. However, it is expected that living with the elderly rather contributes to boosting women's participation by 1.64 times.

B. Determinants of Women's Economic Participation in terms of Income Bracket

On the premise that what triggers women to join labour force may vary depending on income bracket, we categorized women into low, middle, and high income family based on 50~150% of median income (ordinary income for family-self income) in a bid to identify the determining factors behind women's economic participation. Our findings are specified below.

Among variables embraced for the analysis, only such variables as education level and disability appear to have a meaningful effect on low-income women's decision to find a job. Korean women with a high school or college diploma are more likely to seek employment than those who finished middle school only. A family member with disability seems to negatively affect job-seeking efforts by low-income women. This is underpinned by our previous finding that of low-income families, economically inactive women only comprise 19.3%, which is very low compared to the middle-and high-income class. It can be presumed that many underprivileged women are forced to work due to the imbalance of family income 'despite (or irrespective of)' the existence of spouse or young children to care for.

〈Table 8〉 Determinants of Women's Economic Participation in terms of Income Bracket (Based on Logit Analysis)

Classification	Low-income class	Middle class	High-income class
Age (25~39 years old=0)			
40~54 years old	-0.42	0.20	0.30
	(0.35)	(0.18)	(0.41)
Educational level (Middle school or below=0)			
High school or below	0.853**	0.23	-0.09
	(0.32)	(0.22)	(0.46)
2-year college or below	0.92	0.536*	0.11
	(0.49)	(0.27)	(0.62)
4-year college or below	0.972*	0.768**	0.41
	(0.48)	(0.26)	(0.51)
Graduate school or above	0.00	1.832***	1.840*
	(.)	(0.55)	(0.90)
Married?(Single=0)			
Married	-0.33	-0.992***	-3.076***
	(0.31)	(0.25)	(0.71)
Type of employment at first job (Irregular=0)			
Full-time, regular	0.53	0.20	0.25
	(0.37)	(0.17)	(0.41)
Employer and self-employed	0.96	-0.05	-2.194*
	(0.78)	(0.57)	(1.01)
Unpaid family business	0.35	0.07	-0.22
	(0.50)	(0.40)	(0.91)
Others (N/A)	-0.85	1.47	13.564***
	(0.46)	(0.95)	(0.90)
Type of employment at the most recent job (Irregular=0)			
Full-time, regular	-0.65	-0.349*	-0.51
	(0.40)	(0.17)	(0.34)
Employer and self-employed	-0.22	0.52	0.74
	(0.45)	(0.33)	(0.49)
Unpaid family business	0.51	0.802*	0.45
	(0.61)	(0.34)	(0.71)
Others (N/A)	0.00	-2.155*	-14.437***
	(.)	(0.98)	(0.87)
Care-giving required			
Kids of 0~2 years old	-0.07	-0.914***	0.13
	(1.15)	(0.23)	(0.50)
Kids of 3~5 years old	-0.95	-0.707***	0.60
	(0.63)	(0.19)	(0.39)
Kids of 6~9 years old	0.20	-0.612***	-0.805*
	(0.51)	(0.16)	(0.38)
Seniors	-0.46	0.41	1.876**
	(0.34)	(0.23)	(0.58)
The handicapped	-0.929**	-0.564**	-0.64

Classification	Low-income class	Middle class	High-income class
	(0.29)	(0.21)	(0.54)
Constant term	1.405**	1.382***	2.624***
	(0.45)	(0.31)	(0.79)
N	616	1,639	506
pr2	0.10	0.11	0.18

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

Meanwhile, it is found that as for middle-income families, women's economic involvement is largely determined based on academic background, marital status, and the need for care-giving for young children or disabled family members. Particularly, if our study is limited to middle class only, it is discovered that the human capital variable, namely educational level, consistently serves as a positive force for women's economic activities. For instance, the likelihood of those with a postgraduate degree finding jobs is higher than of women with only a middle school diploma or lower. Also, it is confirmed that the existence of children of 9 year old or younger has very negative implications for middle class women seeking jobs. This finding carries significance as it is in stark contrast to what was observed with those from low-income bracket. It appears that the decision of economic participation by middle-income women is influenced by both demand and supply sides. In the case of females who can maintain a certain level of living on the back of spouse income while taking care of children, it is assumed that their expectation for opportunity cost

and reservation wage is considerably high. On the contrary, the labour force participation by women with low-educational attainment appears weak, as there are only a few 'decent jobs' available for those lacking in human capital. This analysis is also supported by the low participation rate observed among those who answered 'regular job' and 'non-economic' for the question about the most recent job experience during our survey.

As far as high-income women are concerned, prior work experience, high level of education (master's degree or higher), marital status, and living with old parents (Y/N) are, above all, playing a critical role in deciding their economic involvement. Having kids aged between 0 and 5 doesn't seem to cause any significant consequence; provided, however, that negative effect was found only when they have children of 6~9 year old. As seen earlier, this income bracket is relatively dominated by women with higher education and professional skills, so they can quite possibly find stable, high-salaried jobs with good employee welfare offerings (or relatively flexible working hours). Moreover, their high earnings enable them to outsource housekeeping and childcare duties, allowing their economic involvement not to be hampered by the existence of young kids. Outsourcing such duties often accompanies living with old parents or nanny, and according to our analysis, the existence of elderly is considered the only positive contributor to facilitating

the economic activities of high income bracket females. Besides, it is found that selecting 'Unemployed (N/A)' entry for the latest employment type affects the current economic participation status very negatively. Without prior work experience, it is hard to find skilled or high-paying jobs, holding them back from giving up opportunity cost and looking for a job, compared to other income brackets.

Overall, there exists a big discrepancy in major drivers behind women's economic participation in terms of social class. Evidently, some factors that are generally considered obstacles including childcare, prior job experience and academic background seem to have relatively less influence on low-income women than other income brackets. Based on this finding, we can assume that the desperate reality in which they can hardly make ends meet without them working outweighs those barriers they are faced with. The middle class, however, is a case in point where these common obstacles best fit, as educational background and child-raising responsibility are taking the biggest toll on their economic activities. As for women from high-income bracket, prior work experience and availability of persons who can help ease their child-rearing obligations seem to affect their decision on economic involvement. Having said that, we can conclude that women's economic activity participation has different triggers and obstacles according to income bracket.

C. Determining Factors behind Economic Activity Participation by Married Women

In the meantime, married women were sampled to identify what drives them to join labour force, and our findings are listed in the table below. For this analysis, we added spouse characteristics such as his educational level, economic activity status, industry and occupation type as part of independent variables on top of those reviewed in the preceding chapters.

Upon completion of analysis, it was found that women's economic involvement is impacted by age, academic background (human capital variable), type of employment at the most recent job, need of care-giving as well as spouse's industry and occupation type. First of all, married women in 40~54 year old age group are more likely to engage in economic activities than those aged between 25 and 39. Our study has also confirmed high likelihood of career disruption for women of 25~39 year old group in which marriage, child birth and raising are concentrated. In respect to married women, it is discovered that only highly-educated females (4-year college or above) are more likely to find jobs than low-educated peers who graduated middle school or below, and there is no big difference observed between women with high school and 2-year college diploma and those who finished middle school or below.

〈Table 9〉 Determinants of Economic Participation by Married Women (Based on Logit Analysis)

Classification	Individual specific characteristics	Care-giving required	Spouse characteristics	Total
Age (25~39 years old=0)				
40~54 years old	0.032**			0.029**
	(0.010)			(0.010)
Level of education (Middle school or below=0)				
High school or below	0.195			0.258
	(0.190)			(0.218)
2-year college or below	0.230			0.425
	(0.269)			(0.269)
4-year college or below	0.440			0.711**
	(0.230)			(0.268)
Graduate school or above	1.956***			1.956***
	(0.453)			(0.446)
Type of employment at first job (Irregular=0)				
Full-time, regular	0.212			0.224
	(0.154)			(0.137)
Employer and self-employed	-0.679			-0.268
	(0.477)			(0.432)
Unpaid family business	-0.040			0.021
	(0.333)			(0.289)
Others (N/A)	1.679			14.590
	(1.063)			(847.578)
Type of employment at the most recent job (Irregular=0)				
Full-time, regular	-0.360*			-0.299*
	(0.143)			(0.130)
Employer and self-employed	0.665**			0.628**
	(0.242)			(0.234)
Unpaid family business	0.836**			0.805**
	(0.324)			(0.256)
Others (N/A)	-2.411*			-15.101
	(1.086)			(847.578)
Care-giving required				
Kids of 0~2 years old		-0.733***		-0.715***
		(0.192)		(0.167)
Kids of 3~5 years old		-0.428**		-0.334*
		(0.150)		(0.137)
Kids of 6~9 years old		-0.613***		-0.485***
		(0.127)		(0.123)
Seniors		0.638**		0.694***
		(0.212)		(0.189)
The handicapped		-0.412*		-0.417*
		(0.173)		(0.169)
Level of education for Spouse (Middle school or below=0)				
High school or below			-0.209	0.102

Classification	Individual specific characteristics	Care-giving required	Spouse characteristics	Total
			(0.199)	(0.222)
2-year college or below			-0.364	0.198
			(0.250)	(0.271)
4-year college or below			-0.023	0.266
			(0.231)	(0.265)
Graduate school or above			-0.529	-0.123
			(0.329)	(0.344)
Economic activity status for spouse				
Temporary job			0.524*	0.175
			(0.205)	(0.181)
Daily job			0.261	-0.329
			(0.237)	(0.221)
Employer and self-employed			0.537***	0.369*
			(0.160)	(0.151)
Unemployed			0.000	0.000
Industry type for spouse (Primary industry=0)				
Secondary industry			-1.177**	-0.778*
			(0.411)	(0.338)
Tertiary industry			-0.979*	-0.716*
			(0.399)	(0.325)
Occupation type for spouse (Administrative & professional work=0)				
Office work			0.067	0.291
			(0.191)	(0.171)
Service and sales			0.251	0.512**
			(0.206)	(0.190)
Technical and functional			0.199	0.211
			(0.185)	(0.168)
Physical labour			0.444	0.478*
			(0.254)	(0.234)
Ordinary income (excluding self income)	-0.000***	-0.000***		-0.000***
	0.000	0.000		0.000
Income squared	0.000***	0.000***		0.000***
	0.000	0.000		0.000
Constant term	(0.376)	1.528***	1.139*	0.170
	(0.517)	(0.152)	(0.448)	(0.614)
N	2,103	2,103	1,931	1,931
pr2	0.072	0.059	0.030	0.117

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

Employment type of the latest or current job appears to have more implications for economic participation by married

women than that of first job. Meanwhile, it is difficult to find regular jobs than temporary ones. Women falling under the category of 'employer, self-employed, and unpaid family business workers' stand more chance of engaging in economic activities than those classified as irregular workers. The former reflects the current reality facing women who discontinue with their career as they encounter difficulty in seeking permanent employment, whereas the latter is indicative of high likelihood of women becoming their own employer or joining unpaid family business, citing better time management and flexibility relative to wage earners.

Our analysis targeted only for married women has found that the existence of young kids and disabled family members hurts their likelihood of going out to work. Like the preceding case, however, living with the elderly rather increases their economic participation. The type of industry their spouse is involved also plays a role, especially if they engage in agricultural and fishery business. Given the nature of such industries usually reliant on family labour, many women are expected to participate for free. If their spouse works in service and sales field or simply provides physical labour, their economic participation soars probably because of their relatively weak financial conditions (despite our efforts to control income variable).

An insight on odds ratios measured reveals that, with other conditions being equal like the preceding analysis with the en-

tire women, female economic participation greatly varies based on the level of education. Compared to the women with middle schooling or below, those that finished high school are 1.29 times more likely to be economically active. The likelihood increases as the education advances; 1.53 times for 2-year college graduates and 2.04 times for 4-year college degree holders. The odds drastically jump to a whopping 7.07 times for those that earned master's degree or higher. In contrast, their economic involvement is almost cut in half if they have young children of 0~2 year old. The situation is less severe with kids in different age groups but still their participation rate is drastically undermined. In addition, the ratio of women joining the workforce rises 1.45 times, 1.67times, and 1.61 times, respectively if their spouse is self-employed, works in the field of service and sales, or is a physical labourer.

〈Table 10〉 Odds Ratios (for the Entire Married Women)

Individual specific characteristics	40~54 years old	High school or below	2-year college or below	4-year college or below	Graduate school or higher
	1.03	1.29	1.53	2.04	7.07
	Full-time, regular	Employer and self-employed	Unpaid family business		
	0.74	1.87	2.24		
Care-giving required	0~2 year old kids	3~5 year old kids	6~9 year old kids	Elderly	Handicapped
	0.49	0.72	0.62	2.00	0.66
Spouse characteristics	Self-employed	Secondary industry	Tertiary industry	Service & sales	Physical labour
	1.45	0.46	0.49	1.67	1.61

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

D. Determinants of Economic Participation by Married Women in terms of Age

In general, women's economic involvement rate in the form of 'M-shaped curve' enters a point of inflection at the age of 40. According to age, women can be divided into the following two segment: women aged 25~39 year old who usually get married, give birth and raise kids, and those aged 40 years old or older who are freed from the primary role of childcare and consider to re-join labour market. Major contributors to economic participation by married women are analyzed as follows:

The most noticeable observation from the age-based analysis is that prior work experience plays an important role in women's decision to seek employment. It appears women with no prior work history encounter realistic and psychological obstacles to freshly enter labour market. Also, as expected, if women aged between 25 and 39 have babies of 0~2 year old or young kids of 6~9 year old, their participation rate plunges.

〈Table 11〉 Determinants of Economic Participation by Married Women (Based on Logit Analysis)

Classification	25~39 years old	40~54 years old
Age (Continuous variable)	-0.006	-0.038
	(0.029)	(0.025)
Educational background (Middle school or below=0)	(.)	(.)
High school or below	2.694**	0.041
	(0.977)	(0.296)
2-year college or below	2.817**	0.126
	(1.000)	(0.523)

Classification	25~39 years old	40~54 years old
4-year college or below	3.162**	0.376
	(1.012)	(0.410)
Graduate school or above	4.576***	2.364**
	(1.157)	(0.756)
Type of employment at first job (Irregular=0)	(.)	(.)
Full-time, regular	0.009	0.357
	(0.249)	(0.236)
Employer and self-employed	-0.298	-1.015
	(0.795)	(0.755)
Unpaid family business	0.351	-0.398
	(0.877)	(0.426)
Others (N/A)	12.109***	12.536***
	(0.895)	(0.958)
Type of employment at the most recent job (Irregular=0)	(.)	(.)
Full-time, regular	0.113	-0.815***
	(0.236)	(0.216)
Employer and self-employed	0.341	0.425
	(0.508)	(0.311)
Unpaid family business	0.714	0.227
	(0.628)	(0.388)
Others (N/A)	-11.921***	-14.542***
	(0.931)	(1.056)
Care-giving required		
Kids of 0~2 years old	-0.675**	-1.376
	(0.234)	(0.830)
Kids of 3~5 years old	-0.283	-0.780
	(0.188)	(0.483)
Kids of 6~9 years old	-0.470*	-0.661*
	(0.194)	(0.275)
Seniors	0.845*	1.025**
	(0.421)	(0.318)
The handicapped	-0.646	-0.279
	(0.403)	(0.244)
Educational level for spouse (Middle school or below=0)	(.)	(.)
High school or below	-0.088	-0.003
	(0.682)	(0.300)
2-year college or below	-0.157	-0.245
	(0.723)	(0.472)
4-year college or below	0.097	0.139
	(0.719)	(0.382)
Graduate school or above	-0.062	-0.976
	(0.805)	(0.514)
Economic activity status for spouse	(.)	(.)
Temporary worker	0.168	0.267
	(0.317)	(0.309)
Daily worker	0.168	-0.204
	(0.470)	(0.350)

Classification	25~39 years old	40~54 years old
Employer & self-employed	0.266	0.410
	(0.260)	(0.236)
Unemployed	0.000	0.000
Industry type for spouse (Primary industry=0)	(.)	(.)
Secondary industry	0.420	-1.518*
	(0.628)	(0.596)
Tertiary industry	0.482	-1.270*
	(0.610)	(0.583)
Occupation type for spouse (Administrative and professional=0)	(.)	(.)
Office work	0.096	0.231
	(0.274)	(0.327)
Service and sales	0.301	0.181
	(0.285)	(0.345)
Technical and functional	0.366	-0.125
	(0.279)	(0.305)
Physical labour	0.731	0.193
	(0.409)	(0.406)
Ordinary income (excluding self income)	-0.000***	-0.000***
	0.000	0.000
Income squared	0.000**	0.000*
	0.000	0.000
Constant term	-2.172	4.797***
	(1.448)	(1.453)
N	852	1,079
pr2	0.077	0.153

Source: Data from Korea Welfare Panel Wave 7 (Baseline year: 2011)

Chapter 5

Conclusion and Policy Implication

5 Conclusion and Policy Implication

From the beginning of human history, women worked to make a living while doing household chores and raising children at the same time. In the era of hunting and gathering, it was believed that they did housework and gathering mainly within the extent that they could still watch and care for their kids. During agricultural era, it was common that they gave birth and nurtured kids, and took care of the old while working out in the field and doing housekeeping. However, in the modern, industrial society where the boundary between work and family is clearly defined, it is tough for women to hold down a job and run a household while caring for kids at the same time. Particularly, considering that Confucian values are still deeply rooted in Korean society on top of male-oriented corporate culture and long working hours,[9] their decision to stay at work is not easy unless the option of working is inevitable to maintain household finance or outsourcing domestic chores and childcare are allowed. Our study reviewed the current status of women's economic participation and its major contributors in

9) The number of hours worked by each Korean employee amounts to 2,116 hours annually as of 2011, which is 420 hours more than the OECD average of 1,696 hours (June 4, 2013, a joint survey conducted in coordination with relevant government agencies).

terms of individual-specific features (i.e. marital status, age, etc.) as well as the nature of household (income bracket) in order to find out in detail what inhibits and encourages women's economic involvement.

First of all, as Korea exhibits a clear M-shaped curve for women's economic engagement by age, it is recognized as being almost the only country with low labour force participation rate among OECD member nations. Japan, which is rooted in the same Confucian culture, also presents an M-shaped pattern, yet with a valley between the two peaks not as deep as Korea's. Women's participation in Japan is rated higher as well. A majority of OECD countries witnessed partial M-shape prior to 1980s, but they have been converted into an 'inverted U-shape' pattern since 1990s. Korea has also seen the valley of M-shape easing compared to the 80s and 90s, with the valley previously formed in the age group of 25~39 year old shifting toward 30~34 year old age segment.

Table 12 below provides a summary of main drivers behind women's economic participation. First, it is found that the participation is positively affected by educational background, a typical example of human capital. Most strikingly, women with master's or higher degree boast 73.2% of labour force participation rate, of which 25.9% engage in administrative and professional work, and 47.3% in office work or service area, indicating that they are occupying relatively stable jobs. In par-

ticular, the academic background of grad school or higher appears to have a positive effect on women's economic involvement under all models except for the one with the dependent variable of low-income women. Besides, most models suggest that higher level of education raises the likelihood of women's joining labour force. This outcome consists with existing domestic and overseas studies performed under the neoclassical labour supply model (Leigh, 2010; Munasinghe, Reif and Henriques, 2008; Gustafsson and Kenjoh, 2008; and Shin-Wuk Kang, 2009).

Second, the age effect looks conspicuous in married women only. Upon analysis of the entire married women group, it is discovered that age generates a positive effect as females in the age bracket of 40~45 years old are economically more active than those in 25~39 age segment. However, when separating the two groups for further analysis, it is found that the age factor no longer serves as a meaningful force yet entails rather negative effect. This is attributable to the fact that women usually suffer from career interruption at around 35 while an increasing number of women leave labour market after their 50s. In fact, a study into the current state of women's labour force participation reveals that the participation rate reaches at peak when they fall into the category of 25~29 year old (68%) and 45~49 year old (66.4%) while dropping sharply in the age segment of 30~39. In this respect, we believe that tackling the

problem of women exiting out of labour market during this period, characterized by career discontinuation, is the key to enhancing labour force participation by women.

〈Table 12〉 Determinants of Economic Activity Participation by Women

(Based on Logit Analysis)

Classification	'Non-economic' included? (Y/N)				Income bracket						Married					
	Y		N		Low income		Middle income		High income		Total		25~39		40~54	
Age (25~39 years old=0)																
40~54 years old	+		+		—		+		+		+	**	—		—	
Educational background (Middle school or below=0)																
High school or below	+	*	+	**	+	**	+		+		+		+	**	+	
2-year college or below	+	*	+	***	+		+	*	+		+		+	**	+	
4-year college or below	+	***	+	***	+	*	+	**	+		+	**	+	**	+	
Graduate school or above	+	***	+	***	+		+	***	+	*	+	***	+	***	+	**
Married (Single=0)	—	***	—	***	—		—	***	—	***						
Type of employment at the most recent job (Irregular=0)																
Full-time, regular	—	**	—	*	—		—	*	—		—	*	+		—	***
Employer and self-employed	+		+		—		+		+		+	**	+		+	
Unpaid family business	+	*	—	***	+		+		+		+	**	+		+	
Others (N/A)	—	*	—	*	+		—	*	—	***	—		—	***	—	***
Care-giving required																
Kids of 0~2 years old	—	***	—	**	—		—	***	+		—	***	—	**	—	
Kids of 3~5 years old	—	**	—	*	—		—	***	+		—	*	—		—	
Kids of 6~9 years old	—	***	—	***	+		—	***	—	*	—	***	—	*	—	*
Elderly	+	*	+	*	—		+		+	**	+	***	+	*	+	**
Handicapped	—	***	—	***	—	**	—	**	—		—	*	—		—	
Type of industry for spouse (Primary=0)																
Secondary industry											—	*	+		—	*
Tertiary industry											—	*	+		—	*
Ordinary income	—	***	—	***							—	***	—	***	—	***
Income squared	+	**	+	***							+	***	+	**	+	*

Third, the type of employment at the latest job may have various interpretations. Typically, if your recent job relates to full-time, regular work, you are less likely seeking employment,

compared to those that held a temporary job. This at one hand can imply temporary jobs are more widely available to women in reality than permanent ones. On the other hand, this may indicate that as those previously employed as a regular worker expect high level of reservation wage, they relatively encounter more difficulty in re-entering labour market. Meanwhile, as for females who never worked before (categorized as 'N/A'), their chance of engaging in economic activities will likely fall as they didn't have opportunity to build their career.

Fourth, as predicted, the need of childcare, a core variable in relation to women's economic participation, is verified of being a very meaningful factor in most models studied. Yet, it should be noted that in terms of income level, having kids to take care of seems to carry no statistical significance for both low- and high-income brackets (excluding 'With children of 6~9 year old'). For those from low-income families, their financial hardship cause them to expect relatively low opportunity cost and reservation wage, thus allowing the existence of young kids to have less impact on their decision to work. Meanwhile, the need of parenting doesn't seem to hinder the women of high-income bracket looking for a job except in the case where they have children attending low grades in elementary school. This is mainly because the well-educated women usually tend to find jobs in high-skilled and professional domains, and their financial strength enables them to seek outside help for house-

keeping and childcare. In other words, the two groups may wind up returning the same results, yet with different reasons. In the survey aimed for married women only, having children of 9 year old or younger appears to influence mom's decision to work, but the extent of impact looks relatively small in case of 3~5 year old kids. It is estimated that as the quality and quantity of childcare have been making progress over the past few years with relevant public system finally taking hold, the burden of caring for the kids in this particular age group has decreased relative to other age groups. If this is true, it is a new era created by the 'socialization of childcare,' and this is where we should work hard to take more 'working mom-friendly' approach toward maternal leave for young kids and childcare/educational system for elementary students.

In light of policy implication, it is confirmed that a majority of low-income women are involved in economic activities. They can't afford not to work regardless of whether they have children to take care of or not, and since their reservation wage is low, they just take whatever jobs coming their way, no matter how harsh working conditions are. As such, we believe that appropriate policies should be devised to strengthen legal protection for such women in labour market while paying more attention to help poor working couples with proper childcare. Also, the introduction of stronger mechanisms to ensure real income including tax credits, housing allowance, etc. is essen-

tial to allow 'job and welfare' to coexist, thereby paving the way for moving them forward to join middle class.

Middle class women, on the other hand, hold opportunity cost and reservation wage relatively high, likely sending their non-economic ratio upward. Since their decision not to work is closely tied to their immense interest in childcare and education, it is not easy to address this issue. Proper solution requires simultaneous change of public mind-set (excessive emphasis and intense competition over children's education) and institutional systems (incompetent public childcare and education) but it can't be achieved overnight. That being said, it is crucial to seek ways of socializing childcare and education while improving quality at the same time, thereby lowering opportunity cost and creating 'flexible and stable' jobs.

Internal and external polarization are evident in the women of high-income bracket. Internal polarization indicates that there are evenly divided number of working and not-working women and those found working are relatively concentrated in stable and high-paying jobs with impressive employee benefits. External polarization means a significant gap in terms of quality of work between high- and low-income women. As such, if actions to expand double-income families are taken without getting this problem fixed, we can't rule out the possibility to see income gap and inequality aggravating further. This external polarization reflects one side of polarized labour market.

In that regard, more fundamental measures should be put in place to close the gap in job quality.

In a nutshell, it is critical to identify the current state of job mismatch in women and create jobs based on the demand of female workers. The latest employment trends of women show that social service related jobs soared drastically while unpaid family business workers fell sharply with regular and temporary jobs steadily increasing. Also, the percentage of holding a temporary job is very high relative to male workers with over 40 %.[10] As you can see, female jobs are predominantly focused in service and sales area with low quality and stability. According to our analysis, the non-economic women are highly concentrated in families earning high income including middle class or above, as they have relatively high reservation wage. This highlights a serious inconsistency existing between job openings available and potential job demand (characteristics of non-working females). In addition to exerting efforts to raise the overall quality of jobs for women, the need and demand of non-economic women should be identified and attractive jobs (in terms of job quality, wage level, and working hours) to lure them into labour market should be expanded in a bid to boost female employment rate.

Furthermore, policy overhaul is required for 'working mom

10) Of the total salaried female workers of 7,618,000, over 40% (3,084,000) are found working temporary jobs, largely surpassing 26.2% of irregular male workers (e-Country index).

friendly' child care and education. Even if job offers are appealing, it is not easy for women, especially those deemed financially sound to some degree, to go out and work if childcare issues still remain un-resolved. Our study has also verified that the existence of infants and young kids consistently emerges as a meaningful variable among the factors believed to undermine economic participation especially by the middle-class women. In this respect, our focus should be placed on implementing 'the socialization of childcare and education' to reduce the actual burden of working moms nurturing and educating their children, thus allowing 'work' and 'family' to exist in harmony.

Finally, we should strive to push Korea's labour market and welfare topography toward 'women-friendly' as specified by Orloff (2006). Keep in mind that 'pro-women' doesn't necessarily mean 'anti-male'. Rather, it also contains 'male-friendly' implication. Korea's male-oriented labour market and corporate culture dominated by regular male workers in particular are often cited as a major cause for women's career discontinuation. During the shifting of western countries from an M-shaped curve (prevalent before 1980s) to an inverted U-shaped pattern, the increasing ratio of people working in public sector, administrative and professional field and the declining sexual gap in employment including the closing wage difference between men and women were commonly observed. These countries succeeded in breaking off the vicious cycle of women's marriage

and childbirth leading to 'career interruption' which then results in the 'widening sexual gap in job market', while managing to enter a virtuous cycle of 'career buildup' giving rise to the 'narrowing sexual gap'. Consequently, female employment rate has risen drastically, and it is analyzed that, in this process, their adoption of women-friendly employment and welfare policies such as the socialization of childcare system and strengthening of maternal leave has served as a major contributor. In order to break away from such vicious cycle, Korea also needs to learn from their experiences. Diverse and practical solutions must be sought to pro-actively deal with the disruption of career caused by marriage, child birth and care.

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